Effects of the Building Health Communities curriculum on adolescent students' beliefs, skills, and behavioral intentions regarding relationship violence

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ABSTRACT

BACKGROUND: The Building Healthy Communities Curriculum (BHCC) is a violence prevention curriculum developed for use with middle and high school students. The purpose of this study was to determine if the BHCC improves student beliefs, skills, and behavioral intentions relating to relationship and dating violence.

METHODS: The study employed a one-group, pre-post design to assess program effectiveness on students' relationship violence prevention awareness. Student beliefs, skills, and behavioral intentions related to relationship violence were assessed using a student survey, administered both before and after students participated in the BHCC curriculum. Linear mixed-effects models were used to analyze the effects of BHCC on student survey scores. Differential effects of BHCC across grade, gender, and race/ethnicity were also explored using interaction terms.

RESULTS: A total of 476 middle school and 1235 high school students in South Carolina were included in the analyses. Significant gains in relationship violence prevention outcomes were found after the implementation of the BCHH curriculum for both middle and high school students. The largest gains were made on knowledge about what constitutes healthy relationships, how to prevent relationship violence, and how to support survivors. Differences in gains were identified on some outcomes by student gender, age, and race/ethnicity.

CONCLUSION: Implementation of the BHCC significantly improved student beliefs, skills, and behavioral intentions regarding relationship violence. Findings suggest that the BHCC is a promising approach to addressing relationship violence in secondary schools.

Keywords: dating violence; adolescent; relationship violence; evaluation; sexual violence; school; prevention

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Relationship violence among students (e.g., teen dating violence) is a pervasive public health issue in the United States. Adolescents across the U.S. experience this type of violence at alarming rates. In a systematic review of 101 studies of teen dating violence, Wincentak et al.[1] estimated that 20% of teens aged 13 to 18 were exposed to physical dating violence, and 9% to sexual dating violence, though estimates varied depending on how relationship violence was defined and who was being surveyed.

For students who experience relationship violence, there are consequences beyond the immediate emotional, physical, and/or sexual harm. Relationship violence has been associated with lower self-esteem and emotional well-being; mental illness such as depression, suicidal thoughts and attempts, substance use and abuse; extreme weight control behaviors; anti-social behaviors; and future intimate partner violence[2–7].

One frequently implemented solution to the challenge of relationship violence among adolescents is prevention interventions provided in school-based settings. This study looked specifically at the efficacy of school-based interventions to change student behaviors and skills to prevent relationship violence.

Several reviews of the literature have shown that some school-based interventions addressing relationship violence may be effective for both middle and high school students[8–11]. Studies have shown that some programs can increase student knowledge[8,9,12] and change student beliefs about relationship and dating violence[8,9]. Despite some positive outcomes, studies have not shown decreases in violent behaviors or rates of perpetration or victimization as a result of

school-based interventions[8,12]. These latter outcomes are often less studied due to lack of reliable data, in part.

Not all studies of school-based programs have demonstrated positive effects on student attitudes toward and knowledge of relationship violence, however. In their review of research on adolescent dating violence prevention programs, Edwards and Hinsz[11] found that while programs were effective on average, two of the eight studies reported negative impacts, indicating that student attitudes toward dating violence had worsened after program participation. This type of backlash to intervention has been documented; for example a subset of male participants were more accepting of relationship violence after a half-day intervention including presentation and discussion[13]. A similar pattern was seen after a media campaign about appropriate dating behavior; male students were more positive about coercive sexual acts and less likely to believe it caused victims harm[14]. While the reasons for these boomerang effects are not fully understood, care must be taken to ensure that relationship violence interventions do not cause more harm than good.

Some studies have also found null (or no) effects of school-based relationship violence prevention programs. The results of a systematic review conducted by Fellmeth and colleagues found that interventions for preventing relationship violence were effective at improving student knowledge, but not attitudes, behaviors, or skills[12]. Such findings highlight that promising programs exist, but any positive effects should substantially outweigh any negative or null effects of programs so that programs ultimately provide value to students.

Variation in program effects is at least partially explained by the substantial variation in how school-based interventions were implemented. A variety of approaches have been used to deliver these interventions. Studies have shown variation in who implemented the programming:

classroom teachers [15,16], other school staff such as coaches[17,18] or school nurses[19], students as peer-facilitators[20], via media or technology[21–23], outside service providers (e.g., facilitators from domestic violence shelters and organizations)[24], or a combination of the above[25].

