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The effect of Teach One Reach One (TORO) on youth acceptance of couple violence

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Abstract

This study evaluated the impact of the Teach One Reach One intervention, a community-based participatory research project designed to address the co-occurrence of adolescent risk behaviors on acceptance of teen dating violence. Data were derived from 331 rural African American youth between 10–14 years of age who participated in caregiver-youth dyads as either: 1) peer lay health advisor dyads, or Ambassadors, 2) caregiver-youth dyads recruited by Ambassadors, or Allies, or 3) comparison dyads. The following study focuses on participating youth only and our results indicated that: 1) Ambassadors and Allies reported less acceptance of couple violence than youth within the comparison group, and 2) less family cohesion, greater family conflict, and greater knowledge of healthy dating behaviors predicted greater acceptance of couple violence. Our findings highlight the efficaciousness of the TORO intervention, which directly engaged

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participants in prevention efforts through community-based participatory research methods and the use of lay heath advisors.

Keywords

dating violence; lay health advisors; CBPR; intervention

Introduction

Teen dating violence (TDV), a form of intimate partner violence (IPV) between romantic partners aged 10–19 that involves physical, emotional, and/or verbal abuse (Vagi, Rothman, Latzman, Tharp, Hall, & Breiding, 2013), is a serious threat to public health, with many youth reporting experiences as early as 12 years of age (O'Leary & Slep, 2012). National estimates of victimization among adolescents range between 8 and 15% (CDC, 2006; Hickman, Jaycox, & Aronoff, 2004), while estimates of perpetration range between 15 and 40% (Foshee, McNaughton, Reyes, & Ennett, 2010; Giordano, Soto, Manning, & Longmore, 2010; Miller, Gorman-Smith, Sullivan, Orpinas, & Simon, 2009). In addition to age, prior evidence suggests that race, region, and sex contribute to additional layers of vulnerability for TDV experiences (Henry & Zeytinoglu, 2012; Marquart, Nannini, Edwards, Stanley, & Wayman, 2007; McDonell, Ott, & Mitchell, 2010; O'Leary, 2008; Vézina & Hérbert, 2007). African American youth, for example, are at greater risk for being both victims and perpetrators of TDV due to socio-demographic factors, including greater rates of marginalization, poverty, and exposure to community violence (Henry & Zeytinoglu, 2012).

Research has also shown that TDV varies by region, such that youth in rural communities (Vézina & Hérbert, 2007) and those residing in the South (Marquart et al., 2007) report rates of TDV that exceed the national average (Foshee et al., 1996). It is unclear why these rates are higher among adolescents in the rural South compared to other regions in the United States. Evidence suggests that rural patriarchal ideologies, social isolation, and lack of preventive services are factors that may contribute to higher rates of TDV in such areas (Olimb, Brownlee, & Tranter, 2002). In any case, the serious consequences of TDV, such as mental health disorders, substance use, high-risk sexual activity, suicidal behaviors, and serious injury (Ackard, Eisenberg, & Neumark-Sztainer, 2007; Brown, Cosgrave, Killackey, Purcell, Buckby, &Yung, 2009; Roberts, Klein, & Fisher, 2003; Teten, Ball, Valle, Noonan, & Rosenbluth, 2009; Whitaker, Haileyesus, Swahn, & Saltzman, 2007), highlight the importance of developing interventions aimed at eliminating acceptance of couple violence, which refers to a level of tolerance for violent or aggressive behaviors in dating relationships and is a strong predictor of TDV, among youth prior to the initiation of dating relationships (e.g., Foshee, Reyes, Ennett, Cance, Bauman, & Bowling, 2012; Temple, Shorey, Tortolero, Wolfe, & Stuart, 2013).

Though not a new phenomenon, teen dating violence is a relatively new area of study that has led to the development of multiple intervention and prevention programs aimed at reducing TDV among youth at risk for TDV perpetration and/or victimization (e.g., Foshee

et al., 1996). Despite the surge in the development of interventions aimed at TDV, most have focused on older adolescents and young adults, leading to a gap in our understanding of whether intervention components should differ for early adolescent youth (Shorey et al., 2012). One well known program designed to reduce TDV through primary and secondary prevention, *Safe Dates*, targeted youth in rural North Carolina and has been shown to be efficacious among middle and high school youth (Foshee, Reyes, Ennett, Cance, Bauman, & Bowling, 2012). This program, however, focuses only on healthy dating relationships. Current research has called for cost-effective intervention and prevention programs that address multiple risk behaviors while taking socio-ecological influences into account (e.g., environment, social and/or familial exposure to violence) (Antle, Sullivan, Dryden, Karam, & Barbee, 2011; Richards & Branch, 2011).

