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## Improving Social Norms and Actions to Prevent Sexual and Intimate Partner Violence: A Pilot Study of the Impact of Green Dot Community on Youth

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### Abstract

Sexual violence (SV) and intimate partner violence (IPV), which often co-occur with bullying, are serious public health issues underscoring the need for primary prevention. The purpose of this study was to examine the impact of a community-building SV and IPV prevention program, Green Dot Community, on adolescents' perceptions of community social norms and their propensity to intervene as helpful actionists using two independent data sources. Green Dot Community takes place in towns and aims to influence all town members to prevent SV and IPV by addressing protective factors (i.e., collective efficacy, positive prevention social norms, and bystander helping, or actionism). In the current study, one town received Green Dot Community (the prevention-enhanced town), and two towns received prevention as usual (i.e., awareness and fundraising events by local IPV and SV advocacy centers). The program was evaluated using a two-part method: (a) A cross-sectional sample of high school students from three rural communities provided assessment of protective factors at two time points (Time 1,  $N = 1,187$ ; Time 2,  $N = 877$ ) and (b) Youth Risk Behavior Survey data from the state Department of Health were gathered before and after program implementation (Time 1,  $N=2,034$ ; Time 2,  $N=2,017$ ) to assess victimization rates. Youth in the prevention-enhanced town reported higher collective efficacy and more positive social norms specific to helping in situations of SV and IPV over time but did not

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differ on bystander behaviors or on victimization rates. Community-based prevention initiatives may be helpful in changing community norms to prevent SV/IPV.

### Keywords

social norms; sexual and relationship violence; prevention; bystander behavior

Sexual violence (SV; defined as any sexual activity, including contact or intercourse, that takes place without freely given consent [including because the victim is incapacitated]) and intimate partner violence (IPV; including physical, psychological, sexual, and stalking violence by a current or former partner) are pervasive public health issues in the United States (Smith, S. Zhang, et al., 2018). SV and IPV are not limited to adults; these forms of violence impact youth at concerning rates (Edwards, 2018; Kann et al., 2018; Sessarego et al., 2019). These forms of violence lead to a host of negative effects for youth that can impede their development and future goals (Edwards, 2018; Gruber & Fineran, 2016). Moreover, SV and IPV tend to co-occur (Black et al., 2011; Campbell et al., 2008) and share a number of risk and protective factors; thus considering their prevention together can be a resource-effective strategy (Hamby & Grych, 2013; Tharp et al., 2012; Vagi et al., 2013). Similarly, bullying co-occurs with SV and IPV due to shared risk and protective factors (Wilkins et al., 2014), and thus prevention programs that target SV and IPV, specifically, could also reduce bullying, which is an important area of research. Indeed, effective prevention programs for a number of forms of violence include bystander approaches that aim to reduce perpetration and to increase the helpful intervention of third-party bystanders (now also called “actionists”) who witness risk, can model proactive norms, and can support victims (Basile et al., 2016; Bush et al., 2019). In the current study, we examined the impact of a community-building prevention program, Green Dot Community, on adolescents’ perceptions of community social norms, collective efficacy, actionism, and experiences of SV, IPV, and bullying using a matched comparison group design.

Early efforts to prevent SV and IPV focused on trying to build awareness and change attitudes (such as belief in rape myths) with the expectation that such changes would reduce perpetration (Anderson & Whiston, 2005). Many researchers critiqued these programs for approaching individuals only as potential victims or perpetrators, and demonstrating minimal effectiveness in actually reducing rates of violence (DeGue et al., 2014). The next generation of prevention efforts sought to give all community members a role to play and focused on training actionists. Actionists are third parties who can be alert to risk for SV/IPV in others, and who can model pro-prevention and anti-violence norms (Edwards et al., 2017; Katz, 1995; Katz et al., 2011). Early actionist programs focused mainly on changing individual attitudes that would lead to greater helping, including rape myth acceptance, sense of responsibility for prevention, and confidence as an actionist (Banyard et al., 2007) with a particular emphasis on college or high school students in school settings. Training focused on helping when the risk for violence was present, using the situational model of bystander behavior that highlights the importance of recognizing a problem situation, feeling responsible for acting, and having the tools to act (Burn, 2009). Results from these evaluations are promising for outcomes including attitudes about SV,

IPV, bullying, harassment, rates of actionism, victimization, and perpetration (Coker et al., 2019; Edwards et al., 2019).

More recently, researchers have noted that bystander or actionist training may also be more proactive in nature. Actionists can help change broader community processes by being trained to diffuse and model positive norms about healthy relationships, stepping in to address risky situations, and promoting respect, all behaviors that are important for prevention and consistent with the diffusion of innovation theory of prevention (Banyard et al., 2017; Rogers, 2002). In this way actionists become mechanisms for changing social processes like individual perceptions of collective efficacy and social norms, variables that also reciprocally promote more positive actionism (Rothman et al., 2019) that are connected to rates of IPV and SV, as well as bullying (Perkins et al., 2011; Vagi et al., 2013). To date, examination of the impact of actionist training on these social process outcomes has been understudied.

Social norms are a foundation of social connectedness as individuals develop perceptions of what they think groups to which they want to belong *do* (descriptive norms) and *approve of* (injunctive norms) (McDonald & Crandall, 2015). A social norms approach to prevention has been widely used in areas like substance use, where researchers and practitioners work to correct perceptions that peers are engaging in high levels of risky behavior (Perkins et al., 2018). In the violence field, negative norms, such as youths' perceptions of peers' endorsement of rape myths or support for the use of violence, are related to greater dating violence perpetration (Collibee et al., 2019; Edwards et al., 2011) and a number of violence prevention programs focus on trying to change norms perceptions among youth (Brush & Miller, 2019; Orchowski, 2019). This work focuses heavily on norms that promote negative or risky behaviors through perceptions of peer support or endorsement.