One considerable barrier to delivering effective violence prevention programs within schools is a lack of school-based personnel with relevant training and expertise. Given that relationship violence is a very sensitive topic, a presenter needs substantial training and experience to effectively discuss violence prevention. Most school staff have received limited training on the topic[26]. In addition, school staff may be pressured to prioritize academic programming over these prevention efforts[27], which may not leave enough time to adequately implement programs. These challenges may result in poor or inadequate implementation of school-based relationship violence prevention programs, and thus lower the effectiveness of such programs.

For these reasons, school-based programs facilitated by outside service providers, who are highly trained and who can focus solely on relationship violence issues, may be preferable to school-based programs that rely on school staff. Such external providers are widely available, and many community organizations focused on relationship violence offer such services[24].

School-based interventions delivered by external providers have been less frequently evaluated than programs implemented by school staff, however[8]. This study adds to the literature by evaluating a school-based relationship violence prevention program that utilized outside service providers to deliver the curriculum. This study examined whether implementation of the program was associated with changes in student beliefs, skills, and behavioral intentions regarding relationship violence.

The Building Health Communities Curriculum (BHCC) (previously known as the Youth Violence Prevention Program) was developed by the Sexual Trauma Services of the Midlands (STSM), a non-profit organization located in South Carolina. STSM is focused on providing services for survivors of sexual assault, as well as community education to identify and prevent sexual violence. BHCC was developed with the goal of educating adolescents to prevent sexual and relationship violence. The curriculum is most often implemented across five or six sessions of 30-60 minutes each. An overview of the session topics is presented in Table 1. The BHCC curriculum may be implemented either directly by facilitators from STSM or by teachers who have been trained by STSM. Both types of implementations were included in the present evaluation.

The study employed a one-group, pre-post design to assess program effectiveness on student outcomes related to sexual and relationship violence. The study addressed the following research questions:

1. What was the effect of BHCC curriculum on middle and high school students' beliefs, skills, and behavioral intentions about sexual and relationship violence?
2. Did the effects of the BHCC curriculum differ by student factors, such as grade level, gender, or race/ethnicity?

METHODS

Participants

Students who participated in the BHCC curriculum in a school setting included a total of 476 students in 5 middle schools and 1,235 students in 13 high schools (Table 2) in South Carolina. The student sample was limited to students who took both the pre- and post-survey before and after BHCC implementation and who had attended at least one session of BHCC.

The student sample was approximately half female (54% in middle school and 51% in high school). The middle school sample consisted of predominantly White (45%) and African American (40%) students, with small percentages of Hispanic students or students identifying as being of other races. In contrast, the high school sample included a greater percentage of African American students (51%) than White students (29%). The study sample overall had a slightly higher proportion of African American students and a slightly lower proportion of White students than the average for public schools in South Carolina.

Instrumentation

Student knowledge, beliefs, and skills related to relationship violence were assessed on a student survey, given both before and after students participated in the BHCC curriculum. Surveys were completed electronically when possible. The survey contained a 5-point Likert scale, where one equaled "Strongly Disagree", two equaled "Disagree", three equaled "Unsure/Neutral", four equaled "Agree", and five equaled "Strongly Agree". In addition, STSM categorized the questions on the survey into five topic areas, as well as by type of questions (see Table 3). Using this framework, mean survey scores were calculated for each topic area and question type. These mean scores were used as the outcomes in the analyses in this study.

Data

Data in this study were primarily provided by STSM. These data included student surveys, attendance at BHCC sessions, and demographic information. Program implementation data were also collected for each BHCC class and session completed between August 2016 and December 2018. In addition to data collected by STSM, school-level indicators of poverty were collected from the South Carolina Report Cards for 2018. Data were cleaned, merged, and analyzed using the statistical program R[28].

Analysis

Linear mixed-effects models were used to analyze the association between participating in the BHCC curriculum and changes in student survey scores measuring knowledge, attitudes, and beliefs towards relationship violence. The models also controlled for student gender, grade, race/ethnicity, and school-level poverty, as prior studies have shown differences in rates of relationship violence as well as program effectiveness among different student subgroups[1,29–31]. Linear mixed-effects models were also able to account for multiple responses per student, as well as the clustering of students within groups such as classrooms or schools. All models were estimated using the R package *lmer* [32] Models for middle school and high school were analyzed separately, given that the curriculum and survey instrument differed between those two groups.

Differential effects of BHCC across student grade, gender, and race/ethnicity were also explored. To examine these differential effects, interaction terms were added between each time point (before or after implementation) and each student subgroup characteristic. The treatment effect for each group was calculated by summing the overall treatment effect and the differential treatment effect for the subgroup indicated by the interaction term. Given that multiple statistical tests were conducted per outcome, a correction was made by applying the Benjamini-Hochberg approach[33] to control the Type 1 error rate across all subgroup analyses for each outcome.

