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Gender Role Attitudes and Male Adolescent Dating Violence Perpetration: Normative Beliefs as Moderators

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Abstract

Commonly used dating violence prevention programs assume that promotion of more egalitarian gender role attitudes will prevent dating violence perpetration. Empirical research examining this assumption, however, is limited and inconsistent. The current study examined the longitudinal association between gender role attitudes and physical dating violence perpetration among adolescent boys ($n=577$; 14% Black, 5% other race/ethnicity) and examined whether injunctive (i.e., acceptance of dating violence) and descriptive (i.e., beliefs about dating violence prevalence) normative beliefs moderated the association. As expected, the findings suggest that traditional gender role attitudes at T1 were associated with increased risk for dating violence perpetration 18 months later (T2) among boys who reported high, but not low, acceptance of dating violence (injunctive normative beliefs) at T1. Descriptive norms did not moderate the effect of gender role attitudes on dating violence perpetration. The results suggest that injunctive norms and gender role attitudes work synergistically to increase risk for dating violence perpetration among boys; as such, simultaneously targeting both of these constructs may be an effective prevention approach.

Keywords

adolescence; dating violence; gender role attitudes; normative beliefs; longitudinal

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Conflicts of Interest

The authors report no conflicts of interest.

Author Contributions

HLMR conceived of the study, participated in the theoretical framing, design, measurement, and analytic plan, conducted statistical analysis, and drafted the manuscript; VF designed and led the parent study, participated in the theoretical framing, design, measurement, and analytic plan, and helped draft and revise the manuscript; PHN participated in the theoretical framing, interpretation of the study, and helped draft and revise the manuscript; DR assisted in the interpretation of the study and helped draft and revise the manuscript; JH assisted in the interpretation of the study and helped draft and revise the manuscript. All authors read and approved the manuscript.

Introduction

Primary prevention of dating violence during adolescence has emerged as a focus of public health injury control efforts due to its prevalence and negative consequences for adolescent health and development (Vagi et al. 2013). In particular, research suggests that approximately 10% of high school students nationwide are hit, slapped, or physically hurt on purpose by a dating partner each year (Centers for Disease Control and Prevention [CDC] 2014). Dating violence victimization can result in harmful and enduring consequences including depression, substance use, suicide ideation, and injury (Exner-Cortens et al. 2013; O’leary et al. 2008). Furthermore, patterns of relationship conflict that are established during adolescence may carry-over into adulthood, thereby contributing to the intergenerational transmission of interpersonal violence (Bouchey and Furman 2003; Exner-Cortens et al. 2013). Adolescence is thus a critical developmental period that may be effectively targeted to prevent the onset, escalation, and persistence of dating violence into adulthood.

One notable theory-based risk factor that has been linked to both adolescent and adult partner violence, and thus is a potential target for primary prevention efforts, is traditional (patriarchal) gender role attitudes. Gender role attitudes refer to an individual’s beliefs about appropriate role-related behaviors for men and women and girls and boys (McHugh and Frieze 1997). These attitudes are often conceptualized as falling on a continuum ranging from traditional to egalitarian (or liberal or nontraditional) where traditional attitudes include the expectations that men should have the final say in decision-making, that women should be passive, that men should be the heads of households, and that women should be home caregivers (Amato and Booth 1995). Feminist theoretical perspectives posit that men who hold more traditional gender role attitudes are at increased risk for engaging in partner violence perpetration because traditional beliefs encompass the expectation that males should be in a dominant social position that gives them privilege and power over women; male perpetrated violence against women is an expression of, and means of maintaining, this dominant station (Dobash and Dobash 1979). Based on these perspectives, as well as scripting theory (Byers 1996), researchers have further suggested that men and boys who endorse traditional gender role attitudes may encode and retrieve gender-typed social scripts that emphasize male power and prescribe that men should be tough and aggressive, emotionally disengaged, and have sexual prerogative in romantic relationships (Byers 1996; Eaton and Rose 2011). Men and boys who draw on these scripts to guide their social interactions with romantic partners may be at increased risk for perpetrating dating violence as a means of enacting power in their relationships (Santana et al. 2006). In addition, men and boys who endorse traditional gender role attitudes may tend to view romantic relationships through a combative lens in which women are seen as “attempting to turn the tables by controlling men” (Lee et al. 2010, p. 3). This combative view of gender relations may cue the retrieval of dominance scripts in dating interactions and contribute to the development of hostile attitudes towards women (encompassing the beliefs that women ought to be controlled by men, are only suited for lower status roles, and are sexual objects) that justify male dominance (Lee et al. 2010) and increase risk for dating abuse perpetration.