Theories of positive deviance (van Dommelen-Gonzalez et al., 2015), on the contrary, stress the value of positive connections. It may be that promoting more positively framed norms—such as norms that support talking about healthy relationships or helping to reduce the risk of violence as an actionist—will enhance prevention. More positive norms in one's community are related to more frequent positive actionism, prevention-positive attitudes, and greater intent to help others (Collibee et al., 2019; Durán et al., 2018; Lemay et al., 2019; Rothman et al., 2019). They have also been recently linked to lower perpetration of SV, bullying, and harassment (Banyard, Edwards et al., 2020). Social norms interventions are well-developed for problem drinking prevention but are gaining in use for SV and IPV prevention (Gidycz et al., 2011; Orchowski, 2019; Orchowski et al., 2020).

Another key social concept, collective efficacy, is often measured at the individual level as perceptions of social connections (i.e., sense of community and trust, social bonding, or capital; see Ansari, 2013 for a review and discussion). Collective efficacy is a protective factor against SV and IPV (Edwards et al., 2014; Frye et al., 2012; Rothman et al., 2011) and associated with greater actionism (Banyard et al., 2018, Banyard, Rizzo, & Edwards, 2020). To date, SV and IPV evaluation research has rarely examined the impact of prevention programming on youths' perceptions of social norms and collective efficacy.

Green Dot is a program that aims to address IPV and SV by diffusing social norms that state that SV and IPV will not be tolerated and that everyone has a role to play in prevention (actionism-supporting norms). Green Dot also aims to build collective efficacy for addressing interpersonal violence by training actionists to step in and work together to end violence in their school or community. Green Dot is grounded in principles of actionism and promotes proactive diffusion of prevention messages (Latane & Darley, 1968; Rogers, 2002). Evaluations of Green Dot with college and high school students demonstrated that it is a promising program for increasing actionism and reducing SV, IPV, and bullying in schools (Coker et al., 2016, 2017, 2019). But a focus only on schools is an overly narrow approach. The social ecological model (Centers for Disease Control and Prevention, 2013) and research on risk and protective factors for SV and IPV remind us that SV and IPV take place at high rates outside of schools and that prevention work should also engage communities (Banyard et al., 2017). To date, there are few evaluations of SV and IPV prevention work that takes place outside of educational settings, especially prevention work that takes place in towns and seeks to engage both adults and youth as influencers of community norms and behaviors.

Green Dot Community is a prevention strategy designed to bring together a coalition of key town stakeholders to work together at reducing problems like SV and IPV through increasing collective efficacy and changing social norms to be more supportive of actionist intervention and intolerant of SV and IPV. Adults are trained as actionists to work together on SV/IPV prevention social marketing campaigns and town action events that are potentially visible to everyone who lives and works in town. These trained adults become influencers over community-wide norms that SV and IPV will not be tolerated, and that everyone has a part to play in preventing SV and IPV that occurs in families, among adults, or among youth. These goals are achieved through three key strategies that bring people together for skills training and community building to increase collective efficacy related to SV and IPV prevention. First, capacity-building trainings for community leaders and volunteers using a train-the-trainer model are offered, so that community leaders and individuals recruited by community leaders can provide overview talks and actionist training throughout the town. Specific skills in actionism are taught and practiced, as are skills in presenting to groups and training others to be actionists. Businesses and community organizations can be encouraged to have their entire workplace staff attend overviews and bystander trainings. Second, local town action events, planned by neighbors and organizations, are designed to bring people together in order to promote collective efficacy, diffuse prevention messages, and provide opportunities for citizens to practice working together to solve problems. A booth on violence prevention at a town-wide festival is an example of an action event, as is holding a Green Dot Bingo night simultaneously at bars, restaurants, and coffee shops all across town. Third, a broad range of social marketing strategies are used to increase basic awareness about SV and IPV, reinforce key Green Dot Community program content, and build mainstream social acceptance of the core language and principles of Green Dot Community. One community created a system where local businesses could become “Green Dot Spots” by doing tasks like linking their website to the campaign and putting up signs about violence prevention in their front window. Whereas these three strategies largely targeted adults as actionists in the prevention-enhanced town,

youth were targeted via a one-day Youth Summit for high school students in the second year of implementation. The summit is designed for a group of youth leaders who learn to create their ideal town through being actionists, building healthy relationships, and strengthening their leadership and communication skills.

The present study is the first outcome evaluation of Green Dot Community. In the current study, we examined the impact of the Green Dot Community prevention program among youth on key outcomes that follow from the program's behavior change model: perceptions of collective efficacy, SV and IPV prevention norms, reactive and proactive actionist behaviors, and victimization experiences (for adult outcomes see Banyard, Rizzo, & Edwards, 2020). We used two sources of data to fully capture these outcomes, as described in the Method section.

Specific research hypotheses were as follows: Hypothesis 1: Youth in the prevention-enhanced town (i.e., the town receiving Green Dot Community) will show increases from baseline to follow-up three years later on perceptions of collective efficacy and cohesion, perceptions that people in their town support playing a role to prevent SV and IPV (injunctive norms), and perceptions that people in town actually do take action to prevent SV and IPV (descriptive social norms) relative to youth in the comparison towns.

Hypothesis 2: Youth in the prevention-enhanced town will report increased actionist helping behaviors compared with youth in the comparison towns.

Hypothesis 3: Youth in the prevention-enhanced town will show decreases in sexual and physical dating violence as well as bullying compared to youth in comparison towns.