RESULTS

Implementation

In terms of program implementation, adherence to the model was high for both middle and high school students. On average, high school students attended 87.4% of sessions (SD = 0.18). For middle school, students attended on average of 90.7% of sessions (SD = 0.17).

Effect of BHCC Curriculum

We analyzed the association between participating in the BHCC curriculum and changes in student survey scores across five topic areas and four question types (as outlined in Table 3). Table 4 provides the model results for these analyses for both middle and high school students. As shown in Table 4, the posttest survey scores for all topic areas and question types were significantly higher than the pretest survey score for the corresponding topic area and question type. Notably, there were no negative or null program effects.

The largest program impacts in high school were found on what constitutes healthy relationships (Healthy Relationships, ES = +0.34, $p < .001$), what are normal behaviors in relationships (Beliefs, ES = +0.33, $p < .001$), and how to help others who may be victims (Bystander Intervention, ES = +0.29, $p < .001$). For example, when controlling for student characteristics, the average high school student scored 3.94 on Healthy Relationships before participating in BHCC, and 4.11 after participation, which was statistically significantly higher ($p < .001$). In other words, the average high school student moved from just below Agree to slightly above Agree on the Healthy Relationships scale.

For middle school students, the largest impacts were on what constitutes healthy relationships (Healthy Relationships, ES = +0.37, $p < .001$) and how to prevent and support victims of relationship violence (Behavioral Intentions, ES = +0.27, $p < .001$, and Prevention of Sexual Violence, ES = +0.26, $p < .001$). For example, middle school students scored, on average, 3.37 before participating in BHCC, and 3.53 after completing the curriculum. Therefore, middle school students increased the average response from slightly above Neutral and moved closer to Agree.

Differential effects of BHCC by student subgroup

In addition to testing the overall effect of BHCC for all students, our model also simultaneously tested for differential effects by student gender, race/ethnicity, and grade. Findings showed that BHCC had differential effects on some student subgroups (see Figure 1). We cannot determine, however, whether findings observed in this study would generalize to other samples and settings, as there may be unobserved differences in the student subgroups unrelated to the curriculum that may account for these patterns.

Effects by gender. Differential effects of the BHCC curriculum by student gender were identified in high school for two out of seven outcomes. Results showed that female high school students showed larger gains than male students from pretest to posttest in Healthy Relationships ($p < .05$) and Behavioral Intentions ($p <.05$). For example, in Behavioral Intentions, the average female high school student's score increased from 4.32 at pretest to 4.44 at posttest (ES = +0.18, $p < .001$), while the average male high school student's score did not change from pretest to posttest (score = 4.17, ES = 0.00, $p>.05$). Practically speaking, female high school students moved their scores on Healthy Relationships from somewhat above Agree closer to Strongly Agree, while male students' scores stayed at slightly above Agree before and after BHCC implementation.

No differences by gender were identified on any outcomes for middle school students. These findings implied that males and females in middle school made similar gains from pretest to posttest across all question topics and types.

Effects by race/ethnicity. We also examined whether there were any differential effects of participating in the BHCC curriculum on student survey scores by student-reported race/ethnicity. No differences by race/ethnicity were identified on any outcomes in middle school.

Differential effects by race/ethnicity in high school were observed for students on scores on two out of seven outcomes. African American students had smaller effect sizes than White students on Healthy Relationships (ES = +0.26 vs ES = +0.45) and Bystander Intervention (ES = +0.24 vs ES = +0.41), though for each of these outcomes, African American students still increased their scores significantly from pretest to posttest. For example, on Bystander Intervention, White students increased their scores from 4.05 at pretest to 4.28 at posttest, while African American students increased their scores from 3.86 to 4.00. Therefore, White students increased their scores from slightly above Agree at pretest, and moved closer to Strongly Agree at posttest, while African American students moved from somewhat below Agree at pretest to an average score of Agree at posttest.

Findings for both gender and race/ethnicity indicate that there were few differences in program effects for high school students, but the program did not appear to have differential effects by student subgroup in middle school, or on most outcomes for both middle and high school students.

Effects by grade level. Effects of BHCC did not differ as a function of grade level in high school on any outcomes. In middle school, unlike earlier findings that showed no differential program effects for middle school students in terms of gender or race/ethnicity, we observed differential program effects for students on grade level on three out of the seven outcomes. As shown in Figure 1, students in 6th grade, when compared to 8th grade students, appeared to have significantly larger increases from pretest to posttest on skills to support personal relationships (Effective Communication and Skills & Self-Efficacy), and beliefs about relationships and relationship violence (Beliefs). On Skills & Self-Efficacy, 6th grade students increased their scores from 4.10 to 4.28, an effect size of +0.33 ($p < .01$), while 8th grade students scores did not

substantially improve their scores (pretest = 4.07, posttest = 4.09, ES = +0.04, p>.05). These findings implied that the program had larger impacts on younger students, who may have been hearing these concepts for the first time in a school-based setting.