Based on these theoretical perspectives, as well as correlational evidence that traditional gender role attitudes are associated with male partner violence perpetration (McCauley et al.

2013; Stith et al. 2004; Tharp et al. 2013), several adolescent dating violence prevention programs explicitly target gender role attitudes for change (Foshee et al. 1996; Miller et al. 2015; Miller et al. 2011; Taylor et al. 2013; Tharp et al. 2011). These programs assume that the promotion of more egalitarian gender role attitudes will prevent or reduce male-to-female adolescent dating violence perpetration. Empirical research examining this assumption, however, is limited by its overreliance on cross-sectional designs, adult samples, focus on main effects, and failure to include important covariates, such as exposure to family violence, that may produce a spurious relationship between the two constructs.

In particular, almost no longitudinal research has examined prospective associations between gender role attitudes and partner (or dating) violence (adult or adolescent) as is needed to establish temporal ordering between the two constructs (Tharp et al. 2013; Vagi et al. 2013). This is particularly important given that some theoretical perspectives suggest that dating violence perpetration might influence gender role attitudes (e.g., cognitive consistency theory; Foshee and Bauman 2001). This temporal ordering is opposite to that suggested by feminist theoretical perspectives and inconsistent with the conceptual models underpinning prevention programs that assume gender role attitudes contribute to dating violence perpetration rather than vice-versa. Furthermore, research on the relationship between gender role attitudes and dating violence perpetration during adolescence is particularly scarce and inconsistent; adolescence, however, is a key developmental period during which both gender role attitudes and patterns of abusive dating behaviors emerge and become established. For example, in a correlational study, Sears et al. (2007) found an association between gender role attitudes and dating violence perpetration by adolescent males, whereas, using longitudinal data, Foshee et al. (2001) found no association. Another correlational study using a sample of Chinese adolescents found an association between gender role attitudes and boys' sexual dating violence perpetration, but no association for physical perpetration (Shen et al. 2012).

An additional limitation of previous research examining gender role attitudes in relation to dating violence is its focus on the direct association or main effect of adherence to traditional gender role attitudes on perpetration behaviors. In particular, some research suggests that the influence of gender role attitudes on aggressive behavior may be moderated by individual and/or contextual factors (Jakupcak et al. 2002; Poteat et al. 2010). For example, Poteat and colleagues (Poteat et al. 2010) suggest that normative beliefs that support the use of violence may influence whether having traditional gender role attitudes leads to aggressive behaviors. According to social information processing models (Huesmann 1988), normative beliefs serve a critical role in regulating behavior by establishing the types of behavior that are and are not acceptable and under what circumstances (Huesmann and Guerra 1997). Boys who endorse traditional rather than egalitarian gender role attitudes may be more likely to access scripts prescribing dominance towards others, including romantic partners; however, their beliefs about the effectiveness and appropriateness of using violence as a means of expressing dominance (i.e., their normative beliefs) may play a key role in determining whether or not these gender role scripts are actualized as aggressive behavior. According to this reasoning, traditional gender role attitudes may be strongly related to violence perpetration among boys who hold normative beliefs that are more supportive of aggression than among boys who are less

supportive of aggression. Poteat et al. (2010) found support for this hypothesis in two separate studies focused on peer aggression and homophobia among high school aged youth; in both studies, stronger endorsement of masculinity norms was related to aggressive behavior (peer aggression and bullying) among boys endorsing high support for aggression, but not among boys who endorsed average or low support for aggression. This hypothesis has never been explored in relation to dating or intimate partner violence.

The Current Study

The current study addresses the aforementioned limitations in the current literature by providing a longitudinal examination of the synergistic influence of traditional gender role attitudes and normative beliefs about dating violence on male physical dating violence perpetration. More specifically, we examine two distinct normative beliefs constructs, personal injunctive normative beliefs and descriptive normative beliefs, which have been independently associated with a wide range of behaviors (e.g., drug use, safe sex behavior, physical exercise, and aggressive behavior; for a review, see Smith and Louis 2008), as potential moderators of the prospective relationship between gender role attitudes and dating violence.

