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One-Year Follow-Up of a Coach-Delivered Dating Violence Prevention Program

A Cluster Randomized Controlled Trial

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Background: Perpetration of physical, sexual, and psychological abuse is prevalent in adolescent relationships. One strategy for reducing such violence is to increase the likelihood that youth will intervene when they see peers engaging in disrespectful and abusive behaviors.

Purpose: This 12-month follow-up of a cluster RCT examined the longer-term effectiveness of Coaching Boys Into Men, a dating violence prevention program targeting high school male athletes.

Design: This cluster RCT was conducted from 2009 to 2011. The unit of randomization was the school, and the unit of analysis was the athlete. Data were analyzed in 2012.

Setting/participants: Participants were male athletes in Grades 9–11 (N=1513) participating in athletics in 16 high schools.

Intervention: The intervention consisted of training athletic coaches to integrate violence prevention messages into coaching activities through brief, weekly, scripted discussions with athletes.

Main outcome measures: Primary outcomes were intentions to intervene, recognition of abusive behaviors, and gender-equitable attitudes. Secondary outcomes included bystander behaviors and abuse perpetration. Intervention effects were expressed as adjusted mean between-arm differences in changes in outcomes over time, estimated via regression models for clustered, longitudinal data.

Results: Perpetration of dating violence in the past 3 months was less prevalent among intervention athletes relative to control athletes, resulting in an estimated intervention effect of −0.15 (95% CI=−0.27, −0.03). Intervention athletes also reported lower levels of negative bystander behaviors (i.e., laughing and going along with peers' abusive behaviors) compared to controls (–0.41, 95% CI=−0.72, −0.10). No differences were observed in intentions to intervene (0.04, 95% CI=−0.07, 0.16); gender-equitable attitudes (−0.04, 95% CI=−0.11, 0.04); recognition of abusive behaviors (–0.03, 95% CI=−0.15, 0.09); or positive bystander behaviors (0.04, 95% CI=−0.11, 0.19).

Conclusions: This school athletics–based dating violence prevention program is a promising approach to reduce perpetration and negative bystander behaviors that condone dating violence among male athletes.

Trial registration: This study is registered at www.clinicaltrials.gov NCTO1367704.
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Introduction

Nearly one in three adolescent girls in the U.S. is a victim of physical, emotional, or verbal abuse by a dating partner.[1] Engaging men and boys to adopt gender-equitable, nonviolent attitudes is recognized as a promising strategy to reduce violence against women and girls.[2–15] Evaluations of violence prevention programs that target youth of high school age and utilize gender norms change and bystander intervention (i.e., interrupting abusive behaviors among peers) are lacking.

The Coaching Boys Into Men (CBIM) program trains coaches to talk to male athletes about stopping violence against girls/women. A series of training cards guide coaches through weekly, 15-minute discussions throughout the sports season (www.CoachesCorner.org). Lessons highlight respect, nonviolence, and interrupting abusive behaviors among peers.

Previously reported findings from a post–sports season evaluation of CBIM were promising.[16] Three months after initiation of CBIM, high school athletes in the intervention arm demonstrated positive gains relative to control athletes in intentions to intervene in cases of peer perpetration of dating or sexual violence (adjusted mean intervention vs control difference in change over time=0.12, 95% CI=0.003, 0.24). This result also held for actually enacting positive bystander behaviors, (i.e., intervening when witnessing peers engaging in abusive behaviors toward girls/women; 0.25, 95% CI=0.13, 0.38).[16] That evaluation found no changes in dating violence perpetration. The current study examines the longer-term effects of the CBIM program on male athletes' self-reported attitudes, bystander behaviors, and abuse perpetration at 12 months after baseline data collection.

Methods

Sixteen high schools in California participated in the study from October 2009 to October 2011; data analyses were conducted in 2012. Recruitment, randomization of schools, consent procedures, coaches' training, and survey administration have been described previously.[16] Study methods were approved by the University of California Davis Human Subjects Research Committee and by each school district.

