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Predictors of experiencing aggression in clubs: Beyond alcohol consumption

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Abstract

To examine the social drinking group's influence on the individual's experiences of physical or sexual aggression at clubs, data were collected from 368 groups (N=986 individuals). Both group and individual level indicators were examined for impact on self-reports of physical and sexual aggression experiences while at the club. Recent aggressive experiences and perpetration, concerns for group safety, one's own plans and assessment of other group members' plans to drink to the point of intoxication, and personal characteristics were examined, using both individual and group indicators. At exit, participants reported experiencing physical aggression (12.3%) and sexual aggression (12.6%) at the club. Using generalized linear mixed modeling to account for nested data (club, event, and group), group level indicators predicted both the individual's physical and sexual aggression experiences. Especially for experiences of physical aggression, group effects are notable. Being in a group whose members recently experienced physical aggression, increased the risk for the individual. Interestingly, groups that had higher levels of planned intoxication decreased risks of experiencing aggression, while a discrepancy in these intentions among group members increased the risks. Group effects were also noted for experiencing sexual aggression. High levels of prior experiences for sexual aggression in the group increased the risks for the individual during the event. Also, being in a group that is identified as having at least one member who is frequently drunk, increases the risk for experiencing sexual aggression. These findings inform prevention strategies for young adults engaged in high risk behaviors by targeting social drinking groups who frequent clubs.

Keywords

alcohol and violence; commercial drinking establishments; social drinking groups

The relationship between drinking and being victimized by aggression is well-documented in the literature (Beck & Heinz, 2013; Foran & O'Leary, 2008; Giancola, 2002; Proescholdt, Walter, & Wiesbeck, 2012; Quigley & Leonard, 2006; M. Testa, 2002; M. Testa & Livingston, 2009; Zerhouni et al., 2013). To understand this relationship it is important to look at three nested levels of influence that contribute to the likelihood of aggression in drinking situations. At the most basic level, individual characteristics and behaviors are important. Next, there needs to be consideration of the interactions between individuals that may either exacerbate or reduce aggression in drinking contexts. This requires an understanding of the drinking group which provides a social context for these behaviors to emerge. Finally, the drinking establishment compels attention, as it provides the context in which social groups interact, a public space allowing for drinking and aggression to emerge. Our focus in the present study is the nexus of the individual and drinking group within the drinking setting with a special emphasis on the social drinking group influences on the probability of an individual experiencing aggression during a drinking situation.

Individual level influences

Explanations for the link between experiencing aggression and alcohol use often are based in individual level characteristics, attitudes, perceptions and past aggressive or drinking behaviors. Individual characteristics for experiencing aggression while drinking include both age and gender. For example, among college students, being a recipient of aggressive behavior while drinking has been linked to being female, a younger age, and belonging to a Greek organization (Harford, Wechsler, & Muthen, 2003). Heavy drinking behaviors are also linked to aggression (Graham, Osgood, Wells, & Stockwell, 2006; Parks & Zetes-Zanatta, 1999). Additionally, prior history of excessive drinking predicts continued binge drinking and greater intention to drink (Norman & Conner, 2006) thus increasing an individual's risk for being the recipient of aggression. Prior victimization for aggression has been found to increase women's experiences of aggression in bar/club settings (Parks & Zetes-Zanatta, 1999).

Group level influences

When aggression occurs in a drinking setting, a social drinking group is often evident. In studies of drinking patrons at clubs, 95% of the patrons arrive in groups of 2 or more (Johnson, Voas, & Miller, 2012; Miller, Byrnes, Branner, Johnson, & Voas, 2013; Miller, Byrnes, Branner, Voas, & Johnson, 2013). The social drinking group may influence individual's risky behaviors, such as consuming too much alcohol (M. E. Larimer, Turner, Mallett, & Geisner, 2004; Leonard & Mudar, 2003; Leonard & Mudar, 2000; Neighbors, Lee, Lewis, Fossos, & Larimer, 2007; Wood, Read, Palfai, & Stevenson, 2001).

A number of studies have found that larger group sizes and groups with more males increases the risks for both perpetrating aggression and heavy alcohol consumption (Hennessy & Saltz, 1993; Jamison & Myers, 2008; Krienert & Vandiver, 2009; Maria; Testa, Kearns-Bodkin, & Livingston, 2009; Wells, Graham, & Tremblay, 2009; Wells, Graham, Tremblay, & Reynolds, 2011). Within social groups of men, social pressure from within their own group may increase the tendency towards aggressive behaviors (Benson,

2002; Wells et al., 2009). However, less is known about how social drinking groups may relate to experiences of aggression. However, we do have evidence that socializing with peers who are heavy drinkers predicts heavy drinking by the individual (Lau-Barraco, Braitman, Leonard, & Padilla, 2012).