Drawing from the definitions offered by Cialdini et al. (1990), descriptive norms refer to one's perceptions about what is actually done with regard to a particular behavior in one's community or social group (e.g., the belief that most boys hit their girlfriends). Researchers have referred to these types of normative beliefs about others' behaviors as "perceived prevalence" and "perceived normalcy" (Foshee et al. 2001). In contrast, personal injunctive norms comprise "...beliefs as to what constitutes morally approved or disapproved behavior" (Cialdini et al. 1990, p. 1015). Social norms scholars consider injunctive and descriptive norms to be conceptually and motivationally distinct and argue that they should be examined as separate constructs in empirical research (Cialdini et al. 1990; Lapinski and Rimal 2007). In particular, descriptive norms are thought to define and provide a model for what is typical behavior; teens may act as they perceive others to be acting because doing so provides for an information processing shortcut when one is deciding what to do in a particular situation (Cialdini et al. 1990). In contrast, rather than simply informing behavior (as do descriptive norms), injunctive norms are viewed as motivating behavior through the promise (or threat) of personal or social consequences for non-compliance with the norm (Cialdini et al. 1990). Teens who perceive dating violence to be acceptable may be at increased risk for engaging in dating violence because they believe that doing so will not result in negative sanctions (or may result in positive consequences). As noted above, injunctive norms are conceptually distinct from descriptive norms in that individuals may perceive relationship violence to be prevalent but view such behavior as unacceptable and vice-versa.

In the current study, we examine whether and how both descriptive and injunctive norms moderate the relationship between gender role attitudes and dating violence. Based on the theoretical and empirical evidence reviewed above, and building on the work of Poteat et al. (2010), our central hypothesis is that the influence of traditional gender role attitudes on physical dating violence perpetration will be moderated by normative beliefs about the use

of dating violence. Specifically, we expect that traditional gender role attitudes will be more strongly related to physical dating violence perpetration among boys who perceive partner violence as more prevalent (descriptive normative beliefs) and among those who are more accepting of dating violence (injunctive normative beliefs) than among boys who do not hold these beliefs. The rationale for the proposed research is that a more nuanced understanding of how each of these types of normative beliefs work together with gender role attitudes to prospectively influence abusive dating behaviors will inform prevention efforts. In particular, the CDC (n.d.) and the World Health Organization ([WHO]; 2012) explicitly highlight gender inequality and traditional gender role attitudes as risk factors for partner violence that should be targeted for change by prevention programs.

Methods

Design and Sample

The analyses for this article use data from male participants in a randomized trial evaluating an adolescent dating violence prevention program, Safe Dates (Foshee et al. 1996). Adolescents were eligible for the evaluation study if they were enrolled in the eighth or ninth grade in one of the 14 public schools in a primarily rural county in North Carolina. At baseline (T1), parental consent was obtained from 84 % of eligible adolescents and questionnaires were completed by 96 % of adolescents whose parents consented. At follow-up waves, students who were absent for school data collection, including those who had dropped out of school, were mailed a questionnaire to complete and return. No incentives were provided to teachers or students. Further details of the study methodology and participation rates at each wave have been described elsewhere (Foshee et al. 1996, 1998).

Time one (T1) data for the current study were collected when male participants ($n=976$) were in the 8th and 9th grades (Fall, 1994). Time two (T2) data were collected approximately 18 months later, when participants were in the 9th and 10th grades (Spring, 1996), from 87% of those males who participated at T1 ($n=850$). Of those males who participated at T2, 69% ($n=587$) reported having dated in the past year; ten respondents were missing on the dating violence outcome. The analytic sample was thus comprised of 577 male adolescents who were in the study at T2, reported having dated in the past year, and who were not missing on the criterion variable. Drop out from the study was not associated with race, family structure, T1 dating violence, gender role attitudes, or injunctive or descriptive normative beliefs; however, drop out was more likely among older participants and among those who reported lower levels of parent education. The analytic sample was 19% minority race/ethnicity (14% Black, 5% other race/ethnicity) and at T1 the mean age of the sample was 13.9 years ($SD=0.81$). At T1, 39% of the sample reported that the highest level of education obtained by either their mother or father was high-school or less, 19% reported having a family structure other than two-parent.

Measures

Physical dating violence (DV) perpetration—The Safe Dates Dating Violence perpetration scale (Foshee et al. 1996) was used to measure physical DV perpetration at T2. Adolescents were asked, “How many times in the past year have you done the following

things to a person that you have been on a date with? Only include when you did it to him/her first. In other words, don't count it if you did it in self-defense." Ten behaviors were listed including conflict tactics such as having "hit or slapped," "bit," or "tried to choke" a dating partner. Responses to items were summed and, due to low base rates, dichotomized to include "never" (0) or "one or more times" (1).