Outcome measures, described in detail elsewhere,[16] were either modified from existing scales or investigator-developed; all were piloted. Primary outcomes were recognition of abusive behavior[17] (mean of 12 items, Cronbach's alpha=0.92); gender-equitable attitudes[18] (mean of 11 items, Cronbach's alpha=0.75); and intentions to intervene when witnessing abusive behaviors[16,19] (investigator-developed, mean of eight items, Cronbach's alpha=0.86). Participants were asked how they responded to nine abusive behaviors witnessed among their peers to construct positive (i.e., interrupting the behavior) and negative (i.e., supporting the behavior) bystander behavior scores. Athletes who had ever dated a girl/woman were asked about perpetrating any of ten abusive behaviors (physical, sexual, and emotional) toward a female partner in the past 3 months.[16]

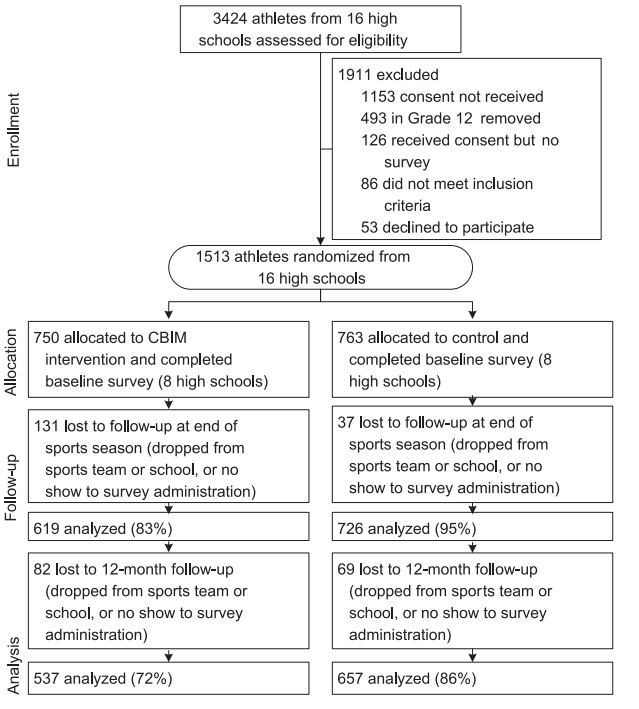

Figure 1. Study flowchart
CBIM, Coaching Boys Into Men

In light of within-school interactions among coaches, athletes, and nonathlete peers, the unit of randomization was the high school and the unit of analysis, the athlete. To account for clustered randomized study design and hierarchic arrangement of data, a combination of survey data analysis methods and multilevel mixed-effects models in SAS/Stat software, version 9.2, were utilized.[20,21] Adjusted between-arm differences in over-time changes in mean levels of continuous outcomes were used to estimate intervention effects at 12 months, adjusting for baseline differences in outcomes, race, grade, immigration status, and parental education, using all available data.

Results

Figure 1 illustrates the randomization of schools and flow of athletes through the study. The 28% of athletes in the intervention and 14% in the control arm lost to follow-up (due to dropping out of sports or from school) were more likely to be non-Hispanic black and less likely to be white compared to athletes who completed the study. Those lost to follow-up held, at baseline, slightly less-equitable gender attitudes, reported greater abuse perpetration, and were less likely to recognize abusive behaviors than those retained. Control athletes were more likely to be white and have a parent with higher education compared to intervention athletes (Table 1).

No intervention effects were found for intentions to intervene, gender-equitable attitudes, recognition of abuse,

Table 1. Demographic characteristics for students in Grades 9–11 at baseline, % (*n*)

