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Linkages between violence-associated attitudes and psychological, physical, and sexual dating abuse perpetration and victimization among male and female adolescents

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Abstract

Attitudes about violence and sex in dating relationships were related to psychological, physical, and sexual teen dating abuse perpetration and victimization. Data from Wave 4 of the national, randomly selected, Growing up with Media cohort (n = 876 adolescents aged 14–19 years), collected in 2011, were analyzed. Dating youth perceived more peer pressure to have sex and were more accepting of sex in brief or non-marital relationships than pre-dating youth. Boys had higher levels of rape-supportive attitudes than girls. Among dating youth, the relative odds of involvement in teen dating abuse as a perpetrator or a victim were generally associated with greater acceptance of relationship violence, perceived peer pressure to have sex, and acceptance of sex in brief and/or non-marital relationships. Rape-supportive attitudes were not significantly associated with any type of teen dating abuse involvement. Programs aimed at preventing dating abuse might benefit from targeting attitudes associated with sexual activity as well as relationship violence.

Keywords

teen dating violence; sexual violence; rape attitudes; acceptance of couples' violence

Although teen dating abuse consists of psychologically, physically, and sexually abusive behaviors (Underwood & Rosen, 2009; White, 2009; Ybarra, Espelage, Langhinrichsen-Rohling, Korchmaros, & Boyd, 2016), these behaviors have often been studied separately. This has led to largely distinct literatures identifying risk factors for physical versus sexual assault in dating relationships. This is unfortunate as dysfunctional attitudes may generally underlie teen dating abuse perpetration (Underwood & Rosen, 2009; Vagi et al., 2013; White, 2009). Thus, efforts to identify shared and modifiable cognitive risk factors for perpetrating multiple types of abuse are necessary (Foshee et al., 2016). This study fills that gap.

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A particular focus on cognitions is warranted as thought patterns justifying aggression have been theorized to promote perpetration (Foshee et al., 2016; Neil M. Malamuth & Briere, 1986; Slep, Cascardi, Avery-Leaf, & O'Leary, 2001)). Specifically, sexual, romantic, or dating scripts for how one is supposed to behave in relevant situations are thought to provide a mental map for social and cultural expectations. Interpersonally, these scripts then function as the link between perceived cultural norms and the behaviors an individual engages in to get his or her needs met (Emmers-Sommer, 2014). For example, according to Burt (1980), adherence to rigid and traditional sex roles and holding beliefs that support male domination (e.g., traditional sexual scripts; attitudes justifying male to female aggression), create a mechanism to override social prohibitions against hurting other people, and allows an individual to engage in coercive sexual behavior. Endorsement of masculine gender role ideology also has been linked to young men's sexual risk behaviors and intimate partner violence perpetration (Santana, Raj, Decker, La Marche, & Silverman, 2006).

Consistent with cognitive theory, changing sexual, gender-role, and violence-related attitudes and beliefs have formed the bedrock of both dating violence and date rape prevention efforts (McDermott, Naylor, McKelvey, & Kantra, 2017; Whitaker et al., 2006). In a review of 11 primary prevention programs for partner violence, all were based on a combination of social learning and feminist theories of violence perpetration, typically targeting violence-related attitudes, gender norms, and myths about abuse (Whitaker et al., 2006). However, the degree to which these various beliefs are associated with perpetrating distinct types of abuse in teens is remarkably understudied. As an exception, Foshee et al. (2016)considered whether adolescent acceptance of sexual violence and/or attitudes supporting dating violence were common risk factors for perpetrating physical dating violence, bullying, and sexual harassment among 399 adolescents (64% female). All study participants had been exposed to maternal domestic violence victimization and were between 12 and 16 years of age. Acceptance of sexual violence emerged as a shared risk factor for all three types of youth perpetration. However, acceptance of dating violence was a risk factor only for dating violence perpetration and bullying; it was not significantly predictive of sexual harassment. Thus, further investigation of the role of diverse types of attitudes in various types of perpetration is warranted.

Beyond acceptance of violence in dating relationships, research on sexual dating abuse perpetration consistently documents that rape-supportive attitudes are more common among offenders of sexual assault as compared to non-offenders (Burgess, 2007; Monson, Byrd, & Langhinrichsen-Rohling, 1996). As such, these beliefs are often the target of date rape prevention and intervention efforts (Foubert, Langhinrichsen-Rohling, Brasfield, & Hill, 2010). Examining whether these particular beliefs also relate to physical and psychological dating abuse could inform the specificity or generality of dating abuse prevention programming.

Two other types of cognitions are much less well studied but may be equally important: beliefs about peer pressure to have sex and attitudes expressing acceptance of sex in brief and/or non-marital relationships. For adolescent males, peer pressure to engage in high levels of sexual activity has been associated with sexually aggressive behavior (Krahe, 1998) and is a common reason for sexual activity engaged in by young men because of

psychological or physical pressure, or societal expectations (Muehlenhard & Cook, 1988). Similarly, sexual harassment is a form of sexual violence that is reinforced and maintained by peer group norms (DeKeseredy & Schwartz, 1998) and the number of one's friends who use violence is a robust predictor of adolescent dating violence perpetration (Foshee, McNaughton Reyes, & Ennett, 2010). Friends can explicitly and implicitly encourage teen dating abuse through the establishment of gender, sex, and dominance norms for in-group acceptance(Abbey, McAuslan, Zawacki, Clinton, & Buck, 2001). Correspondingly, middle school students indicated that peer pressure was a major cause of youth violence in the United States (Mattingly, 2000). Understanding how these beliefs may relate to all three types of dating abuse is an important next step.

Malamuth and colleagues (Malamuth, Heavey, & Linz, 1993) have posited that sexual violence perpetration is the result of a confluence of factors that converge and increase one's risk, one of which is behavior reflecting "promiscuous – impersonal sex." It may also be that one's beliefs regarding sex in uncommitted relationships could lead an individual to misinterpret a partner's willingness to have sex. People tend to overestimate the number of other people who share their beliefs (i.e., false consensus effect). If youth believe that people should not wait until marriage to have sex and that there are advantages to having sex (e.g., increased popularity), they might overestimate other people's endorsement of these beliefs and, consequently, be more likely to misinterpret other people's reluctance to have sex as "playing hard to get." As such, attitudes accepting of sex in brief and/or non-marital relationships are likely essential to understanding teen dating abuse. Finally, unlike the endorsement of rape myths and attitudes justifying partner violence, both of which have been criticized for having a narrow range of responses, low endorsement, and/or "a floor effect" (Slep et al., 2001), endorsement of experiencing peer pressure to have sex and attitudes accepting of sex in brief and/or non-marital relationships are likely to be more widely endorsed by adolescents.