Traditional gender role attitudes—Gender role attitudes were assessed at T1 using eleven items that were adapted from the Attitudes Towards Women Scale for Adolescents (AWSA; Galambos et al. 1985) and Gunter and Wober's (1982) measure of female stereotyping. Participants were asked how strongly they agreed or disagreed with eleven statements describing normative beliefs about roles and expectations for men and women in society (e.g., "in general, the father should have greater authority than the mother in making family decisions"; for a full list of scale items see Foshee et al., 2001). Response options ranged from strongly agree (3) to strongly disagree (0); item scores were averaged to create a composite scale in which higher scores reflected higher levels of endorsement of traditional gender stereotypes (Cronbach's alpha=0.70).

Normative beliefs about dating violence

Descriptive norms—Descriptive norms were assessed at T1 using two items that measured perceived prevalence of aggression in dating relationships. Participants were asked how strongly they agreed or disagreed with the following two statements "most boys hit their girlfriends" and "most girls hit their boyfriends." Responses options ranged from strongly agree (3) to strongly disagree (0); item scores were averaged to produce a composite descriptive norms measure ($r=.44$; $p<.001$).

Injunctive norms—Injunctive norms were assessed at T1 using eight items that measured the extent to which adolescents were accepting of male-to-female and female-to-male physical dating violence perpetration (e.g., girls sometimes deserve to be hit by the boys they date; Foshee et al., 2001). Response options ranged from strongly agree (3) to strongly disagree (0); item scores were averaged to create a composite injunctive norms measure (Cronbach's alpha=0.79).

Control variables—Covariates included as controls included the following variables: *age* in years, centered at 13 years; *minority status*, categorized as white (0) or minority (1); *parent education*, assessed as the highest parental education level (mother's or father's) reported by the respondent at T1 and categorized as high school or less (0), high school graduate (1), or more than high school (2); *family structure*, categorized as two parent (0) or one parent or other family structure (1); and *exposure to interparental violence (IPV)*, assessed at T1 by a single item asking whether the respondent had ever seen one parent hit another parent and categorized as no IPV exposure (0) or any lifetime exposure to IPV (1). These covariates were included as controls because they have been found to be associated with both dating aggression and/or gender role attitudes (Crouter et al. 2007; Foshee et al. 2008; Graham-Bermann and Brescoll 2000). Additional control variables included as covariates in all analyses included, *treatment group assignment*, categorized as control (0) or

treatment (1); *T1 dating violence perpetration*, assessed using the same measure as for follow-up (described above), but using a lifetime (rather than past-year) reference period.

Analytic Strategy

Data analyses proceeded in several phases. First, we grand-mean centered all continuous variables to facilitate interpretation and probing of parameter estimates (Hayes 2013). Second, we dealt with the issue of missing data on predictor variables (<5% on focal predictors) using multiple imputation (Rubin 1987). SAS PROC MI was used to impute 50 datasets and PROC MIANALYZE (SAS Institute 2003) was used to combine parameter estimates and standard errors using the procedures developed by Rubin (1987) to ensure that statistical inference took into account uncertainty in the imputation process. Following standard recommendations (Allison 2001), all model covariates, including interaction terms, were included in the imputation equation. Third, logistic regression was used to examine the main and interactive effects of T1 gender role attitudes and dating violence norms (injunctive and descriptive) on T2 physical DV perpetration. To address the potential for spurious relationships among the constructs being examined, all models controlled for T1 lifetime physical DV perpetration, interparental violence exposure and the demographic covariates (age, minority status, parent education, family structure). Significant interactions were probed by examining the conditional effects (simple slopes) of gender role attitudes on DV perpetration setting values of the moderator (normative beliefs) at one standard deviation above (high) and below (low) the mean (Bauer and Curran 2005).

Results

Table 1 presents descriptive statistics for focal predictors and outcomes. Approximately 10% of the sample reported involvement in physical dating violence perpetration at T1 and 22% reported past-year perpetration at T2; these prevalence rates are within the range of those reported in other studies of adolescent dating violence (Foshee and Matthew, 2007; Orpinas et al. 2013). Injunctive and descriptive normative beliefs were significantly positively associated with each other and each type of normative belief was significantly positively associated with traditional gender role attitudes, suggesting that boys who hold more traditional gender role attitudes tend to perceive partner violence as more prevalent and tend to be more accepting of the use of physical DV in relationships. Both injunctive and descriptive norms and gender role attitudes were positively associated with both T1 and T2 physical DV perpetration (see Table 1).