Social groups do not always increase risks for the individual. Some studies suggest that group dynamics can decrease risk-taking (Jamison & Myers, 2008; M. Larimer et al., 2011; Lau-Barraco et al., 2012; Neighbors et al., 2007; Northcote, 2011). Based upon laboratory study findings, groups that engaged in the decision making process together increased the amount of time that elapsed before actions occurred (Abrams, Hothrow, Hulbert, & Frings, 2006). The authors of this study postulate that group decision-making may result in a more deliberate consideration of consequences and thus, they make less risky decisions. Further, in this laboratory study, alcohol consumption did not alter the level of risk chosen by the group, but it did increase risk level chosen for individuals (not in a group). Abrams and colleagues conclude that group-monitoring occurs in at least some drinking groups (Abrams et al., 2006). In one randomized experimental study of naturally occurring social drinking groups, exposure to a group-based, brief intervention decreased experiences of physical aggression during a heavy drinking evening, for groups of women (Kelley-Baker, Johnson, Romano, Mumford, & Miller, 2011). This suggests that groups may serve a protective function for their members.

Influences of drinking setting

Drinking establishments (e.g., bars and nightclubs) provide one social context where aggression occurs in connection with drinking (Graham & Homel, 2008; Graham, Osgood, Wells, & Stockwell, 2006; Leonard, Quigley, & Collins, 2002; Miller, Furr-Holden, Voas, & Bright, 2005). Across a number of different club contexts, 13% of patrons reported experiences of aggression on a single evening (Miller et al., 2005). The drinking establishment is identified as a high prevalence location where violence occurs within the community; it is either the most prevalent or second most prevalent location for violence observed, threatened, targeted, or initiated for men and women (Leonard et al., 2002). Prior research has also recognized that individual clubs and bars vary by management policies and staffing practices in levels of aggression found within those settings (Clapp, 2010; Graham & Homel, 2008; Green & Plant, 2007; Homel, Carvolth, Hauritz, McIlwain, & Teague, 2004; Ker & Chinnock, 2008; Macintyre & Homel, 1997; Roberts, 2009). Thus, controlling for drinking setting is important in exploring the relationships between individuals and drinking groups.

Theoretical framework for embedded influences on alcohol and aggression

These prior studies suggest support for different levels of influence on alcohol-related aggressive events. For this study of aggression in drinking establishments, we propose using Bronfenbrenner's Ecological Model which elucidates the nested levels of influence. These levels are as follows: the drinking establishment (exosystem) exists within the governmental and regulatory environment (macrosystem), providing the physical space for groups of social drinkers to interact with each other (mesosystem). Drinking groups (microsystems)

are comprised of individuals who have their own histories and behavior patterns that influence the outcomes within drinking establishments. This theoretical framework underscores the importance of analytic approaches that control larger system influences on behaviors while examining the relationship of group and individual characteristics on drinking and aggressive behaviors.

Summary

Preliminary evidence indicates that social drinking groups can impact the behavior of individuals. However, much of our knowledge has been based upon laboratory studies and retrospective ethnographic/interview data. There needs to be further investigation to explore what characteristics of the social drinking group and of the individual, considered together, influence individual behaviors related to concomitant alcohol consumption and aggression. Furthermore, studying naturally drinking settings across multiple nights and collecting data from individuals within groups provides a way to gain some insight into these relationships without the potential artificiality of laboratory settings as well as acknowledging larger systems.

Current study

Our purpose is to examine social group (microsystem) influences on experiences of aggression in natural nightclub settings, when controlling for individual characteristics, the evening (mesosystem), and the club (exosystem). Thus, our exploration is directed on how the social drinking group contributes to the individual's experiences of aggression during a single evening. Given the relative dearth of research on how social drinking groups influence individual's experiences of aggression in natural drinking settings, we set forth the following research questions: First, does the group's prior history of aggression (either perpetration or experience) influence the aggressive experiences for the individual, when controlling the individual's own prior history? Second, do the group's drinking behaviors (plans and past behaviors) influence the experiences of aggression for the individual when controlling for the individual's drinking plans for the evening? Third, do the group's demographic characteristics (e.g., age, gender) influence the experiences of aggression for the individual when controlling for the individual's demographics? Thus, this work proposes to examine the influence of the immediate social microsystem on the experiences of the individual.

Group indicators of aggression experiences may guide strategies that seek to use the social drinking group as a realistic force for preventing risky outcomes in the clubs. By identifying group influences, above and beyond the individual characteristics, prevention strategies in real world settings may be developed.

