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Measuring College Students' Motives behind Prepartying Drinking: Development and Validation of the Prepartying Motivations Inventory

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Abstract

Drinking motives are vital in identifying risk factors and better understanding alcohol-related outcomes. However, context-specific motivations could provide greater motivational perspective on high-risk context-specific alcohol use behaviors such as prepartying (consuming alcohol prior to attending one's intended destination) than general alcohol motivations. In the current study, students' open-ended responses to reasons for prepartying were collected from a large diverse sample ($n = 2497$), and the most commonly offered reasons were used to create a prepartying motivations inventory (PMI) that was then administered to a different sample ($n = 1085$). A split-half validation procedure was used for the purpose of evaluating the PMI's factor structure. Exploratory and confirmatory factor analyses yielded a final 12-item measure consisting of four

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Contributors

Joseph LaBrie, Justin Hummer, Eric Pedersen, and Taona Chithambo have each contributed significantly to, and approve of this final manuscript. Specifically, Joe LaBrie designed the study, performed all analyses with Taona Chithambo, and contributed to writing all sections of the manuscript. Justin Hummer coded and prepared the data, performed the literature review, drafted and edited all sections, and oversaw the manuscript's production. Eric Pedersen generated the idea for the study and contributed to writing the Discussion and editing all sections. Taona Chithambo drafted the Results section and created Tables and figures.

Conflict of Interest

All authors declare that they have no conflicts of interest.

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distinct, but inter-related, factors: Interpersonal Enhancement, Situational Control, Intimate Pursuit, and Barriers to Consumption. Internal consistency reliability, discriminant validity, and criterion-related validity were empirically demonstrated. Results support the notion that individuals preparty for a variety of reasons that are distinct from general motives. Researchers are encouraged to use the PMI in future research with young adults to provide further understanding of prepartying behavior and its psychosocial correlates.

Substantial efforts to prevent heavy college drinking have been made over the past 20 years. More recently, researchers have begun examining high-risk contexts and events that may increase risk for heavy drinking among college students. Prepartying (also referred to as “pregaming” and “preloading”) has emerged as one of these high-risk drinking contexts in the research literature. While it is known by different names depending on regional or local vernacular (i.e., pre-gaming, pre-loading, pre-drinking, front-loading, pre-funking), prepartying has consistently been defined as consuming alcohol prior to attending one’s intended destination (e.g., a party, bar, sporting event) at which more alcohol may or may not be consumed (Pedersen & LaBrie, 2007). Prepartying is fairly common among college students, with prevalence rates between 64% and 85% among current drinkers (DeJong, DeRizzo, & Schneider, 2010; Pedersen & LaBrie, 2007; 2008; Pedersen et al., 2009; Read, Merrill, & Bytschkow, 2010).

Prepartying provides a setting that can lead to heavy drinking via rapid consumption while prepartying and, often, continued heavy drinking throughout the night. Students who preparty (prepartiers) experience more alcohol-related consequences and reach higher blood alcohol levels (BALs) during drinking occasions involving prepartying compared to occasions that do not involve prepartying (LaBrie & Pedersen, 2008; Read et al., 2010). On average, prepartiers report drinking to near intoxication levels during the preparty event itself (0.08 BAL) and nearly double their BAL when continuing to drink throughout the night (LaBrie & Pedersen, 2008). Unlike general drinking rates which tend to be higher among college men (Johnston et al., 2010), prepartying rates have not been found to vary as a function of gender (Pedersen & LaBrie, 2007; LaBrie & Pedersen, 2008), even when examining event-specific prepartying BALs *in situ* (Reed et al., 2011). In terms of overall risk, prepartiers experience more consequences than non-prepartiers (Kenney, Hummer, & LaBrie, 2010; LaBrie & Pedersen, 2008; Pedersen & LaBrie, 2007), with over 25% of prepartiers having reported experiencing a blackout on a night they prepartied in the past month (LaBrie, Hummer, Kenney, Lac, & Pedersen, 2011). Thus, prepartying, by its very nature of quick consumption in brief periods of time, is risky and often leads to heightened BALs related to blackouts, passing out, alcohol poisoning, and other negative consequences, and is predictive of increased drinking after the prepartying event (Pedersen & LaBrie, 2007; Pedersen, LaBrie, & Kilmer, 2009). The literature clearly reveals that prepartying enhances both specific event risk and overall risk.

Motivation is an important individual-level difference factor with strong links to alcohol behavior among college students (e.g., Birch et al., 2004; Wilkie & Stewart, 2005). Early research suggested that drinking motives are the most proximal factor for engaging in drinking (Carpenter & Hasin, 1998; Cooper, 1994; Cox & Klinger, 1988, 1990). Drinking motives are assumed to be a final pathway to alcohol use, that is, the gateway through which more distal influences, such as alcohol expectancies or personality characteristics, are mediated (Catanzaro & Laurent, 2004; Cooper, Frone, Russell, & Mudar, 1995; Kuntsche, Knibbe, Gmel, & Engels, 2006; Kuntsche, Wiers, Janssen, & Gmel, 2010). One’s motives for drinking are reflective of both personal and environmental influences on alcohol use (Cox & Klinger, 1988; 1990). Established measures of drinking motives (e.g., Cooper, 1994) have been vital in identifying risk factors and potential moderators and mediators of

intervention efficacy. Thus, drinking motives are both a practical and meaningful avenue to better understand and intervene with alcohol use and its potentially harmful effects in college populations.