Table 2 presents the parameter estimates from three multivariate logistic regression models. Model 1 assessed the main effects of the focal predictors prior to inclusion of the interaction terms. In this model, injunctive normative beliefs ($p=.01$) predicted increased risk for DV perpetration; descriptive norms (marginal; $p=.06$) and gender role attitudes ($p=.15$) were not significantly associated with physical DV perpetration. Model 2 (full) added the hypothesized interactions between gender role attitudes and each of the normative beliefs measures; as expected, the interaction between gender role attitudes and injunctive norms was statistically significant ($p=.049$); however the interaction with descriptive norms was

not ($p=.79$). We subsequently re-estimated model 2 trimming the non-significant interaction term (Model 3), with no difference in the pattern of findings.

Findings from the final reduced model (Model 3) suggest that the prospective relationship between traditional gender role attitudes and physical DV perpetration was stronger for those who endorsed higher as compared to lower levels of acceptance of dating violence. In particular, as depicted in figure 1, traditional gender role attitudes were significantly positively related to physical DV perpetration among boys who endorsed high (1 *sd* above the mean) levels of acceptance of dating violence (AOR=1.75, $p=.04$); but were not related to DV perpetration among boys who reported low (1 *sd* below the mean) levels of dating violence acceptance (AOR=0.87, $p=.68$). In addition, there was a significant main effect for descriptive norms ($p=.049$); boys who perceived relationship violence to be more prevalent at T1 were more likely to report DV perpetration than boys who perceived relationship violence to be less prevalent at T1. There were no significant associations between any of the covariates and T2 dating violence across any of the models.

Discussion

Several dating violence prevention programs assume that promotion of more egalitarian gender role attitudes will prevent male-to-female dating aggression (e.g., Miller et al. 2011). Research examining this assumption, however, is limited by an overreliance on cross-sectional designs and adult samples (Tharp et al. 2013; Vagi et al. 2013). Furthermore, previous research has focused exclusively on examining the direct association between gender role attitudes and dating violence (main effect), yet emerging research suggests that the influence of gender role attitudes on violence perpetration may be conditioned by other factors, including normative beliefs about violence (Poteat et al. 2010). The current study addressed this gap by examining prospective associations between gender role attitudes and later physical dating violence perpetration using a sample of adolescent boys and by determining whether personal injunctive norms (i.e., beliefs about the acceptability of dating violence) and descriptive norms (i.e., beliefs about the prevalence of dating violence) moderate this association.

Consistent with expectations, the prospective association between traditional gender role attitudes and dating violence perpetration was moderated by injunctive norms such that, for boys who were high in their acceptance of dating violence, traditional gender role attitudes prospectively predicted greater likelihood of dating violence perpetration; for boys who were low in their acceptance of dating violence, however, traditional gender role attitudes were not associated with later dating violence perpetration. Contrary to expectations, beliefs about the prevalence of dating violence (descriptive norms) did not moderate the effects of gender role attitudes; however, descriptive norms did have a significant main effect predicting increased risk of dating violence perpetration.

We posit two different explanations for the finding that traditional gender role attitudes and injunctive norms work synergistically to predict boys' dating violence perpetration. First, findings are consistent with social information processing models that suggest that behaviors prescribed by cognitive schema or "scripts" are filtered through self-regulating beliefs,

including normative beliefs about the acceptability or unacceptability of a behavior (injunctive norms; Huesmann and Guerra 1997). As applied to the current study, we reason that gender role scripts provide a general guide or schema that boys draw on in determining how to communicate, react, and behave in romantic relationships. Traditional gender role scripts may increase risk for dating abuse by directing boys to demonstrate dominance over romantic partners, and by inhibiting actions that would contribute to healthy relationships, such as verbally expressing feelings and negotiating compromise. The degree to which boys who endorse these scripts actually retrieve and enact them as aggressive behavior towards dating partners, however, may depend on one's injunctive normative beliefs as to whether such behavior is acceptable or not acceptable. In particular, per the model and our findings, among those who perceive aggressive behavior towards romantic partners as unacceptable, traditional gender role scripts will not increase risk for dating violence because, for these individuals, injunctive norms work to "filter out inappropriate behaviors" (Huesmann and Guerra 1997, p.409). In contrast, individuals who are accepting of dating violence would have no such filter and are thus would not be inhibited from enacting harmful gender role scripts that increase risk for dating abuse.