Relatedly, experts in the field have advocated for multilevel programs that consider the complex systems that determine health behavior and beliefs, and that drive ethnic and regional health disparities (Kogan et al., 2012; Sales, Milhausen, & DiClemente, 2006). One result of this call to action is a growing interest in the use of lay health advisors (LHA) to help reduce risk behaviors among rural African American youth (Maticka-Tyndale & Barnett, 2010). This is a particularly promising approach because previous research has demonstrated the efficaciousness of LHA-based interventions within ethnic minority and rural communities (Ayala, Vaz, Earp, Elder, & Cherrington, 2010; Crosby, DiClemente, Charnigo, Snow, & Troutman, 2009; Viswanathan et al., 2010).

In this article, we describe the effect of the Teach One Reach One (TORO) intervention, a 12-session, LHA-based risk-reduction program among rural early adolescent youth and their caregivers, on a single outcome—youths' reports of acceptance of couple violence. The development of this intervention was based upon a composite conceptual framework that integrated constructs from the Theory of Planned Behavior (TPB; Ajzen, 1991) and Social Cognitive Theory (SCT; Bandura, 1986). This framework acknowledges that individuals exist within the context of their environment and to adequately address multiple risk behaviors, we *must* intervene at multiple levels. To do this, we used the process of Intervention Mapping to highlight the behavioral and environmental contributors to TDV (Corbie-Smith et al., 2010). We used the TPB to address individual-level factors and a teaching model grounded in the SCT to address the influences of the social environment that contribute to TDV among African American youth.

The TPB suggests that behavioral intention, the most proximal determinant of actual behavior, is determined conceptually by *attitudes*, *subjective norms*, and perceived behavioral controls (or *self-efficacy*) (Ajzen, 1991). SCT integrates both determinants of personal behavior and methods of behavior change and proposes that behaviors are performed due to complex interactions between environmental, personal and behavioral factors (Bandura, 1986). Personal factors include behavioral capability (*knowledge* and *skill* to perform a behavior) and environmental factors include *social support* and *social networks*. Previous studies have demonstrated links between less acceptance of couple violence and increased self-efficacy (e.g., Love & Richards, 2013), greater knowledge of healthy dating behavior (Cornelius & Resseguie, 2007; Raiford et al., 2007), fewer experiences of dating violence, perceptions that TDV is not normative in peer relationships

(Foshee et al., 2010), and positive parent-child interactions (Ehrensaft & Cohen, 2012; Lefkowitz, Romo, Corona, Au, & Sigman, 2000; Makin-Byrd, Bierman, and Conduct Problems Prevention Research Group, 2013).

Adolescent females, for example, who reported greater healthy dating self-efficacy—perceived themselves to have greater personal power and confidence in their ability to protect themselves from sexual aggression—reported lower rates of TDV victimization (Sharpe & Taylor, 1999; Walsh & Foshee, 1998). Moreover, increased knowledge about TDV and healthy dating behaviors is related to less acceptance of couple violence for both parents and youth (Foshee, Reyes, Ennett, Cance, Bauman, & Bowling, 2012). With that said, families play an integral role in protecting adolescents from TDV by empowering adolescents to avoid unhealthy dating relationships and setting dating rules for their teens (Foshee, Reyes, Ennett, Cance, Bauman, & Bowling, 2012; Vézina & Hérbert, 2007). In fact, having a strong family bond, which includes having open parent-teen communication, is associated with decreased experiences of TDV (Vézina & Hérbert, 2007).

Using the integrated TPB and SCT framework, we developed a risk reduction intervention for African American youth that identified and targeted key predictors of acceptance of couple violence among youth. Using a lay health advisor (LHA) model to engage youth and caregivers in coursework focused on sexual health issues, healthy dating behavior, and parent-teen communication, TORO was designed to address the co-occurrence of adolescent risky behaviors (i.e., dating violence, healthy relationships, and sexual behavior) by targeting shared risk and protective factors (i.e., parent-teen communication) (Foshee et al., 2012), normative beliefs (Jouriles et al., 2005), family functioning or environment (Ehrensaft & Cohen, 2012), and attitudes and beliefs about TDV and sexual behavior (Cornelius & Resseguie, 2007). We chose a LHA model because it targets change at multiple levels, builds upon strong networks in rural African American communities, and is adaptable (Thomas, 2006; Wolff et al., 2004). LHAs are natural helpers with expertise and knowledge that enhance the health and competence of their community through information distribution, assistance, and organization of community building activities within their social networks (Eng & Hatch, 1991; Israel & Rounds, 1987; Plescia, Herrick, & Chavis, 2008). LHAs' ability to access and activate structures both internal and external to their social networks has been identified as an important resource for social change (e.g., Parker, Schulz, Israel, & Hollis, 1998).