## Method

The model of Green Dot Community is that adults are the focus of the intervention with the goal of changing community norms and efficacy and thus promoting the town as the ultimate unit of change. In this pilot study, we did not have enough towns for a multilevel model design with towns as the unit of analysis for outcomes. Rather, we designed the project to include two data sampling methods (described separately as Part 1 and Part 2, since they were both part of the original study) to better examine the full range of potential impacts of the program on youth, who are in a key at-risk age group for SV and IPV initiation. Part 1 addressed Hypotheses 1 and 2, while Part 2 addressed Hypothesis 3. We used a matched comparison group, quasi-experimental design to evaluate youth in a prevention-enhanced town that received Green Dot Community compared to youth in two comparison communities who did not receive Green Dot Community across both studies. Part 1 used in-school surveys collected by the current research team and was designed to enable us to look in depth at the collective efficacy, social norms, and actionism outcomes. Part 2 was a secondary analysis of Youth Risk Behavior Survey (YRBS) data collected every two years by the State Department of Health in the high schools of sites included in this study. The YRBS survey collected in-depth data about victimization but did not contain variables related to community social processes. A combination of methods across

Parts 1 and 2 allowed us to evaluate the full range of outcomes implicated in Green Dot Community's model of change.

The comparison towns did not participate in Green Dot Community and could be considered a "prevention as usual" condition as they were in the catchment area of IPV and SV advocacy centers that did awareness and fundraising events, mostly related to response to SV and IPV. To our knowledge, there were no community-based bullying or violence prevention programs being used specifically in these towns. Youth across communities reported some school-based prevention exposure (see Edwards, et al., unpublished manuscript, for overall data on prevention exposure in these towns).

## Part 1

### Methods

**Study Sample**—Each town only had one high school. Participants were high school students in each of three towns<sup>1</sup> (one prevention-enhanced and two comparison) in northern New England. Prevention-enhanced and comparison communities were matched based on similar demographics as other variables of interest (e.g., community norms) were not available when towns were selected. More details on how communities were selected can be found in Banyard et al. (2019) but all are rural towns with populations between 13,000 and 31,000. Analysis of baseline data showed the three towns differed from one another on community perception measures. Overall, the prevention-enhanced town started this study with lower levels of youth perceptions of community cohesion and both descriptive and injunctive norms.

High schools were recruited in each participating prevention-enhanced and comparison town. Parental consent and youth assent for research was obtained for each of the two waves of data collection. Participant data was not linked. Rather, separate samples of students across grades 9 to 12 were surveyed at two time points, Spring 2016 (Time 1) and Fall 2018 (Time 2), about 2.54 years apart. At Time 1, one comparison school elected to use active consent, whereby parents opted their student in to participate in the survey with a returned form (29% participation rate); two schools (one comparison and the prevention-enhanced school) elected to use passive consent, whereby parents opted their student out of the survey with a returned form (participation rates of 60% and 80%). By Time 2, a new state law required active consent in all schools; thus parental consent procedures for active consent were followed in all three participating schools. This resulted in lower participation rates for the two previously passive consent schools (21% and 29%), while the third school had a higher participation rate (43%), possibly because school staff were more practiced at the active consent process. The study was conducted with University of New Hampshire Human Subjects Review Board approval and oversight.

There were no significant demographic differences in the samples collected in the three towns at Time 1 or 2 on age, sex, or race (see Table 1). Rather, there were age differences

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<sup>1</sup>Although four communities participated in the larger evaluation study reported elsewhere, only three high schools completed both the pre- and post-surveys which are analyzed in this paper.



over time between the panels of students within each town, with Time 2 students being slightly younger than the sample from Time 1. Age was used as a covariate in the analyses presented. For the remainder of this article, we have combined the two comparison towns into a single group (see Table 1 for demographic details of the Part 1 sample). There were differences between the prevention-enhanced and matched comparison towns at baseline on perceptions of community (see Table 2).

## Measures

**Community Perceptions.:** All perceptions of norms and collective efficacy were answered with response options that ranged from 1 (*strongly disagree*) to 4 (*strongly agree*) (Banyard et al., 2019). Both the community cohesion and collective efficacy constructs were created from items adapted from the Neighborhood Support Scale (Sampson et al., 1997). Community cohesion ( $M = 2.60$ ,  $SD = 0.48$ ) was operationalized as perceptions of community members to be close-knit and trusting of each other using five items. Internal reliability was high (Cronbach's  $\alpha = .80$ ). Collective efficacy for town improvement ( $M = 2.93$ ,  $SD = 0.56$ ) emerged from psychometric analyses on this sample and was operationalized as perceptions that people in town are willing to work together to make the town safer for everyone using two items. Internal reliability was acceptable (Cronbach's  $\alpha = .64$ ).

Both of the injunctive norm constructs and both of the descriptive norm constructs were created using previously validated measures (Carlson & Worden, 2005; McDonnell et al., 2011), which were also validated by our research team (Banyard, et al, 2019). Community personal injunctive norms ( $M = 3.31$ ,  $SD = 0.47$ ) were measured as youths' belief that people in their town should directly engage in actions and discussions to prevent and respond to IPV and SV using five items. Internal reliability was high in the current sample (Cronbach's  $\alpha = .81$ ). Community public injunctive norms ( $M = 3.26$ ,  $SD = 0.53$ ) were operationalized as youths' beliefs that people in their town should support local events, efforts, and groups that work to prevent IPV and SV using three adapted items. Internal reliability was high in the current sample (Cronbach's  $\alpha = .81$ ). Individual-oriented action descriptive norms ( $M = 2.63$ ,  $SD = 0.49$ ) reflect youths' perception that people in their town demonstrate disapproval for IPV and SV. This was measured using five items. Internal reliability was adequate (Cronbach's  $\alpha = .77$ ). Community-oriented action descriptive norms ( $M = 2.58$ ,  $SD = 0.60$ ) reflect youths' perception that people in town support local organizations whose mission is related to IPV or SV prevention or victim support. This was measured using two items. Internal reliability was adequate (Cronbach's  $\alpha = .73$ ). Outcome variables compared across prevention and comparison groups are reported in Table 2. Overall baseline norms were higher in comparison towns.