Methods

Data were collected from patrons entering and exiting 8 clubs for 38 different events in one major West Coast metropolitan area (San Francisco, CA) over a 30 week period, from mid-April through mid-November 2010. A list of clubs, identified as featuring Electronic Music Dance Events (EMDEs, (Johnson et al., 2012)) that attracted a minimum of 200 patrons, was

created with the assistance of experts in nightlife entertainment for the local area. Clubs meeting those criteria were approached and 69% of the club managers/owners who were approached agreed to participate. Events were chosen primarily from Friday and Saturday nights as these nights had the largest attendance. Events reflect different types of electronic music (e.g., Industrial, House), and were promoted to attract different types of patrons (e.g., Latinos, younger patrons, lesbian/gay/bisexual/transgender). Each club served as a research site a minimum of three nights. As a result of choosing clubs within the same city, the larger governmental and regulatory environment for the clubs was shared but different policies and management practices were evident across the 8 clubs. Further, the influence of promoters on selecting, advertising and promoting the different events within clubs reflects differences embedded within the club level effects that require appropriate controls in analyses.

A total of 986 individuals comprising 368 groups are included in these analyses. Only patrons arriving with one or more other individuals were eligible, excluding those who arrived solo to the event (approximately 8.4% of patrons). These results only include data attained from patrons who provided both entrance and exit data (approximately 93.7% of the total number of groups enrolled at entrance).

For this sample, 25.2% were under 25 years of age and another 32.8% were between the ages of 25–29. Half self-identified as female (50.7%) and approximately half as male (48.2%) with 0.7% identifying as transgender. Ethnic self-identification was as follows: 39.9% White, 26.1% Hispanic, 16.7%, Asian, and 7.1% Black, 5.1% multiracial, and 5.0% other ethnicity. Slightly more than one quarter (28.9%) of the participants was lesbian, gay, bisexual or transgender (LGBT). Nearly two-thirds were employed full-time (61.8%). Of special importance, this sample contained many patrons who were not students (66.8%) and therefore included young adults who were in the workforce.

Based upon the data for the 368 groups, nearly two thirds of the groups at the clubs were dyads (62%). The majority of groups (56.8%) had an average age less than 30 years, with 21.7% having an average age less than 25 years. Approximately half of the groups were mixed gender (49.0%), with approximately a quarter being all female (27.4%) and a quarter being all male (23.6%). A slight majority of the groups were composed of all heterosexuals (56.3%) and approximately a fifth (19.6%) was all LGBT. A small percentage of groups (13.3%) represented all-student groups with 43.2% representing groups with no students.

A research site was established proximal to the club entrance with a team of approximately 8 research staff (one supervisor, one data processor, and 6 data collectors). Using portal methodology established in earlier club and other venue-based studies (Miller, Byrnes, Branner, Johnson, et al., 2013; Miller et al., 2009; Voas et al., 2006) patrons were approached on the sidewalk by recruiting the first person who crossed an imaginary line on the sidewalk as they approached the club entry. All members of the group associated with that individual were invited to participate. A brief verbal approach was used. Patrons were asked if they would be willing to participate in a confidential and anonymous study on nightlife safety. Patrons that expressed interest in learning more about the study were escorted to the research area where interviewers provided more details. Consent forms were read to participants and verbal consent was provided. No signatures were gathered on

consent forms to ensure anonymity. Copies of the consent form were made available to participants.

Outdoor recruitment was difficult. Approximately 60% of the persons walking by the research site stopped to listen to the study and although the rates varied from club to club, approximately half of those individuals were eligible (i.e., going to the targeted club that night, not employed by the club). Among the 40% walking by the club who did not stop, eligibility was unable to be determined although an assumption was made that about half of these patrons were ineligible. Therefore our estimate is that we were able to capture about 60% of the eligible individuals walking by the site. Refusal rates varied widely across events and across clubs. The primary reasons for refusal included: patrons were in a hurry (53%), patrons were hesitant to provide data (14%), and environmental factors (i.e. too cold) (8%).

Patrons were issued a wrist band with a unique identifier that allowed linking entrance and exit data and linking individuals within social groups. At entrance and exit, data collected from face-to-face interviews and self-administered surveys were used, consistent with our interest in determining indicators that might be useful for a real-world prevention effort to use groups as a force reducing high risk behaviors among patrons at the clubs. Both oral fluids for determining drug use and breath tests for determining blood alcohol levels were gathered from these patrons but were not utilized in these analyses to assess risks for aggression because they would not be easily replicated for group-based interventions in a real world setting. Participants received \$10 at entrance and \$20 at exit. There was an Institutional Review Board approval prior to the initiation of data collection. Emergency protocols included assessing patrons on exit for signs of overuse of drugs or alcohol that raised concerns of safety regarding driving or returning home safely. In such cases the supervisor communicated with the group about alternative plans for ensuring safety, including calling a cab, ensuring someone in the group assumed responsibility for ensuring that a patron that was impaired was escorted safely home, or calling a cab.

