The Journal of Sex Research

Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/hjsr20

Blame It on the Alcohol: The Influence of Alcohol Consumption During Adolescence, the Transition to Adulthood, and Young Adulthood on One-Time Sexual Hookups

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Published online: 29 Jul 2014.

To cite this article: Matthew David Johnson & Jiawen Chen (2015) Blame It on the Alcohol: The Influence of Alcohol Consumption During Adolescence, the Transition to Adulthood, and Young Adulthood on One-Time Sexual Hookups, The Journal of Sex Research, 52:5, 570-579, DOI: 10.1080/00224499.2014.913281
To link to this article: http://dx.doi.org/10.1080/00224499.2014.913281

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Blame It on the Alcohol: The Influence of Alcohol Consumption During Adolescence, the Transition to Adulthood, and Young Adulthood on One-Time Sexual Hookups

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Using public-use data from the National Longitudinal Study of Adolescent Health (n = 3,733) and the life-span developmental perspective, the current study sought to determine whether global reports of alcohol use, binge drinking, and drunkenness are best represented as indicators of a latent alcohol consumption construct during adolescence, the transition to adulthood, and young adulthood. We also examined the predictive power of alcohol consumption during each developmental period on the total number of one-time sexual hookups reported in young adulthood. A confirmatory factor analysis revealed alcohol use, binge drinking, and drunkenness are consistent indicators of a latent alcohol consumption variable over time, although the mean levels of the indicators were significantly lower during adolescence. Structural equation modeling analyses found alcohol consumption during the transition to adulthood and young adulthood predicted one-time sexual hookups in young adulthood, but alcohol consumption during the transition to adulthood exhibited the strongest association with hooking up. Implications for research, theory, and practice are discussed.

The occurrence of sexual activity outside the context of an intimate relationship is a ubiquitous aspect of the transition to adulthood experience, with the most recent research consistently demonstrating that more than half of college-aged young adults report at least one such encounter (Garcia, Reiber, Massey, & Merriwether, 2012). “Hooking up” has emerged as the catchall term encompassing the wide range of nonrelational sexual arrangements, from a single sexual encounter (e.g., one-night stands) to ongoing sexual contact (e.g., friends with benefits or booty calls), from partners who are close friends to strangers, and sexual contact ranging from kissing to intercourse (Claxton & van Dulmen, 2013). This study focused on one specific type of hookup: the one-time sexual encounter. Much research has been undertaken to identify factors that might explain engagement in hookups, with a body of literature exploring cross-sectional correlates (Garneau, Olmstead, Pasley, & Fincham, 2013; Lewis, Granato, Blayney, Lostutter, & Kilmer, 2012; Lyons, Manning, Giordano, & Longmore, 2013; Olmstead, Pasley, & Fincham, 2013; Paul, McManus, & Hayes, 2000) and longitudinal predictors (Fielder & Carey, 2010a; Fielder, Walsh, Carey, & Carey, 2013; Johnson, 2013; Owen, Fincham, & Moore, 2011). A host of variables emerged from these studies as important predictors of hooking up, but alcohol-related variables consistently emerge as one of the strongest predictors of hooking up in nearly every study where they are examined (Fielder & Carey, 2010a; Garneau et al., 2013; Johnson, 2013; Lewis et al., 2012; Olmstead et al., 2013; Owen, Rhoades, Stanley, & Fincham, 2010; Owen et al., 2011, Paul et al., 2000). Yet key questions remain regarding the measurement of alcohol and its association with hookup experiences.

First, are variables assessing alcohol use, binge drinking, and drunkenness providing information about distinct alcohol behaviors or operationalizing an underlying alcohol consumption construct? Most studies compute models predicting hookups that include a large number of diverse predictors but only one variable pertaining to alcohol, creating uncertainty whether the same underlying alcohol construct has been examined or quantitatively distinct behaviors. Second, is alcohol consumption across three developmental periods differentially associated with the total number of hookups experienced? Much of the research examining this topic draws from samples of college students, limiting knowledge about how alcohol consumption prior to and after
university might be related to hookup behavior. Using data gathered during adolescence, the transition to adulthood, and young adulthood in the National Longitudinal Study of Adolescent Health (Add Health; n = 3,733), this study examined the predictive power of alcohol consumption (operationalized by variables assessing alcohol use, binge drinking, and drunkenness) on the lifetime number of one-time sexual hookups (oral, anal, or vaginal sex) reported in young adulthood.