Previous measures have evaluated drinking motives in general, but there are currently no established measures regarding the motivations for engaging in prepartying. Motivations for prepartying are generally strategic and associated with the goal of getting intoxicated (DeJong et al., 2010). Some studies have assessed endorsements of researcher-generated reasons for prepartying. For example, Read et al. (2010) asked a sample of introductory psychology students ($n = 159$ prepartiers; 89% Caucasian) to respond affirmatively if they endorsed each of 6 reasons the authors generated. Results from the list of reasons indicated that over half the participants acknowledged prepartying because it saves money, it makes going out more fun, and they like to get a buzz before going out. However, due to limited response variability (i.e., dichotomous ratings), the research did not assess whether reasons for prepartying were related to prepartying behaviors. Similarly, a study by Pedersen, LaBrie, and Kilmer (2009) asked students ($n = 331$ prepartiers) to respond to a set of 20 researcher-generated reasons for prepartying. Some of the most frequently endorsed reasons included showing up to a party or social event buzzed, to save money at the bar/club, and because it makes the night more interesting. Compared to females, males had significantly higher ratings for reasons relating to meeting members of the opposite sex, facilitating sex opportunities, enjoying concerts and sporting events more, and conforming to social pressure. Moreover, small to moderate significant correlations existed between multiple reasons for prepartying and prepartying frequency, quantity, estimated BAL, and general alcohol-related consequences. However, participants were given the option to include additional reasons for prepartying in this study and they generated some motives not captured in the context of the 20 items. The research also focused mostly on interpersonal factors related to prepartying and did not examine the list of reasons as an actual assessment measure using standard factor analyses procedures. Finally, limitations related to restricted sample size and diversity, bolster the need for an empirically derived and validated measure of why students choose to preparty.

Both of the two previous studies also examined associations between prepartying behavior and general drinking motives as measured by the Drinking Motives Questionnaire – Revised (DMQ-R; Cooper, 1994). Pedersen and LaBrie (2007) found limited support for an association between general drinking motives and prepartying frequency. Similarly, Read et al. (2010) found little to no evidence for the role of traditionally defined drinking motives in relation to prepartying behavior (prepartying frequency, drinks per prepartying day, and estimated BAL). The authors of these studies rightly noted that the reliance on a general measure of drinking motives limits a full understanding of motivation for prepartying specifically. Considering that there are diverse reasons as to why college students preparty, yet no established inventory exists, we identified the need for a multi-dimensional measure. Thus, we began development of the Prepartying Motivations Inventory (PMI) with a specific interest in the factors that motivate students to engage in prepartying, as opposed to drinking motives in general. Given the prevalence of prepartying among college students, as well as among younger high school students (Kenney et al., 2010; Zamboanga et al., 2011), there is a need for such a scale to be used in studies with adolescents and young adults to better understand this high-risk behavior.

The current study utilized large representative samples of college students to create and then pilot a student-generated prepartying motivations inventory. After collecting students' reasons for prepartying from a large diverse sample, a split-half validation procedure was used for the purpose of both generating and confirming the PMI's factor structure. We first conducted an exploratory factor analysis on half of the sample to identify specific factors

that promote prepartying. This was followed by a confirmatory factor analysis that included an examination of the discriminant and criterion-related validity of this new construct with the second half of the sample. It was hypothesized that motivations for prepartying would be associated with prepartying behaviors and also be conceptually distinct from general drinking motivations.

Method

Procedures and Participant Selection

General procedure—Recruitment and data collection occurred at two west-coast campuses, one a large public university and the other a private mid-sized university. Local IRBs at each site approved the current study, which was part of a larger longitudinal intervention study. Two surveys were administered one year apart to different student samples. The first sample indicated their primary reasons for prepartying, which served to generate a list of prepartying motives statements based on a likert-type response scale. The second sample received the likert-type items and reported their level of endorsement of those motives, which were then used for the current scale analyses. On both surveys, participants were informed that their responses were confidential and would not be connected to their name or e-mail address. Prior to answering questions related to drinking behavior, a standard drink was defined as a drink containing one-half ounce of ethyl alcohol — one 12 oz. beer, one 4 oz. glass of wine, or one 1.25 oz. shot of 80 proof liquor. Pictures of standard drinks accompanied these descriptions. Prepartying was defined for students as drinking alcohol prior to attending an event or activity [for example a party, bar, or concert] at which more alcohol may or may not be consumed.