Measures

Aggression (Individual level outcomes)

Same night experience of aggression (Exit Survey, Individual level): Experiencing being pushed or punched was a single item that defined physical aggression for this study. Any touching or grabbing or fondling, without invitation, was a single item that defined sexual aggression. For both physical and sexual aggression, response options were 'Yes' and 'No' and the two categories of aggression were analyzed as separate outcomes.

Individual Level Independent Variables—The following independent variables and controls represent measures obtained from individuals at entrance during the self-administered survey unless otherwise noted.

Past 30-day aggression history in clubs: Four items assessed a recent history (past 30 days) of aggression experiences and aggression perpetration in clubs. Using the stem "While at any club, how many times in the past 30 days have the following types of experiences happened to you?" the following occurrences were assessed: 1) I have been fondled or

grabbed without invitation; 2) I fondled or grabbed someone without invitation 3) I have been pushed or punched; and 4) I intentionally pushed or punched someone. Responses were on an ordinal scale: 1–2, 3–5, 6–9, 10 or more times. Responses were recoded to their midpoint to create a continuous variable.

Concern about group safety: An individual's concern about the group's safety was assessed with the question "To what extent are you concerned about the group's safety tonight?" The original response list had four options from not concerned to very concerned. The responses formed a U-shaped curve with most responses falling into the end points of the Likert scale. This variable was dummy coded so that "not concerned" and "a little concerned" were '0' and "moderately concerned" and "very concerned" were '1'.

Personal planned level of intoxication: Each participant's plan for their own drinking during the evening was assessed at entrance with the question, "How much do you plan to drink at the club tonight?" Likert set of responses included: "sober", "drink but not get buzzed", "a little buzzed", "drunk", and "very drunk". Higher scores indicate increased levels of planned intoxication.

Assessment of other group members' planned level of intoxication: Each participant's assessment of their group's drinking to the point of intoxication was measured at entrance with the question, "Tonight, do you expect that most of the members of your group will...?" Likert set of responses included: "stay sober", "drink but not get buzzed", "get a little buzzed", "get drunk", and "get very drunk". Higher scores indicated greater levels of intoxication anticipated within the group.

Assessment of other group members' frequent drunkenness: One group history item was asked: "Is there any member of the group who frequently gets drunk when s/he goes out?" Responses were "no" (0) and "yes" (1).

Demographics (based upon both survey and interview data): Demographics were assessed as follows: gender and sexual orientation, ethnicity, student status, employment status, marital/relationship status, and age. The individual's birth year was subtracted from the data collection year to determine age at the time of the survey. Based on the literature, we combined gender and sexual orientation to differentiate between gay men, lesbians, straight women, and straight men. This composite was used to create three dummy codes: Lesbian (1, all others 0), Gay (1, all others 0), and Straight Women (1, all others 0) so that straight males were the referent group. Latino background was dummy-coded such that non-Hispanic/Latino was '0' and Hispanic/Latino was '1'. Racial background was coded such that responses of non-White (racial minority) were '0' and White was '1'. Both full-time and part-time students were given the value '1' and non-students '0'. Employment was '0' for full-time and '1' for less than full-time.

Group Level Independent Variables—Group level variables were created by using aggregates of the individual level responses. Not all members in a group participated, but for 84% of the groups there was full participation. Groups of two with only one participant were excluded from these analyses. Groups larger than two with one member missing, were

analyzed with the group characteristics based upon the available respondents, which we subsequently refer to as the group members. This procedure used all group members to create a composite, often a group mean, and then assigned that value back to all members of the group and these are identified below as “mean”. For some variables with categorical measures, aggregates were used to create a variable representing the percent for the group, indicated below as “percent”. For one measure endorsement of the item by any group member was an indicator for that group, indicated below as “endorsement”. Finally, discrepancy scores were created by subtracting the lowest response in the group from the highest response in the group, indicating a “discrepancy”. The following group measures were calculated:

Past 30-day aggression history in clubs (mean): There were four items assessing 30-day aggression history in clubs (being fondled or grabbed, fondling or grabbing someone, being pushed or punched, pushing or punching someone) with a Likert set of responses. Responses were recoded to the midpoint to create a continuous variable. A group mean was taken for each.