An alternative explanation stems from the notion that general measures of traditional gender role attitudes, such as the one used in the current study, may tap into a range of beliefs, some of which may increase risk for aggressive behavior, and others of which may decrease this risk; conditioning by beliefs about acceptance of dating violence (via the interaction term) may have contributed to making these distinctions. For example, Poteat et al. (2010) and others have argued that traditional gender role attitudes may encompass chivalrous beliefs that emphasize the importance of protecting women and children and thus may mitigate against male dating violence, as well as encompassing negative and hostile views of women and relationships that would increase risk for male perpetrated dating violence (Glick and Fiske 1997; Herzog 2007; Jakupcak et al. 2002). In our study, acceptance of dating violence may have served as a marker identifying the subset of boys for whom traditional gender role attitudes encompass hostile and domineering views of women and relationships that increase risk for dating violence. In contrast, the subgroup of boys who hold traditional gender role attitudes yet report low acceptance of dating violence may hold neutral, benevolent or protective feelings toward women; for this subgroup, traditional gender role attitudes may have no relation to dating violence or in fact protect against it.

Implications

The findings of the current study have several implications related to prevention practice, measurement of gender-related constructs, and future research. First, as noted above, several adolescent dating violence prevention programs include elements explicitly designed to alter traditional gender role beliefs that may support dating violence perpetration. However, there has been limited empirical research supporting this approach. Our finding that gender role attitudes and injunctive norms work synergistically to increase risk for dating violence suggests that strategies that attempt to change participants' beliefs about the acceptability of dating violence *and* simultaneously promote more egalitarian gender role attitudes may be a more effective and efficient way to approach prevention than targeting gender role attitudes alone. Moreover, instilling injunctive norms against dating violence, particularly during

early adolescence, may be a viable way to offset the possible negative influence of beliefs in support of traditional gender roles. That is, among boys with highly traditional beliefs it may be possible to reduce the likelihood of dating violence perpetration by instilling or strengthening beliefs that reject violence as a means of problem resolution in intimate relationships.

Second, descriptive normative beliefs were also found to predict increased likelihood of dating violence perpetration. While this finding should be interpreted with caution given that associations were only marginal in the main effects model, this result suggests that prevention programs should aim to correct teens' perceptions about the general prevalence of dating/partner violence. Several dating violence prevention programs that target descriptive and/or injunctive norms (e.g., through teacher-led school curriculum, social marketing campaigns, peer-led interventions) have been developed (Lundgren and Amin 2015; WHO 2009), however these programs have rarely been rigorously evaluated, making it difficult to judge their effectiveness (Lundgren and Amin 2015; Jewkes et al. 2014; WHO 2009). Research on interventions to reduce alcohol misuse among college students suggest that programs that provide social norms feedback via the web may be effective in changing descriptive norms. For example, Ridout and Campbell (2014) conducted an intervention that delivered personalized norms feedback in an inexpensive and effective way through Facebook; the intervention was effective in increasing the accuracy of perceived drinking norms and reducing alcohol use. This type of approach may hold promise for promoting healthy relationship norms and preventing dating violence.

Third, evaluations of dating violence programs should assess the effects of their programs on specific gender-role attitudes and normative beliefs and determine whether, how, and for whom changes in those constructs in turn lead to changes in perpetration behavior. Mediation, moderation and conditional process (i.e., moderated mediation) analysis of treatment effects could provide important information that could help inform program development and modification as well as enhance our understanding of the etiology of dating violence behavior.

The findings of the current study also have implications for measurement. In particular, our results suggest it may be important not to conflate items that assess normative beliefs about violence with items assessing gender role attitudes or masculinity norms, because doing so may obscure important heterogeneity in the associations between these different constructs and violence behavior. This point is important because a number of widely used gender norms/attitudes measures include items assessing acceptance of violence (i.e., injunctive normative beliefs) and these items are often treated as indicators of adherence to traditional gender role attitudes/norms (Mahalik et al. 2003; Pulerwitz and Barker 2008).

Sociological research suggests that some traditional gender role attitudes, including attitudes related to female labor force and political participation and male participation in domestic tasks, have tended to become more egalitarian over time (Cotter et al., 2011; Judge and Livingston 2008). While contemporary research continues to suggest that traditional gender role scripts are pervasive influences on dating behavior (Eaton and Rose 2011; McCauley et al. 2013), changes in socio-historical context have led researchers to call into question the

continuing use of older measures of gender role attitudes because items in these measures may become dated and lack meaning and relevance for younger generations (McHugh and Frieze 1999). Future research should build on the findings of the current study by developing and using comprehensive theory-based measures of gender role and normative beliefs to identify the specific combinations of beliefs that influence dating behavior among today's youth. Measures that specifically assess interpersonal aspects of gender roles including adversarial relationship beliefs (e.g., the expectations that relationships involve exploitation, manipulation and deceit) and tap into the ways in which gendered power relations manifest in dating relationships (as opposed to marital relationships) may be more directly related to dating violence and relevant to today's youth than measures focused exclusively on men and women's roles in society (McHugh and Frieze, 1999; Santana et al., 2006).