The following study presents data only from youth Ambassadors with two objectives: (1) evaluate the effect of the aforementioned risk and protective factors on acceptance of couple violence (i.e., knowledge, normative beliefs, self-efficacy, parent-child relationship quality, and family functioning) and (2) evaluate the effectiveness of the intervention on one of the primary outcomes of this intervention, acceptance of couple violence.

Method

Participants

From December 2008 to May 2012, we recruited a total of 331 African American youth 10–14 years of age from five counties (two intervention counties and three comparison counties)

in rural eastern North Carolina to participate in a risk-reduction trial. The five counties were comparable in ethnic composition, population, and poverty rates (State Center for Health Statistics and the Office of Healthy Carolinians [NCSCHS], 2012). We selected this population and region because of the perceived and expressed need for services aimed at reducing health disparities (Edgecombe County Health Department 2007, Nash County Health Department 2007). We selected the two intervention counties because they had not been the focus of academic research aimed at addressing important health issues in their communities, unlike the comparison counties, which were adjacent to intervention counties, in which some of the residents had been exposed to a diabetes intervention study (DiIorio et al., 2001). This study design allowed us to use a comparison group with exposure to another intervention to account for potential biases due to simply participating in a research study and also enabled us to pragmatically address resource constraints.

To be eligible to participate in TORO, youth had to self-identify as African American, reside in either the intervention or comparison counties, and be between 10 and 14 years of age at the time of recruitment. Within intervention counties, we used a structured screening interview to determine eligibility. During an earlier planning grant, the community-academic consortium developed a list of prerequisites for lay health advisors based on qualities identified in similar programs, including leadership abilities, trustworthiness, comfort with discussing topics of a sexual nature, and the availability to be an active program participant (e.g., Rhodes, Foley, Zometa, & Bloom, 2007).

Each youth-caregiver dyad, referred to as Ambassadors, had to identify at least one other youth-caregiver dyad, referred to as Allies, with whom they would engage during the intervention period. Ambassador dyads were trained to recruit Allies and were provided with a script to explain the program and expectations for participation. Moreover, they were provided with handouts during monthly meeting with Allies to demonstrate intervention concepts. Allies were often friends or relatives of Ambassadors and provided informed consent and assent to participate. Though Allies did not receive the TORO intervention, they agreed to partner with Ambassadors dyads. To facilitate knowledge transfer, Ambassador dyads agreed to share information with Ally dyads regarding the information gained from the intervention.

Procedure

We have described the process of partnership and intervention development in detail elsewhere (Corbie-Smith et al., 2010, 2011). Briefly, the development of TORO was guided by community-based participatory research (CBPR) principles and a staged approach to partnership development (Corbie-Smith et al., 2010, 2011). To evaluate TORO, we used a quasi-experimental community-based trial and recruited participants from local organizations, churches, and schools using fliers, brochures, and radio and newspaper advertisements. To screen for eligibility in the intervention counties, we interviewed community members interested in being trained as Ambassadors. We asked interested and eligible caregiver Ambassadors to sign a caregiver consent form for themselves and their youth, and asked youth Ambassadors to sign an assent form. We used the same recruitment protocol to identify youth and caregiver dyads in the comparison counties; however, they

did not have to meet the prerequisites required of LHAs selected as Ambassadors (e.g., leadership qualities, etc.). This study and all related procedures were approved by the Institutional Review Board at the University of North Carolina at Chapel Hill.

TORO is divided into separate but parallel curricula for youth and adult Ambassadors (see Table 1), with the goal of training each dyad to function as Lay Health Advisors (LHA). To keep the 12 training sessions relatively small and facilitate more interaction and individualized feedback, we trained Ambassador dyads in groups of five to ten. The curriculum for youth focused on abstinence, condom use, and healthy dating relationships. The curriculum for caregivers focused on parenting practices and communication about sexual health and healthy dating. Each session was structured to target specific behavioral determinants from our guiding theoretical framework such as knowledge, attitudes, skills, self-efficacy, outcome expectations, social networks and perceived norms for youth and parents on abstinence, condom use, healthy dating, and communication. Each session was held on a Saturday morning in 90-minute blocks for 12 consecutive weeks and was composed of LHAs from both intervention counties. During each 90-minute session, caregivers and youth attended workshops separately for the first hour and together for the last half hour to provide opportunities to practice skills targeted during the session. Sessions were sequential, with later sessions building on concepts of earlier ones, and emphasized active learning using a variety of instructional strategies (e.g., games, small and large group discussions, skill practice, stories, and individual activities). Fidelity assessments were completed at the end of each session, with trained note takers sitting in on each session and providing feedback to session leaders.