Sex differences in teen's endorsement of these beliefs and their association with psychological, physical, and sexual perpetration and victimization among teens are also understudied but likely to aid our understanding of teen dating abuse (Foshee et al., 2010; Koo, Stephens, Lindgren, & George, 2012; McDermott et al., 2017). Related research indicates that college men endorse rape myth acceptance, adversarial sexual beliefs, and attitudes accepting of interpersonal violence at higher rates than college women. Moreover, for men, these beliefs grow stronger with age (Emmers-Sommer, 2014). Among adolescents, females perpetrate physical and psychological abuse at rates equal to or greater than males; however, males perpetrate sexual violence at higher rates (Ybarra et al., 2016). Thus, understanding how specific attitudes and beliefs are different for boys and girls stands to inform universal intervention efforts. To date, however, research focusing on these four types of beliefs (i.e., rape attitudes, acceptance of violence in relationships, perceived peer pressure to have sex, and attitudes accepting of sex in brief and/or non-marital relationships) in a national sample of male and female teens has been absent.

The current study

This study extends existing literature by comprehensively analyzing psychological, physical, and sexual dating abuse involvement (perpetration and victimization) to better understand how four types of attitudes and beliefs contextualize perpetration and victimization experiences. Given the lack of data at the national level, frequency of endorsement of each of these beliefs and attitudes are presented by dating involvement, sex of participant, race, and income. Based upon the literature reviewed above, we hypothesize: a) Males will endorse more attitudes supportive of violence in relationships, rape-supportive attitudes, perceived peer pressure to have sex, and acceptance of sex in brief and/or non-marital relationships than females. We believe that the experience of dating may change youths' perspectives about what is appropriate and acceptable in dating relationships. Thus, these attitudes are also expected to be endorsed more by dating versus non-dating teens; b) As per Foshee et al. (2016), we hypothesize that attitudes accepting of dating violence will be related to perpetration of psychological and physical abuse but not sexual abuse given the previous lack of results associated with sexual harassment. Rape-supportive attitudes, perceived peer pressure to have sex, and attitudes expressing acceptance of sex in brief and/or non-marital relationships are all expected to be associated with a greater likelihood of perpetrating psychological, physical, and sexual teen dating violence. These findings have the potential to inform future prevention programs while also providing fundamental knowledge about how common these attitudes and beliefs are among youth today.

Methods

The survey protocol was reviewed and approved by the Centers for Disease Control and Prevention Institutional Review Board and Chesapeake IRB; ethical procedures were followed throughout this study.

Participants and Procedures

Growing up with Media is a comprehensive longitudinal survey aimed at understanding precursors of adolescent violent behavior. Wave 1 data were collected nationally, online in August–September 2006 with 1,586 youth-caregiver pairs. Adult respondents were recruited at baseline through an email sent to randomly-identified adult Harris Poll OnLine (HPOL) panel members who reported a child living in the household. Eligible adults indicated that they were equally or more knowledgeable than other adult household members about their youth's home media use. Eligible youth were 10–15 years old, read English, lived in the household at least 50% of the time, and had used the Internet in the last six months. Recruitment was balanced on youth sex and age such that 400 10–12 year old male, 400 13–15 year old male, 400 10–12 year old female, and 400 13–15 year old females were targeted for the sample. Once the 'bin' was full, respectively, youth who met the above criteria were nonetheless deemed ineligible. HPOL data are comparable to data that have been obtained from random telephone samples of adult populations once appropriate sample weights are applied (Berrens, Bohara, Jenkins-Smith, Silva, & Weimer, 2003; Berrens, Bohara, Jenkins-Smith, Silva, & Weimer, 2004; Schonlau et al., 2004; Terhanian, Siegel, Overmeyer, Bremer, & Taylor, 2001).

Dating violence indicators were added in Wave 4, which was fielded between October 2010 and February 2011, approximately four years after baseline. As such, the current study is a cross-sectional analyses of these data when youth participants were 14–19 years old. Of the 1,586 households that completed the baseline survey, 56% (n = 888) completed the Wave 4 follow-up survey. Characteristics of participants in Wave 4 were similar to the initial, Wave 1 sample (Ybarra et al., 2016).

On average, caregiver surveys lasted 15 minutes and youth surveys took 32 minutes to complete. Caregivers received $20 and youth $25 as incentives to complete the survey. To increase response rates, a $10 bonus incentive was offered to non-responders in the last month of fielding the survey.

Measures

Demographics.—Participants self-reported their race and ethnicity. Caregivers reported youths' age and sex.

Teen dating abuse perpetration/victimization.—Psychological and physical teen dating abuse victimization and perpetration were measured using items adapted from Foshee's Perpetration of Dating Violence Scale (Foshee, 1996).

The psychological abuse questions were presented as follows: "Think about all of the people you have been in a romantic relationship with – someone you would call a boyfriend or girlfriend. Which, if any, of the following things has a boyfriend or girlfriend ever done to you? These are things that can happen anywhere, including in-person, on the Internet, and on cell phones or text messaging." Four items adapted from Foshee's scale for Psychological abuse (Foshee, 1996) were presented: a) Would not let you spend time with other people or talk to someone of the opposite sex; b) Made you describe where you were every minute of the day; c) Did something just to make you jealous; and d) Put down your looks or said hurtful things to you in front of others. The items were inter-related (Cronbach's alpha = 0.59). Immediately following the victimization questions, parallel perpetration questions were asked (Cronbach's alpha = 0.71).

Physical abuse victimization was introduced thusly: "For this question, again please think about the people you have been in a romantic relationship with – someone you would call a boyfriend or girlfriend. Which, if any, of the following things has a boyfriend or girlfriend ever done to you on purpose? (Only count it if they did it first. Do not count it if they did it in self-defense.)" Seven items, modified from Foshee's Perpetration of Dating Violence (Foshee, 1996), were asked: 1) Damaged something that belonged to you; 2) Scratched or slapped you; 3) Slammed or held you against a wall; 4) Tried to choke you; 5) Pushed, grabbed, kicked, shoved, or hit you; 6) Threw something at you; and 7) Physically twisted your arm or bent your fingers. In many cases, items were combined. For example, three items from Foshee's scale: (1) Hit me with a fist, (2) Hit me with something hard besides a fist, and (3) Pushed, grabbed or shoved me were reduced to one item: Pushed, grabbed, shoved, or hit me. Victimization behaviors were inter-related (Cronbach's alpha = 0.70).