	Total N=1513	Intervention *n*=750	Control *n*=763
Grade			
9	33.4 (505)	33.6 (252)	33.2 (253)
10	34.3 (519)	34.5 (259)	34.1 (260)
11	32.3 (489)	31.9 (239)	32.8 (250)
Chi-square *p*-value			0.93
Race			
White	34.6 (18)	27.3 (205)	41.0 (313)
Non-Hispanic black	21.3 (318)	23.6 (177)	18.5 (141)
Hispanic	19.5 (292)	21.5 (161)	17.2 (131)
Asian	10.2 (153)	8.7 (65)	11.5 (88)
Native American/Pacific Islander	4.3 (65)	5.7 (43)	2.9 (22)
Other	10.0 (150)	11.9 (89)	8.0 (61)
Chi-square *p*-value			<0.0001
Country of birth			
U.S.	92.5 (1379)	90.0 (675)	92.3 (704)
Outside of U.S.	7.5 (112)	8.3 (62)	6.6 (50)
Chi-square *p*-value			0.19
Parental education			
Some high school	4.6 (70)	5.7 (43)	3.5 (27)
High school graduate	16.9 (255)	20.7 (155)	13.1 (100)
Some college/technical school	23.3 (352)	24.7 (185)	21.9 (167)
College graduate	26.8 (406)	22.3 (167)	31.3 (239)
Completed graduate school	16.5 (249)	11.2 (84)	21.6 (165)
Not available	12.0 (181)	15.5 (116)	8.5 (65)
Chi-square *p*-value			<0.0001

Note: *p*-values are from clustered survey data Wald chi-square tests for association, to account for within-school correlation. Percentages may not equal 100% because of small amounts of missing data.

or positive bystander behaviors (Table 2). Regarding negative bystander behaviors (a higher score indicates more problematic behaviors such as laughing, going along with peers' abusive behaviors, or not saying anything), both intervention and control athletes' adjusted mean scores decreased over time, but the mean change was greater for intervention athletes, with an estimated intervention effect (adjusted mean intervention vs control difference in change over time) of −0.41 (95% CI=−0.72, −0.10).

At baseline, emotional and verbal abuse perpetration was more common among all the athletes, such as "calling her names like ugly or stupid" (4.6%), with fewer youth reporting physical (0.7%) or sexual violence perpetration (0.5%). Among intervention athletes, 16.5% reported *any* past-3-month abuse perpetration (physical, sexual, or emotional) toward a female partner at baseline compared to 14.7% at 12-month follow-up; in contrast, 14.3% of control athletes reported any past-3-month perpetration at baseline, which increased to 19.5% at 12 months. Relative to controls, intervention athletes demonstrated less overall past-3-month abuse perpetration at 12 months, an estimated intervention effect of −0.15 (95% CI=−0.27, −0.03).

To evaluate post hoc whether intensity of program delivery (number of cards delivered over how many weeks) influenced intervention effects, an intensity score

Table 2. Baseline and follow-up M (SD) for outcomes of interest and regression-adjusted intervention effects (95% CI) on mean improvements

	Baseline		1-Year Follow-Up		Adjusted intervention effect	Adjusted intensity-weighted intervention effect
	Intervention	Control	Intervention	Control		
Intention to intervene	3.71 (0.81)	**3.60 (0.72)***	3.70 (0.79)	3.51 (0.75)	0.04 (−0.07, 0.16)	0.02 (−0.10, 0.15)
Gender attitudes	2.99 (0.58)	**3.07 (0.56)***	3.07 (0.66)	3.18 (0.64)	−0.04 (−0.11, 0.04)	−0.04 (−0.12, 0.04)
Recognition of abuse	3.31 (0.90)	3.34 (0.83)	3.37 (0.89)	3.42 (0.84)	−0.03 (−0.15, 0.09)	−0.05 (−0.18, 0.08)
Bystander intervention[a]						
Positive bystander behaviors	0.59 (1.24)	0.55 (1.09)	0.58 (1.35)	0.53 (1.14)	0.04 (−0.11, 0.19)	0.08 (−0.10, 0.25)
Negative bystander behaviors	1.70 (2.00)	**2.30 (2.17)***	1.40 (2.04)	2.13 (2.17)	**−0.41 (−0.72, −0.10)**	**−0.41 (−0.81, −0.02)**
Abuse perpetration	0.31 (0.86)	0.25 (0.74)	0.28 (1.02)	0.38 (1.05)	**−0.15 (−0.27, −0.03)**	**−0.21 (−0.35, −0.07)**