**Alcohol Use, Binge Drinking, and Drunkenness**

The three alcohol variables under examination in the current study are similar to those used in prior research on hooking up, assessing global patterns of alcohol use (e.g., “How many days did you drink alcohol over the last year?”), binge drinking (e.g., “How many days did you drink five or more drinks in a row over the last year?”), and drunkenness (e.g., “How many days did you get drunk over the last year?”). When assessed globally, strong associations are evident between a more frequent pattern of alcohol consumption and increased risky sexual behavior (for reviews, see Cooper, 2002, 2006; Halpern-Felsher, Millstein, & Ellen, 1996), including one-time sexual encounters.

Indeed, this is the case in research specific to hooking up, but the contribution of alcohol for understanding hookup behavior is most frequently examined through the inclusion of a single alcohol-related item. For example, more frequent alcohol use during adolescence and a steeper increase in usage over time was associated with more total one-time sexual hookups reported in young adulthood (Johnson, 2013), but alcohol use was not associated with the level of sexual involvement during a hookup (Paul et al., 2000). Higher instances of binge drinking in the past year predicted a greater number of hookup partners over the past year but did not predict the likelihood of engaging in penetrative versus nonpenetrative encounters (Garneau et al., 2013). One study found binge drinking was associated with giving and receiving oral sex during a hookup but was not related to engagement in vaginal sex hookups (Fielder et al., 2013). Regarding drunkenness, peak level of intoxication in the past month prospectively predicted the number of oral and vaginal sex hookup partners over the course of an academic semester (Fielder & Carey, 2010a), and reporting more frequent symptoms of alcohol intoxication was associated with engagement in hookups marked by increased sexual involvement in cross-sectional data (Paul et al., 2000). Reliance on a single alcohol item in these studies makes it unclear whether the associations between each alcohol variable and hookup behavior stem from these distinct alcohol behaviors or a broader underlying construct.

The few studies that have considered multiple alcohol variables create composite scales containing items assessing alcohol use, binge drinking, or drunkenness. For example, Olmstead and colleagues (2013) computed the mean of two items assessing frequency of alcohol use and binge drinking and found this measure predicted a greater likelihood of hooking up but did not predict engagement in penetrative versus nonpenetrative hookups. Owen and colleagues (2011) combined three alcohol items assessing frequency of consumption, typical amount consumed when drinking, and frequency of binge drinking and found this composite variable discriminated between penetrative and nonpenetrative hookups. An additional study reported that two combined items assessing frequency of consumption and amount of alcohol typically consumed when drinking predicted a 200% increase in the odds of reporting a hookup (Owen et al., 2010). While these three studies included multiple alcohol use items, they all operationalized hooking up differently than the present investigation: a physical encounter without any expectation of future involvement.

The literature currently speaks to the robustness of alcohol consumption, broadly operationalized, in predicting engagement in hookups, but there is likely additional nuance underlying this association not yet examined. Specifically, do these variables (alcohol use, binge drinking, and drunkenness) serve as a proxy for one another, tapping a common underlying construct? Or do they independently contribute to understanding one-time sexual hookups? The high interitem correlations observed in studies assessing multiple alcohol variables (from r = .61 in Owen et al., 2010, to r = .80 in Owen et al., 2011) suggest these variables are likely representing a latent alcohol consumption construct, but this question is yet to be examined. In addition, few studies on hooking up include individuals outside the transition to adulthood (for exceptions, see Grello, Welsh, Harper, & Dickson, 2003; Johnson, 2013), so it is unclear whether alcohol use, binge drinking, and drunkenness might function differently during other periods in the life span.