Parallel perpetration questions were asked immediately following this section, with this introductory text: “Now think about things that you may have done. How many times have you ever done any of the following things to a boyfriend or girlfriend on purpose? (Only count it if you did it to this person first. Do not count it if you did it in self-defense.)” These perpetration behaviors were also inter-related (Crohnbach’s alpha = 0.81).

Sexual victimization questions were asked of all youth, irrespective of whether they had been in a dating relationship. Those who reported their victim or perpetrator was a dating partner were categorized as being involved in sexual teen dating abuse. Youth were asked how many times they may have experienced four different types of victimization: 1) Someone kissed, touched, or made you do something sexual when you did not want to?; 2) Someone tried, but not been able, to make me have sex when I did not want to?; 3) I gave in to sex when I did not want to?; and 4) Someone made me have sex when I did not want to? Because we were unable to identify survey items that were behaviorally specific and age appropriate (e.g., using meaningful language), we developed these four items. Items were inter-related (Cronbach’s alpha = 0.79). Parallel perpetration questions were asked subsequently and were adequately inter-related (Cronbach’s alpha = 0.61).

Attitudes indicating acceptance of violence in the relationship.—Six items from the Acceptance of Couples Violence scale (Dahlberg, Toal, Swahn, & Behrens, 2005; Foshee, Fothergill, & Stuart, 1992) were included: a) Women like to be treated roughly in relationships; b) A woman angry enough to hit her boyfriend must love him very much; and c) Sometimes a woman wants to be pressured into having sex. Parallel questions were asked for men (e.g., “Men like to be treated roughly in relationships.”). The six items were inter-related (Cronbach’s alpha for pre-dating youth: 0.87; Cronbach’s alpha for dating youth: 0.85); as such a scale was created (Range: 8–36).

Rape-supportive attitudes.—A modified version of the Rape Attitudes scale (Maxwell, Robinson, & Post, 2003) was used. Items asked respondents to rate their level of agreement with situations in which forcing a woman or man to have sex would be acceptable. Statements began with, “It is okay for a man to force his date to have sex if…” and ended with three possible situations: 1) he spent a lot of money on their date; 2) his date first said “yes”, but then later changed his or her mind; and 3) they have had sex at least once before. Parallel questions were asked with females as the actors. The items were inter-related (Cronbach’s alpha for pre-dating youth: 0.97; Cronbach’s alpha for dating youth: 0.93), supporting the validity of a scale (Range: 6–28).

Peer pressure to engage in sexual activity.—Four items from Krahe’s scale (Krahe, 1998) were used to measure perceptions of peer pressure to engage in sexual activity. Respondents were asked to rate how much each statement (e.g., “The more sexual things a man has done, the more popular he is with his friends.”) described the opinions of friends their age. Items were inter-related (Cronbach’s alpha for pre-dating youth: 0.81; Cronbach’s alpha for dating youth: 0.80) and summed (Range: 6–30).

Attitudes accepting of sex in brief and/or non-marital relationships.—One item from Hendrick and Hendrick’s scale (Hendrick & Hendrick, 1987) was used to measure

attitudes about sexual activity outside of the dating relationship: “Sometimes having sex with someone once and never seeing them again is okay.” An additional item was created for the purposes of this survey and was reverse-scored to reflect a non-traditional attitude: “People should wait until they are married to have sex.” The two items were inter-related (correlation for pre-dating youth: 0.62; correlation for dating youth: 0.62) and were summed (Range: 2–10).

Data cleaning

Data were weighted statistically to reflect the population of adults with children ages 10–15-years old in the U.S. according to adult age, sex, race/ethnicity, region, education, household income, and child age and sex (Bureau of Labor Statistics & Bureau of the Census, 2006). Survey sampling weights also adjusted for adult respondents’ self-selection into the HPOL and to account for differential participation over time (Berrens et al., 2003; Berrens et al., 2004; Schonlau et al., 2004; Terhanian et al., 2001).

Next, “do not want to answer” responses were imputed using best-set regression. To reduce the likelihood of imputing truly non-responsive surveys, participants were required to have valid data for at least 80% of the survey questions asked of all youth. As a result, 12 respondents were dropped, resulting in a final analytic sample size of 876 adolescent participants. 35 youth (3.7%) had an age outside of the expected range (9 were 13 years of age and 24 were 20 years of age). They nonetheless passed the initial verification questions to enter the survey, and so were retained to maximize data.

Analyses

First, items reflecting attitudes and beliefs posited to be supportive of dating abuse were dichotomized to reflect those who strongly endorsed the item (i.e., a score of 4 or 5) versus all others (i.e., a score between 1–3). Endorsement rates for each item were provided for the entire sample, and by sex, race, and income. These epidemiological data were stratified by dating experience to inform the development of dating abuse-focused prevention programs aimed at pre-dating versus dating youth. Next, to ascertain differences in the four constructs of interest, mean scale scores were tested by dating experience and sex using adjusted Wald tests, which take survey weights into account. Finally, to identify which attitudes and beliefs were stronger influences on the relative odds of reporting teen dating abuse involvement, a multivariate logistic regression model was estimated for each of the six types of dating abuse involvement (e.g., psychological abuse perpetration) that included the simultaneous report of attitudes, beliefs, and demographic characteristics.

Results

Half of the sample (52%) was male. Two-thirds (66%) were non-Hispanic White and 15% were of Hispanic ethnicity. Three in four (74%) respondents, who were 14–19 years of age (M, 16.7; SE, .07), had been in a dating relationship in the past year. Although girls (75%) and boys (73%) were equally like to date ($F(1, 872) = 0.18$; $p = 0.67$), dating youth (M: 16.9 years, SE: 0.1) were significantly older than pre-dating youth (M: 15.9 years, SE: 0.2), on average ($F(1, 872) = 29.01$; $p < 0.001$). Psychological dating abuse victimization (45%) and

perpetration (43%) were the most common types of dating abuse experience in the sample. About one in six youth reported physical dating abuse victimization (18%) and/or perpetration (17%). Sexual dating abuse victimization (9%) and perpetration (2%) were the least commonly reported types of dating abuse experience. [Note that these are similar but different prevalence rates as those reported in (Ybarra et al., 2016) because here, we focus on Wave 4 data; there, we report rates aggregated across multiple Waves.]