**Reactive Actionist Behavior.:** Participants answered a variety of questions regarding their past actionism, including questions about reactive actionist behaviors such as the number of opportunities they had to intervene and how many times they responded to those opportunities. For reactive actionist behavior, we calculated actionist consistency, which accounts for the amount of opportunity as well as the number of times an actionist has intervened in the past (for a more detailed description of calculating this indicator, see

Rothman et al., 2019). Six reactive SV/IPV situations were included in the survey. For each situation, participants first answered an opportunity question and then only answered a reaction question if the opportunity answer was greater than 0. An example item pair is: “During the past year, how many times did you hear another teen bragging or making excuses for forcing someone to have sex?” and, “How many times did you speak up to someone who was bragging or making excuses for forcing someone to have sex with them?” Responses ranged from n/a (*have not seen/heard this*) (in which case the respondent was excluded from analyses), 0 (*0 times*) to 4 (*10+ times*). Participants’ reaction answer is divided by their opportunity answer and multiplied by 100 to indicate the percentage at which the participant consistently acted to help prevent SV/IPV in each situation. Based on this ratio, we categorized participants for each situation as either a Non-Helper (action ratio = 0%) or a Helper (action ratio > 0%). Only participants who indicated at least one opportunity to respond to a given situation were categorized in this way (27–84% of the sample depending on the item, see Banyard, Edwards, et al., 2020; Rothman et al, 2019).

**Proactive Behaviors.:** Participants also answered questions about three proactive actionist behaviors that do not require a certain situation to arise to act (Coker et al., 2011). These questions were: (a) “Use social media or texting to show that domestic violence and sexual assault are not okay?”; (b) “Talk with your friends about being safe in dating relationships?”; and (c) “Talk with your friends about things you all could do that might help stop domestic violence and sexual assault?” Participants responded to each item on a 5-point scale, ranging from 0 (*0 times*) to 4 (*10 or more times*). Using participant’s proactive behavior scores, we categorized each participant for each behavior dichotomously as having done the proactive behavior or not.

**Prevention Exposure.:** To assess whether participants had been exposed to Green Dot Community, a single item was included: “Have you heard anyone in [Town] talk about Green Dot? If so, what did they say?” Participants who answered “yes” and then described any materials or events were coded as 1 (*prevention exposure*); all other participants were coded as 0 (*no exposure*).

## Data Analysis

The primary analyses aimed to understand individual perception changes in norms and collective efficacy by town as measured by cross-sectional samples at baseline and follow-up. Differences by time sample by town for actionist behaviors among those with opportunity were also tested. Different samples of high school students’ responses to surveys at two time points in each town served as the data source. As students completed these surveys anonymously, there was no way to link students’ responses over time. Thus, town-level cross-sectional analyses were performed. The two comparison towns were combined given overall similar demographics. Adjusted regression analyses were performed for prevention-enhanced level group comparisons controlling for age. Individual perceptions of community-wide norms were analyzed using multivariable linear regression models with predictors including: town or prevention-enhanced group indicators, age (as continuous), time, and interaction terms for each town or prevention-enhanced group indicator and the follow-up time variable. Separate multivariable logistic regression models with the same



predictor set were employed to examine the proactive and reactive actionism among those with opportunity. Adjusted odds ratios with corresponding 95% confidence intervals were also calculated for these outcomes based on the logistic regression models. All statistical analyses were done in *R* using two-sided tests and a *p*-value threshold of 0.05 was used to determine statistical significance (R Core Team, 2019).

## Results

Overall, 34.2% ( $N=38$ ) of youth in the prevention-enhanced town reported that they knew about Green Dot Community on the follow-up survey, which reflects expected early diffusion numbers according to Rogers' (2002) diffusion of innovation theory. Fifteen high school students attended the Green Dot Community Youth Summit, representing about 3% of high school students in the school (the Summit is designed to train a core of popular opinion leaders, not all students. According to Rogers' [2002] diffusion of innovation theory, about 2.5% of any group are considered "innovators" who then influence early adopters).

**Hypothesis 1:** Youth in the prevention-enhanced town will report increases in perceptions of collective efficacy and social norms compared with comparison towns.

Table 3 presents these findings. For six of the outcomes, there were significant Green Dot Community by time effects, with the prevention-enhanced Green Dot Community youth reporting improvements in two measures of collective efficacy, two types of descriptive norms, and two injunctive norms. We interpret the beta coefficient for the interaction term as the score change value for those in the prevention-enhanced condition groups at the follow-up time point. The values of  $R^2$  suggest a medium effect size for community cohesion, but small effect sizes for all other outcome analyses (Cohen, 1988).

**Hypothesis 2:** Youth in the prevention-enhanced town will report greater actual actionist helping behaviors compared with comparison towns.

Overall, there were no significant differences between Times 1 and 2 by group on reports of reactive actionist behaviors and thus they are not presented here. Results for proactive behaviors are in Table 4. Youth living in the prevention-enhanced Green Dot Community town were more likely over time to report having talked about IPV/SV with family, friends, or people at school, one indicator of proactive actionism and a large effect size.