Concern about group safety (mean): An individual’s concern about the group’s safety was assessed with the question: “To what extent are you concerned about the group’s safety tonight?” with responses “not/a little” coded as 0 and “moderately/very” coded as 1. A group mean was taken for this dummy coded variable such that higher scores indicate greater group concern.

Personal planned level of intoxication (mean and discrepancy): A group mean was taken for this item. Higher scores indicated increased levels of expected intoxication (Likert responses 0 “stay sober” through 4 “get very drunk”). A second measure was created to reflect the discrepancy in these scores within the group; a high discrepancy score meant that one member expected to stay sober while another member intended to drink to a high level of intoxication.

Assessment of other group members’ planned level of intoxication (mean and discrepancy): A group mean was also taken for this item. Higher scores indicated increased assessment of group planned level of intoxication (Likert responses 0 “stay sober” through 4 “get very drunk”). In addition, a discrepancy score was created, similar to the personal variable. A high discrepancy score for the planned level of intoxication for the group indicated that there was a greater discrepancy about the overall expectation for group behavior for the evening. That is, one member expected the group to stay more sober while another member of the group expected that the others would drink to a higher level of intoxication.

Assessment of other group members’ frequent drunkenness (endorsement): If any member of the group identified one or more members of the group as someone who frequently gets drunk, group history was coded as 1 or “yes” for all members. If all members responded “no” then the group was assigned as 0 or “no” for all members.

Demographics (sum, mean, percentage): The overall size of the group was calculated by summing the number of participants for whom we had data within a group. In 84% of the groups, we were able to collect data on everyone in the group (the majority of incomplete groups were dyads where one member was missing). The average age of the group was created. For categorical descriptors (e.g., gender/sexual orientation, students, employed), an overall percentage for the group was created. For example, the number of patrons who are gay/lesbian over the total size of the group provided a percent of the group that was gay or lesbian.

Analytic Approach

There were two major considerations in determining the appropriate analyses for our data. First, both individual and group characteristics were being assessed in terms of their predictive power for dichotomous individual level outcomes. In some instances, we used both individual-and group-level measures of our predictor variables (e.g., an individual's planned level of intoxication as well as the group average planned level of intoxication); including both an individual's response and a group aggregate using that response creates the potential for collinearity among variables. Where that was the case, we created a group-level mean score for each group using responses given by the members of each group and then assigned that group mean value to all of its members. We then transformed the individual-level measure by group mean-centering (individual-level score minus the corresponding group mean score). Using group mean-centered values (which yield a group aggregate value of zero for every group, i.e., a constant at the sample level) and group means ensures that the individual-level (deviation) scores are independent of their respective group mean scores, thus minimizing concerns about cross-level collinearity among predictors.

Second, consistent with our theoretical framework, data were nested within multiple levels (i.e., individual within group, group within event, event within club). Therefore we assumed a high likelihood of non-independence among outcome scores, which we examined via level-specific intraclass correlation coefficients. When left unaccounted for, this non-independence among observations can lead to biased estimates of standard errors leading to insufficiently conservative tests of statistical significance, with respect to Type I error. This type of bias is known as a design effect. Given the observed non-independence within levels of nesting, we used the generalized linear mixed modeling (GLMM) module of SPSS v. 19 to carry out a series of four-level (club, event, group, individual) multilevel logistic regression analyses, specifying a logit link function and binomial errors along with Satterthwaite degrees of freedom and robust ("sandwich" estimator) standard errors for estimates of fixed effects. This mixed modeling approach accounts for non-independence or clustering within each level of nested data (as indexed by the intraclass correlation coefficients reported in Tables 1 and 2) and allows for valid modeling of dichotomous outcome measures. A random component for the intercept was specified for group (within event), event (within clubs), and club (i.e., at each level within which another level was nested). No other random effects were included in the models reported here.

Results

For individual patrons, same-night experience of physical aggression was reported by 12.3% and sexual aggression by 12.6% of our sample. Although this may appear to be a relatively small percent, it is important to keep in mind that these are rates for a single evening. Further, the groups spent an average of slightly more than two hours in the club, a relatively short time.

Predicting reports of experiencing physical aggression

Individual's reports of experiencing physical aggression during the event were significantly predicted by five group indicators and four individual indicators (see Table 1 for model fixed effect coefficients and variance component estimates). Overall, the model correctly categorized 88.9% of the cases.

