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Rape myth acceptance in sexually-assaulted adolescents' school contexts: Associations with depressed mood and alcohol use

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Abstract

High school students exposed to sexual assault (SA) are at risk for negative outcomes like depressed mood and high-risk drinking. Although evidence suggests that both social contexts and internalized stigma can affect recovery from SA, no research to date has directly examined the presence of stigma in social contexts such as high schools as a correlate of adjustment after SA. In the current study, the self-reported rape myth acceptance (RMA) of 3080 students from 97 grade cohorts in 25 high schools was used to calculate grade-mean and school-mean RMA, which was entered into multilevel models predicting depressed mood and alcohol use among $N = 263$ SA survivors within those schools. Two forms of RMA were assessed: rape denial and gendered expectations. Results indicate that higher grade-mean rape denial was associated with higher risk for depressed mood among high school boys and girls exposed to SA, and higher grade-mean traditional gender expectations was associated with higher risk for alcohol use among girls exposed to SA. Survivors' own RMA and school-level RMA were not significantly associated with their depressed mood or alcohol use. Although causality cannot be concluded, these findings suggest that interventions that reduce stigma in social contexts should be explored further as a strategy to improve well-being among high-school-aged survivors of SA.

Keywords

adolescents; sexual victimization; victim blame; gender; peer relationships

Sexual assault (SA) is common and harmful among high school students. Findings from the 2015 Youth Risk Behavior Surveillance System show that 10.3% of high school girls and 3.1% of high school boys report a lifetime history of forced intercourse (Kann et al., 2016). Similarly, the National Survey of Children's Exposure to Violence found that 7.7% of teens aged 14–17 reported past-year unwanted sexual contact and 3.8% reported past-year rape or

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attempted rape (Finkelhor, Turner, Ormrod, & Hamby, 2009). These experiences of sexual victimization increase risk for a litany of negative psychosocial outcomes, including mental disorders and problematic substance use (Campbell, Dworkin, & Cabral, 2009; Dworkin, Menon, Bystrynski, & Allen, 2017). Indeed, in studies of adolescents specifically, SA has been identified as a risk factor for substance use (Basile et al., 2006), comorbid depression and substance abuse/dependence (Kilpatrick et al., 2003), binge drinking (Behnken, Le, Temple, & Berenson, 2010), and suicidality (Behnken et al., 2010).

Increasingly, examinations of the impact of SA on distress have focused on ways that the social contexts of recovery—or the people with whom survivors may come into contact and/or have ongoing relationships following assault—shape survivors' psychopathology (Campbell et al., 2009). This work has yielded burgeoning evidence that survivors' help-seeking decisions and recovery processes may be influenced by their social contexts in multiple ways (Dworkin, Pittenger, & Allen, 2016), including through the presence of stigma regarding SA. Stigma, which is a process by which social groups conceptualize others in ways that justify animosity toward them (Goffman, 1963), is pervasive across SA survivors' recovery contexts (Kennedy & Prock, 2016). Stigma related to SA specifically is commonly conceptualized as rape myth acceptance (RMA), which can include beliefs such as the idea that victims are to blame for their assault (Edwards, Turchik, Dardis, Reynolds, & Gidycz, 2011). This stigma may be conveyed directly to survivors who disclose assault within their peer groups in the form of negative social reactions (Ullman, 2010), which include blame and invalidation. Importantly, though, even survivors who do not disclose or do not receive negative reactions upon disclosure may be aware of stigma in their social context as a result of conversations about topics including other survivors, media depictions of survivors, or SA generally (i.e., anticipatory stigma) (Kennedy & Prock, 2016). As a result, they may anticipate that, should their peer group become aware of the assault, they would be stigmatized (Goffman, 1963; DeLoveh & Cattaneo, 2017; Overstreet & Quinn, 2013).

There is evidence that stigma can influence recovery for survivors of sexual victimization. Generally, when stigma regarding sexual victimization is internalized by survivors, it can manifest as self-blame, shame, and guilt (Finkelhor & Browne, 1985), which, in turn, has been associated with negative psychological outcomes among college students (Breitenbecher, 2006; Koss, Figueredo, & Prince, 2002; Koss & Figueredo, 2004). There is also some evidence to suggest that shame is associated with adjustment among sexually-victimized children and adolescents (Feiring, Taska, & Lewis, 2002), although research in this population is limited. The communication of stigma to survivors via negative social reactions to SA disclosure prospectively predicts posttraumatic stress symptomology in adults (Littleton, 2010; Ullman & Peter-Hagene, 2016) and has been associated with depressive symptomology (Ahrens, Stansell, & Jennings, 2010; Orchowski, Untied, & Gidycz, 2013), problem drinking (Sigurvinsdottir & Ullman, 2015), anxiety (Orchowski et al., 2013), and health problems (Ahrens et al., 2010) in cross-sectional studies of adults. Qualitative research with adolescent SA survivors also suggests that negative and positive social reactions are influential to their emotional well-being (e.g., survivors report that being blamed by the police led them to feel angry and blame themselves) (Greeson, Campbell, & Fehler-Cabral, 2016). Although less research has examined the impact of anticipatory