## Part 2

### Methods

**Procedures**—The Youth Risk Behavior Survey (YRBS) is a nationally organized and representative, state-administered survey conducted every two years by the Division of Adolescent and School Health at the U.S. Centers for Disease Control and Prevention (Kann et al., 2018) to monitor an array of health and behavior risks among adolescents in high schools throughout the United States. Among the six core areas that the YRBS focuses on is behaviors that contribute to unintentional injuries and violence (Kann et al., 2018). This analysis utilized YRBS 2015 and YRBS 2017 data from the state of New Hampshire for the three towns in the current study. Passive consent parent permission procedures were

followed prior to survey administration. Student responses were anonymous. Both school and student participation were voluntary. The data consisted of self-report responses to the questions of the paper-and-pencil YRBS packet completed during school hours each year. Data cleaning, coding, and management were performed first by the Centers for Disease Control and Prevention and then a state dataset was stored with the New Hampshire Department of Health and Human Services. Access to the data for this study was secured by the authors in February 2019. For the current study, we used the subsample of youth from the three communities and high schools who participated in the prevention program evaluation project and participated in the 2015 YRBS ( $N = 2,034$ ) and 2017 YRBS ( $N = 2,017$ ) survey administrations.

**Sample**—Student demographics were compared between 2015 and 2017; no significant differences arose, so demographics are reported in aggregate for the combined sample. Student sex was evenly split (female 51.21%, male 48.79%). Most students were in Grade 9 (27.3%), followed by Grade 10 (25.72%), Grade 11 (24.83%), and Grade 12 (22.12%). Most students reported being White (82.08%), followed by Asian (5.37%), Multiracial and Hispanic/Latinx (4.12%), Multiracial and non-Hispanic/Latinx (3.84%), Black or African American (1.96%), American Indian or Alaska Native (1.56%), Hispanic/Latinx (0.78%) and Native Hawaiian or other Pacific Islander (0.30%). IPV did not differ by prevention-enhanced versus matched town at Time 1, but bullying victimization was reported at lower rates in prevention-enhanced towns at Time 1 (see supplemental appendix for details). Further, a close examination of demographic data by category indicated that our high school sample from Part 1 and the YRBS sample from Part 2 differed at most by 4% from enrollment numbers publicly available from the New Hampshire Department of Education (New Hampshire Department of Education, 2019; Bureau of Data Management, 2020). Of note, our high school sample tended to have slightly higher representation of minority racial identities than enrollment numbers, but this was still a difference of 4% or less.

### Measures

**IPV Victimization.:** Two items from the YRBS were repeated on both the 2015 and 2017 surveys and related to experiencing IPV. These items asked about experiences within the past 12 months: “How many times did someone you were dating or going out with force you to do sexual things that you did not want to do? (count such things as kissing, touching, or being physically forced to have sexual intercourse.)” and “How many times did someone you were dating or going out with physically hurt you on purpose? (count such things as being hit, slammed into something, or injured with an object or weapon.)” Responses were dichotomously recoded to 0 = “did not experience any IPV in the past year,” and 1 = “experienced IPV at least once in the past year.”

**Bullying Victimization.:** Two items from the YRBS on both the 2015 and 2017 surveys related to experiencing bullying from a peer. These items asked about experiences within the past 12 months regarding: “Have you been bullied on school property?” and “Have you ever been electronically bullied? (Count being bullied through e-mail, chat rooms, instant messaging, websites, or texting).” Participants were dichotomous recoded to 0 = “Did not experience any bullying in the past year,” and 1 = “Experienced bullying at least once in

the past year.” Descriptive statistics of outcome variables for Part 2 are presented in the supplemental appendix.

### Data Analysis

The secondary analysis conducted with the YRBS data examined the town-level changes between two cross-sectional samples for the treatment vs. comparison towns in experiences of IPV victimization and bullying victimization. Separate multivariable logistic regression models with the same predictors were used to examine IPV victimization and bullying victimization using sex and grade as covariates. For the IPV analysis, only participants who indicated they were in a dating or romantic relationship at some point in the past 12 months were included in this analysis. Adjusted odds ratios with corresponding 95% confidence intervals were also calculated for each outcome based on the logistic regression models. All statistical analyses were done in Stata using two-sided tests and a  $p$ -value threshold of 0.05 to determine statistical significance (StataCorp, 2017).

### Results

Regarding Hypothesis 3, there were no significant differences between Times 1 and 2 by town for IPV, though bullying was marginally significant at  $p=.09$  with the prevention-enhanced town showing significant reductions in bullying (40.05% at Time 1 to 32.24% at Time 2). There were significant main effects of town, time, grade, and sex (see Table 5). Overall, the prevention-enhanced town reported higher baseline rates of both forms of violence, girls reported higher victimization than boys, being in a higher grade (older students) was associated with lower victimization for bullying, and reported bullying was lower at Time 2 than at Time 1, but there were no significant intervention effects on IPV and a marginally significant effect on bullying ( $p=.09$ ).

### Discussion

This study represents a preliminary pilot study of the Green Dot Community actionism program to prevent SV and IPV. The prevention strategy itself targeted mainly adults in the town and included action events and social marketing strategies which focused on diffusion on Main Street by adults in communities rather than schools. Nonetheless, youth could be exposed to Green Dot Community in these settings. Green Dot uses theories of bystander intervention (actionism) to build collective efficacy and diffusion of innovation to promote positive SV and IPV prevention social norms in towns (Banyard et al., 2017). We saw significant differences between prevention and comparison towns on these two core outcomes of the Green Dot Community program. This pilot study represents one of the first evaluations of a community-building actionist and social norms-focused prevention strategy. It is promising that youth in the prevention town reported increases over time in rates of talking to friends, family, and people at school about prevention. This was the one behavior change finding and may be an easier behavior to engage in (and thus a more sensitive marker of early skill building). It may also be the case that the presence of Green Dot Community in the town spurred school personnel as well as parents and caretakers to bring up prevention topics more frequently in school and other settings that include youth.