Survey #1—A random sample of 11,069 undergraduate students, stratified across class year, and equally portioned from both universities, was invited to complete a Web-based survey approximately one month into the fall 2009 term. Of these, 4,984 (45.0%) completed the survey and 2,497 indicated prepartying at least once in the past month. This participant subsample was prompted with the following open-ended question: “For what reasons do you typically preparty?” Content validity was established by grouping responses according to the same or unambiguously similar reasons given for prepartying. Two independent raters placed similar reasons together along with a tally indicating the number of endorsements for that reason. Any discrepancies over the placement of a reason were resolved by a third rater. The set of the 27 most frequently reported reasons were then included on the second survey.

Survey #2—The second survey was administered to a unique sample approximately one year after the first survey, during the fall 2010 term. A total of 6,000 students stratified across class years were randomly selected across both campuses, and invited to participate in a study exploring alcohol use among college students. Participants provided consent to participate by signing an IRB-approved online consent form and then completed a subsequent online survey. Of the 6,000 students invited to participate, 2767 (46.1%) completed the initial portion of the survey which included a screening criteria for inclusion into further assessment that included the prepartying items. Eligibility criteria included at least one past-month occasion of heavy episodic drinking (i.e., four/five or more drinks in a row for females/males). Of the 2767 students who took the initial portion of the survey, 1407 (50.8%) met inclusion criteria and completed the remainder of the survey. From this sample, 1085 (77.1%) participants reported having ever prepartied, and therefore comprised the final sample size used in the present analyses. As a random split-half procedure was used to divide the number of participants for the EFA and CFA analyses, demographic characteristics for each subsample are reported below.

Sample for EFA—Following random sampling from the overall pool of 1085 participants from Survey #2, 542 students comprised the sample for the EFA. Mean age of these respondents was 20.16 years ($SD = 1.37$), with more females (63.1%) than males (36.9%). Class distribution included 14% freshmen, 22% sophomores, 24.6% juniors, and 39.4% seniors. Over half the respondents self-identified as Caucasian (68.8%), with the remainder classifying themselves as Asian (13%), Multiracial (9.8%), Black or African American (2.7%), “Other” (2.8%), Native Hawaiian/ Pacific Islander (2.3%), or “American Indian/ Alaskan Native” (.6%). In response to a question about ethnicity, 10.5% of the sample identified as Hispanic/Latino(a).

Sample for CFA—The remaining sample from Survey #2 served as the data for the CFA. The CFA sample was demographically similar to the EFA sample. The mean participant age was 20.13 ($SD = 1.35$) and 65% of the sample was female. Class standing was represented by 14% first-year students, 19% sophomores, 27% juniors, and 40% seniors. Again, more than half of the sample self-identified as White/Caucasian (65.6%), with the remainder indicating multi-racial (13.2%), Asian (12.5%), Black or African American (6.3%), Native Hawaiian/ Pacific Islander (2%), and American Indian/Alaskan Native (.4%). In response to a question about ethnicity, 13.7% of the sample identified as Hispanic/Latino(a). The EFA and CFA samples did not significantly vary on prepartying days ($t = .26, p = .75$), drinks per prepartying occasion ($t = .22, p = .22$), or total preparty drinks ($t = .95, p = .95$).

Measures

Prepartying motivations inventory (PMI)—The PMI consists of 27 items rated on a Likert-type scale from 1 (*almost never/never*) to 5 (*almost always/always*).

Prepartying behavior—Actual prepartying behavior was assessed with two open-ended questions: (1) “On average, how many drinks did you consume while prepartying?” (average drinks) and (2) “In the past 30 days, how many days did you engage in prepartying?” (preparty days). Total number of prepartying drinks for the month was computed by taking the product of average drinks and number of preparty days.

Drinking motives questionnaire – revised (DMQ-R)—The DMQ-R (Cooper, 1994) consists of 20 items representing four dimensions all demonstrating good reliability in the current study: Coping ($\alpha = .88$), Social ($\alpha = .89$), Conformity ($\alpha = .90$) and Enhancement ($\alpha = .87$). The DMQ is rated on a 5-point Likert scale ranging from 1 (*almost never/never*) to 5 (*almost always/always*).

Results

Analytic Strategy

A split-half validation procedure was used to initially evaluate and then subsequently confirm the PMI’s factor structure. That is, half of the participants ($n = 542$) were used for the exploratory factor analysis (EFA), with the remaining half ($n = 543$) reserved for confirmatory factor analysis (CFA) procedures. First, EFA was undertaken to determine the initial factor structure of the items in the PMI. If the initial solution was not conceptually tenable, items with cross-loadings and low loadings were deleted ($< .4$; Joreskog & Sorbom, 1993), and the factor structure re-estimated until an acceptable solution was produced. Analyses were performed using Predictive Analytics Software Version 18 (PASW, Chicago, IL), MPLUS Version 4.0 (Muthén & Muthén, 2006), and EQS 6.2 (Bentler, 2001).

Next, the final set of items obtained from the EFA was then cross-validated with the hold-out sample using CFA. To provide a scale metric for the latent factors, they were fixed to 1.