Note: Boldface indicates significance. Mixed-effects longitudinal models employing restricted maximum-likelihood estimation were used for all outcomes except the bystander outcomes for which regression analysis methods for clustered data were used with schools as clusters and athlete's baseline value included as a covariate in models with 12-month follow-up values as the dependent variable. The estimated intracluster correlation coefficients from the nested cohort analysis of our primary outcomes are computed as the ratio of the estimated variance component for the school- and time-specific (school × time) changes to the sum of this variance component and the estimated residual error variance component and equal 0.011, 0.006, and 0.007 for the intention to intervene, gender attitudes, and recognition of abuse scores, respectively. The estimated within-athlete, over-time intracluster correlation coefficient—a measure of the stability of the assessment over the 12-month period—is estimated as the sum of the school and athlete variance components divided by the sum of all variance components and equals 0.52, 0.60, and 0.51 for the intentions to intervene, gender attitudes, and recognition of abuse outcomes, respectively. Secondary analyses estimate intervention effect for athletes exposed to coaches that fully implemented program (far right column).

[a]Bystander intervention: "Positive bystander behaviors" refer to behaviors self-reported by an athlete to stop peers' abusive behaviors; "negative bystander behaviors" refer to an athlete's self-report of laughing or going along with a peer's abusive behaviors. Abuse perpetration is defined here as past-3-month physical, sexual, or emotional abuse perpetration by male athlete toward a female partner.

*Between-group differences in mean scores at baseline, $p < 0.05$

was added[16] (Table 2). Effects on negative bystander behaviors did not change with greater intervention intensity (−0.41, 95% CI=−0.81,−0.02). Such effects increased slightly for abuse perpetration (−0.21, 95% CI=−0.35, −0.07).

Discussion

Twelve-month follow-up from this cluster RCT demonstrated not only reductions in negative bystander intervention behaviors (fewer intervention athletes supporting peers' abusive behaviors) but also less abuse perpetration. Control athletes demonstrated an increase in abuse perpetration over time, whereas the intervention athletes reported no increase in abuse perpetration from baseline to follow-up 1 year later. These findings suggest the possibility that this program, which requires few resources, utilizing coaches as key influencers, may buffer against the initiation of dating violence perpetration during a critical developmental period for youth.

The positive changes observed immediately postseason (i.e., increases in intentions to intervene, recognition of abusive behaviors, and positive bystander behaviors)[16] were not sustained at the 12-month follow-up. The 12-month data were collected at the beginning of the next season when student athletes had not been on that team for many months. In the absence of reinforcement from coaches and teammates, athletes may be less likely to intervene in other peer contexts. However, the longer-term effects on negative bystander behaviors and abuse perpetration suggest that enacting positive bystander behaviors and hearing coaches' messages about stopping violence against girls during the sports season (i.e., creating a social context that discourages dating violence perpetration) may prevent negative behaviors in the longer term.

As a cluster RCT located in urban public schools in California, findings may not generalize to other settings. As the study was restricted to youth who returned parental consents and were present in school to complete surveys (i.e., likely excluding youth with less-involved parents), selection bias is a concern. Attrition analyses indicate that students lost to follow-up were at higher risk for abuse perpetration, suggesting an overall bias

toward more pro-social youth. Additionally, although a self-generated anonymous code and computerized survey were intended to enhance accurate reporting of sensitive items, all outcomes were self-reported, leaving them subject to potential inaccuracies. Finally, the program focuses on adolescent boys' behaviors toward adolescent girls and does not address dating violence among same-sex couples, girls' aggression, or sexual violence outside of relationships. CBIM is not intended as a comprehensive violence prevention program and should be viewed as one promising strategy to encourage conversations about masculinity and violence prevention.

These limitations notwithstanding, this cluster RCT found that a brief athletic coach–led prevention program for male athletes of high school age is associated with modest reductions in both dating violence perpetration and negative bystander behaviors that can perpetuate such violence. Research on strategies to increase gender-equitable attitudes and bystander intervention behaviors and replication of findings from this study are indicated.

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