The findings are consistent with previous research on the impact of actionist-focused prevention for youth (i.e., McMahon & Seabrook, 2018) in that we found significant changes among youth in the prevention-enhanced town, but not in the matched comparison communities. These changes were mainly related to prevention-oriented attitudes, including collective efficacy and perceptions of descriptive and injunctive norms about being a helpful actionist. These are important intermediate outcomes given research demonstrating that perceptions of social norms and community efficacy are linked with lower rates of SV and IPV (Vagi et al., 2013). Research on social norms also shows that higher perceptions of both descriptive and injunctive helping norms may be an important correlate or precursor to enhanced actionism (Rothman et al., 2019). The current study supports the theory that the Green Dot Community program helped create some of these improvements in community social process protective factors that other research highlights are significant for enhancing prevention behaviors (Banyard, Rizzo, & Edwards, 2020; Rothman et al., 2019). As part of the Green Dot Community program, influential leaders from diverse segments of the town were trained on how to change SV and IPV norms and diffuse this information. The action events and social marketing materials were used to help not only reinforce the changes in those norms, but also to enhance a sense of social bonding, thus promoting changes in collective efficacy. Given that, it is not surprising that youth in the prevention-enhanced town demonstrated changes on these variables, especially since it appeared that Green Dot Community messages had diffused to more than one third of youth in the town.

Our data showed that diffusion of Green Dot Community among youth, as indicated by their noted awareness of it on survey questions, reached the approximately one in three individuals who could be considered innovators and early adopters according to Rogers' (2002) diffusion of innovation theory. This represents an important first step in prevention implementation. However, it may also explain why we did not find significant behavior change in actionism or victimization rates overall. It takes time for these innovators to diffuse prevention messages to others and to reach the widespread community saturation that may be needed for widespread behavior change. Research on the high school version of Green Dot, which also used training events and social marketing diffusion strategies, showed that it took about 3 years to fully saturate a high school with prevention messaging so that effects of the program could be detected (Coker et al., 2019). Given that we were working in communities and not schools, we anticipate that diffusion to a full town of 15,000 to 20,000 people would take longer than the period of this study (2.5 years from start of implementation to follow-up assessment). This could have affected our findings regarding rates of violence examined in Part 2, suggesting that it may take more time to see changes on those indicators than actionism and social norms. Future efforts might involve continued tracking of these communities using YRBS and other community surveys. Also, we do not know in detail the extent to which the youth who, for example, attended the Youth Summit, were also influential leaders in their sub-communities. Future work using methods such as social network analysis to nominate youth to attend the Summit may lead to more robust outcomes. Also, social network analysis allows researchers to understand the extent to which prevention messages and skills are being diffused throughout social networks. It may also be that youth in the prevention-enhanced town saw messages related to Green Dot and/or heard adults discussing prevention and this changed norms perceptions, but that this

was not enough to change behavior. Indeed, few youth would have been exposed to any skill-based prevention work as part of the Green Dot Community project, and we know from previous research that skill building is critical for behavior change (Edwards et al., 2017; Nation et al., 2003). Further, the youth-specific Summit activity did not train the 10–20% of the population that scholars who use popular opinion leader training models for prevention recommend (Valente, 2010).

Future research is needed to understand much more about how diffusion of prevention innovations happens across sub-communities in geographic towns. Although we found in the current study that more than one-third of youth in the prevention-enhanced town had heard of Green Dot Community, we have no details on how this diffusion occurred. Research in other areas of health behavior have documented that diffusion can happen in a variety of different ways and is influenced by many factors (Haider et al., 2017; Kee et al., 2016; Smith, R, Kim, et al., 2018; Tucker et al., 2016) including recent uses of social media like Facebook and Twitter.

Despite the importance of these findings for future research and practice, several limitations should be noted. The use of active consent, particularly at follow-up, reduced our sample and made it more selective than a full census would have provided. Those who received consent may have more involved parents, who may in turn be more engaged in their communities and thus be more likely to have heard about Green Dot Community. Selection bias is a concern in the sampling particularly for Part 1 of the study, though the samples in Parts 1 and 2 both overall resemble the demographics for the local high schools. However, two of the high schools in Part 1 of the study had reduced response rates at the second time point due to state policy changes in parental consent procedures. It is possible that the sample of students from these schools at the second time point were more likely to be students who care about prevention and who have stronger prevention attitudes. The racial and ethnic diversity of the communities involved in both parts of this project was limited. Indeed, we chose not to include questions about race and ethnicity on the survey because of concerns that it might make some student participants identifiable. Replication and extension of these findings in more racially and ethnically diverse communities is needed. Further, given developmental differences between early and later adolescence, a broader age range of youth would also be important to include in future research.

There are also important measurement limitations. For example, given that reactive actionist behavior could be examined as an outcome only for students who had opportunity, small cell sizes in those analyses likely underpowered our ability to detect any differences over time within towns. Some of the measures used in Part 1 had low reliability. Part 2 used secondary data which allowed us to examine rates of victimization, but only for select forms of violence, and that dataset did not contain measures of community perceptions outcomes. The current pilot study illustrated a number of challenges to doing prevention program evaluation in a community. We need to continue to refine and improve our outcome measures. We need to overcome the survey fatigue that often results in low response rates and parental concerns about school surveys that result in low rates of parental consent. Ultimately, we found utility in a multiple methods approach using several different datasets.

The current study used two cross-sectional samples rather than following students over time. This meant that we could not directly track changes among individual students in each town. Therefore, we cannot conclude any causal relationship between Green Dot Community exposure and changes in attitudes. A larger study, with a longer follow-up, randomization at the town level, and the ability to match participants over time will be important next steps in establishing the effectiveness of this innovative prevention strategy. Indeed, it is likely, given the town-wide nature of the prevention strategy assessed, that a two-to three-year follow-up was insufficient to expect the kind of broad-scale diffusion needed to change behavior. Larger-scale studies should examine the impact that Green Dot Community and other programs have on reducing rates of violence within communities.