stigma, a common behavioral consequence of anticipatory stigma among assault survivors is avoiding disclosure, which can prevent individuals from accessing informal and formal support services (Paul, Gray, Elhai, & Davis, 2009).

Despite this evidence for the importance of stigma in social contexts in SA recovery, most research to date has focused on survivors' internalization of stigma or their receipt of negative social reactions, rather than on the amount of stigma that is present in social contexts as a correlate of survivor recovery. In the only study to date that has examined peer group stigma in relation to survivor symptomatology, Paul and colleagues (2009) found in a sample of college SA survivors that greater anticipated RMA among one's peer group predicted posttraumatic stress symptoms. However, this study did not assess peers' actual level of RMA, and as a result, it is unclear whether peer group stigma itself, or survivor *perceptions* of peer group stigma, is associated with symptoms. Given that survivors who are more distressed might be more likely to perceive their peers' beliefs more negatively, it is important to measure stigma objectively by assessing attitudes of peer groups directly. This could help to clarify the role of peer groups in affecting the recovery of survivors in those peer groups. Indeed, a recent review called for more focus on how social contexts themselves, rather than perceptions of those contexts, influence survivors' recovery following assault (Kennedy & Prock, 2016).

Identifying contextual correlates of adjustment for adolescent SA survivors could inform the development of interventions to mitigate the harm of SA in this population. Among high school students, their school-based peers but also more specifically, their grade-based peers, likely represent an important social context that warrants investigation in this regard. High school students appear to socialize more with their grade-level peers (Moody, 2001), and these relationships provide an important source of information about social norms on a variety of topics (Maxwell, 2002) that could influence post-trauma adjustment. Indeed, there is evidence that these networks influence behaviors like substance use (Fujimoto & Valente, 2012; Valente, Gallaher, & Mouttapa, 2004). However, adolescent social contexts have not been directly studied in relation to adjustment after trauma.

Thus, the goal of the current study was to examine whether the presence of a SA-specific form of stigma (i.e., RMA) in high schools is associated with depressed mood and alcohol use among SA survivors within those schools. We hypothesized that higher levels of both grade- and school-level RMA would be related to higher levels of depressed mood and higher levels of alcohol use among high school students who reported a SA victimization.

Method

Procedures

Data were collected in the context of a larger cluster randomized control trial to evaluate a bystander-focused violence prevention curriculum among high school students (Edwards, Banyard, Sessarego, Mitchell, & Chang, 2017). Baseline data collected before the implementation of the intervention was used for the current analyses.

Recruitment—Following institutional review board approval, guardians of students under the age of 18 and in selected classrooms (e.g., health, physical education) were sent an opt-out form with information on the project and how to withdraw their child if they did not want their child to participate. Students under the age of 18 were only eligible to participate if a guardian did not withdraw them via opt out consent procedures. Students who were 18 or 19 years old (7.9%) provided their own consent to participate, and students under 18 who were eligible to participate read an assent form to decide if they would like to complete the surveys. The majority (89.7%) of invited students participated in the current study. A paper-and-pencil survey was provided in English only and was completed by students during the regular school hours. The project investigators or highly trained research assistants who facilitated data collection sessions verbally reminded participants of the voluntary nature of the study, confidentiality practices, and other important information to ensure participant safety and data integrity (e.g., taking the survey on your own, remaining quiet during the survey, not sitting near other students) prior to the survey administration. Participants received a debriefing and referral sheet and a fruit snack at the end of the survey session. After data collection was completed, each survey was hand-entered by highly trained undergraduate or graduate research assistants (RA) and then independently reviewed by an RA different from the one who entered. Additionally, analyses were conducted by a graduate RA to determine if there were any extreme outliers or impossible responses.