Factor loadings for the scale items, and inter-factor correlations were estimated. Several indices were used to evaluate the fit of the CFA. The model chi-square should produce a non-significant value to suggest non-rejection of the model, but the test is sensitive to sample size. Thus, the comparative fit index (CFI) and Incremental Fit Index (IFI) were evaluated as indices of goodness of fit, with higher values, preferably above .90, indicative of an acceptable fitting model (Ullman & Bentler, 2003). The standardized root mean-square residual (SRMR), a badness of fit index, was also evaluated, with values above .08 indicative of undesirable fit (Hu & Bentler, 1998). Using the resulting final solution of items, we then assessed the reliabilities, means, and standard deviations of each prepartying motives subscale. Finally, we evaluated discriminant and criterion-related validity to further evaluate the psychometric properties of these subscales with other scales.

Exploratory Factor Analysis

Statistical assumptions—Statistical assumptions for EFA using the initial 27 items were satisfied, as skewness and kurtosis levels were within reasonable limits (skew < 2, kurtosis < 3; West, Finch, & Curran, 1995). The number of participants in the sample was more than adequate for EFA, according to the guideline of a minimum of 10 participants per measured variable (Pett, Lackey, & Sullivan, 2003). The communalities, which indicate how much variance in each item is accounted for by the set of extracted factors, all had moderate strength (.43 to .77). Factorability of the underlying covariance matrix was assessed via two indices. The Kaiser-Meyer-Olkin index of sampling adequacy value of .89 is deemed “meritorious” (Kaiser, 1974). Bartlett’s (1950) test of sphericity, which compares the correlation matrix against the identity matrix, was highly significant, $\chi^2(351) = 7057.296$, $p < .001$.

Estimation specifications—The method of extraction was common factor analysis (principal axis factoring), which takes into account unique variance, and allows researchers to establish latent factors (Gorsuch, 1983). Dimensions derived from this scale are expected to be inter-correlated, thus an oblique (promax) rotation was used to facilitate interpretation of the extracted solution (Abdi, 2003).

Factor structure—Initially, results produced a six-factor solution, according to the Eigenvalue greater than 1 criterion (Kaiser, 1960). This initial solution yielded six items that did not load highly (< .4) on any factor and were therefore deleted: (e.g., “To have something to do while I wait to go out”). Furthermore, the solution did not yield a simple structure for interpretation (Gorsuch, 1983), as one item loaded highly on multiple factors (“It makes it easier to talk to someone I might want to hook up with”) and therefore was deleted from the scale. The resulting five-factor solution had a factor represented with only two items: “It helps me better enjoy sporting events” and “It helps me better enjoy concerts.” Two items were found to have high cross-loadings (e.g., “To show up to a party/social event buzzed”). Thus, these items were also deleted. Accordingly, the data were re-estimated with the remaining set of 16 items, with exactly the same specifications as the initial EFA. The correlation matrix for this final set of items is presented in Table 1.

The Eigenvalue greater than 1 criterion (Kaiser, 1960), scree plot (Cattell, 1966), and interpretability of the factor loadings (Gorsuch, 1983) supported the existence of four dimensions. Furthermore, parallel analysis (Horn, 1965) was performed on the 16 items, applying the approach recommended by O’Connor (2000). A parallel analysis, computed using permutations of parallel datasets to generate random data eigenvalues and comparing that to the actual data eigenvalues, suggested the existence of up to five factors. As this technique provides information on the maximum number of potential factors not attributed to chance, additional criteria should be used to determine the number of these factors to

meaningfully retain (O'Connor, 2000). Thus, based on conceptual interpretability in addition to the criteria noted earlier for determining the number of factors, corroborating evidence suggests that four factors were most plausible. They were labeled as: (F1) Interpersonal Enhancement, (F2) Situational Control, (F3) Intimate Pursuit and (F4) Barriers to Consumption. Displayed in Table 2 are the factor loadings and communalities of each item, and percent variance explained by the factors.

Confirmatory Factor Analysis

Confirmatory factor analysis, allowing for factors to be correlated, was conducted to test the fit of a correlated four-factor structure for the PMI. In the four-factor CFA model, fit indices were below acceptable levels, $\chi^2 = 611.14$, $df = 98$, $p < .001$, CFI = .86, IFI = .88, NNFI = .86, SRMR = .065. Thus, the error terms of three Interpersonal Enhancement items that assessed interest in meeting people were allowed to covary: (Item 3) "To meet new friends once I go out"; (Item 5) "It makes taking to new people easier"; (Item 6) "It helps me feel more relaxed when meeting new people once I go out. Also, errors between two Situational Control Items, (Item 7) "To enjoy my favorite drink in case the place I am going does not serve that drink"; (Item 8) "So I have control over what type of alcohol I consume rather than relying on what's available at the destination"; and two Intimate Pursuit Items, (Item 11) "To meet a potential partner during pre-partying"; (Item 12) "To meet a potential dating partner once I go out" were free to vary. Though caution is warned against allowing error terms to covary without theoretical justification (e.g., Boomsa, 2000), the common subject matter and wording of these items provides adequate support for a potential common source of variation (Gerbing & Anderson, 1984). Fit indices show that the final four-factor structure was found to adequately explain the underlying data, $\chi^2 = 431.91$, $df = 93$, $p < .001$, CFI = .923, IFI = .923, SRMR = .058. All factor loadings were statistically significant, $p < .001$, as shown in Table 3. The inter-factor correlations of the CFA ranged from .30 to .66, $p < .001$. The data were also tested using a rival one-factor model of prepartying motivations on the 16 items, which yielded unacceptable fit indices, $\chi^2 = 1247.67$, $df = 99$, $p < .001$, CFI = .738, IFI = .739, SRMR = .106. As these were nested models, a chi-square difference test provided further corroboration that the four-factor model produced an empirically superior fit over the one-factor model, $\Delta\chi^2 = 815.76$, $\Delta df = 6$, $p < .001$.