**Alcohol Consumption in Adolescence, the Transition to Adulthood, and Young Adulthood**

The nature of the Add Health data (prospective, longitudinal assessment spanning 15 years and three developmental periods) necessitates conceptualization from a life-span developmental perspective to understand relations between alcohol consumption in adolescence, the transition to adulthood, and young adulthood and the total number of one-time sexual hookups reported in young adulthood. This perspective emphasizes behavior as a function of both past and concurrent experiences (Baltes, 1987). The impact of prior hookups on lifetime prevalence reported 15 years later was estimated by modeling adolescent engagement in sexual encounters outside of a romantic relationship as a predictor of young adult hookup encounters. To analytically account for
behavioral continuity with alcohol, we modeled alcohol consumption during the transition to adulthood and young adulthood as being predicted by consumption during earlier developmental periods and examined how consumption during all three periods predicts the lifetime frequency of hooking up.

There is reason to believe alcohol consumption during distinct periods in the life span may exhibit differing magnitudes of association with hooking up, as the life-span developmental perspective recognizes behavior during key developmental periods may have greater personal consequences. Much work in this area identifies the transition to adulthood, a period from the late teens to mid-twenties demarcated by heightened risk taking and exploration to fully realize one’s identity (Arnett, 2000), as a key transitional period, with the power to shape the trajectory of one’s future life course (e.g., Masten et al., 2004). Some studies have even documented connections between transition to adulthood functioning and important life outcomes observed 25 years later (John- son, Galambos, & Krahn, 2014). Specific to alcohol consumption, prior research identified a pattern of increasing alcohol consumption from late adolescence through the transition to adulthood, followed by subsequent declines in consumption as the transition to adulthood draws to a close and through young adulthood, a pattern that is likely due to changes in independence and responsibilities around this life period (Brodbbeck, Bachmann, Croudace, & Brown, 2013; Schumensberg & Zarrett, 2006). Increased independence and autonomy from parents, coupled with few full-fledged adult responsibilities, allows for more freedom to engage in potentially risky behaviors, such as consuming alcohol and engaging in one-time sexual encounters, than any other period in the life span. We hypothesized, therefore, that alcohol consumption during the transition to adulthood would exhibit a stronger association with reports of one-time sexual hookups during young adulthood than consumption assessed in adolescence or young adulthood.

The Present Study

The purpose of the present study was twofold. First, we will determine whether global reports of alcohol use, binge drinking, and drunkenness are best represented as indicators of a latent alcohol consumption construct and whether this latent conceptualization is consistent during adolescence, the transition to adulthood, and young adulthood. Next, we examined the predictive power of alcohol consumption during each period in the life span on the total number of one-time sexual hookups reported in young adulthood.

To increase confidence in the findings, additional variables identified in the literature as important predictors of hooking up were also examined for inclusion in the analysis: sex, age, race, educational attainment, parent-adolescent relationship quality, age of first sex, and sexual minority status. Males report more frequent hookups involving intercourse once and only once (Fielder & Carey, 2010a; Gute & Eshbaugh, 2008), a similar operationalization as the current study. Prior analyses with the Add Health data demonstrated being younger was associated with more hookups (Johnson, 2013). Research also found race (Lyons et al., 2013; Owen et al., 2010) and level of education (Lyons et al., 2013) were associated with hookup behavior, and better relations with parents during adolescence predicted less alcohol use and fewer hookups as young adults (Johnson, 2013). Finally, those with an earlier sexual debut would have a longer time span during which engagement in hookups would be possible, and casual sex is more prevalent among sexual minority groups (García et al., 2012).

This study makes at least three contributions to the literature. First, this is the first study to examine whether global assessments of alcohol use, binge drinking, and drunkenness are best understood as indicators of a latent alcohol consumption construct. This investigation provides guidance for interpreting findings in the extant literature regarding the associations between alcohol variables and hooking up. Second, this study answers the research questions with data from a longitudinal, nationally representative sample of young adults. A recent literature review called for more diverse samples in sexuality research (Lefkowitz, Gillen, & Vasilenko, 2011), and much of the extant literature regarding hooking up is comprised of college student samples (for exceptions, see Johnson, 2013; Lyons et al., 2013). Also, the long-term nature of this study allowed for a life-span perspective to be considered as well, which is novel among studies investigating hooking up. Third, these results shed light on critical developmental periods when alcohol consumption might be more strongly associated with lifetime engagement in one-time sexual encounters. Thus, the findings provide enhanced precision for which age group(s) should be targeted with education efforts seeking to mitigate potentially adverse outcomes from consuming alcohol.