Participants

Data were obtained from 3,404¹ high school students in northern New England who participated in a large cluster randomized control trial to evaluate a bystander-focused violence prevention curriculum. Of these, 3,172 students completed the baseline (Time 1) survey; the remaining 232 participants (6.82%) did not complete Time 1 but completed subsequent surveys. Of note, there were no significant differences between participants who completed Time 1 and those who opted out on any demographic variables. The 3,172 students that took the Time 1 survey represented 97 grade cohorts from 25 schools. Data from the 2972 students in this sample who provided complete data on RMA variables and identified their grade were used to calculate grade-level and school-level average levels of RMA. Participants who had incomplete data on gendered expectations evidenced no significant difference in rape denial compared to those with complete data, $t(21.15) = 0.66$, $p = .51$. Participants who had incomplete data on rape denial evidenced no significant difference in gendered expectations compared to those with complete data, $t(150.89) = -0.35$, $p = .73$. This suggests that these students' missing data did not bias estimates of grade- and school-mean RMA. Grade- and school-mean values of RMA were entered as independent variables into models tested within the subsample of students who reported past-year SA and provided complete data on one or both outcome variables ($N = 263$), along with those students' own values of RMA.

¹The starting sample was 4,069, but we removed 665 cases (16%) due to an inability to match surveys across time points (which would mean that a single participant would be in the data set as different participant across time points), as well as mischievous (e.g., wrote in impossible demographics [e.g., age 3], wrote or drew lewd comments and figures, etc.) and/or extreme (e.g., indicated the highest possible response on all items for two or more measures, such as answering yes to every victimization and perpetration question and also saying the intervened every time or endorsing the highest possible response despite presence of reverse coded items) responders and/or transferring from a treatment to control school or vice versa (and thus concerns about contamination).

The mean age of participants in the full sample at the baseline survey was 15.71 (Range 13–19, $SD = 1.17$). About one-third (30.65%) of the sample was in 9th grade, 32.60% was in 10th grade, 20.86% was in 11th grade, and 15.88% was in 12th grade. The majority of participants identified as female (52.40%), White (90.04%), and heterosexual (87.09%). According to school data, 20.4% of students reported receiving free or reduced lunch, a proxy for poverty. Nearly one tenth of the full sample (9.69%) reported past-year SA.

In the subsample of sexually assaulted students from 82 grades, participants were primarily girls ($n = 213$, 80.99%). Most were White/Caucasian (86.69%); fewer were American Indian/Alaska Native (3.42%), Asian (1.90%), Black/African American (1.14%), or more than one race (2.66%). In terms of ethnicity, 6.84% identified as Hispanic/Latino. About a quarter of the subsample (24.72%) identified as a sexual minority. The average age was 16.06 ($SD = 1.11$). Most students (31.56%) were in 10th grade, followed by 11th grade (25.86%), 12th grade (24.71%), and 9th grade (17.87%).

Measures

Sexual assault victimization—To categorize students as having experienced SA or not, we used the three items assessing past-year SA in Cook-Craig et al.'s (2014) measure of victimization and perpetration. These items assessed instances in which students had unwanted sexual activities because the student was drunk or on drugs, the perpetrator used coercion by threatening to end the friendship or relationship or pressuring the student through arguments or begging, or the perpetrator used physical force. Each item had a dichotomous response option (i.e., 0 = *no* and 1 = *yes*) corresponding to whether the experience had happened in the past year. Items were summed and then recoded into a dichotomous (no/yes) outcome to indicate whether or not a student had experienced any type of SA.

Rape myth acceptance—We used a shorted version (Coker et al., 2011a, Coker et al., 2011b, Cook-Craig et al., 2014) of the Illinois Rape Myth Acceptance Scale (IRMAS; Payne, Lonsway, & Fitzgerald, 1999) to assess students' agreement with rape myths. The IRMAS-Short Form (IRMAS-SF) consists of 6 items representing various rape myths. Response options range from 1 (*disagree strongly*) to 4 (*agree strongly*). Factor analyses suggested that the six items represented two distinct subscales. First, *Traditional Gender Expectations* (Cronbach's $\alpha = .78$, range: 0–100) included items representing traditional views of gender roles in heterosexual relationships (i.e., “Girls should have sex when their boyfriend wants,” “Girls should have sex if their boyfriend spends money,” “Guys should respond to girlfriends' challenges by insulting them”). Second, *Rape Denial* (Cronbach's $\alpha = .73$, range: 0–100) reflected disbelieving and victim-blaming attitudes regarding SA (i.e., “Sexual assault charges are used as a way of getting back at guys,” “Girls lead a guy on and claim it was sexual assault,” “Sexual assault happens because the ‘no’ was unclear”). Items were summed so that higher scores on either subscale indicated higher levels of RMA. To assess the amount of variation in RMA at the grade and school level, ICC1 values were computed from two-level models predicting each RMA subscale with a random intercept for grade or school and no independent variables. ICC1 values were 0.16 and 0.00 at the grade level and 0.22 and 0.00 at the school level for gender expectations and rape denial,

respectively. This indicates that significant variation in gendered expectations exists as a function of enrollment in a given school or grade, but most of the variation in both forms of RMA is across students. Average values of both subscales were calculated for each grade level within a school, as well as each school as a whole.