Reliabilities, means, and inter-factor correlations—As shown in Table 4, subscale means were highest for Interpersonal Enhancement and lowest for Intimate Pursuit. The internal consistency reliabilities, assessed with Cronbach's alpha, ranged from .74 to .89, all above acceptable levels. Inter-factor correlations ranged from .26 to .54, suggesting that the constructs were tapping conceptually dissimilar, but related, dimensions of prepartying motivations.

Discriminant validity—To demonstrate discriminant validity, we examined relationships of the prepartying subscales with the subscales of the DMQ—a widely utilized and validated questionnaire in alcohol research. We found that the PMI subscales were weakly correlated with the DMQ subscales, and DMQ subscales did not significantly correlate with any of the three prepartying behavioral variables (Table 5). This suggests that alcohol prepartying motives might be context-specific and conceptually different than general drinking motives.

Criterion-related validity—To examine the PMI's criterion-related validity to behavioral outcomes, we evaluated the relationship between prepartying motivations and prepartying behavior. As shown in Table 5, higher scores on all four of the prepartying subscales were significantly correlated with greater preparty drinks per occasion ($M = 4.11$, $SD = 2.14$), preparty days ($M = 4.67$, $SD = 3.71$), and total preparty drinks ($M = 21.15$, $SD = 23.90$).

Discussion

Prepartying is a prevalent and high-risk drinking behavior among college students and adolescents (Pedersen & LaBrie, 2007; Read et al., 2010; Zamboagna et al., 2011). In the present study, we used rigorous exploratory and confirmatory factor analyses on prepartying data from a large representative sample of drinkers to develop the Preparty Motivations Inventory (PMI) to provide further examination of students' motivations for engaging in prepartying behavior. Reasons for prepartying items were created using open-ended responses generated from a large and diverse sample of college student drinkers from two universities to establish content validity. These reasons for prepartying were then examined with a different follow-up sample of prepartiers using exploratory and confirmatory factor analyses to yield a final 12-item measure. Consisting of four distinct, but inter-related, factors -- Interpersonal Enhancement, Situational Control, Intimate Pursuit, and Barriers to Consumption -- the psychometric properties of this instrument were evaluated. Internal consistency reliability, discriminant validity, and criterion-related validity were empirically demonstrated. Several practical and theoretical applications may be recommended from use of the PMI inventory. Considering the brevity of the instrument, it can be easily and efficiently administered. Findings can be used to more fully understand preparty behavior and its psychosocial correlates and connections to consequences and other risk behaviors, as well as to help hone and target context-specific intervention strategies.

Based on discriminant and criterion-related validity using correlational analyses, the PMI appeared to capture unique motivations specific to prepartying behavior. The PMI subscales were completely non-significantly correlated with the DMQ subscales, but were significantly associated with prepartying behavior. Further, consistent with previous research (Pedersen et al., 2009; Read et al., 2010), general reasons for drinking (DMQ) appeared to be unrelated to prepartying behavior, but preparty-specific reasons were found to be significantly related to prepartying behavior. Thus, the PMI appears to contribute a novel conceptualization to the drinking motives literature. This study suggests that students may have context and event-specific reasons/motivations for engaging in drinking behaviors that extend beyond the DMQ's four factors of social, coping, conformity, and enhancement. Using general drinking motives to understand context-specific behavior may neglect important information about these event- and context-specific drinking behaviors. Given the emerging emphasis on event- and context-specific alcohol risk behaviors (Neighbors, Lee, Lewis, Fossos, & Walter, 2009), it is important that researchers examine more detailed and specific reasons for drinking to better understand drinking within these risky activities. In addition to prepartying, other examples of these types of activities include drinking games (Borsari, 2004; LaBrie & Pedersen, 2006), 21st birthday celebrations (Neighbors, Spieker, Oster-Aaland, Lewis, & Bergstrom, 2005; Rutledge, Park, & Sher, 2008), spring break (Grekin, Sher, & Krull, 2007; Lee, Lewis, & Neighbors, 2009), and study abroad trips (Hummer, Pedersen, Mirza, & LaBrie, 2010; Pedersen, Larimer, & Lee, 2010).