Comparisons of attitudes and beliefs for males and females, and dating and non-dating youth

Attitudes accepting of violence in relationships.—As shown in Table 1, less than 10% of youth agreed or strongly agreed with the majority of the items reflecting an acceptance of violence in dating relationships. Frequency of endorsement was even lower among non-dating youth. Interestingly, men deserving to be hit (12%) and sometimes wanting to be pressured into having sex (12%) were the two most frequently endorsed items among dating youth. When treated as a scale (data not shown), attitudes accepting of violence were similarly low for dating (Range: 8–36; M: 12.0, SE: 0.3) and pre-dating youth (M: 11.7, SE: 0.5; $F(1, 872) = 0.22$; $p = 0.64$). Among those who were pre-dating and those who were dating, respectively, scores were also similar for boys (pre-dating: M: 12.0, SE: .8; dating: M: 12.5 SE: 0.5) and girls (pre-dating: M: 11.3, SE: 0.7; $F(1, 872) = 0.44$; $p = 0.51$; dating: M: 11.5, SE: 0.4; $F(1, 872) = 2.52$; $p = 0.11$).

Rape-supportive attitudes.—Attitudes supportive of rape were uniformly low among all youth (Table 2). Indeed, fewer than 2% of adolescents agreed with any of the rape-supportive statements. When treated as a scale (data not shown), rape-supportive attitudes were similarly low for dating (Range: 6–28; M: 7.4, SE: 0.2) and pre-dating (8.0, SE: 0.4; $F(1, 872) = 1.45$; $p = 0.23$) youth. Among dating youth however, males reported higher levels of attitudes supportive of rape (M: 8.1, SE: 0.3) than females (M: 6.7, SE: 0.2; $F(1, 872) = 18.31$; $p < 0.001$). Similar but non-significant differences were noted among non-dating youth ($F(1, 872) = 1.07$; $p = 0.30$).

Beliefs about peer pressure to have sex.—In most cases, less than half of respondents thought statements reflecting pressure to have sex somewhat or completely represented the opinions of their close friends (Table 3). When treated as a scale (data not shown), dating youth (Range: 6–30; M: 16.1, SE: 0.4) reported higher perceived peer pressure than pre-dating youth (M: 14.1, SE: 0.6; $F(1, 872) = 8.41$; $p = 0.004$). Rates were statistically similar for boys and girls within the dating experience group, however.

Attitudes accepting of sex in brief and/or non-marital relationships.—As shown in Table 3, 38% of dating youth agreed or strongly agreed that people should wait until marriage to have sex. Conversely, 62% were neutral or did not agree with waiting. At the same time, only 19% of dating youth agreed that it's sometimes acceptable to have sex once and not see the person again. When treated as a scale (data not shown), dating youth had significantly higher acceptance (Range: 2–10; M: 5.0, SE: 0.1) of sex in brief and/or non-martial relationships compared to pre-dating youth (M: 4.3, SE: 0.2; $F(1, 872) = 8.38$; $p = 0.004$). Among dating youth, female adolescents (M = 4.5, SE: 0.2) were significantly less

accepting of sex in brief relationships as compared to male adolescents (M = 5.3, SE: 0.2; F(1, 872) = 9.85; $p = 0.002$). This was mirrored by pre-dating youth (Females: M = 3.9, SE: 0.2; Males: M: 4.7, SE: 0.2; F(1, 872) = 6.07; $p = 0.01$).

The influence of attitudes and beliefs in contextualizing teen dating abuse involvement

As shown in Table 4, acceptance of couples' violence and rape-supportive attitudes were moderately correlated with each other among dating (.54, p<0.001) and non-dating (0.48, p<0.001) youth. Correlations between the other attitudes and beliefs were both positive and statistically significant, but of lower magnitude; peer pressure to have sex and attitudes supportive of sex in brief and/or nonmarital relationships among non-dating youth was the one exception.

As shown in Table 5, the relative odds of involvement in each type of teen dating abuse increased by about 10% with each incremental increase in beliefs indicating acceptance of violence in relationships (except for sexual teen dating abuse victimization) after adjusting for other attitudes and beliefs and demographic characteristics. That said, rape-supportive attitudes were not significantly associated with any type of teen dating abuse involvement; however, there was a similar (i.e., 10%), non-significant magnitude of association between rape-supportive attitudes and both sexual teen dating abuse victimization and perpetration. Additionally, the relative odds of teen dating abuse involvement increased by 10–30% as the level of acceptance of sex in brief and/or non-marital relationships increased, except for physical teen dating abuse victimization.

Discussion

Among the 876 14–19 year-olds surveyed nationally, attitudes indicative of acceptance of violence in relationships predicted involvement in all three types of dating abuse (i.e., physical, psychological, and sexual); and in almost all cases, both perpetration and victimization. This supports our hypotheses and replicates results associated with physical dating abuse reported by (Foshee, Linder, MacDougall, & Bangdiwala, 2001) while also extending our understanding to other types of teen dating abuse.

Also, in support of our hypotheses, two attitudes that are unrelated to violence, namely peer pressure to have sex and attitudes accepting of sex in brief and/or non-marital relationships, are both predictive of dating abuse involvement. The latter is a particular contribution of this study. Importantly, attitudes accepting of sex were not just associated with sexual violence but also physical and psychological dating abuse. Solving or facing conflicts is likely to be more complicated in brief or non-committed relationships that include sexual intimacy, particularly for adolescents who are just learning how to navigate these types of relationships. It may also be that some youth find themselves in relationships defined by incongruent attitudes about sex in non-marital relationships, resulting in conflict and dating violence. Future research could consider how these beliefs interact dyadically across time.