Integrated in each session were skills that dyads could use to reach out to other youth and adults and included topics such as skills and methods of outreach, leadership, problem solving, and reinforcement of the study goals. We gave participants an incentive of $10 for each session, and provided transportation and child care as needed. Upon program completion, youth and caregiver LHAs committed to spending the next 9 months performing various outreach activities of their own design with Allies to share information about sexual health and healthy dating learned during the TORO LHA training. Post-training assessments were completed using a standard set of open-ended questions. LHAs also participated in a focus group to provide feedback and address concerns. Additionally, research staff held monthly meetings with the caregiver-youth dyads to discuss challenges and successes, and receive additional support on topics raised during discussion.

We collected data from intervention (Ambassadors and Allies) and comparison groups at baseline and nine-month follow-up, with an overall 78% follow-up rate. To address potential low literacy in our participants and to afford maximal privacy, we used audio-computer-assisted self-interview (A-CASI). We assessed outcome measures for the Ambassador and Ally dyads at two time points: baseline and at nine months. We also used A-CASI to collect data from the youth and adults in the comparison group at baseline and nine months. Participants in both the intervention and comparison groups received between $10 and $30 for completing the surveys, depending on site and time point for completing each A-CASI data collection. The incentive amount increased over time to address recruitment challenges experienced in certain counties.

Measures

We measured acceptance of dating violence using a five-item scale (alpha=.73) with responses ranging from 0 (*strongly disagree*) to three (*strongly agree*). Two sample items are "Violence between dating partners can improve the relationship" and "There are times when violence between dating partners is okay" (Foshee & Bauman, 1992).

To measures quality of parent-teen communication, we adapted two subscales from Barnes and Olsen's Parent-Adolescent Communication scale (1985). The *Open Family Communication* subscale assesses openness and positive experiences in communicating with one's parent (10 items, alpha=.88). The *Problems in Communication* subscale focuses on problematic and negative experiences in communicating with one's parents (10 items, alpha=.78). Both use a four-point Likert scale from strongly disagree (0) to strongly agree (3).

We measured family functioning with two subscales, family cohesion and family conflict (Bloom, 1985). To measure *family cohesion*, we used a three-item, four-point Likert scale (alpha=.84) that includes statements like "*Family members really help and support one another*". To measure *family conflict*, we used a three-item, four-point scale (alpha=.73) that includes statements like "We fight a lot in our family". Both scales used responses ranging from strongly disagree (0) to strongly agree (3). Normative beliefs about healthy dating behaviors assessed youth perceptions of whether their peers were in romantic relationships and whether they were engaging in healthy/unhealthy dating behaviors. Responses for this three-item scale ranged from 0 (strongly disagree) to 3 (strongly agree) and were summed to create an overall score, alpha=.65.

We measured youths' knowledge of healthy dating behaviors using a scale developed by Wingood and colleagues (2001). The scale had six items (alpha=.72), including statements like "Your partner gets angry when you do not do what he/she wants", with responses ranging from *acceptable* (0) to *unacceptable* (3). We reverse-coded all questions, so that the higher score indicates more healthy perceptions of acceptable behavior.

Self-efficacy for healthy dating behaviors assessed youths' perceived ability to engage in healthy dating behaviors and included items such as: "If I were in a verbally or emotionally abusive relationship, I could leave the relationship." Responses ranged from 0 (*strongly disagree*) to 3 (*strongly agree*) and items were summed to create a composite measure. Items were developed *de novo* and found to have good internal consistency (alpha= .75).