Method

Procedures

This study used public-use data from Waves 1, 3, and 4 of Add Health. Wave 1 data were collected from 1994 to 1995 with a nationally representative sample of 20,745 adolescents in grades 7 through 12 in the United States (Harris et al., 2009). Wave 2 data were collected one year after Wave 1 and are not utilized in the current study because additional participants were recruited only for this wave of data. Wave 3 data collection was carried out in 2001 and 2002, and Wave 4 was conducted from
Participants

Given that the purpose of the current study was to understand associations between alcohol consumption and one-time sexual hookup behavior, only participants who provided information about hookups at Wave 4 were included (n = 4,767 out of 5,113 total Wave 4 participants). Moreover, we filtered out those who reported having been physically or verbally forced to have sex or who engaged in sex for money at any wave of data collection (n = 1,034). These two variables reflect behaviors that clearly diverge from hooking up but could be captured in the operational definition of hooking up in this study. Thus, the final sample size is 3,733 participants.

For the subsample of participants in this study, 50.7% were men; 57.8% self-identified as European American, 24.7% African American, 4.2% Asian or Pacific Islander, 4.6% Native American or Alaskan Native, and the remaining 8.7% were another race not listed. The mean age of participants at Wave 1 was 15.95 years (SD = 1.76, ranging from 13 to 20 years), 22.16 years (SD = 1.85, ranging from 20 to 27) at Wave 3, and 28.96 years (SD = 1.77, ranging from 26 to 33 years) at Wave 4 (10 participants were a year older or younger than this age range at each wave of data collection). Each wave of data used in the current study corresponds to a unique developmental period, on average: adolescence, the transition to adulthood, and young adulthood. In terms of educational attainment at Wave 4, 7.1% of the participants had not completed high school; 15.8% had earned a high school diploma; 9.8% went to vocational or technical training school; 32.0% had some college education; 21.9% had a bachelor’s degree; and 13.4% had undertaken graduate training. Household income data for respondents at Wave 4 indicated 30.6% of the sample earned less than $39,999 per year, 37.5% earned between $40,000 and $74,999 per year, while the remaining 31.9% made over $75,000 each year.

The participants also represent a wide range of sexual experiences. The mean age of first sexual intercourse was 16.95 (SD = 2.98), with 31.4% of the participants having had their first sexual experiences at age 15 or earlier, 31.9% between ages 16 and 17, and the remaining 36.7% at age 18 or later. This aligns with previous research reporting a mean age of first sex between 16 and 17 years old for men and women in North America (Eriksson & Humphreys, 2014; Reissing, Andruff, & Wentland, 2012). Regarding sexual orientation, the majority of this subsample self-identified as “100% heterosexual” (n = 3309; 88.6%) and the other 11.4% of the sample (n = 424) identified as a sexual minority (e.g., same-sex, bisexual, or asexual orientation). The mean number of lifetime sex partners was 9.19 (SD = 7.78), with 88.3% of the sample reporting a range of 1 to 24 partners and the remaining 11.7% reporting 25 or more lifetime sex partners.

Measures

One-time sexual hookups. One item at Wave 4 assessed the number of one-time sexual hookups: “Considering all types of sexual activity, with how many partners, male or female, have you had sex on one and only one occasion?” Earlier items in the questionnaire explicitly defined “all types of sexual activity” as vaginal intercourse, oral sex, or anal intercourse. Responses ranged from 0 = 0 partners to 10 = 10 or more partners.

Alcohol variables. Three items assessed frequency of alcohol use, binge drinking, and drunkenness at Waves 1, 2, 3, and 4. The alcohol use item asked: “During the past 12 months, on how many days did you drink alcohol?” Binge drinking was assessed by asking: “During the past 12 months, on how many days did you drink five or more drinks in a row?” Drunkenness was determined by the item: “During the past 12 months, on how many days have you been drunk or very high on alcohol?” Responses for each variable ranged from 0 = Never, 1 = 1 or 2 days in the past 12 months, 2 = Once a month or less, 3 = 2 or 3 days a month, 4 = 1 or 2 days a week, 5 = 3 to 5 days a week, and 6 = Every day or almost every day.