As posited, boys endorsed more often than girls both attitudes accepting of rape and attitudes accepting of sex in brief and/or non-marital relationships. At the same time, boys and girls were equally likely to report acceptance of violence in the relationship and peer

pressure to have sex. These observed differences suggest that girls are likely to still be the gate-keepers for sexual activity in dating relationships, which may be particularly important given research among college students that suggest men are less likely than women to deem sexual assault committed by a husband as rape compared to the same scenario committed by a stranger (Monson et al., 1996). As such, clear reciprocal communication of desired limits of sexual activity may need to be modeled for male and female youth as they enter the dating world.

Also consistent with our hypotheses, youth who have not yet started dating are less likely to endorse peer pressure to have sex and attitudes that are accepting of non-committed sexual relationships. A critical shift may occur when youth start dating. This supports calls for dating abuse prevention programing that starts before most youth initiate romantic relationships.

Contrary to our hypotheses, rape-supportive attitudes were not predictive of any type of dating abuse involvement. This may be because of their uniformly low endorsement within the sample, similar to endorsement rates reported in numerous previous studies (Abbey & Harnish, 1995; Lanier, 2001)). That said, even though rape-supportive attitudes are more common among offenders of sexual assault as compared to non-offenders (Burgess, 2007; Monson et al., 1996), the same does not appear to be true in community samples of youth. The current results suggest that date rape prevention and intervention efforts that solely target these beliefs may need to be reconsidered for this population (Foubert et al., 2010).

Attitudes accepting of relationship violence also were infrequently endorsed. These findings stand in contrast to Simon et al.'s study (Simon, Miller, Gorman-Smith, Orpinas, & Sullivan, 2010) in which a large percentage of sixth graders endorsed attitudes accepting of violence in relationships. Perhaps our results reflect social conditioning that occurs to young people as they get older, or perhaps we are documenting a cultural shift that is less accepting of violence in relationships. Certainly, experiential, cognitive, and physical development across these age ranges are in flux such that endorsing these items as a 10-year-old may be different than for a 19-year-old. It also is possible that youth in the current study were concerned that their caregivers would monitor their survey answers, and therefore provided more socially desirable answers to these questions. However, one might argue that a similar pressure could be felt by some youth who complete surveys in classroom settings and are concerned about their peers or their teachers, as could have been the case in the study by Simon and colleagues.

The generally similar profiles of youth involved in each of the six types of dating abuse, namely acceptance of violence, peer pressure to have sex, and views supportive of sex in brief or non-marital relationships, is notable. To this end, future research aimed at determining beliefs that associated with unidirectional versus bi-directional perpetration might be important. It further suggests that similar cognitions may be driving not just perpetration (Foshee et al., 2016; Neil M. Malamuth & Briere, 1986; Slep et al., 2001; Underwood & Rosen, 2009; Vagi et al., 2013; White, 2009) but also victimization involvement, across physical, psychological, and sexual dating abuse. Perhaps this reflects assortative mating in operation: People with shared beliefs are more likely to date each other

and have peers who have similar attitudes and beliefs. Or perhaps the data reflect attitudes and beliefs that some youth have about how relationships should or are likely to be experienced, which are then reinforced by their partner's abusive behavior.

Moreover, given that most primary prevention programs target gender norms and associated myths about abuse (Whitaker et al., 2006), it is significant that boys are less likely to be perpetrators of psychological and physical dating abuse within the context of these attitudes and beliefs about relationships. While it is certainly important to give boys skills to manage anger and conflict in non-abusive ways, it also seems important to provide girls with the same skills.

Limitations

In addition to the limitations noted above, this survey includes only youth who use the Internet. Findings may not generalize to the estimated 7% of youth who were not online at the time of data collection (Lenhart, Purcell, Smith, & Zickuhr, 2010). Nonetheless, these data may provide a fuller picture of youth behavior and attitudes than school surveys because of the inclusion of homeschooled and school absent/truant youth.

Also, because of the cross-sectional nature of these data, the causal relations cannot be determined. Additionally, shared method variance may account for some of the obtained associations; future use of multi-model assessment strategies can determine the replicability of these findings.

It also bears noting that some of the scales have less than desirable internal validity; it is possible that more sensitive measures would have yielded stronger associations. Relatedly, attitudes towards marriage may be shifting; compared to 1960, when 72% of adults were married, only 50% of adults were married in 2016 (Pew Research Center, 2017). This may explain the low endorsement of teens who are waiting until marriage to have sex. It also is possible that youth attitudes about sex and marriage may change as they age. This indicator, as with each of the explanatory measures, should be viewed as indicative of the beliefs and attitudes of youth at the time of the survey, rather than static cognitions that will follow them through their lives. Both rape attitudes and acceptance of couples' violence also had low endorsement across scale items, suggesting that the majority of youth either do not hold these beliefs or know that it is socially undesirable to endorse these attitudes. Thus, endorsement of these beliefs may be pathonomic for perpetration. That said, it may also indicate that our measures are lacking sensitivity. As such, the continued need for sensitive measures of violence-supportive cognitions is warranted (Slep et al., 2001).

Furthermore, participants in this study consist of various developmental ages and stages. It is possible that they may interpret these items differently as they gain personal experience; endorsement of these items may also be influenced by a shifting cultural context related to what constitutes consent and what can be considered "forced". Future studies could employ cognitive testing to gain better insight into how these items might be perceived across developmental stage, age, experience, culture, and gender. Finally, in the current study, non-consensual sex was assessed using the phrase "when you did not want to". While this phrase was chosen because it is widely understood and non-pejorative (Koss et al., 2007), some

researchers have argued that endorsement of this phrase does not ensure that non-consent was expressed per legal standards.

Implications for intervention and prevention

Given that youth involved in teen dating abuse are more likely to be involved in violent adult relationships (Gómez, 2011; Halpern, Spriggs, Martin, & Kupper, 2009; Magdol, Moffitt, Caspi, & Silva, 1998; Smith, White, & Holland, 2003), effective prevention and intervention programs that begin early and follow youth as they age into dating behaviors are critical. Prevention programs throughout the period in which youth begin dating initiation may be particularly impactful, as it could be that attitudes and beliefs that facilitate involvement in dating abuse are developed, endorsed, or maintained by actual experiences of teen dating abuse by the youth or their friends. It is also possible that insecurities occur when youth start dating (e.g., about what is 'normal') and these anxieties lead some youth to look to media narratives or narratives they see in their communities (e.g., among peers, parents, etc.) for guidance (Borzekowski & Rickert, 2001; Rivadeneyra & Lebo, 2008; Wood, Senn, Desmarais, Park, & Verberg, 2002).