The current study examined prospective effects across an 18 month period during early adolescence. Future research should examine whether and how the relationships we detected may change across adolescence and young adulthood. In particular, studies suggests that gender role attitudes and normative beliefs about dating violence may undergo developmental changes across adolescence as a result of social experiences across different contexts (Crouter et al. 2007; Orpinas et al. 2013). For example, using longitudinal data that spanned ages 10 to 19 years, Crouter et al. (2007), found that, on average, gender role attitudes tended to become more egalitarian across middle childhood and early adolescence, perhaps reflecting the development of more sophisticated reasoning strategies. In middle and late adolescence attitudes became more traditional among boys (but not girls); this increase in traditional attitudes was attributed to "the peer dynamics surrounding dating, courtship, and other high-school activities" (Crouter et al. 2007, p. 921). Thus, it is plausible that linkages among the constructs that we examined may vary over time and/or be stronger (or weaker) across different developmental periods (Collins and Graham 2002). Research using multiple repeated measures of all constructs is needed to better understand whether and how associations may be conditioned by developmental stage and/or measurement intervals and also to examine reciprocal pathways among constructs. In particular, given the salience of peer relationships during early adolescence, more research is needed to ascertain whether and how peer socialization processes (e.g., modeling and reinforcement) and social status dimensions (e.g., popularity, power) influence the development of traditional gender beliefs and violence norms and their enactment in dating relationships (Houser et al. 2015).

Limitations

This study's findings should be viewed in the context of the following limitations. First, data for the current study were collected over twenty years ago and measures of gender role attitudes and normative beliefs were limited in their assessment of these complex multidimensional theoretical constructs. More research is needed to assess whether and how these constructs work together to influence risk for dating violence among today's youth. Second, all data were self-report and, as such, social desirability bias may have influenced survey responses. Some research suggests that social desirability bias may be addressed through the use of implicit measures (e.g., the Implicit Association Test) of normative beliefs and gender role attitudes that assess unconscious attitudes and beliefs (Eckhardt et al.

2012); this is a promising direction for future dating violence research with adolescents (Jouriles et al. 2013). Third, based on our theoretical framework, the current study focused on male perpetration of physical dating violence. Future research could build on the current study to identify whether and how gender role attitudes and normative beliefs work together to predict different profiles of dating abuse perpetration and victimization involvement among boys and girls and consider other types of abuse (e.g., psychological and sexual aggression).

Fourth, the study sample was comprised of primarily white adolescents living in predominantly rural areas in the southern United States, where gender role attitudes tend to be more traditional (Judge and Livingston, 2008; Twenge, 1997). In addition, the study did not distinguish between heterosexual and same-sex relationships. This is an important issue to consider as emerging research suggests that sexual minority adolescents are at increased risk for dating violence (Martin-Storey, 2015) and have trouble negotiating socially prescribed gender role attitudes; for example, some sexual minority youth may consciously resist prescribed gender roles whereas others ascribe to them (Gillum and DiFulvio 2012). It will thus be important to replicate these findings in different cultural regions and also to examine whether and how the relationships examined in the current study vary by race/ethnicity, sexual orientation, and/or cultural identity. Finally, as with all observational research, there is the potential for omitted variables bias; in particular, while we did control for exposure to interparental violence, other characteristics of the family context, such as child maltreatment and/or parenting related factors, may be related to both gender role attitudes and dating violence and thus could contribute to produce spurious associations.

Conclusion

The current study examined the interactions between injunctive and descriptive normative beliefs and traditional gender role attitudes in predicting boys dating violence perpetration. Our research contributes to the field of dating violence prevention by suggesting that injunctive norms and gender role attitudes work synergistically to increase risk for dating violence perpetration among boys; as such, simultaneously targeting both of these constructs may be an effective intervention approach. By using a longitudinal design, we were able to appropriately address temporality of associations among the constructs and our analytic approach controlled for important covariates, including exposure to interparental violence, strengthening our confidence in the study findings. Future longitudinal research should use comprehensive and precise theory-based measures to further investigate interrelations among gender role constructs, normative beliefs and dating violence across adolescence.