DISCUSSION

The purpose of this study was to examine the efficacy of a school-based relationship violence prevention program (BHCC) on student knowledge, attitudes, and beliefs about teen dating violence. The study sample included students in 18 middle and high schools across South Carolina. BHCC was facilitated by external community providers in school-based settings and implemented with fidelity over 5-6 sessions.

Overall, the findings showed positive effects in both middle and high schools, with statistically significant changes in student beliefs, skills, and behavioral intentions about teen dating violence. The largest effects were found on defining healthy relationships and how to prevent and support others who experience relationship violence. The smallest effects were found on skills used to support relationships and effective communication. One plausible hypothesis is that students exhibited larger gains on topics with which they were initially less familiar.

Program effects were mostly consistent across various student subgroups, but there were few differential program effects. While both male and female students benefited from BHCC, female students in high school appeared to gain more in knowledge about healthy relationships and responding to relationship violence than did male students. One explanation is that female adolescents may have stronger communication and conflict resolution skills and less avoidance behavior[34,35], so they are better able to envision creating and enforcing boundaries, as well as communicating with their partner about those issues. However, prior research has not identified a

clear relationship between the effects of relationship violence programs and gender. Some studies have found no difference in impacts between boys and girls[20,23], while others have found that interventions can be especially beneficial for boys[21,29,30,36]. These findings highlight the need for further research to examine whether and how gender and relationship violence program efficacy interact.

Impacts of BHCC also differed by student race/ethnicity in high school only. African American high school students, while benefitting from the relationship violence intervention, did not increased their scores as much as White students on what defines a healthy relationship and how to support others who experience relationship violence. These differential effects for African American students were similar to those found in other studies of relationship violence interventions serving adolescent students, which identified differences in some outcomes between different racial and ethnic groups[29,37]. This pattern has not been consistent across studies, however, with some studies showing no differential effects by race/ethnicity[20,38].

While the reasons for differences in program effects by student race/ethnicity are not clear, some studies have found that cultural differences may be the reason that curriculum is more or less accessible and relevant to various student subgroups. The importance of cultural relevance in violence prevention interventions is well accepted[39]. For example, qualitative work has documented how African American adolescents identify and describe relationship violence[41,42]. These studies illustrated how incredibly complex relationship violence is, with many contextual factors to consider, including specific details such as which words are used to describe it. This study adds further support to considering cultural relevance in developing violence prevention programs[40].

Relationship violence prevention efforts must consider how students of different races and ethnicities may experience the interventions, as well as any cultural or racial/ethnic differences in relationship violence so that efforts are relevant and impactful for all students. It is vital that curricula used in violence prevention efforts are inclusive and culturally relevant.

Finally, larger program effects were found for the youngest students in middle schools. Sixth grade students had larger gains from pre- to post-test than older middle school students in effective communication, beliefs, and survivor skills relating to relationship violence. Determining the optimal grade levels in which to implement violence prevention programs is a key question[39]. Interventions should not be provided too early (before it is developmentally appropriate and relevant to student lives), nor too late (students are already engaging in the behaviors and habits are set). Determining the optimal grade level in which to implement violence prevention programs has not been fully explored in past research and when it was investigated, studies found mixed results.[11,21,38] Rates of relationship violence (both victimization and perpetration) increase in students' middle school years[43], and this study finds support for implementing school-based programs in the sixth grade. It is important to note, however, that there could have also been unobserved differences between the oldest and youngest middle school causing the differential program effects by student grade. In any case, understanding the optimum time to implement relationship violence interventions in schools deserves further attention in future research.

Limitations

This study has several limitations. The main limitation is that this study provides correlational as opposed to causal evidence on the efficacy of BHCC. Students served as their

own controls, and pre-survey scores were compared with post-survey scores. Future research efforts should examine the efficacy of BHCC on student outcomes with a comparison group.

Another limitation is that the student sample was one of convenience. This limits the generalizability of this study's findings in general, and particularly when contexts and populations differ from those included this study.

Finally, as the outcomes examined in this study were taken from a survey administered immediately after conclusion of the curriculum, it is unknown how long these effects may persist for students. How long program effects remain and whether effects persist over time is a topic to explore in future studies. Future research could determine, for example, if follow-up sessions are needed to maintain improved knowledge, attitudes, and skills regarding relationship violence.