Attitudes accepting of violence have been shown to mediate the connection between childhood exposure to violence and teen dating violence (Temple, Shorey, Tortolero, Wolfe, & Stuart, 2013). These attitudes have consistently been linked with perpetration; results from the current study also link these attitudes with victimization across all three types of dating abuse. Further research that considers the interplay between teen dating abuse attitudes and teen dating violence involvement across time, for both male and female dating and pre-dating youth, will be essential as these relationships are complex (Karlsson, Calvert, Rodriguez, Weston, & Temple, 2018) and yet form the bedrock of our prevention efforts.

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Table 1

Demographic characteristics and attitudes supportive of violence in relationships among 14–18 year-old youth across the United States

Agree / strongly agree with attitudes towards acceptance of violence in relationships	Youth in the subsample	By Biological sex		By Race				By Household income		
	% (n)	Female	Male	White	Black/African American	Mixed	All other	< $35,000	$35,000–74,999	≥$75,000
Among youth who have had a boy/girlfriend (*n* = 614)										
1. Men like to be treated roughly in relationships	3.7 (14)	3.9 (8)	3.4 (6)	3.1 (9)	9.9 (2)	6.0 (2)	1.7 (1)	2.3 (4)	4.8 (6)	3.5 (4)
2. Men sometimes deserve to be hit in the relationship	12.4 (57)	13.1 (33)	11.8 (24)	12.9 (40)	11.9 (5)	14.7 (7)	8.0 (5)	11.2 (12)	15.0 (30)	10.5 (15)
3. Sometimes a man wants to be pressured into having sex	12.2 (69)	8.0 (29)	16.2 (40)	14.7 (56)	3.3 (4)	6.4 (6)	6.0 (3)	3.9 (10)	17.5 (33)	12.2 (26)
4. Women like to be treated roughly in relationships	2.6 (14)	3.2 (7)	2.1 (7)	1.3 (5)	13.2 (6)	1.4 (1)	4.7 (2)	1.5 (2)	4.2 (7)	1.7 (5)
5. Women sometimes deserve to be hit in the relationship	3.0 (16)	1.6 (8)	4.2 (8)	2.5 (8)	4.7 (3)	4.3 (3)	3.6 (2)	1.3 (2)	2.0 (7)	4.9 (7)
6. Sometimes a woman wants to be pressured into having sex	9.8 (44)	7.4 (19)	12.2 (25)	10.6 (33)	18.4 (8)	2.2 (1)	3.9 (2)	2.8 (6)	17.6 (27)	6.5 (11)
7. Women angry enough to hit their boyfriends must love them very much	3.1 (17)	0.7 (5)	5.4 (12)	2.9 (8)	4.8 (4)	3.6 (2)	2.6 (3)	0.3 (1)	2.0 (6)	6.0 (10)
8. Men angry enough to hit their girlfriends must love them very much	1.3 (10)	0.4 (4)	2.1 (6)	1.3 (5)	3.0 (2)	0.3 (1)	0.9 (2)	0.3 (1)	1.5 (5)	1.8 (4)
Among youth who have not had a boy/girlfriend (*n* = 262)										
1. Men like to be treated roughly in relationships	3.7 (5)	2.3 (3)	4.8 (2)	4.9 (4)	0.0 (0)	1.1 (1)	0.0 (0)	5.2 (2)	3.9 (2)	2.5 (1)
2. Men sometimes deserve to be hit in the relationship	5.1 (13)	3.3 (6)	6.6 (7)	6.2 (11)	0.0 (0)	1.1 (1)	4.7 (1)	5.6 (3)	5.4 (7)	4.5 (3)
3. Sometimes a man wants to be pressured into having sex	11.7 (23)	4.8 (9)	17.4 (14)	11.5 (17)	25.2 (3)	1.1 (1)	5.3 (2)	8.1 (3)	10.9 (13)	14.6 (7)
4. Women like to be treated roughly in relationships	0.3 (3)	0.4 (2)	0.3 (1)	0.4 (3)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.7 (3)	0.0 (0)
5. Women sometimes deserve to be hit in the relationship	0.1 (1)	0.2 (1)	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (1)	0.0 (0)
6. Sometimes a woman wants to be pressured into having sex	8.1 (13)	7.9 (7)	8.2 (6)	3.2 (7)	47.4 (3)	1.1 (1)	6.5 (2)	5.2 (2)	3.6 (8)	15.0 (3)
7. Women angry enough to hit their boyfriends must love them very much	0.2 (2)	0.2 (1)	0.2 (1)	0.3 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.6 (1)	0.2 (1)	0.0 (0)
8. Men angry enough to hit their girlfriends must love them very much	0.2 (2)	0.4 (2)	0.0 (0)	0.3 (2)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.4 (2)	0.0 (0)

Table 2

Demographic characteristics and rape-supportive attitudes among 14–18 year-old youth across the United States