Data Analyses

We used SAS, version 9.3 (SAS, 2011) to analyze the data. We used descriptive and bivariate statistics (i.e., means, frequencies, Wilcoxon tests, chi squares) to describe differences between the intervention and control groups at baseline compared with follow-up assessment. Next, we used linear regression to determine the predictors of change in acceptance of couple violence post-test scores. We included only predictors that were significant at $p < .2$ according to bivariate estimates, as traditional cut-off values could cause us to exclude variables of importance (e.g., Bendel & Afifi, 1977). Covariates included baseline measures of acceptance of couple violence, youth age and sex (male = 1, female =

2), caregiver marital status, income, and education, how much of intervention curricula were completed and time between baseline and follow-up, relation to the caregiver (biological parent = 1, other relative = 2, unrelated = 3), and intervention group (Ambassadors = 0, Allies = 1, Comparison = 2). We ran a total of three multiple regression models. The first model included all covariates and predictors significant at $p < .2$. We then reran this model to include only significant covariates under two conditions: one model that included sex interactions and the other without the sex interactions. We present the results of the more parsimonious models in Table 4. Significance for regression analyses was defined as $p < .05$.

Results

Table 2 presents descriptive and summary statistics of the study. Participants included youth Ambassadors (n = 79), youth Allies (n = 135), and youth in the comparison group (n = 117). The proportion of males and females varied slightly depending on the treatment condition. There were equal proportions of males and females among Youth Ambassadors, while Allies and comparisons reported more females than males. Intervention duration and relation to adult differed between study groups. Regarding intervention duration, Allies reported greater periods of time between baseline and follow-up data collection (approximately 22 months), than did Ambassadors (approximately 17 months). Individuals within the comparison groups reported the shortest amount of time between baseline and follow-up data collection (approximately 14 months). Regarding relation to participating adult, most Ambassadors and Allies reported that their participating caregivers were also their biological parents (67.8% and 68.9% respectively), followed by other relatives (18.6% and 19.9% respectively), and unrelated caregivers (13.6% and 11.2% respectively). Comparison group participants reported that their participating caregivers were also their biological parents (56%), followed by unrelated caregivers (32%), and other relatives (12%). There were no other significant differences between groups regarding study variables at baseline. Among youth Ambassadors, 78% (n=69) completed all of the TORO training sessions and the mean dose (i.e., number of training sessions attended) was M = 11.32, SD = 1.65.

The following results are listed in Table 3. At follow-up, youth Ambassadors were the least accepting of couple violence, followed by Allies, followed by youth in the comparison group. Youth Ambassadors reported statistically significant reductions in acceptance of couple violence between baseline and follow-up ($p < .001$). While Allies approached statistically significant reductions in acceptance of couple violence at follow-up ($p = .08$), youth in the comparison group showed no significant differences between baseline and follow-up ($p = .10$). Only youth in the comparison group showed differences in family conflict and family cohesion, reporting higher levels of family conflict ($p = .02$) and lower levels of family cohesion ($p = .01$) at follow-up. Regarding self-efficacy, Ambassadors and Allies both reported significant improvements between baseline and follow-up values ($p = .05$, $p < .001$, respectively). There were no other significant bivariate associations.

Our multiple regression model indicated that Ambassadors and Allies reported significantly less acceptance of couple violence than youth within the comparison group (see Table 4). Additionally, less family cohesion, greater family conflict, and greater knowledge of healthy

dating behaviors predicted greater acceptance of couple violence. There were no other significant predictors and no significant sex interactions.

Discussion

The purpose of the current study was to examine the impact of the TORO intervention on rural African American youths' acceptance of couple violence. We also sought to describe the impact of key risk and protective factors on acceptance of couple violence. The TORO intervention is unique in that, to our knowledge, no other program simultaneously trains youth and caregiver LHAs to educate other caregivers and youth within their social networks about risk reduction and helps LHAs build skills in facilitating communication between parents and youth about issues related to healthy dating and sexual behaviors. Overall, our bivariate results indicate that TORO was most effective in reducing post-test scores on acceptance of couple violence among youth Ambassadors, who were direct recipients of the intervention, compared with Allies and their peers in the comparison group who did not receive the intervention. This finding is important for two reasons. First, it demonstrates the effectiveness of program components in changing attitudes regarding acceptance of couple violence; the formal training demonstrated a clear positive effect. Second, our results suggest that there is more work to be done regarding the transfer of knowledge from youth Ambassadors to their self-selected Allies. Our multiple regression results, however, did support TORO's effectiveness among Ambassadors and Allies, such that in contrast with youth in the comparison group, participating in TORO, whether as an Ambassador or Ally, predicted a greater change in acceptance of couple violence at follow-up, such that these youth reported lower acceptance of couple violence, though relatively small for the Allies.