Control variables. Sex, age, race, educational attainment, mother–adolescent and father–adolescent relationship quality, age of first sexual intercourse, sexual orientation, and adolescent hookup history were examined as potential control variables. Participant age (r = −.01, p = .47), race (r = .02, p = .18), and level of education (r = −.01, p = .38) were not correlated with lifetime hookups and thus, were excluded from further analysis. Parent–adolescent relationship quality was assessed through four items for both the mother and father at Wave 1: “How close do you feel to your mother/father?” “Most of the time, your mother/father is warm and loving toward you”; “You are satisfied with the way your mother/father communicate with you”; and “Overall, you are satisfied with your relationship with your mother/father.” Responses ranged from
between sexual orientation and hookups at Wave 4 was bisexual, homosexual, and asexual). The correlation was 0.10, and the variable was correlated with slightly fewer hookups (r = −.04, p = .03). The mean of father–adolescent relationship quality was 4.16 (SD = .83), alpha reliability was 0.90, and it was correlated with fewer hookups (r = −.10, p < .001). Being older at first sexual intercourse was correlated with fewer hookups at Wave 4 (r = −.25, p < .001). Sexual orientation was coded as 0 = heterosexual and 1 = Sexual minority (i.e., bisexual, homosexual, and asexual). The correlation between sexual orientation and hookups at Wave 4 was r = .08 (p < .001). Hooking up history was assessed by one item at Wave 1: “Not counting the people you have described as romantic relationships, have you ever had a sexual relationship with anyone?” Response options were 1 = Yes and 0 = No. Hookup history at Wave 1 was related to more total hookups reported in Wave 4 (r = .20, p < .001).

Analytic Plan

To determine whether alcohol use, binge drinking, and drunkenness during adolescence, the transition to adulthood, and young adulthood are best understood as indicators of a latent alcohol consumption variable, a confirmatory factor analysis (CFA) was conducted and measurement invariance was examined. The predictive power of alcohol consumption during each developmental period after controlling for the influence of sex, age, race, education, parent–adolescent relationship quality, and previous hookup history was next examined through structural equation modeling (SEM). Data analysis was performed using Mplus 7.1 (Muthén & Muthén, 1998–2012), and good model fit was evaluated according to commonly accepted guidelines: a nonsignificant chi-square test, a root mean square error of approximation (RMSEA) value smaller than or equal to .05, a comparative fit index (CFI) and Tucker-Lewis index (TLI) greater than or equal to .95, and a standardized root mean square residual (SRMR) value smaller than or equal to .08 (e.g., Hu & Bentler, 1999). The outcome variable of interest, total number of one-time sexual encounters, with the strongest associations evident during the transition to adulthood (r = .24). As expected, the alcohol variables were strongly correlated within each wave of data collection (ranging from r = .64 to r = .75) and were related to one another across waves as well. With the correlations proceeding as anticipated, we turn our attention to the multivariate analyses.

CFA and Measurement Invariance Testing Results

CFA was performed to determine whether alcohol use, binge drinking, and drunkenness are indicators of a latent alcohol consumption variable, and measurement invariance testing evaluated whether the measurement of this latent alcohol variable was consistent over adolescence, the transition to adulthood, and young adulthood. The baseline configural invariance model demonstrated good model fit: χ²(15) = 53.822, RMSEA = .028 (90% C.I. = .020, .036), CFI = .996, TLI = .991, SRMR = .017. All factor loadings were significant and above .75 at all waves, suggesting the observed alcohol variables were good indicators of the latent alcohol consumption variable at each wave. Instead of autocorrelating the three waves of latent alcohol consumption variables, we regressed Wave 4 alcohol consumption on Waves 1 and 3 alcohol consumption, and regressed Wave 3 alcohol consumption on Wave 1 consumption (Little, 2013). This