The social drinking group that experienced a lot of physical aggression in the past 30 days in a club significantly increased the risk to the individual for experiencing aggression on that night. This was also the highest group-level variable predicting the individual's experiences of physical aggression. In contrast, if the social drinking group perpetrated a lot of physical aggression in the past 30 days at a club, the individual was at decreased risk for experiencing physical aggression.

With regard to the group's drinking plans and behaviors contributing to the risk for the individual, group's with higher planned levels for drinking to intoxication, were significantly related to lower levels of experiencing physical aggression on that night. However, the greater discrepancy in planned levels of drinking to intoxication (group members having different plans for becoming intoxicated) increased the risk of the individuals for experiencing physical aggression during the course of the evening.

Only one group demographic characteristic was related to experiences of physical aggression. Being in a group that was older decreased the risks for the individual. Individual characteristics that significantly increased the risk of experiencing physical aggression included being gay (male), being married, prior experiences of physical aggression in a club, and prior perpetration of sexual aggression in a club.

Predicting reports of experiencing sexual aggression

Reports of experiencing sexual aggression during the event were significantly predicted by two group and five individual indicators, with some variables related to higher and some to lower risks (see Table 2 for model fixed effect coefficients and variance component estimates). The model correctly categorized 89.9% of the cases. Similar to the findings for predicting experiences of physical aggression, groups with higher mean levels of experiencing past sexual aggression (in clubs) significantly increased the odds for an individual to experience sexual aggression during the evening.

The presence of at least one member of the group who "frequently gets drunk" was reported, significantly increased the risk for experiencing sexual aggression for individuals within that group. There were no group related demographic characteristics that were related to

experiences of sexual aggression in the club. Individual level indicators that significantly increased the risk for experiencing sexual aggression during the evening included recent (past 30 days) experiences or perpetration of sexual aggression and recent experiences of physical aggression. Hispanics had lower odds of experiencing sexual aggression were lower, but for Whites odds were higher.

Discussion

Groups that had higher levels of either recent physical or sexual aggression experiences increased the risk for their group members to experience physical or sexual aggression (respectively) during the evening. This replicated prior research that has linked women's bar victimization to prior histories of victimization (Parks & Zetes-Zanatta, 1999). However, groups that had a history of perpetrating physical aggression decreased the individual's risk of experiencing physical aggression during the evening suggesting that social drinking groups may serve protective functions for group members. Prior research on social drinking groups suggests that within group protection can decrease experiences of aggression during a heavy drinking evening (Kelley-Baker, Johnson, Roman, et al, 2011). Our research suggests that this ability of the social drinking group to provide protection within groups may be extended to males as well.

Based upon these findings, the social drinking group's drinking behaviors (same night plans as well as past behaviors) influence the experiences of aggression for the individual, but with mixed results. Similar to earlier studies that have found a link between drinking and experiences of sexual aggression (Parks & Zetes-Zanatta, 1999), individuals in a group identified as having a member who is frequently drunk increased their risk for experiencing sexual aggression. Interestingly, discrepancies in drinking intentions among group members increased the likelihood of experiencing physical aggression. Although this relationship is not well-documented in prior research, it is possible that less uniformity in drinking plans resulted in less group cohesiveness and less time together during the evening. However, groups who reported plans for higher levels of intoxication actually reported lower levels aggressive experiences. Members of groups who became extremely drunk may have been less able to remember such incidents or possibly, less able to discern when a physically aggressive incident occurred.

Only average age of the group was a significant group demographic characteristic that predicted experiences of physical aggression. Perhaps the composition and demographic characteristics of the social drinking group is less critical to predicting experiences of aggression than are prior history of aggressive behaviors and experiences and prior history and plans for drinking during the evening.

These findings indicate that the social drinking group contributed to the individual's experiences of both physical and sexual aggression during the drinking occasion, above and beyond the effects of the individual characteristics and behaviors. These findings were evident even when controlling for the nested contextual influences proposed as influential by the Bronfenbrenner ecological model (Bronfenbrenner, 1979; Poulin, Boudreau, & Asbridge, 2007). Prior research on aggression in drinking establishments indicate that the

club level (exosystem) is related to level of risky behaviors permitted within in the environment and that club level strategies are needed to manage patron behaviors (Graham & Homel, 2008; Miller et al., 2009). Nonetheless, a number of studies have underscored the importance of individual level characteristics related to aggressive experiences (Harford et al., 2003; Norman & Conner, 2006; Parks & Zetes-Zanatta, 1999). Although some research on group level influences exists (Johnson et al., 2012; M. Larimer et al., 2011; Miller, Byrnes, Branner, Johnson, et al., 2013; Neighbors et al., 2007), prior research has focused largely on drinking outcomes rather than aggression. This research on physical and sexual experiences as outcomes extends these prior studies in important directions. By studying the relationship of group level influences within nested contextual setting in the real world, we are able to test the robustness of the social drinking group while controlling for these levels of influence.