Depressed mood & alcohol use—Items from the Center for Disease Control’s Youth Risk Behavior Surveillance System (YRBS; Eaton et al., 2012) assessed depressed mood and alcohol use. Depressed mood was assessed with the item, “During the past month [30 days], did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities?,” and dichotomous “yes” and “no” response options were provided. Psychometric evaluation of this item among high school students indicated that it has moderate reliability over a two-week test-retest period, $K = 56.4\%$ (Brener et al., 2002). A second item from the YRBS assessed alcohol use during the past month, with response options including: *never drank alcohol*, *0 days*, *1 or 2 days*, *3 to 9 days*, *10 to 19 days*, and *20 to 31 days*. Evaluation of the two-week test-retest reliability of this item among high school students indicated substantial reliability, $K = 70.9\%$ (Brener et al., 2002). Because this variable was zero-inflated (drank 0 days = 54.82%, 1–2 days = 21.48%, 3–9 days = 14.82%, 10–19 days = 4.07%, 20–31 days = 4.82%), we created a binary variable based on student responses, in which 0 = no past-month alcohol use and 1 = any past-month alcohol use.

Analyses

Given the nested data structure—students (level 1) were nested in grades (level 2), which were nested in schools (level 3)—as well as our empirical questions regarding the impact of contextual variables on student outcomes, we conducted three-level binomial generalized linear mixed models with random intercepts using lme4 (Bates, Mächler, Bolker, & Walker, 2014) in R 3.3.1 (R Development Core Team, 2008). Models were analyzed using survivors’ own RMA scores as well as the average values of both RMA subscales within their grade and school as independent variables. In general, exponentiated coefficients for binomial models are interpreted as the difference in odds of observing the outcome corresponding to a one-unit change in the independent variable when other variables in the model are held constant. The meaning of a one-unit change depends on variable scaling. We rescaled the RMA variables from 0 to 100 so that one-unit change is a 1% change, and a .01 unit change in odds ratios represents the change in odds associated with a 1% change in RMA.

We first assessed the amount of variation in outcomes that was present at the level of the grade and school by conducting two-level models predicting depressed mood and alcohol use with a random intercept for grade or school and no independent variables. In the models with a random intercept for grade, ICC1 were 0.17 for the drinking model and 0.23 for the depressed mood model, indicating that 17–23% of the variance in student outcomes was across grades, and the remaining variance was at the student level. In the models with a random intercept for school, ICC1 was 0 for both the drinking and depressed mood models, indicating that none of the variance in the drinking and depressed mood outcomes was associated with enrollment in a given school. That is, schools were largely identical to each other in terms of drinking and depressed mood, although students varied substantially in

terms of their endorsement of these outcomes. These preliminary models suggested that substantial variance was present at the grade levels, which justified the need for multilevel modeling at the grade level, at minimum. Although we did not find substantial variation across schools in drinking or depressed mood, given evidence that RMA varied substantially across school settings and in light of our research questions that focused on setting-specific effects, we chose to use three-level models accounting for nesting at both the grade and school levels.

Although there is theoretical reason to believe that rape myths operate differently as a function of gender (Chapleau, Oswald, & Russell, 2008), there were too few boys ($n = 46$) distributed across grades and schools in the sample of SA survivors to test gender moderation or examine model effects in the boys-only subsample using multilevel modeling. Thus, we present results from each model for the overall sample as well as for the subsample of girls.

Results

See Table 1 for descriptive statistics for focal variables, bivariate comparisons between students exposed and unexposed to SA, and bivariate comparisons by gender for students exposed to SA. Students exposed to SA were significantly more likely to report past-month depressed mood and alcohol use than students without histories of SA. Students exposed to SA did not differ from students without SA histories in their level of rape denial or gendered expectations. Assaulted males were significantly more likely to report alcohol use and had significantly higher levels of RMA than assaulted females.