While there have been several interventions that have used the youth LHA model, few studies have formally evaluated their effect on knowledge or skill transfer (Stokar, Baum, Plishke, & Ziv, 2014). To our knowledge, no studies have examined the effect of LHA-based interventions led by youth on other youth within their social circles within community and other informal settings. One goal of TORO was to refrain from interfering with natural social processes; therefore the transfer of knowledge and skills between youth Ambassadors and Allies was based on informal social interactions. Our findings suggest that additional research is needed to examine the extent to which knowledge is transferred between Ambassadors and Allies, as well as to identify potential facilitators to effective knowledge transfer to bolster the effect with Allies.

Our results also indicate that greater family conflict and less family cohesion predict greater acceptance of couple violence. In families with low levels of conflict and moderate to high levels of family togetherness, adolescents are more likely to avoid violence or become involved with other deviant behaviors (Henneberger, Durkee, Truong, Atkins, & Tolan, 2013). Our findings support other studies that have had found an association between poorer family functioning and violent behavioral outcomes. In fact, previous research has suggested that perpetrators of IPV were more likely to witness IPV as children than their peers who do not perpetrate IPV (e.g., Ernst et al., 2009). Moreover, studies have also suggested that among females who witnessed IPV, they were twice as likely to experience IPV as adults

than those who did not witness IPV (Renner & Slack, 2006). On the other hand, positive family functioning is also associated with higher levels of self-esteem for adolescents (Mandara & Murray, 2000), which may cause adolescents to be less accepting of teen dating violence. Considering that caregivers often accept responsibility for promoting self-respect and self-esteem as a way to prevent their children from making poor partner selections (Akers, Yonas, Burke, & Chang, 2011), these findings further support the crucial role of positive familial interactions in reducing youths' acceptance of couple violence.

Knowledge of healthy dating behavior also had a significant effect on acceptance of couple violence; more knowledge predicted greater acceptance of couple violence. This is a novel and unexpected finding, as previous research often suggests that increased knowledge leads to less risk (Reeves & Origenas, 2012). Several adolescent-based interventions, for example, have demonstrated a link between increased knowledge of healthy dating behavior and fewer experiences of dating violence (Cornelius & Resseguie, 2007; Raiford et al., 2007). It is unclear why greater knowledge would be associated with greater acceptance of couple violence. The finding simply may be spurious in nature and more research is needed for validation purposes. Alternatively, the way in which we measured this construct could explain the current finding. It is possible that the wording of these items gauged youths' personal opinions about what is acceptable in their romantic relationships rather than their knowledge of what is appropriate. For example, an individual could classify calling a partner ugly names as a negative behavior, but still tolerate it in his/her own relationship. Future studies might need to use more direct language to determine youths' knowledge versus opinion about healthy dating relationship behaviors.

We found no other significant predictors of acceptance of couple violence. Quality of parent-teen communication, normative beliefs about healthy dating behaviors, and self-efficacy to engage in healthy dating behaviors all had no statistically significant effect. Regarding parent-teen communication, our scale did not include items specific to dating violence and assessed parent-teen communication about other risk behaviors, which might explain why we did not find a significant effect of communication on acceptance of couple violence. Adolescents' perceptions of parental responses to their involvement in a violent dating relationship may be markedly different from their perceptions of parental responses to discussions about sexual behavior or alcohol and drug use. Teen dating violence is a complicated phenomenon—it involves not only the couple, but because of their minor status, parents and other authorities may also have to become involved. This study supports a notion that parents need to be specific in their communication with youth, such that they target their communication towards specific risk behaviors to effectively impact their youths' engagement in such behaviors.

Normative beliefs and social norms are also powerful predictors of adolescent behavior (Kapadia, Frye, Bonner, Emmanuel, Samples, & Latka, 2012; Song, Smiler, Wagoner, & Wolfson, 2012). Although normative beliefs about healthy dating behaviors did not predict acceptance of couple violence in the current study, normative beliefs about couple violence have been shown to be predictors of dating violence perpetration and victimization (Foshee et al., 2010). For our preteen and early adolescence sample, developmentally, hitting may be socially acceptable and not considered violent behavior. One study, for example, found that

African American adolescents reported attitudes accepting of mutual manhandling and aggression within romantic relationships as behaviors often considered affectionate play (Love & Richards, 2013). However, a partner who hits in the face or gets an intense facial expression when hitting would raise concerns (Love & Richards, 2013). This perspective could suggest that some adolescents find hitting in romantic relationships to be normative and only associate hitting with violent behaviors under certain conditions.