Limitations of this study reflect the need for additional studies to further elucidate the relationships between drinking and experiences of aggression in drinking establishments. Collecting data onsite at the drinking establishment necessitated keeping the surveys brief. Details about the perpetrator of the different incidents were not attained and the perpetrator could be within or outside the social group. These findings are specific to club settings that offer EMDEs and are not necessarily relevant to other drinking establishments. Although not used in these analyses, biological (for drug and alcohol testing) samples were collected and some individuals refused to participate because they were uncomfortable with providing data for the study, thus potentially introducing biases by eliminating some high risk patrons. However, as is evident in the data collected and reported elsewhere, individuals engaged in high risk alcohol and drug use did participate (Miller, Byrnes, Branner, Johnson, et al., 2013). The consumption of alcohol and/or drugs both before and during the event by the majority of participants potentially impacted the participants' recall or interpretations of experiencing aggressive behaviors.

Our focus on the naturally occurring social drinking groups suggests that group-based intervention strategies may be developed to reduce the risks of experiencing aggression during club attendance. Encouraging the social drinking group to engage in protective strategies for its own members emphasizes group members' responsibility for ensuring a fun and safe evening for everyone in the group. However, the ecological "niche" for the social drinking groups varies across clubs and across different events hosted by the clubs. These contextual levels impact the social drinking group and must be addressed in any intervention. More research is needed on how these larger environmental contexts interact with the social drinking groups to exacerbate risks or provide protection from risks that may emerge in large scale events hosted in clubs.

Group members could hold responsibility for ensuring that this individual remains safe during the evening. Similar to efforts to use a designated driver for groups engaged in heavy drinking (Lange, Johnson, & Reed, 2006), promoting a plan for watching out for each other while in the club is worthy of further investigation, at least from risks that emerge from outside the group. For those that emerge within the group, a priori agreements about expected or tolerated behaviors may clarify the norms within the group. As groups leave the clubs, they may experience greater levels of threat and aggression outside the club. Efforts

to increase safety and awareness regarding levels of aggression reported at the club may provide important prevention strategies to reduce escalation to violence later in the evening. Assessing group and individual characteristics could provide a more tailored approach for developing group-focused intervention strategies by making patrons more aware of the larger environmental context and differences in these contexts that may affect their outcomes. Providing these indicators to social drinking groups might also be appropriate for reducing aggressive experiences in clubs.

Conclusion

Our data indicate that there are social group level effects on patrons' physical and sexual aggression experiences in clubs, even controlling for individual level characteristics and the larger ecological levels of influence. Social drinking groups provide a relatively unexplored influence on an individual's aggressive experiences. Finally, the drinking group may provide a nexus for intervening. Focusing attention on the inherent risks of the group could be important to reducing aggression at clubs and in developing prevention strategies. Specifically, future efforts might be directed at providing social drinking groups with better skills to recognize both obvious and nonobvious indicators of risk associated with negative outcomes such as aggression. With recognition, group members will need to be given simple skills to practice within group intervention. Such an approach assumes a priori discussion of possible risks, agreement about appropriate strategies for intervening with other group members, and willingness to accept responsibility for each other.

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Table 1

Social Group and Individual Characteristics Predicting Individual's Experience of Physical Aggression At Club: A Multivariate Logistic Regression Analysis N = 701

Variable	Odds Ratio	95% Confidence Interval	
		Lower	Upper
Group Characteristics			
Size (Number of people)	0.88	0.71	1.09
Age (Mean)	0.95*	0.92	0.99
Gender (Percentage of males)	0.63	0.31	1.31
Sexual orientation (Percentage of heterosexuals)	1.01	1.00	1.02
College student status (Percentage of students)	0.99	0.98	1.01
Personal planned level of intoxication (Mean)	0.65**	0.47	0.89
Personal planned level of intoxication (Discrepancy)	1.24*	1.02	1.50
Assessment of group planned level of intoxication (Mean)	1.14	0.77	1.68
Assessment of group planned level of intoxication (Discrepancy)	0.88	0.70	1.13
Assessment of others' frequent drunkenness (Endorsement)	1.23	0.45	3.51
Concern about group safety (Mean)	0.79	0.48	1.27
30-day experience of sexual aggression in club (Mean)	1.09	0.88	1.35
30-day experience of physical aggression in club (Mean)	1.87**	1.30	2.70
30-day perpetration of sexual aggression in club (Mean)	1.36	0.84	2.18
30-day perpetration of physical aggression in club (Mean)	0.62*	0.40	0.96
Individual Characteristics			
Age ^a	1.00	0.02	5.87
Lesbian Women	1.50	0.50	4.53
Gay Men	2.83*	1.15	7.00
Straight Women	1.43	0.96	2.13
Not in any romantic relationship	0.57	0.32	1.01
Married	2.05*	1.08	3.89
White Race	0.65	0.33	1.26
Hispanic Ethnicity	1.06	0.64	1.75
College Student	1.29	0.60	2.77
College educated or more	1.47	0.91	2.39
Employed less than full-time	0.96	0.59	1.56
Personal planned level of intoxication ^a	1.20	0.82	1.76
Assessment of group planned level of intoxication ^a	1.11	0.83	1.47
Assessment of others' frequent drunkenness	0.74	0.39	1.41
Concern for the group's safety	0.52	0.22	1.19
30-day Sexual aggression experiences in club ^a	0.98	0.87	1.10