We also have a minimal understanding of the ways in which Green Dot Community messages diffused throughout the town, which future research using social network analyses could examine. Given the importance of multi-pronged strategies for community change, future studies should examine the impact of pairing Green Dot Community (which focuses on adults) with in-school versions of Green Dot that focus more on youth in the context they are most likely to inhabit. This may be particularly important given that the current Green Dot Community strategy focused mainly on adults in town and thus may have targeted diffusion efforts on places like Main Street businesses that were less relevant to youth audiences. While the prevention town did use social media for some diffusion efforts, not having youth on the prevention steering committee may have meant that social media outlets and platforms most often used by youth were not appropriately targeted in the intervention. We did not see changes in youth behaviors on the outcome of using social media for prevention and this may be because youth and adults use social media differently; future community-wide prevention approaches may need to think more specifically about how to engage all sectors of a town or neighborhood, not just either adults or youth.

The findings may inform practice. First, community-delivered actionist-focused SV and IPV prevention may have “spillover” effects into the schools. Given that most SV and IPV prevention programs to date are school-based and focus on youth, an important innovation in the Green Dot Community approach is that it is delivered largely in the town to an adult audience (see Banyard, Rizzo, et al., 2020 for findings related to adults in the community). Based on our findings that over a third of students heard about Green Dot Community, it appears that at least some exposed adults engaged in conversations with youth about the Green Dot Community prevention messages - or that youth attended community action events or saw social marketing messages on Main Street. Whole-community approaches to prevention are likely more effective than programs that focus exclusively on students within a school context (Niolon et al., 2019). Moreover, the fact that Green Dot Community includes adults in prevention conversations is a critical part of SV and IPV prevention (Foshee et al., 2012).

Strategies for the effective engagement of youth in programming, especially out of school programming, is an important topic of consideration. Identifying prevention approaches outside of school settings that can promote protective social norms and decrease tolerance for IPV and SV within the broader communities where we live, work, and play has the potential to strengthen existing youth-focused prevention efforts. In particular,



comprehensive prevention approaches that intervene in diverse settings across multiple levels of the social ecology have potential to achieve greater population impact on IPV and SV (Basile et al., 2016). Although additional research and rigorous evaluation is needed, the current findings suggest that Green Dot Community represents a novel community-building approach that can promote protective factors for IPV and SV among youth.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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## Data Accessibility:

The data on which this manuscript is based are not publically available.

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**Table 1**

Sample Demographics by Prevention Exposure Status for Part 1

Status	Time 1			Time 2		
	Prevention	Comparison	Total	Prevention	Comparison	Total
N	315	872	1187	111	766	877
Response Rate	59.7%	45.0%	48.2%	21.0%	39.0%	35.2%
Biological Sex						
Male	51.1%	45.3%	46.8%	43.2%	45.7%	45.4%
Female	48.3%	54.5%	52.8%	55.9%	53.5%	53.8%
Missing	0.6%	0.2%	0.3%	0.9%	0.8%	0.8%
Hispanic/Latino						
No	93.3%	95.2%	94.7%	91.9%	92.8%	92.7%
Yes	5.7%	4.1%	4.5%	7.2%	6.4%	6.5%
Missing	1.0%	0.7%	0.8%	0.9%	0.8%	0.8%
Race						
American Indian or Native American	1.9%	0.7%	1.0%	1.8%	2.0%	1.9%
Asian	1.9% <sub>a</sub>	6.2% <sub>a</sub>	5.1%	0.9% <sub>b</sub>	6.7% <sub>b</sub>	5.9%
Hawaiian or Native Pacific Islander	0.3%	0.1%	0.2%	0.0%	0.4%	0.3%
Black or African American	2.5%	2.1%	2.2%	0.9%	2.1%	1.9%
White	85.1%	85.0%	85.0%	88.3%	82.0%	82.8%
More than one race	7.3%	4.9%	5.6%	6.3%	6.0%	6.0%
Missing	1.0%	1.0%	1.0%	1.8%	0.9%	1.0%
Age Groups						
13–15 years	39.0%	42.0%	41.2%	50.5%	62.9%	61.3%
16–17 years	52.7%	48.6%	49.7%	46.8%	34.7%	36.3%
18+ years	8.3%	9.1%	8.8%	1.8%	1.7%	1.7%
Missing	0.0%	0.3%	0.3%	0.9%	0.7%	0.7%

Note. Subscripts denote items that are significantly different between prevention and comparison groups.



**Table 2**

Descriptive Statistics for Outcome Variables by Prevention Exposure Status for Part 1

Variable	Time 1			Time 2		
	Prevention	Comparison	<i>t</i>	Prevention	Comparison	<i>t</i>
Community Perception						
Community Cohesion	2.23 (0.51)	2.74 (0.39)	17.66**	2.38 (0.47)	2.72 (0.42)	7.73**
Collective Efficacy	2.67 (0.64)	3.03 (0.49)	10.08**	3.01 (0.62)	3.00 (0.58)	-0.2
Injunctive Norms						
Community Personal	3.17 (0.54)	3.35 (0.43)	5.99**	3.41 (0.43)	3.29 (0.49)	-2.28*
Community Public	3.12 (0.59)	3.30 (0.50)	5.17**	3.33 (0.45)	3.26 (0.53)	-1.39
Descriptive Norms						
Individual-Oriented	2.41 (0.53)	2.71 (0.45)	9.14**	2.57 (0.57)	2.71 (0.50)	2.66**
Community-Oriented	2.33 (0.65)	2.67 (0.56)	8.58**	2.70 (0.56)	2.65 (0.59)	-0.84
Proactive Bystander Behaviors						
Social Media/Texting	0.27 (0.44)	0.26 (0.44)	-0.20	0.27 (0.45)	0.25 (0.44)	-0.38
Talk about Safe Dating	0.32 (0.47)	0.27 (0.45)	-1.53	0.28 (0.45)	0.27 (0.44)	-0.23
Talk about Prevention	0.48 (0.5)	0.61 (0.49)	3.88**	0.63 (0.48)	0.56 (0.5)	-1.37