Limitations

There are several limitations of the current study. First, our data are solely based on self-report, which is susceptible to bias due to recall and social desirability and could lead to concerns about internal and construct validity. Our use of the A-CASI method to collect information, however, could reduce bias due to social desirability as shown in previous studies (36). Moreover, such biases would have likely reduced our overall effect and shifted our findings towards type II error. Given that we found statistical significance despite these potential biases further underscores the robustness of our findings. Second, we noted that there were significant differences among study groups in regards to the time between baseline and follow-up. Similarly, there were also differences between groups regarding caregivers' relations to the participating youth. Though we adjusted for these differences in the regression model, it is unclear whether delays in data collection interfered with reported intervention effects between Ambassadors and Allies. Our results, however, suggest that our findings are robust even with the variable times between follow-up data collection. Third, the normative beliefs about healthy dating behaviors scale reported only a satisfactory reliability estimate. This measure asked youth to not only provide a personal evaluate of the healthiness of peer's romantic relationship, but also required that they make a project regarding whether or not their peer would leave an unhealthy relationship. It is possible that youth may not be as knowledgeable of their peers' relationships and could have had trouble answering questions on this scale. Fourth, counties were not randomly assigned, which could pose a threat to internal validity; however, quasi-experimental designs minimize threats to external validity, which is critical in CBPR. Lastly, it is unclear whether the results of our study are generalizable beyond the current sample of rural African-American youth in Eastern North Carolina. Thus, extension of the current findings to other groups at risk for TDV should be done with caution in the absence of additional research. Our findings, however, may be particularly important for communities with similar demographic characteristics and youth risks.

Conclusion

Our findings highlight the importance of interventions that directly engage caregivers and youth in prevention efforts and the significant, though attenuated impact on youth peers of LHAs. Research has shown that IPV is easier to prevent rather than treat; therefore, early intervention is a key mechanism in reducing and potentially eliminating IPV (Babcock, Green, & Robie, 2004; Hilton & Harris, 2009). Considering that the frequency of IPV has remained unchanged over the past decade (CDC, 2011b), more effective interventions that target both boys and girls during key development periods are needed (Chiodo, Crooks, Wolfe, McIsaac, Hughes, & Jaffe, 2012; O'Leary & Slep, 2012). Moreover, the failure to

engage caregivers as agents of prevention leads to the exclusion of those who are likely the most influential teachers during early adolescence (Tharp, 2012). Interventions that engage both caregivers and youth have the potential to stop both the persistence and onset of teen dating violence, which is often stable across relationships and time (O'Leary & Slep, 2012). Because many of the risk factors for teen dating violence are also risk factors for others types of violence, including sexual and other types (DeGue et al., 2012; Hong et al., 2012), primary prevention programs that target attitudes consistent with decreasing acceptance of couple violence might also be effective in reducing other kinds of risk behaviors (Vagi et al., 2013).

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Table 1

Outline of the TORO Intervention Program

Session	Caregiver Session	Youth Session
Session 1	Welcome Session	Welcome Session
Session 2	Family Values & Decision Making	Making Plans for Me
Session 3	Healthy Relationships	Healthy Relationships
Session 4	Setting Healthy Boundaries	Setting Limits for Yourself
Session 5	Rules, Boundaries, & Parental Monitoring	Identifying & Resisting Pressure
Session 6	Preparing for “The Big Talk”	Your Body – The Facts
Session 7	Preparing for “The Big Talk”	HIV/STI Facts
Session 8	Consequences of Choosing Abstinence of Choosing to Have Sex	Examining the Consequences of Having Sex as a Teen
Session 9	Helping Youth Navigate	Resisting Pressure
Session 10	Managing Media	Using Condoms
Session 11	Advising Skills, Part 1	Advising Skills, Part 1
Session 12	Advising Skills, Part 2	Advising Skills, Part 2
Session 13	Graduation	Graduation

Table 2

Demographic characteristics of participants in TORO, 2008–2012

Personal Characteristics	Ambassadors		Allies		Control	
	n	%	n	%	n	%
Sex						
Male	58	50	82	42.1	67	43.2
Female	58	50	113	57.9	88	56.8
Caregiver income						
<$5,000	28	28	36	19.7	31	22.5
$5,000–19,999	31	31	60	32.8	41	29.7
$20,000–39,000	28	28	37	20.2	35	25.4
$40,000+	31	31	33	18	23	16.7
Caregiver education						
Some high school or less	24	20	47	24	25	21
Graduate from HS	39	31.5	64	33	35	30
Some College/Tech school	40	32	49	26	28	24
College or higher	21	17	33	17	30	26
Caregiver marital status						
Married/cohabitating	44	38.6	62	33.9	43	31.2
Separated/divorced	26	22.8	33	18	19	13.8
Other	44	38.6	88	48.1	76	55.1
Relation to Adult						
Biological parent	80	67.8	135	68.9	88	56.1
Relative	22	18.6	39	19.9	19	12.1
Unrelated	16	13.6	22	11.2	50	31.8

Note: Totals do not sum to the sample size because of missing data.