	Youth in the subsample	Biological sex		Race				Household income		
Agree/strongly agree that it is okay to force one's date to have sex if….	**% (n)**	**Female**	**Male**	**White**	**Black/African American**	**Mixed**	**All other**	**<$35,000**	**$35,000–74,000**	**≥$75,000**
Among youth who have had a boy/girlfriend (*n*=614)										
1. He spent a lot of money	0.7 (4)	0.0 (0)	1.4 (4)	0.9 (2)	0.6 (1)	0.6 (1)	0.0 (0)	0.0 (0)	1.0 (3)	1.0 (1)
2. His date first said "yes" then changed his or her mind	0.7 (4)	0.0 (0)	1.4 (4)	0.9 (2)	0.6 (1)	0.6 (1)	0.0 (0)	0.0 (0)	1.0 (3)	1.0 (1)
3. (the male to force if) they have had sex before	1.0 (5)	0.0 (0)	2.0 (5)	1.3 (3)	0.6 (1)	0.6 (1)	0.0 (0)	1.7 (1)	0.7 (3)	1.0 (1)
4. She spent a lot of money	0.8 (6)	0.1 (1)	1.5 (5)	1.0 (4)	0.8 (1)	0.7 (1)	0.0 (0)	0.3 (1)	0.8 (2)	1.2 (3)
5. Her date first said "yes" then changed his or her mind	1.1 (9)	0.5 (3)	1.7 (6)	1.0 (5)	2.2 (2)	0.0 (0)	1.4 (2)	0.3 (1)	1.2 (4)	1.5 (4)
6. (the female to force if) They have had sex before	1.9 (12)	0.2 (2)	3.5 (10)	2.3 (9)	2.2 (2)	0.0 (0)	0.3 (1)	2.0 (2)	2.0 (6)	1.8 (4)
Among youth who have not had a boy/girlfriend (*n*=262)										
1. He spent a lot of money	0.1 (1)	0.2 (1)	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (1)	0.0 (0)
2. His date first said "yes" then changed his or her mind	0.2 (2)	0.2 (1)	0.1 (1)	0.1 (1)	0.7 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (1)	0.2 (1)
3. (the male to force if) They have had sex before	0.1 (1)	0.2 (1)	0.0 (0)	0.1 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.2 (1)	0.0 (0)
4. She spent a lot of money	1.1 (2)	0.0 (0)	1.9 (2)	1.3 (1)	0.8 (1)	0.0 (0)	0.0 (0)	4.9 (1)	0.0 (0)	0.2 (1)
5. Her date first said "yes" then changed his or her mind	1.1 (3)	0.2 (1)	1.9 (2)	1.5 (2)	0.8 (1)	0.0 (0)	0.0 (0)	4.9 (1)	0.2 (1)	0.2 (1)
6. (the female to force if) They have had sex before	1.7 (4)	0.2 (1)	2.9 (3)	1.5 (2)	0.8 (1)	0.0 (0)	4.7 (1)	4.9 (1)	1.4 (2)	0.2 (1)

Table 3

Demographic characteristics and perceived peer pressure to have sex or acceptance of sex in brief and/or non-marital relationships among 14–18 year-old youth across the United States

	Youth in the subsample	Biological sex		Race				Household income		
Somewhat/completely represents opinions of close friends	**% (n)**	**Female**	**Male**	**White**	**Black/African American**	**Mixed**	**All other**	**< $35,000**	**$35,000–74,000**	**≥$75,000**
Among youth who have had a boy/girlfriend (*n*=614)										
1. People should wait until marriage to have sex[a]	38.3 (234)	44.0 (141)	33.0 (93)	35.9 (173)	41.6 (17)	32.9 (14)	56.4 (30)	43.7 (56)	42.7 (106)	30.5 (72)
2. Sometimes, having sex with someone once and never seeing them again is ok[a]	18.8 (100)	13.1 (34)	24.1 (66)	20.5 (72)	20.8 (9)	13.5 (10)	9.5 (9)	7.7 (13)	16.6 (36)	28.0 (51)
3. The more sexual things a woman has done, the more popular she is[b]	18.2 (83)	11.7 (30)	24.4 (53)	18.5 (56)	9.3 (8)	16.3 (8)	24.4 (11)	21.4 (19)	19.2 (40)	15.3 (24)
4. If a woman hasn't had sex by 18, there's something wrong with her[b]	12.1 (67)	9.1 (25)	15.0 (42)	11.2 (44)	13.4 (5)	13.5 (9)	16.8 (9)	14.7 (14)	14.2 (35)	8.4 (18)
5. Women get a lot of pressure from friends to have sex[b]	31.0 (180)	27.2 (85)	34.7 (95)	29.7 (123)	52.6 (24)	27.5 (14)	27.3 (19)	29.4 (39)	35.2 (82)	27.9 (59)
6. The more sexual things a man has done, the more popular he is[b]	44.1 (275)	49.7 (148)	38.9 (127)	45.2 (201)	53.1 (24)	36.5 (22)	35.6 (28)	39.3 (49)	46.0 (127)	45.3 (99)
7. If a man hasn't had sex by 18, there's something wrong with him[b]	28.2 (180)	25.6 (84)	30.6 (96)	29.1 (126)	27.9 (18)	29.9 (14)	20.9 (22)	23.8 (27)	31.6 (88)	27.5 (65)
8. Men get a lot of pressure from friends to have sex	53.5 (342)	49.9 (172)	56.8 (170)	57.1 (256)	49.3 (25)	36.9 (24)	43.9 (37)	52.6 (72)	54.1 (140)	53.4 (130)
Among youth who have not had a boy/girlfriend (*n*=262)										
1. People should wait until marriage to have sex[a]	52.2 (154)	60.8 (80)	44.9 (74)	52.0 (116)	46.2 (15)	79.4 (11)	44.5 (12)	58.5 (26)	52.2 (70)	48.9 (58)
2. Sometimes, having sex with someone once and never seeing them again is ok[a]	5.9 (17)	3.3 (8)	8.0 (9)	6.8 (13)	1.9 (2)	3.3 (1)	4.7 (1)	4.0 (1)	7.6 (9)	4.8 (7)
3. The more sexual things a woman has done, the more popular she is[b]	11.3 (30)	6.8 (12)	15.0 (18)	8.8 (17)	30.2 (4)	3.2 (1)	13.9 (8)	7.4 (3)	6.4 (14)	19.3 (13)
4. If a woman hasn't had sex by 18, there's something wrong with her[b]	11.1 (27)	7.4 (10)	14.1 (17)	8.5 (16)	28.0 (4)	7.5 (3)	14.0 (4)	12.4 (5)	2.9 (9)	20.3 (13)

	Youth in the subsample	Biological sex		Race				Household income		
Somewhat/completely represents opinions of close friends	**% (n)**	**Female**	**Male**	**White**	**Black/African American**	**Mixed**	**All other**	**< $35,000**	**$35,000–74,000**	**≥$75,000**
5. Women get a lot of pressure from friends to have sex[b]	21.6 (62)	16.9 (30)	25.5 (32)	15.1 (38)	48.1 (7)	6.4 (2)	47.2 (15)	13.1 (6)	25.1 (37)	22.0 (19)
6. The more sexual things a man has done, the more popular he is[b]	31.7 (88)	37.0 (49)	27.2 (39)	24.6 (57)	78.9 (11)	7.5 (3)	46.5 (17)	19.0 (11)	35.6 (51)	34.1 (26)
7. If a man hasn't had sex by 18, there's something wrong with him	20.0 (49)	14.1 (19)	25.0 (30)	17.9 (35)	51.7 (8)	7.5 (3)	10.3 (3)	12.0 (7)	21.8 (27)	22.3 (15)
8. Men get a lot of pressure from friends to have sex[b]	38.3 (101)	42.2 (50)	34.9 (51)	35.9 (73)	65.9 (12)	13.3 (5)	41.3 (11)	30.7 (13)	41.4 (55)	38.6 (33)

[a] Nontraditional attitudes about sex.