Variable	Odds Ratio	95% Confidence Interval	
		Lower	Upper
Group Characteristics			
30-day Physical aggression experiences in club ^a	1.31 *	1.01	1.70
30-day Perpetration of sexual aggression in club ^a	1.53 **	1.22	1.90
30-day Perpetration of physical aggression in club ^a	0.67	0.39	1.15

*
 $p < .05$,

**
 $p < .01$

^aIndividual item was group-mean centered, as group composite was also included in the model

Unconditional intraclass correlations: Club-level = .11; Event-level = .19; Group-level = .19.

Variance component estimates from final model: Between-club = 0.44; Between-event = .32; Between-group = 0.00.

Table 2

Social Group and Individual Characteristics Predicting Individual's Experience of Sexual Aggression At Club:
a Multivariate Logistic Regression Analysis N = 633

Variable	Odds Ratio	95% Confidence Interval	
		Lower	Upper
Group Characteristics			
Size (Number of people)	1.00	0.81	1.23
Age (Mean)	0.97	0.92	1.02
Gender (Percentage of males)	0.40	0.11	1.43
Sexual orientation (Percentage of heterosexuals)	0.99	0.98	1.00
College student status (Percentage of students)	1.00	0.99	1.01
Personal planned level of intoxication (Mean)	0.73	0.52	1.02
Personal planned level of intoxication (Discrepancy)	1.05	0.67	1.64
Assessment of group planned level of intoxication (Mean)	1.27	0.79	2.06
Assessment of group planned level of intoxication (Discrepancy)	1.29	0.98	1.68
Assessment of others' frequent drunkenness (Endorsement)	2.14*	1.00	4.56
Concern about group safety (Mean)	1.27	0.79	2.06
30-day experience of sexual aggression in club (Mean)	1.43**	1.09	1.87
30-day experience of physical aggression in club (Mean)	1.19	0.76	1.87
30-day perpetration of sexual aggression in club (Mean)	0.93	0.55	1.55
30-day perpetration of physical aggression in club (Mean)	0.98	0.70	1.36
Individual			
Age ^a	0.97	0.92	1.03
Lesbian Women	2.15	0.59	7.88
Gay Men	1.64	0.23	11.68
Straight Women	1.43	0.47	4.37
Not in any romantic relationship	1.22	0.74	2.01
Married	1.04	0.47	2.31
White Race	1.94**	1.19	3.15
Hispanic Ethnicity	0.42**	0.26	0.69
College Student	0.99	0.44	2.24
College educated or more	1.53	0.61	3.84
Employed less than full-time	0.58	0.29	1.13
Personal planned level of intoxication ^a	0.78	0.50	1.22
Assessment of group planned level of intoxication ^a	1.06	0.79	1.43
Assessment of others' frequent drunkenness	0.68	0.39	1.19
Concern for the group's safety	0.90	0.47	1.73
30-day Sexual aggression experiences in club ^a	1.22**	1.08	1.39
30-day Physical aggression experiences in club ^a	1.30**	1.10	1.53

Variable	Odds Ratio	95% Confidence Interval	
		Lower	Upper
Group Characteristics			
30-day Perpetration of sexual aggression in club ^a	1.44**	1.13	1.82
30-day Perpetration of physical aggression in club ^a	0.82	0.67	1.01

*
 $p < .05$,

**
 $p < .01$

^a Individual item was group-mean centered, as group composite was also included in the model

Unconditional intraclass correlations: Club-level = .09; Event-level = .14; Group-level = .24.

Variance component estimates from final model: Between-club = 0.57; Between-event = 0.09; Between-group = 0.70.