Table 3

Baseline and follow-up assessments of predictor and outcome variables

	N	Pre M (SE)	Post M (SE)	Mean change	*t*	*p*
Accept. of couple violence						
Ambassadors	79	4.42 (0.37)	2.80 (0.31)	−1.63 (−2.31–0.94)	−3.96	<0.001 ≠
Allies	135	4.14 (0.29)	3.55 (0.27)	−0.59 (−1.14–0.05)	−1.80	0.08
Control	117	4.21 (0.28)	3.71 (0.32)	−0.49 (−0.99–0.01)	−1.64	0.10
Family Conflict						
Ambassadors	63	2.62 (0.33)	2.70 (0.32)	0.08 (−0.51–0.67)	0.22	0.82
Allies	104	2.71 (0.22)	3.13 (0.23)	0.41 (0.02–0.81)	1.75	0.08
Control	89	2.45 (0.24)	3.15 (0.28)	0.70 (0.20–1.19)	2.33	0.02 *
Family Cohesion						
Ambassadors	67	6.43 (0.28)	6.72 (0.31)	0.28 (−0.26–0.83)	0.86	0.39
Allies	106	6.58 (0.19)	6.61 (0.21)	0.03 (−0.36–0.42)	0.12	0.90
Control	91	6.73 (0.23)	6.10 (0.25)	−0.63 (−1.03–0.22)	−2.57	0.01 *
Knowledge						
Ambassadors	65	3.21 (0.40)	3.85 (0.55)	0.65 (−0.36–1.66)	1.07	0.29
Allies	115	3.65 (0.38)	3.04 (0.36)	−0.61 (−1.26–0.03)	−1.58	0.11
Control	100	3.37 (0.39)	3.30 (0.43)	−0.07 (−0.84–0.70)	−0.15	0.88
Normative Beliefs						
Ambassadors	72	5.92 (0.26)	6.48 (0.23)	0.56 (0.01–1.11)	1.70	0.09
Allies	122	6.04 (0.19)	6.48 (0.20)	0.45 (0.03–0.86)	1.79	0.08
Control	117	5.68 (0.23)	5.83 (0.22)	0.15 (−0.33–0.63)	0.51	0.61
Self-Efficacy						
Ambassadors	75	8.95 (0.28)	9.68 (0.32)	0.73 (0.11–1.35)	1.96	0.05 *
Allies	124	8.97 (0.25)	9.95 (0.21)	0.97 (0.62–1.33)	4.60	<.001 ≠
Control	113	9.38 (0.25)	9.41 (0.26)	0.03 (−0.48–0.54)	0.10	0.92
Quality of Open Parent-Teen Communication						
Ambassadors	77	18.86 (0.71)	19.17 (0.74)	0.31 (−0.96–1.59)	0.41	0.69
Allies	128	19.19 (0.50)	19.79 (0.53)	0.61 (−0.27–1.48)	1.15	0.25
Control	119	20.27 (0.55)	20.26 (0.54)	−0.02 (−0.99–0.96)	−0.03	0.98

Note: totals do not sum to the sample size because of missing data and rounding;

* P<0.05;

≠ P<0.01.

Table 4

Multiple regression analysis for predictors of acceptance of couple violence

	B	SE	*t*	*p*
Intercept	3.67	1.02	3.60	<.001≠
Covariates				
Baseline	0.34	0.06	5.75	<.001≠
Ambassadors	−1.08	0.46	−2.12	0.04*
Allies	−0.34	0.44	−0.76	0.45
Comparison	0	---		
Sex	0.67	0.39	1.74	0.09
Sex	0	---		
Biological parent	−0.18	0.47	−0.38	0.70
Relative	−0.37	0.64	−0.59	0.56
Unrelated	0	---		
Time between baseline and FU	−0.0001	0.0005	−0.15	0.88
Predictors				
Knowledge	0.14	0.06	2.23	0.03*
Family conflict	0.22	0.09	2.51	0.02*
Family cohesion	−0.26	0.08	−3.05	0.004*
Normative beliefs	−0.01	0.08	0.17	0.87
Self-efficacy	−0.08	0.08	−1.06	0.30

Note: P<0.05;

≠P<0.01,

df = 50.