Conclusions

Relationship violence among adolescents is alarmingly prevalent. Short-term school-based programming facilitated by external organizations can work to improve students' knowledge, attitudes, and skills about relationships violence. This study highlights BHCC as a promising intervention to increase awareness about sexual violence prevention among adolescents.

IMPLICATIONS FOR SCHOOL HEALTH

Given the prevalence of relationship violence affecting adolescents and the legislative mandates to tackle this issue in many jurisdictions, many educational leaders and policymakers are seeking effective relationship violence prevention interventions and programs. Interventions and programs that are effective, replicable, and scalable should be of particular interest. Our findings suggest that one school-based violence prevention program facilitated by external

parties was an effective way to improve middle and high school student knowledge, attitudes, and beliefs about relationship violence.

Using external facilitators to deliver such programs may be more effective than using school staff, given that school staff may not have as much expertise with the topic and have other, competing priorities. External facilitators, often community groups providing other relationship violence services, have the expertise to identify and disseminate high-quality programming relating to relationship violence prevention.

Of particular concern is how violence prevention program may be differentially effective for students of different ages, genders, and races/ethnicities. Schools must be sensitive to their student populations, and prepared to work with program disseminators to adjust curricula and interventions to match the specific needs and contexts of their students. Schools must also carefully consider the timing of such interventions. Our findings suggest that early grades in middle school may be an optimal time to implement relationship violence prevention programs.

School leaders and policymakers must continue to seek out evidence-based interventions to address adolescent relationship violence. Interventions should help students develop the strategies and skills needed to deal with and prevent relationship violence to effectively decrease this widespread public health problem.

Human Subjects Approval Statement

The study was reviewed by the Homewood Institutional Review Board (IRB) at Johns Hopkins University and determined that it did not qualify as human subjects research and therefore did not require IRB approval.

Conflict of Interest Disclosure Statement

The Center for Research and Reform in Education (CRRE) was contracted by Sexual Trauma Services of the Midlands to conduct this evaluation of the Building Healthy Communities Curriculum.

REFERENCES

1. Wincentak K, Connolly J, Card N. Teen dating violence: A meta-analytic review of prevalence rates. *Psychol Violence*. 2017;7(2):224-241. doi:10.1037/a0040194

2. Haynie DL, Farhat T, Brooks-Russell A, Wang J, Barbieri B, Iannotti RJ. Dating violence perpetration and victimization among U.S. adolescents: prevalence, patterns, and associations with health complaints and substance use. *J Adolesc Health*. 2013;53(2):194-201. doi:10.1016/j.jadohealth.2013.02.008

3. Ackard DM, Eisenberg ME, Neumark-Sztainer D. Long-term impact of adolescent dating violence on the behavioral and psychological health of male and female youth. *J Pediatr*. 2007;151(5):476-481. doi:10.1016/j.jpeds.2007.04.034

4. Exner-Cortens D, Eckenrode J, Rothman E. Longitudinal associations between teen dating violence victimization and adverse health outcomes. *Pediatrics*. 2013;131(1):71-78. doi:10.1542/peds.2012-1029

5. Vagi KJ, Olsen EO, Basile KC, Vivolo-Kantor AM. Teen dating violence (physical and sexual) among US high school students: findings from the 2013 National Youth Risk Behavior Survey. *JAMA Pediatr*. 2015;169(5):474-482. doi:10.1001/jamapediatrics.2014.3577

6. Ackard DM, Neumark-Sztainer D. Date violence and date rape among adolescents: associations with disordered eating behaviors and psychological health. *Child Abuse Negl*. 2002;26(5):455-473. doi:10.1016/S0145-2134(02)00322-8

7. Coker AL, McKeown RE, Sanderson M, Davis KE, Valois RF, Huebner ES. Severe dating violence and quality of life among South Carolina high school students. *Am J Prev Med*. 2000;19(4):220-227. doi:10.1016/S0749-3797(00)00227-0

8. De La Rue L, Polanin JR, Espelage DL, Pigott TD. A meta-analysis of school-based interventions aimed to prevent or reduce violence in teen dating relationships. *Rev Educ Res*. 2017;87(1):7-34. doi:10.3102/0034654316632061

9. Ting S-MR. Meta-analysis on dating violence prevention among middle and high schools. *J Sch Violence*. 2009;8(4):328-337.