Each of the four identified subscales yielded potentially helpful information about prepartying. The Interpersonal Enhancement (IE) subscale contains items pertaining to prepartying as a means to loosen up before going out and therefore makes talking to new people easier. Thus, IE is akin to general social drinking motives (i.e., drinking to be more outgoing, to help enjoy a party), which are traditionally the most frequently endorsed motives in the college environment and are associated with higher levels of alcohol consumption (e.g., Kuntsche, Knibbe, Gmel, & Engels, 2005; LaBrie, Hummer, & Pederson, 2007), and even increased risk for female drinkers (LaBrie et al., 2007). The items contained in the IE subscale suggest that these individuals may be drinking primarily to experience the purported social lubricant effects of alcohol. Although long-endorsed by drinkers of all ages, a voluminous body of research has labeled these social facilitation effects as being largely

psychological and perceptual and not necessarily a result of the physiological ramifications of alcohol. Also known as alcohol expectancies, these beliefs people hold about alcohol-induced social changes play an important role in predicting increases in drinking over time (e.g., Christiansen, Smith, Roehling, & Goldman, 1989; Smith, Goldman, Greenbaum, & Christiansen, 1995). Therefore, health educators may wish to dispel myths concerning views that preparty drinking enhances one's ability to effectively communicate with others and be more sociable.

The Intimate Pursuit (IP) subscale contains items pertaining to increasing the likelihood of 'hooking up' and meeting potential dating partners. This subscale demonstrated the strongest correlations with the all the preparty drinking variables. Much of the professed social effects of alcohol, such as the link between sex and alcohol, are culturally woven into our collective consciousness about alcohol. The few studies expressly examining 'hooking up' reveal that it encompasses a range of sexual behaviors, spanning kissing to sexual intercourse, between two people who are not in a committed relationship and do not expect the hookup to extend into a romantic relationship (Garcia & Reiber, 2008; Owen, Rhoades, Stanley, & Fincham, 2010). College students not only tend to perceive alcohol as facilitating sexual interaction, but often attribute being under the influence of alcohol as their reason for hooking up (e.g., Lindgren, Pantalone, Lewis, & George, 2009; Fielder & Carey, 2010). Emerging research seeking to further quantify this phenomenon revealed that two-thirds of participants reported drinking prior to their most recent hookup event and of these, 36% of males and 30% of females met their partner the night they hooked up with them (LaBrie, Hummer, Mirza, Lac, & Kenney, in review). Finally, both males and females in a college environment have been found to endorse more positive sexual expectancies (e.g., drinking alcohol will make me a better lover or feel sexy) while drinking than when sober (LaBrie, Grant, & Hummer, 2011). Taken together, findings from the current study and previous research suggest that becoming intoxicated for the express purpose of seeking a dating or hook-up partner is common and potentially risky. Thus, a prepartying and hooking up component could be beneficial to incorporate into alcohol-related preemptive harm reduction interventions that college administrations may already be employing.

Third, items from the Situational Control (SC) subscale of the PMI refer to having control over the alcohol that is consumed, not having to worry about drink tampering, and not having to drink at the ultimate destination. Interestingly, it is possible that students who strongly endorse this motive may be utilizing prepartying as a mechanism to avoid potential pressure in the drinking environments they enter after the prepartying event. While it is premature to suggest a potential protective function (e.g., they may avoid peer pressure by saying "No thanks, I've already had quite a few already"), future research should investigate whether students who primarily preparty for the purpose of exerting control over their drinking do so to drink less during preparty events compared to students prepartying primarily because of IE and IP. Indeed the SC factor yielded lower correlations with prepartying behavior in comparison to the other three preparty subscales. On a similar note, although previous work has revealed that students drink more during preparty events than regular drinking events (LaBrie & Pedersen, 2008), research should explore whether students prepartying for SC drink less during the preparty than they do during their regular drinking events. Alternatively, and for either scenario, the time-limited nature of prepartying might suggest that while the intention is to avoid risky drinking at the subsequent event, these students may still be reaching high blood alcohol levels (BALs) during the preparty event.

Finally the fourth subscale of the PMI, Barriers to Consumption (BC), concerns reasons related to not being able to obtain alcohol at the later function and avoiding getting into trouble with authorities, whether on the way to, or at, the final destination. The items on this

subscale suggest that prepartying is a way to ensure that one is able to consume a desired amount of alcohol before arriving at a destination where it may not be available. Thus, it is possible that individuals strong in this motive may be drinking to higher peak BALs as a way to ensure that the buzz will endure throughout the evening. Future research should explore whether this is in fact the case and if so, prevention or intervention messaging could specifically focus on the risks associated with rapid increases in BALs.