[b] Perceived peer pressure to engage in sexual activity.

TABLE 4

Correlations of attitudes and beliefs related to dating abuse among 14–18 year-old youth across the United States

	Acceptance of couples' violence	Rape-supportive attitudes	Peer pressure to have sex	Attitudes supportive of sex in brief and/or non-marital relationships
Among dating youth				
Acceptance of couples' violence	1			
Rape-supportive attitudes	0.54***	1		
Peer pressure to have sex	0.19***	0.23***	1	
Attitudes supportive of sex in brief and/or non-marital relationships	0.24***	0.28***	0.18***	1
Among pre-dating youth				
Acceptance of couples' violence	1			
Rape-supportive attitudes	0.48***	1		
Peer pressure to have sex	0.23***	0.22***	1	
Attitudes supportive of sex in brief and/or non-marital relationships	0.19**	0.23***	0.11	1

* $p < .05$.

** $p < .01$.

*** $p < .001$.

TABLE 5

Relative odds of teen dating abuse involvement given attitudes and beliefs supportive of violence among dating youth (n = 614)

	Psychological teen dating abuse				Physical teen dating abuse				Sexual teen dating abuse			
	Victimization		Perpetration		Victimization		Perpetration		Victimization		Perpetration	
Personal characteristics	**aOR (95% CI)**	***p* Value**	**aOR (95% CI)**	***p* Value**	**aOR (95% CI)**	***p* Value**	**aOR (95% CI)**	***p* Value**	**aOR (95% CI)**	***p* Value**	**aOR (95% CI)**	***p* Value**
Attitudes and beliefs												
Acceptance of couples' violence	**1.1 (1.0, 1.2)**	**0.01**	1.0 (1.0, 1.1)	0.15	**1.1 (1.0, 1.2)**	**0.01**	**1.1 (1.0, 1.2)**	**0.003**	**1.2 (1.1, 1.3)**	**0.001**	1.1 (0.9, 1.2)	0.10
Rape-supportive attitudes	1.0 (0.9, 1.1)	0.67	1.0 (0.9, 1.1)	0.42	1.0 (0.9, 1.2)	0.51	1.0 (0.9, 1.2)	0.57	1.1 (0.9, 1.2)	0.34	1.1 (0.9, 1.3)	0.30
Peer pressure to have sex	**1.1 (1.0, 1.1)**	**0.001**	**1.1 (1.0, 1.1)**	**<0.001**	**1.1 (1.0, 1.1)**	**0.02**	**1.1 (1.0, 1.1)**	**0.02**	1.0 (0.9, 1.0)	0.38	1.1 (0.9, 1.2)	0.18
Attitudes supportive of sex in brief and/or nonmarital relationships	**1.3 (1.1, 1.5)**	**0.001**	1.1 (1.0, 1.3)	0.07	**1.3 (1.1, 1.6)**	**0.008**	1.1 (0.9, 1.4)	0.28	1.0 (0.7, 1.3)	0.83	**1.3 (1.1, 1.7)**	**0.05**
Demographic characteristics												
Male	0.6 (0.3, 0.98)	0.04	**0.4 (0.2, 0.7)**	**0.002**	0.9 (0.4, 1.7)	0.65	**0.4 (0.2, 0.8)**	**0.009**	0.6 (0.2, 1.5)	0.27	3.1 (0.8, 11.7)	0.10
Race												
White	1.0 (RG)		1.0 (RG)		1.0 (RG)		1.0 (RG)		1.0 (RG)		2.8 (0.8, 10.5)[a]	.12
Black	1.7 (0.5, 5.2)	0.39	0.6 (0.2, 1.7)	0.31	0.5 (0.2, 1.6)	0.26	0.6 (0.2, 2.1)	0.46	0.5 (0.1, 1.6)	0.24		
Mixed	1.1 (0.4, 2.9)	0.88	1.4 (0.4, 5.1)	0.61	0.9 (0.3, 3.2)	0.88	0.4 (0.1, 1.6)	0.19	0.7 (0.1, 5.4)	0.71		
All other	0.6 (0.3, 1.5)	0.29	0.5 (0.3, 1.1)	0.08	**0.2 (0.1, 0.8)**	**0.02**	**0.2 (0.1, 0.7)**	**0.01**	0.4 (0.1, 2.2)	0.30		
Income												
<$35,000	1.0 (RG)		1.0 (RG)		1.0 (RG)		1.0 (RG)		1.0 (RG)		1.0 (RG)	
$35,000–75,000	0.7 (0.4, 1.3)	0.26	1.3 (0.7, 2.5)	0.42	1.0 (0.4, 2.3)	0.99	0.6 (0.3, 1.6)	0.35	0.3 (0.1, 1.1)	.07	1.8 (0.3, 9.3)	.48
>$75,000	**0.4 (0.2, 0.8)**	**0.01**	1.2 (0.6, 2.5)	0.58	**0.3 (0.1, 0.7)**	**0.008**	0.5 (0.2, 1.3)	0.15	1.0 (0.3, 3.6)	0.98	0.1 (0.01, 1.7)	0.13
Process variables												
Completing survey with others in the room	1.1 (0.6, 2.0)	0.76	1.1 (0.6, 2.0)	0.77	1.7 (0.8, 3.7)	0.14	**2.8 (1.3, 6.0)**	**0.009**	1.2 (0.4, 3.3)	0.78	**0.1 (0.02, 0.5)**	**0.007**
Self-reported dishonesty when completing the survey	3.3 (0.9, 12.1)	0.08	0.9 (0.2, 3.1)	0.83	1.0 (0.2, 4.3)	0.99	2.0 (0.5, 8.0)	0.34	0.5 (0.1, 3.0)	0.43	**8.5 (1.1, 64.1)**	**0.04**

Note: Statistically significant differences in bold. Six different models shown (across the top rows).

Abbreviations: aOR, adjusted odds ratio – odds are adjusted for all other characteristics displayed on the left side of the Table; RG, reference group.

[a]Odds of non-white versus white estimated because of instability within racial categories.