10. DeGue S, Valle LA, Holt MK, Massetti GM, Matjasko JL, Tharp AT. A systematic review of primary prevention strategies for sexual violence perpetration. *Aggress Violent Behav*. 2014;19(4):346-362. doi:10.1016/j.avb.2014.05.004

11. Edwards SR, Hinsz VB. A meta-analysis of empirically tested school-based dating violence prevention programs: *SAGE Open*. Published online May 14, 2014. doi:10.1177/2158244014535787

12. Fellmeth GL, Heffernan C, Nurse J, Habibula S, Sethi D. Educational and skills-based interventions for preventing relationship and dating violence in adolescents and young adults: a systematic review. *Campbell Syst Rev*. 2013;9(1). doi:10.4073/csr.2013.14

13. Jaffe PG, Sudermann M, Reitzel D, Killip SM. An evaluation of a secondary school primary prevention program on violence in intimate relationships. *Violence Vict*. 1992;7(2):129-146.

14. Winkel FW, De Kleuver E. Communication aimed at changing cognitions about sexual intimidation: comparing the impact of a perpetrator-focused versus a victim-focused persuasive strategy. *J Interpers Violence*. 1997;12(4):513-529. doi:10.1177/088626097012004003

15. Edwards KM, Waterman EA, Lee KDM, Himlin L, Parm K, Banyard VL. Feasibility and acceptability of a high school relationship abuse and sexual assault bystander prevention program: school personnel and student perspectives. *J Interpers Violence*. Published online January 15, 2019. doi:10.1177/0886260518824655

16. Cascardi M, Avery-Leaf S. Case study of a school-based universal dating violence prevention program: *SAGE Open*. Published online September 22, 2014. doi:10.1177/2158244014551716

17. Jaime MCD, McCauley HL, Tancredi DJ, et al. Implementing a coach-delivered dating violence prevention program with high school athletes. *Prev Sci*. 2018;19(8):1113-1122. doi:10.1007/s11121-018-0909-2

18. Miller E, Tancredi DJ, McCauley HL, et al. "Coaching Boys into Men": a cluster-randomized controlled trial of a dating violence prevention program. *J Adolesc Health*. 2012;51(5):431-438. doi:10.1016/j.jadohealth.2012.01.018

19. Raible CA, Dick R, Gilkerson F, Mattern CS, James L, Miller E. School nurse-delivered adolescent relationship abuse prevention. *J Sch Health*. 2017;87(7):524-530. doi:10.1111/josh.12520

20. McLeod DA, Jones R, Cramer EP. An evaluation of a school-based, peer-facilitated, healthy relationship program for at-risk adolescents. *Child Sch*. 2015;37(2):108-116. doi:10.1093/cs/cdv006

21. Jouriles EN, McDonald R, Rosenfield D, Sargent KS. Increasing bystander behavior to prevent adolescent relationship violence: a randomized controlled trial. *J Consult Clin Psychol*. 2019;87(1):3-15. doi:10.1037/ccp0000355

22. Sargent K, Jouriles E, Rosenfield D, McDonald R. A high school-based evaluation of TakeCARE, a video bystander program to prevent adolescent relationship violence. *J Youth Adolesc*. 2017;46(3):633-643. doi:10.1007/s10964-016-0622-z

23. Levesque DA, Johnson JL, Prochaska JM. Teen Choices, an online stage-based program for healthy, nonviolent relationships: development and feasibility trial. *J Sch Violence*. 2017;16(4):376-385.

24. Hawley A, Black B, Hoefer R, Barnett TM. Domestic violence shelters' efforts to prevent teen dating violence: a national survey. *Violence Women*. 2017;23(4):520-529. doi:10.1177/1077801216644073

25. Peskin MF, Markham CM, Shegog R, et al. Adolescent dating violence prevention program for early adolescents: the Me & You randomized controlled trial, 2014–2015. *Am J Public Health*. 2019;109(10):1419-1428. doi:10.2105/AJPH.2019.305218

26. Khubchandani J, Somerson E, Davis J. Adolescent dating violence prevention: perspectives of school personnel in the United States. *Domest Violence Rep*. 2018;23(3):33-44.

27. Williams LR, Rueda HA. Teenage dating violence: perceptions of need, priority, and prevention responsibility among schools in predominantly Mexican heritage communities. *Child Sch*. 2018;40(3):135. doi:10.1093/cs/cdy012

28. R Core Team. *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing; 2020. https://www.R-project.org/

29. Peskin MF, Markham CM, Shegog R, Baumler ER, Addy RC, Tortolero SR. Effects of the It's Your Game. . . Keep It Real program on dating violence in ethnic-minority middle school youths: A group randomized trial. *Am J Public Health*. 2014;104(8):1471-1477.