Overall, specific reasons for engaging in prepartying behavior may be helpful to include in personalized normative feedback intervention, which have been efficacious with young adults and adolescents in preventing heavy drinking and consequences in general (O’Leary-Tevyaw & Monit, 2004; White, 2006) and for event-specific behaviors (e.g., Neighbors et al., 2009). Presenting a student with a feedback report on his or her personal reasons for prepartying may be accompanied by alternate strategies or harm reduction messages to correct erroneous beliefs (e.g., “you are a lot smoother” talking to potential dating partners after consuming 1 beer as opposed to 6”).

Limitations and Future Directions

Although we thoroughly reviewed the possibilities for college students’ various prepartying motives, it is possible, as with any other scale development research, that more than just the factors identified in this study could be present. For example, other work has identified reasons related to the item “because it is cheaper” (Pedersen et al., 2009; Read et al, 2010), but this item did not load onto any factor in our analyses and would likely have been contained within the BC subscale anyway. However, even without such an item, it does not seem to detract from the understanding of preparty motives and the findings from our more rigorous analyses and larger sample suggest that this may not be a primary prepartying motivation. Similarly, other items did not load onto a factor. While a rival single-factor solution could potentially represent all the items, the results show that the one factor solution was also not tenable in the present study.

As the main goal of the study was to develop and validate an initial scale that was psychometrically sound, we did not examine similarities and differences in prepartying motivations between males and females, or between students of varying ethnic backgrounds. Researchers are encouraged to use this inventory and test its utility among a variety of demographic-specific groups. Future research may also seek to perform additional confirmatory factor analyses on our Prepartying Motivations Inventory, in order to assess whether the same four factors hold true and could be cross-validated with other populations at risk for preparty drinking. The PMI may be applicable to adolescents as well; however, further research validating this measure among adolescent populations is necessary. Finally, the use of cross-sectional data precludes predictive analyses and cannot adequately test the assumption underlying motivational frameworks that drinking motives are causally antecedent to drinking behavior and drinking outcomes. Thus, future research on prepartying-specific motives would benefit from prospective designs in order to test more definitively the observed relationships and the hypothesized causal sequence.

Conclusions

The results of the present study support the notion that individuals preparty for a variety of reasons and that an adequate understanding of prepartying drinking behavior should take these motives into account. More generally, they lend credence to the notion that context-specific motivations yield greater motivational perspective on context-specific alcohol use than general motivations. Additional research is necessary to explore the utility of the PMI in understanding the ubiquitous and risky practice of prepartying before the party.

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Research Highlights

1. Developed and validated the Preparty Motivations Inventory (PMI)
2. Data were derived from two large unique samples of college students
3. EFA and CFA confirmed a 16-item, four factor measure
4. Good internal reliability, discriminant validity, and criterion-related validity
5. The PMI reveals unique motivations behind college students' prepartying behavior

Table 1
Means and Standard Deviations Along with Correlation Matrix of Prepartying Items

Item	M	(SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. To pump myself up to go out	3.09	(1.25)	--															
2. Because having a few drinks before going out makes the night more interesting	3.34	(1.22)	.60	--														
3. To meet new friends once I go out	2.43	(1.27)	.39	.47	--													
4. To relax or loosen up before I go out	3.10	(1.25)	.54	.65	.53	--												
5. It makes talking to new people easier	2.74	(1.33)	.39	.51	.64	.59	--											
6. It helps me feel more relaxed when meeting new people once I go out	2.82	(1.27)	.45	.57	.60	.69	.76	--										
7. To enjoy my favorite drink in case the place I'm going does not serve that drink	1.99	(1.22)	.23	.19	.22	.19	.19	.18	--									
8. So I have control over what type of alcohol I consume rather than relying on what's available at the destination	2.60	(1.33)	.26	.30	.24	.25	.20	.21	.47	--								
9. So I don't have to worry about whether someone has tampered with the drinks at the party	2.00	(1.29)	.22	.19	.25	.18	.16	.15	.39	.64	--							
10. So I don't have to drink at the place where I'm going	2.29	(1.16)	.23	.15	.18	.18	.16	.13	.26	.42	.53	--						
11. To meet a potential dating partner during pre-partying	1.50	(0.87)	.08	.15	.37	.17	.26	.21	.19	.08	.10	.07	--					
12. To meet a potential dating partner once I go out	1.74	(1.05)	.17	.23	.47	.27	.39	.36	.20	.15	.09	.10	.73	--				
13. To increase the likelihood of hooking up	1.73	(1.04)	.25	.31	.46	.33	.44	.45	.11	.09	.08	.08	.44	.59	--			
14. Because I am underage and cannot purchase alcohol at the destination venue	2.33	(1.42)	.29	.24	.29	.18	.18	.17	.13	.33	.32	.16	.12	.14	.19	--		
15. Because alcohol may not be available or may be hard to get at the destination	2.87	(1.28)	.31	.39	.31	.30	.24	.28	.30	.50	.37	.29	.10	.15	.19	.52	--	
16. To avoid getting caught with alcohol on the way to, or at, the final destination	2.32	(1.31)	.25	.30	.35	.30	.23	.25	.26	.46	.43	.34	.15	.19	.22	.53	.50	--

Note: All correlations > .08 are significant at $p < .05$.