See Table 2 for correlations within each sample used in analysis. Across samples, rape denial and gendered expectations were significantly moderately correlated at level 1. In the full sample, depressed mood was negatively correlated with RMA, and alcohol use was positively correlated with RMA. Only gendered expectations and alcohol use evidenced a significant negative correlation among students exposed to SA. RMA variables did not evidence significant correlations with alcohol use or depressed mood among the female-only SA-exposed subsample.

Model 1 predicted the binary outcome of depressed mood among SA survivors (Table 3). Only grade-mean rape denial (and not student-level or school-mean norms) significantly positively predicted depressed mood, such that SA survivors in a grade with higher mean rape denial were more likely to endorse depressed mood. The corresponding odds ratio was 1.029 (95% CI: 1.001–1.057), indicating that a 1% increase in rape denial within a given SA survivor's grade was associated with a 3% increase in odds of depressed mood for that student. Expressed differently, the predicted probability of reporting depressed mood for a SA-exposed student in a grade with the highest observed value of rape denial was 91%, and the predicted probability for a student in a grade with the lowest observed value of rape denial was 39%. The relationship between grade-mean rape denial and depressed mood was at trend level for the female-only subsample. No statistically significant associations were identified between depressed mood and student-level or school-mean RMA within the female-only subsample.

Model 2 predicted the binary outcome of past-month alcohol use (Table 3). In the female-only subsample of survivors, but not the full sample, grade-mean gendered expectations was significantly positively associated with drinking, whereas no association was observed for student-level or school-mean RMA. That is, girls who reported a SA victimization and were in a grade with higher mean gendered expectations were significantly more likely to report drinking. Based on the odds ratio of 1.041 (95% CI: 1.004–1.080), a 1% increase in gendered expectations at the level of the grade was associated with a 4% increase in odds of endorsing drinking for a given female survivor in that grade. Stated differently, the predicted probability of reporting alcohol use for a female survivor in a grade with the highest observed value of gendered expectations was 97%, and the predicted probability for a female survivor in a grade with the lowest observed value of gendered expectations was 38%. The relationship between grade-mean gendered expectations and alcohol use was at trend level for the full sample. No statistically significant associations were identified between alcohol use and student-level or school-mean RMA within the female-only subsample.

Discussion

This is the first study to directly examine RMA at the level of peer social contexts (school- and grade-mean peer reports of RMA) as a correlate of psychological distress and risk behavior among survivors of past-year SA in high school. Previous research has discussed RMA among survivors' peers as a key component of stigma against SA survivors (Kennedy & Prock, 2016). However, to date, this construct has mainly been researched as a risk factor for perpetration or for bystander inaction (Loh, Gidycz, Lobo, & Luthra, 2005; McMahon, 2010). When peer RMA has been examined in relation to survivors' distress, it has been measured only with survivors' perceptions of peer attitudes (Paul et al., 2009). The current study used a more objective assessment of peer RMA stigma by surveying the student body of 25 high schools and creating an index of RMA at the school and at the grade level. Outcomes were depressed mood (defined as feelings of sadness or hopelessness that interfered with engagement in typical activities in the past month) and drinking (defined as consuming one or more alcoholic beverages in the past month), which are two victimization outcomes that have been established as common among SA survivors (Dworkin et al., 2017). Consistent with the hypotheses of the current study, grade-mean denial of rape was associated with greater likelihood of reporting depressed mood among the full sample of SA survivors. This finding was at trend level in the smaller sub-sample of only girls. Grade-mean gendered expectations were associated with significantly greater drinking for girls, and this finding was at trend level for the full sample.

Social contexts have long been identified as important determinants of well-being (Helliwell & Putnam, 2004), and correspondingly, research on SA recovery has increasingly implicated these contexts and the norms present in them as critical targets for prevention and response efforts among adolescents and young adults (Banyard, Edwards, & Siebold, in press; Campbell et al., 2009; DeGue et al., 2014; Hahn, Morris, & Jacobs, 2017; Holland, Rabelo, & Cortina, 2016). Consistent with research suggesting that the immediate relationship contexts of survivors can affect their recovery through negative reactions to disclosure (Ullman, 2010), the current study provides the first direct evidence that stigma within

survivors' broader contexts may also be associated with survivors' distress. Notably, this association was observed even though these attitudes had not necessarily been communicated directly to survivors via negative social reactions to assault disclosure. Although causality cannot be concluded from these results, one potential interpretation is that the mere presence of these attitudes in a survivor's social context could be harmful, consistent with prior theoretical work addressing the impact of community-level stigma related to SA (Kennedy & Prock, 2016).