30. Gonzalez-Guarda RM, Guerra JE, Cummings AA, Pino K, Becerra MM. Examining the preliminary efficacy of a dating violence prevention program for Hispanic adolescents. *J Sch Nurs*. 2015;31(6):411-421. doi:10.1177/1059840515598843

31. Edwards KM, Neal AM. School and community characteristics related to dating violence victimization among high school youth. *Psychol Violence*. 2017;7(2):203-212. doi:10.1037/vio0000065

32. Bates D, Mächler M, Bolker B, Walker S. Fitting linear mixed-effects models using lme4. *J Stat Softw*. 2015;67(1). Accessed May 2, 2016. http://www.jstatsoft.org/v67/i01/

33. Benjamini Y, Hochberg Y. Controlling the false discovery rate: a practical and powerful approach to multiple testing. *J R Stat Soc Ser B Methodol*. 1995;57(1):289-300.

34. Black KA. Gender differences in adolescents' behavior during conflict resolution tasks with best friends. *Adolescence*. 2000;35(139):499.

35. Laca FA, Alzate R, Sánchez M, Verdugo JC, Guzmán J. Communication and conflict in young Mexican students: Messages and attitudes. *Confl Resolut Q*. 2006;24(1):31-54. doi:10.1002/crq.156

36. Wolfe DA, Crooks C, Jaffe P, et al. A school-based program to prevent adolescent dating violence: a cluster randomized trial. *Arch Pediatr Adolesc Med*. 2009;163(8):692-699. doi:10.1001/archpediatrics.2009.69

37. Hahn R, Fuqua-Whitley D, Wethington H, et al. The effectiveness of universal school-based programs for the prevention of violent and aggressive behavior. *MMWR Morb Mortal Wkly Rep*. 2007;56(RR-7):1-11.

38. Levesque DA, Johnson JL, Welch CA, Prochaska JM, Paiva AL. Teen dating violence prevention: Cluster-randomized trial of Teen Choices, an online, stage-based program for healthy, nonviolent relationships. *Psychol Violence*. 2016;6(3):421-432. doi:10.1037/vio0000049

39. Nation M, Crusto C, Wandersman A, et al. What works in prevention: principles of effective prevention programs. *Am Psychol*. 2003;58(6-7):449-456. doi:10.1037/0003-066X.58.6-7.449

40. Malhotra K, Gonzalez-Guarda RM, Mitchell EM. A review of teen dating violence prevention research: what about Hispanic youth? *Trauma Violence Abuse*. 2015;16(4):444-465. doi:10.1177/1524838014537903

41. Storer HL, Talan A, Swiatlo A, et al. Context matters: factors that influence african american teens' perceptions and definitions of dating violence. *Psychol Violence*. 2020;10(1):79-90. doi:10.1037/vio0000232

42. Martin C, Houston A, Mmari K, Decker M. Urban teens and young adults describe drama, disrespect, dating violence and help-seeking preferences. *Matern Child Health J*. 2012;16(5):957-966. doi:10.1007/s10995-011-0819-4

43. Goncy EA, Farrell AD, Sullivan TN. Patterns of change in adolescent dating victimization and aggression during middle school. *J Youth Adolesc*. 2018;47(3):501-514. doi:10.1007/s10964-017-0715-3

TABLES

Table 1. Overview of BHCC curriculum.

Session	Topic	Content
1	Gender Stereotypes & Media Influence	Identify gender stereotypes common to relationships, describe the (negative) influence of the media on what is expected in relationships
2	Boundaries	Setting boundaries, importance of respecting boundaries
3	Communication	Appropriate and healthy communication, how to communicate respectfully, how to communicate when you are upset
4	Sexual Harassment	Defining sexual harassment, responding to sexual harassment
5	Healthy Relationships & Teen Dating Violence	Understanding how partners treat each other in a healthy relationship, how to start and end a relationship, defining and responding to teen dating violence
6	Sexual Assault	Defining and responding to sexual assault, consent, consequences of sexual assault, supporting victims

Table 2. Sample characteristics.

Question	Category	High School N (%)	Middle School N (%)
My gender is	Female	633 (51.3)	257 (54.0)
	Male	602 (48.7)	219 (46.0)
My race or ethnicity would best be described as	Black or African American	631 (51.1)	192 (40.3)
	Hispanic or Latin@	65 (5.3)	15 (3.2)
	Other[a]	177 (14.3)	56 (11.8)
	White or Caucasian	362 (29.3)	213 (44.7)
I am in	6th grade		299 (62.8)
	7th grade		81 (17.0)
	8th grade		96 (20.2)
	9th grade	699 (56.6)	
	10th grade	322 (26.1)	
	11th grade	131 (10.6)	
	12th grade	83 (6.7)	
Sessions attended	16-20%	24 (1.9)	0 (0.0)
	33-40%	16 (1.3)	18 (3.8)
	50-60%	56 (4.5)	12 (2.5)
	66-80%	168 (13.6)	58 (12.2)
	83%	303 (24.5)	44 (9.2)
	100%	668 (54.1)	344 (72.3)
Student N		1,235	476

Table Notes: (a) [a]Other refers to non-African American, non-Hispanic, and non-White.