Table 2
Exploratory factor Analysis (Principal Axis Factoring) with Oblique (Promax) Rotation of Prepartying Motivations Inventory

Factor	Item	F1	F2	F3	F4	h^2
(F1) Interpersonal Enhancement						
	1. To pump myself up to go out	.61	.07	-.14	.10	.41
	2. Because having a few drinks before going out makes the night more interesting	.76	.00	-.12	.09	.57
	3. To meet new friends once I go out	.52	.02	.29	.09	.56
	4. To relax or loosen up before I go out	.88	.02	-.10	-.06	.68
	5. It makes talking to new people easier	.76	-.01	.14	-.10	.63
	6. It helps me feel more relaxed when meeting new people once I go out.	.89	-.05	.04	-.10	.74
(F2) Situational Control						
	7. To enjoy my favorite drink in case the place I'm going does not serve that drink	.04	.56	.12	-.11	.30
	8. So I have control over what type of alcohol I consume rather than relying on what's available at the destination	.02	.77	-.03	.06	.65
	9. So I don't have to worry about whether someone has tampered with the drinks at a party	-.06	.84	-.01	-.01	.66
	10. So I don't have to drink at the place where I am going	.03	.61	-.01	-.07	.34
(F3) Intimate Pursuit						
	11. To meet a potential dating partner during pre-partying	-.14	.06	.82	.00	.60
	12. To meet a potential dating partner once I go out	-.03	.04	.94	-.02	.85
	13. To increase the likelihood of hooking up	.25	-.11	.52	.10	.46
(F4) Barriers to Consumption						
	14. Because I am underage and cannot purchase alcohol at the destination venue	-.08	-.16	.03	.94	.68
	15. Because alcohol may not be available at destination or may be hard to get at the destination	.12	.19	-.04	.53	.51
	16. To avoid getting caught with alcohol on the way to, or at, the final destination	.03	.22	.05	.52	.50
Initial Eigenvalues						
		5.66	2.36	1.61	1.11	
Percent variance (extracted)						
		33%	12%	8%	4%	

Note. Factor pattern matrix is displayed. Items loading highest on a dimension are in bold face. h^2 = communalities.

Table 3**CFA Loadings for Final Four-Factor Model of Prepartying Motivations Inventory**

(F1) Interpersonal Enhancement	
1. To pump myself up to go out	.69
2. Because having a few drinks before going out makes the night more interesting	.80
3. To meet new friends once I go out	.72
4. To relax or loosen up before I go out	.85
5. It makes talking to new people easier	.71
6. It helps me feel more relaxed when meeting new people once I go out.	.78
(F2) Situational Control	
7. To enjoy my favorite drink in case the place I'm going does not serve that drink	.34
8. So I have control over what type of alcohol I consume rather than relying on what's available at the destination	.76
9. So I don't have to worry about whether someone has tampered with the drinks at a party	.82
10. So I don't have to drink at the place where I am going	.60
(F3) Intimate Pursuit	
11. To meet a potential dating partner during pre-partying	.63
12. To meet a potential dating partner once I go out	.74
13. To increase the likelihood of hooking up	.85
(F4) Barriers to Consumption	
14. Because I am underage and cannot purchase alcohol at the destination venue	.71
15. Because alcohol may not be available at destination or may be hard to get at the destination	.70
16. To avoid getting caught with alcohol on the way to, or at, the final destination	.85

Note. All factor loadings significant at $p < .001$

Table 4

Reliabilities, Means, and Correlation Matrix of Preparing Subscales

		Cronbach's α	Mean	(SD)	F1	F2	F3	F4
(F1)	Interpersonal Enhancement	.89	2.88	(1.06)	-			
(F2)	Situational Control	.73	2.31	(0.96)	.36	-		
(F3)	Intimate Pursuit	.84	1.63	(0.88)	.54	.26	-	
(F4)	Barriers to Consumption	.79	2.53	(1.17)	.49	.51	.34	-

Note. All correlations significant at $p < .001$.

Table 5

Preparty Subscale and DMQ Correlations with Other Measures

	Interpersonal Enhancement	Situational Control	Intimate Pursuit	Barriers to Consumption	DMQ Coping	DMQ Social	DMQ Conformity	DMQ Enhancement
<i>Drinking Motives Questionnaire</i>								
Coping	-.05	-.06	.00	-.01	--			
Social	.00	-.03	.09	.04	.53**	--		
Conformity	-.07	-.08	.04	-.03	.51**	.26**	--	
Enhancement	-.04	-.05	.01	.04	.50**	.81**	.24**	--
<i>Preparty Behaviors</i>								
Preparty drinks per occasion (average)	.15**	.13****	.25**	.15**	0.01	0.04	-0.03	0.04
Preparty days (frequency)	.23**	.13**	.35**	.20**	0.02	0.00	0.06	0.00
Total preparty drinks (quantity × frequency)	.17**	.13**	.29**	.13**	0.01	0.02	-0.05	0.02

* $p < .05$,

** $p < .01$.