\*\*  
p < .01,\*  
p < .05

**Table 3**

Linear Regression for Individual Perceptions of Community Social Processes by Time and Prevention Condition in Part 1

	$\beta$	SE	T Value	P Value
<b>Community Cohesion<sup>2</sup> R<sup>2</sup>=.17</b>				
Prevention-enhanced condition	-.51	.03	-17.66	.00
Time	-.01	.02	-0.37	.71
Age	.02	.01	1.96	.05
Prevention*Time	.16	.05	3.09	.00
<b>Collective Efficacy for Town improvement<sup>3</sup> R<sup>2</sup>=.05</b>				
Prevention-enhanced condition	-.36	.04	-9.72	.00
Time	-.05	.03	-1.61	.11
Age	-.02	.01	-2.12	.03
Prevention * Time	.37	.07	5.51	.00
<b>Descriptive Norms – Community Oriented Action<sup>4</sup> R<sup>2</sup>=.04</b>				
Prevention-enhanced condition	-.34	.04	-8.56	.00
Time	-.02	.03	-.58	.56
Age	.00	.01	.17	.87
Prevention * Time	.38	.07	5.27	.00
<b>Descriptive – Individual Oriented Action<sup>5</sup> R<sup>2</sup>=.05</b>				
Prevention-enhanced condition	-.29	.03	-8.83	.00
Time	.00	.03	.13	.89
Age	.00	.01	-.55	.58
Prevention * Time	.14	.06	2.27	.02
<b>Injunctive – Community Public Norms<sup>6</sup> R<sup>2</sup>=.02</b>				
Prevention-enhanced condition	-.18	.04	-5.22	.00
Time	-.03	.03	-1.13	.26
Age	.02	.01	1.88	.06
Prevention * Time	.25	.06	3.83	.00
<b>Injunctive – Community Personal Norms<sup>7</sup> R<sup>2</sup>=.02</b>				
Prevention-enhanced condition	-.19	.03	-5.91	.00
Time	-.05	.02	-2.02	.04
Age	.01	.01	1.27	.21
Prevention * Time	.29	.06	5.02	.00

<sup>2</sup>79 observations deleted due to missingness.

<sup>3</sup>50 observations deleted due to missingness.

<sup>4</sup>73 observations deleted due to missingness.

<sup>5</sup>84 observations deleted due to missingness.

<sup>6</sup> 47 observations deleted due to missingness.

<sup>7</sup> 62 observations deleted due to missingness.

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**Table 4**

Logistic Regression Results for Prevention by Time Effects on Actionist Behaviors in Part 1

	$\beta$	SE	OR	P Value	95% CI
<b>Talk with friends about preventing SV/IPV<sup>8</sup></b>					
Prevention-enhanced condition	.03	.15	1.03	.84	[.77, 1.38]
Time	-.02	.12	.98	.87	[.78, 1.24]
Age	.03	.04	1.03	.54	[.94, 1.12]
Prevention*Time	.07	.28	1.08	.79	[.62, 1.83]
<b>Use social media or texting to show that IPV/SA are not okay?<sup>9</sup></b>					
	$\beta$	SE	OR	P Value	95% CI
Prevention-enhanced condition	.21	.15	1.23	.15	[.93, 1.63]
Time	.03	.12	1.03	.79	[.82, 1.29]
Age	.07	.04	1.07	.10	[.99, 1.16]
Prevention*Time	-.16	.27	.86	.57	[.50, 1.44]
<b>Talk with your friends about being safe in dating relationships?<sup>10</sup></b>					
	$\beta$	SE	OR	P Value	95% CI
Prevention-enhanced condition	-.51	.13	.60	.00	[.46, .78]
Time	-.14	.10	.87	.17	[.71, 1.06]
Age	.06	.04	1.06	.16	[.98, 1.14]
Prevention*Time	.82	.25	2.27	.00	[1.40, 3.72]

<sup>8</sup> 25 observations deleted due to missingness.<sup>9</sup> 27 deleted due to missingness<sup>10</sup> 23 deleted due to missingness

**Table 5**

Logistic Regression Results for Prevention by Time Effects on Victimization in Part 2

	$\beta$	SE	OR	P Value	95% CI
<b>Intimate Partner Violence Victimization (N = 2,643)</b>					
Prevention-enhanced condition	0.33	0.17	1.39	0.05	[0.00, 0.66]
Time	-0.31	0.22	0.73	0.15	[-0.73, 0.12]
Grade	0.00	0.05	1.00	0.93	[-0.09, 0.10]
Sex	0.96	0.12	2.63	0.00	[0.74, 1.19]
Prevention X Time	-0.07	0.25	0.94	0.79	[-0.56, 0.43]
<b>Bullying Victimization (N = 4,023)</b>					
Prevention-enhanced condition	0.59	0.12	1.80	0.00	[0.35, 0.82]
Time	-0.35	0.15	0.70	0.02	[-0.65, -0.06]
Grade	-0.15	0.03	0.86	0.00	[-0.22, -0.09]
Sex	0.80	0.07	2.22	0.00	[0.66, 0.94]
Prevention X Time	0.29	0.17	1.34	0.09	[-0.04, 0.63]