Table 3. Description and reliability of survey constructs.

Construct Name		High School		Middle School	
		Number of Items	α	Number of items	α
Item Topic					
Effective Communication	Perspective-taking, name-calling, rumors	7	0.70	7	0.66
Healthy Relationships	How partners treat each other, starting and ending relationships	10	0.60	10	0.40
Preventing Sexual Violence	Consent, sexual harassment, sexual assault	14	0.81	9	0.50
Bystander Intervention	Supporting others who are victimized, understanding the perspectives of others in these situations	9	0.69	9	0.57
Assertive Communication[a]	How to respond if you are victimized, in a risky situation, or need to support a friend	5	0.20	5	0.36
Item Type					
Knowledge[a]	Knowledge of basic facts and definitions related to relationship violence	2	-0.04	2	0.10
Beliefs	Beliefs about what is normal and appropriate in relationships	26	0.86	23	0.67
Skills & Self-Efficacy	Skills demonstrating the student knows how to respond to prevent or after experiencing relationship violence	9	0.71	7	0.60
Behavioral Intentions	Behavioral intentions what the student would do if they or a friend experienced relationship violence or were in a situation to avoid potential relationship violence	3	0.59	3	0.49

Table Notes: (a) [a]Removed from analyses due to low reliability. (b) Alpha represents Cronbach's alpha.

Table 4: Mixed model results.

	High School					Middle School				
	N	Unadjusted mean	Adjusted mean	Difference in adjusted means	Effect Size	N	Unadjusted mean	Adjusted mean	Difference in adjusted means	Effect Size
Effective Communication										
Pretest	1235	3.88 (0.58)	3.88			476	4.15 (0.58)	4.15		
Posttest	1235	4 (0.64)	4.00	0.12 (0.02)	0.2***	476	4.21 (0.62)	4.21	0.06 (0.02)	0.1*
Healthy Relationships										
Pretest	1235	3.91 (0.51)	3.94			476	3.38 (0.44)	3.37		
Posttest	1235	4.09 (0.54)	4.11	0.17 (0.01)	0.34***	476	3.54 (0.49)	3.53	0.16 (0.02)	0.37***
Prevention of Sexual Violence										
Pretest	1235	4.26 (0.49)	4.26			476	4.1 (0.43)	4.10		
Posttest	1235	4.35 (0.55)	4.35	0.09 (0.01)	0.19***	476	4.22 (0.46)	4.22	0.11 (0.02)	0.26***
Bystander Intervention										
Pretest	1235	3.79 (0.55)	3.79			476	3.6 (0.55)	3.61		
Posttest	1235	3.95 (0.62)	3.96	0.16 (0.02)	0.29***	476	3.73 (0.58)	3.74	0.12 (0.02)	0.22***
Beliefs										
Pretest	1235	3.96 (0.47)	3.96			476	3.69 (0.38)	3.69		
Posttest	1235	4.11 (0.52)	4.12	0.16 (0.01)	0.33***	476	3.77 (0.4)	3.77	0.09 (0.02)	0.23***
Skills and Self-Efficacy										
Pretest	1235	4.16 (0.52)	4.16			476	4.07 (0.55)	4.08		
Posttest	1235	4.21 (0.59)	4.21	0.05 (0.02)	0.1***	476	4.18 (0.59)	4.19	0.11 (0.02)	0.19***
Behavioral Intentions										
Pretest	1189	4.26 (0.68)	4.25			476	4.03 (0.77)	4.02		
Posttest	1189	4.32 (0.77)	4.31	0.06 (0.02)	0.09**	476	4.24 (0.81)	4.23	0.21 (0.04)	0.27***

	High School					Middle School				
	N	Unadjusted mean	Adjusted mean	Difference in adjusted means	Effect Size	N	Unadjusted mean	Adjusted mean	Difference in adjusted means	Effect Size

Table Notes: (a) *p < .05, **p < .01, ***p < .001. (b) The adjusted means came from the mixed model that controlled for grade level, student gender, race/ethnicity, and school-level poverty. (c) The numbers in the parentheses are standard deviations for the unadjusted means and standard errors for the difference in the adjusted means. (d) All covariates were grand-mean centered to facilitate the interpretation. (e) Effect size is in terms of standard deviations and was calculated as the treatment effect divided by the pretest standard deviation.

Figure 1. Differential effects of BHCC by subgroup.