It is possible that social contexts that are high in RMA could be harmful to survivors' recovery if they change the ways that survivors incorporate the trauma into their previously-held beliefs. Cognitive models of the impact of SA on survivors' mental health suggest that the process of attempting to make sense of an assault in relation to previously-held beliefs leads survivors to engage in self-blame and develop extreme cognitions regarding themselves, others, and the world (Ehlers & Clark, 2000; Foa, Ehlers, Clark, Tolin, & Orsillo, 1999). These cognitions, in turn, interfere with recovery from assault. Relevant to the current work, these changes in cognitions can be informed by prior learning experiences, including norms conveyed by peer groups, as well as by experiences in the aftermath of trauma, like negative social reactions. This parallels a recent model of identity development, which highlights how broader community and cultural narratives about what it means to be a "good" member of that community or culture inform the identity development of individuals within that context (McLean & Syed, 2015). Interpreted through this model, the current study's finding that survivors' own endorsement of the two types of RMA was not significantly related to distress suggests that stigma from the broader context might not be necessarily internalized in the form of beliefs about rape *in general* (i.e., RMA). Instead, RMA in a social context could affect how survivors see *their personal rape experience* (i.e., self-blame), as well as more general beliefs about themselves, others, and the world. For example, based on our results, survivors in a grade cohort that denies the occurrence of rape may develop cognitions such as "No one can be trusted to support me" in light of prior experiences with their peers, without necessarily endorsing rape denial personally. These survivors might be less likely to seek help, but those who choose to disclose to a peer and receive negative social reactions would have this cognition reinforced. These possibilities should be investigated in future research.

There were some differences in effects for the full sample, which included a small group of male SA survivors, versus the female-only sub-sample. Although gender moderation was not formally tested, the contextual association between stigma and drinking was found only for girls. Research on alcohol use demonstrates gender differences not only in patterns of drinking but also in correlates of drinking among adolescents. For example, Mason et al. (2014) found that the attitudes of close friends were more influential for girls' substance use than boys'. It is also the case that the form of RMA that was significantly related to drinking was related to gender norms. These items captured aspects of gender inequality that represent girls being treated as inferior and boys as having more power in relationships as opposed to gender norms that assess aspects of gender norms that have negative impacts on boys (i.e., this measure captured environmental norms that disempower girls specifically). Thus, it may not be surprising that it was negatively associated with drinking only among girls, as it is likely more relevant to female survivors.

Rape denial and gendered expectations exhibited differential associations with survivor outcomes in the present sample. Grade-level rape denial, which included items related to victim blame, was associated with depressed mood in survivors. Past research suggests that negative social reactions to survivors' assault disclosure, including blame, are associated with symptoms of depression (Ahrens et al., 2010; Orchowski et al., 2013). Thus, it is possible that grade-level rape denial exerts an indirect influence on mood specifically or psychological well-being more broadly, potentially through the anticipation of not being believed or supported. In contrast, grade-level gendered expectations was associated with survivor alcohol use. The measure of gendered expectations rape myths included items such as "girls should have sex when boyfriend wants" and "girls should have sex if boyfriend spends money." Students in social contexts that place peer pressure on girls to engage in sexual acts and other behaviors, such as alcohol use, might be more likely to endorse these items. Indeed, with a large body of evidence documenting the effects of peer pressure on adolescent substance use (Allen, Donohue, Griffin, Ryan, & Turner, 2003), it is plausible that social contexts that pressure girls into unwanted sexual acts may also pressure them into alcohol use post-assault, when they are at heightened risk for engaging in substance use. This normalization of male coercion could also minimize survivors' self-attribution of blame, helping to explain the non-significant effect on depressed mood.

Interestingly, the current study found that grade-level mean stigma indicators, rather than school level, were more strongly associated with survivors' adjustment. This is consistent with research on the impact of social norms on behaviors like risk for drinking, which finds that norm perceptions influence behavior more strongly when the reference group is a close friend relative to a typical student (Borsari & Carey, 2001). In addition, people tend to perceive close friends' norms more accurately than norms of others in their broader social context (Perkins, 1997). Given evidence that high school students tend to socialize the most with grade-level peers (Moody, 2001), this likely represents a setting of generally closer social distance than the school as a whole. This highlights the importance of grade cohorts as a setting where contextual influences might be exerted on recovery and correspondingly, the importance of grade cohorts as a key site for interventions to improve peer responses and school support for survivors. Future research should measure potential mediators of this relationship, including social identification with peers (i.e., how much a survivor identifies with their grade-level peers).