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Biographies

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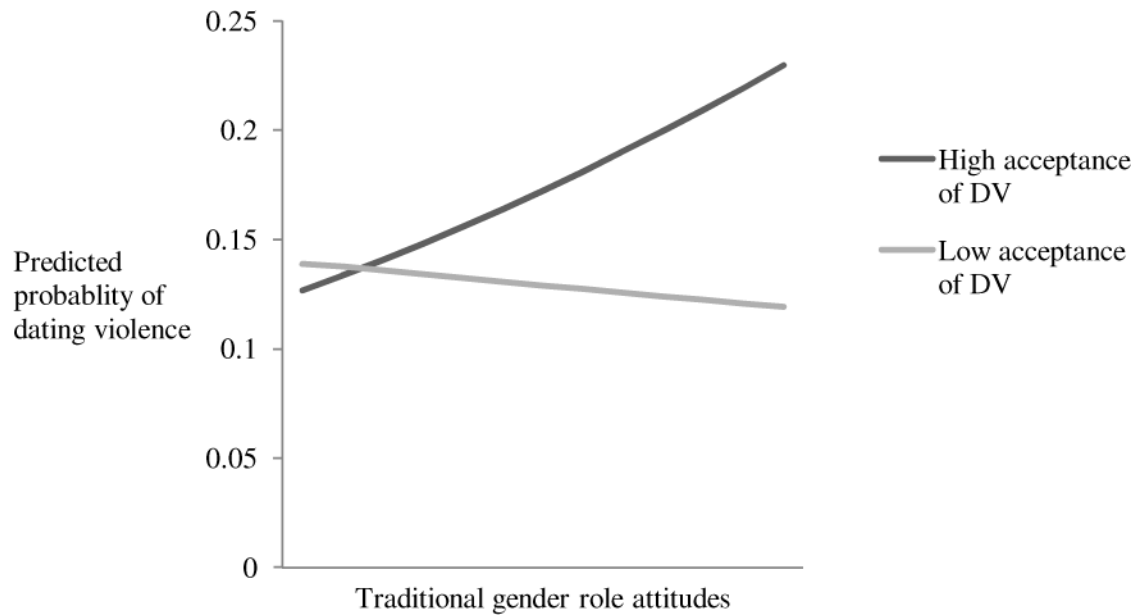


Figure 1.

Model predicted effect of traditional gender role attitudes on physical dating violence perpetration at low and high levels of dating violence (DV) acceptance (injunctive norms)

Note: Dating violence (DV) acceptance and gender role attitudes were mean centered; gender role attitudes (horizontal axis) ranged from the 10th (-0.66) to the 90th (0.66) percentile in the sample and high and low values of DV acceptance (injunctive norms) were defined as plus and minus 1 *sd* about the mean (-0.6, 0.6). The slope of the simple regression at high acceptance significantly differs from zero ($b=0.56$, $p=.04$), but the simple slope at low acceptance does not ($b=-0.14$, $p=.68$).

Descriptive Statistics for focal predictors and time one (T1) and time two (T2) physical dating violence (DV) perpetration

Table 1

	1.	2.	3.	4.	5.
1. T1 Gender role attitudes	–				
2. T1 Injunctive norms (acceptance of DV)	.43	–			
3. T1 Descriptive norms	.28	.32	–		
4. T1 Physical DV perpetration	.15	.16	.20	–	
5. T2 Physical DV perpetration	.18	.23	.20	.25	–
% or mean (SD)	0.78 (0.51)	0.66 (0.45)	0.89 (0.79)	11%	22%

Note: All correlations are statistically significant at $p < .001$

Table 2

Logistic regression models predicting physical dating violence perpetration (DVP)

	Model 1 Main Effects	Model 2 Full	Model 3 Reduced
	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)
<i>Focal predictors</i>			
Gender role attitudes (GN)	1.41 (0.89, 2.26)	1.26 (0.77, 2.06)	1.25 (0.76, 2.05)
Descriptive norms (DN)	1.32 (0.99, 1.77) [^]	1.35 (1.00, 1.83) [*]	1.34 (1.00, 1.79) [*]
Injunctive norms (IN)	1.91 (1.14, 3.19) [*]	1.46 (0.81, 2.63)	1.47 (0.82, 2.64)
<i>Interactions</i>			
GN*IN	–	2.31 (1.00, 5.31) [*]	2.24 (1.00, 5.01) [*]
GN*DN	–	0.93 (0.55, 1.58)	–

Note:

[^]
p<.10^{*}
p<.05^{**}
p<.01^{***}
p<.001. T1=time one. Models control for treatment group status, age, minority race/ethnicity, parent education, family structure, exposure to interparental violence, and baseline dating violence perpetration.