In considering these findings, it is important to emphasize that this study's results do not necessarily indicate that grade-level RMA *causes* depressed mood or alcohol use in survivors. Although there is evidence to suggest that the communication of stigma to survivors is prospectively associated with their psychopathology (Littleton, 2010; Ullman & Peter-Hagene, 2016), longitudinal or experimental research would be needed to strengthen conclusions about the direction of these observed effects. It is possible, for example, that for some students, being in a grade cohort with a highly-distressed SA survivor might lead them to develop negative attitudes about SA. However, this possibility is not supported by research with undergraduates, which suggests that personal acquaintance with a SA survivor is associated with rejection of rape myths (Talbot, Neill, & Rankin, 2010). A third variable might also be responsible for the observed relationships. For example, hostile sexism in the grade level could also increase endorsement of RMA and distress for female students in

particular (who made up the majority of SA survivors in this sample), consistent with past research (Chapleau, Oswald, & Russell, 2007; Suarez & Gadalla, 2010; Swim, Hyers, Cohen, & Ferguson, 2001). Additionally, students in grades contexts with higher levels of disadvantage, life stress, or trauma exposure could potentially be more at risk of both rape myth acceptance (as a form of trauma-related distorted cognition) and the negative mental health outcomes assessed. It is also possible that students in grade contexts with high levels of conflict or discord would be more likely to endorse hostile attitudes like RMA, engage in risky behavior like alcohol use, and report negative mood states. Further, despite extensive evidence that individuals exposed to SA are more likely to endorse outcomes like depression and alcohol abuse/dependence (Dworkin et al., 2017), which was also evidenced in this sample, it is not clear whether the depressed mood and alcohol use observed among SA survivors were due to their SA exposure, per se. Thus, we cannot conclude that RMA in social contexts affects SA recovery specifically, instead of serving a general risk factor for depressed mood and alcohol use among all individuals in that setting regardless of victimization status. Nevertheless, even risks factors that are nonspecific to SA are important to understand in promoting survivor well-being.

In addition to the inability to conclude causality, there were several limitations to the current study. First, we did not include data on lifetime victimization or multiple forms of trauma. Given research on the impact of polyvictimization and the co-occurrence of different traumas, this is an important area for future research. Second, the sample, being from upper New England, was fairly racially homogenous and thus, replication of findings with more diverse samples are needed. This is particularly important given that research on perceptions of peer norms has found moderating effects not only for gender but for race (Brown, Banyard, et al, 2016). Third, we did not assess disclosure or received social reactions. Future studies could measure dyadic social reactions, perhaps by using both Ullman's social reactions questionnaire and broader social stigma measures in the same study. Fourth, only two single-item measures of distress were used, which resulted in a restricted range for these variables. Future research should seek to include a wider array of outcomes assessed via in-depth measures, including indicators of well-being that go beyond the absence of symptoms or risky behaviors (Grych, Hamby & Banyard, 2015). This could clarify whether stigma is associated with the severity of outcomes like depressed mood and drinking, rather than just their presence or absence as measured here.

Several practice implications follow from the current findings. Although additional research is needed to replicate these findings and disentangle the causal direction of the observed relationships, if the finding that grade-level RMA affects recovery from SA is supported, this would support the development of grade-level normative interventions to reduce RMA among all students to promote survivor well-being. This is interesting given that prevention work often focuses on reducing individual-level RMA to reduce perpetration or increase bystander action. Although there is promising evidence from tests of such interventions among emerging adults to suggest that these norms can be effectively changed (Hahn et al., 2017), and qualitative research suggests that helping behaviors in response to interpersonal violence are seen by young adults as driven by community factors (Edwards, Banyard, Moschella, & Seavey, 2016), it is less clear whether such changes ultimately prevent SA and benefit survivors. The current study provides some initial evidence that changes in attitudes

among students, if these changes result in shifts in social norms at the grade level, might also be an important step of creating a supportive climate for SA for survivors. Prevention program evaluators should consider tracking how prevention strategies might reduce stigma targeted to survivors and how shifts at grade-level affect the well-being of survivors in these grades. This fits with recent calls for more community-level research and prevention related to SA (Banyard et al., in press; DeGue et al., 2014).

In sum, these results provide new evidence for the importance of social contexts in understanding recovery from SA. Interventions that reduce stigma in social contexts—and in particular, those social contexts most proximal to survivors, such as grades—should be investigated further in terms of whether they improve well-being among survivors of SA in high schools. If found to be effective, they could be incorporated into comprehensive efforts to address SA in these contexts.

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Table 1

Comparison of assaulted and unassaulted students

	Depressed mood	Alcohol use	Rape denial	Gendered expectations
Overall sample ($N = 2972$)	27.09%	75.10%	$M = 34.17, SD = 20.65$	$M = 11.40, SD = 15.30$
Unassaulted subsample ($n = 2656$)	23.49%	16.34%	$M = 34.00, SD = 20.52$	$M = 11.36, SD = 15.01$
Assaulted subsample ($n = 263$)	58.39%	45.59%	$M = 35.40, SD = 21.94$	$M = 11.64, SD = 17.65$
Bivariate comparison of assaulted and unassaulted students	$\chi^2(1) = 154.63^{***}$	$\chi^2(1) = 130.58^{***}$	$t(339.46) = -1.03^{***}$	$t(329.61) = -0.25$
Assaulted females ($n = 213$)	59.72%	42.18%	$M = 30.91, SD = 20.34$	$M = 8.29, SD = 13.22$
Assaulted males ($n = 46$)	54.35%	60.87%	$M = 51.69, SD = 22.25$	$M = 26.21, SD = 21.81$
Bivariate comparison of assaulted males and females	$\chi^2(1) = 0.45$	$\chi^2(1) = 5.32^*$	$t(62.27) = -5.83^{***}$	$t(52.36) = -5.36^{***}$

*
 $p < .05$,**
 $p < .01$,***
 $p < .001$

Table 2

Correlations by sample

	Overall sample (N = 2972)		Assaulted subsample (n = 263)		Female-only assaulted subsample (n = 213)	
	Rape denial	Gendered expectations	Rape denial	Gendered expectations	Rape denial	Gendered expectations
Depressed mood	−0.07**	−0.09**	0.02	0.02	0.07	0.10
Alcohol use	0.08**	0.09**	0.05	0.15*	−0.06	0.04
Rape denial		0.41**		0.48**		0.31**

* $p < .05$,
** $p < .01$

Table 3

Mixed effects models

	Full sample ($N = 261$) ^a		Female-only subsample ($n = 211$) ^b	
Model 1: Depressed mood	<i>B</i> (<i>SE</i>)	<i>p</i>	<i>B</i> (<i>SE</i>)	<i>p</i>
Intercept	−0.46 (0.57)	.42	−0.44 (0.63)	.49
Fixed effects				
Gendered expectations	0.00 (0.01)	.85	0.02 (0.01)	.22
Grade-mean gendered expectations	−0.01 (0.02)	.40	−0.02 (0.02)	.39
School-mean gendered expectations	0.01 (0.01)	.32	0.01 (0.01)	.47
Rape denial	0.00 (0.01)	.75	0.00 (0.01)	.86
Grade-mean rape denial	0.03 (0.01)	.04	0.03 (0.02)	.09
School-mean rape denial	−0.01 (0.01)	.10	−0.01 (0.01)	.17
Random effects				
Level 2 variance	$\sigma = 0.17, SD = 0.41$		$\sigma = 0.15, SD = 0.39$	
Level 3 variance	$\sigma = 0.00, SD = 0.00$		$\sigma = 0.00, SD = 0.00$	
Model 2: Alcohol use	<i>B</i> (<i>SE</i>)	<i>p</i>	<i>B</i> (<i>SE</i>)	<i>p</i>
Intercept	−0.60 (0.55)	.27	−0.50 (0.64)	.44
Fixed effects				
Gendered expectations	0.02 (0.01)	.08	0.01 (0.01)	.43
Grade-mean gendered expectations	0.03 (0.02)	.06	0.04 (0.02)	.03
School-mean gendered expectations	−0.01 (0.01)	.44	−0.01 (0.01)	.17
Rape denial	0.00 (0.01)	.94	−0.01 (0.01)	.47
Grade-mean rape denial	−0.01 (0.01)	.33	−0.01 (0.02)	.37
School-mean rape denial	0.00 (0.01)	.65	0.00 (0.01)	.88
Random effects				
Level 2 variance	$\sigma = 0.06, SD = 0.25$		$\sigma = 0.17, SD = 0.41$	
Level 3 variance	$\sigma = 0.00, SD = 0.00$		$\sigma = 0.00, SD = 0.00$	

^aThe total sample N was 263, but the N used for both models was 261 due to missing data on the outcome variable.

^bThe total sample n was 213, but the n used for both models was 211 due to missing data on the outcome variable.