Results

Correlations

Descriptive statistics for main study variables and their bivariate correlations are presented in Table 1. On average, participants reported 2.36 (SD = 3.01) one-time sexual hookups by young adulthood and higher levels of alcohol use, binge drinking, and drunkenness during each wave of data collection was related to a greater number of one-time sexual encounters, with the strongest associations evident during the transition to adulthood (r = .24). As expected, the alcohol variables were strongly correlated within each wave of data collection (ranging from r = .64 to r = .75) and were related to one another across waves as well. With the correlations proceeding as anticipated, we turn our attention to the multivariate analyses.
modeling decision was based on the life-span concept of behavioral continuity (Baltes, 1987). The significant relationships between Waves 1 and 3 alcohol consumption ($\beta = .23$, $SE = .03$, $p < .001$), Waves 3 and 4 alcohol consumption ($\beta = .57$, $SE = .02$, $p < .001$), and Waves 1 and 4 alcohol consumption ($\beta = .07$, $SE = .03$, $p = .011$) support this rationale.

Next, we performed a metric invariance test to examine whether the factor loadings of the observed variables were consistent over time by constraining the corresponding factor loadings to equality across the three waves (see Figure 1). Because the chi-square test is highly sensitive with large samples, we followed the advice of Widaman, Ferrer, and Conger (2010) for testing measurement invariance and examined the change in CFI (i.e., $\Delta$CFI), with a difference greater than or equal to .01 indicating a significant worsening of model fit (Cheung & Rensvold, 2002). Compared to the configural invariance model, the metric invariance model did not show significantly worse model fit: $\chi^2 (19) = 72.921$, RMSEA = .029 (90% CI = .022, .036), CFI = .995, TLI = .990, SRMR = .021, $\Delta$CFI = .001, suggesting the metric invariance model ($\Delta$CFI = .071), suggesting the mean levels of alcohol use, binge drinking, and drunkenness could not be held equal across the three waves. We examined each set of intercept constraints separately to determine the precise source of the invariance. Each of the Wave 1 variables had substantively smaller intercepts compared to Waves 3 and 4 ($\Delta$CFI from .013 to .057). Because the interest of the current study was not with the latent means, but rather the associations of the latent variables with the lifetime frequency of hooking up, the longitudinal SEM analysis could proceed with metric invariance (Little, 2013).

**SEM Results**

We then used SEM to examine the relationship between the latent alcohol consumption variable in adolescence, the transition to adulthood, and young adulthood, and the number of one-time sexual hookups reported in young adulthood (see Figure 2). The control variables were added to the analysis at this point. We first computed a model with all control variables included and pruned any nonsignificant paths to achieve the most parsimonious model (only from mother–adolescent relationship quality). The final model demonstrated good fit to the data: $\chi^2 (64) = 382.198$, RMSEA = .036 (90% CI = .033, .040), CFI = .973, TLI = .960, SRMR = .027. Results showed that higher alcohol consumption

![Figure 1](image-url). Confirmatory factor analysis with metric invariance ($n = 3,733$). *Note.* Standardized estimates are shown. Residuals are correlated for each observed alcohol variable with itself over time. Model fit indices: $\chi^2 (19) = 72.921$, RMSEA = .029 (90% CI = .022, .036), CFI = .995, TLI = .990, SRMR = .021; $^*p < .05$; $^{**}p < .001$ (two-tailed).

### Table 1. Correlations and Descriptive Statistics for Study Variables ($n = 3,733$)

| Variables             | Mean  | SD   | Range   | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   |
|-----------------------|-------|------|---------|------|------|------|------|------|------|------|------|------|------|------|
| 1. Hookups            | 2.36  | 3.01 | 0–10    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| 2. Alcohol use (W1)   | 1.86  | 1.45 | 0–6     | .13**| —    | —    | —    | —    | —    | —    | —    | —    | —    |
| 3. Binge drinking (W1)| 1.30  | 1.55 | 0–6     | .12**| .66**| —    | —    | —    | —    | —    | —    | —    | —    |
| 4. Drunkenness (W1)   | 1.23  | 1.42 | 0–6     | .13**| .66**| .75**| —    | —    | —    | —    | —    | —    | —    |
| 5. Alcohol use (W3)   | 2.85  | 1.47 | 0–6     | .24**| .15**| .12**| .16**| —    | —    | —    | —    | —    | —    |
| 6. Binge drinking (W3)| 1.73  | 1.62 | 0–6     | .24**| .14**| .21**| .22**| .69**| —    | —    | —    | —    | —    |
| 7. Drunkenness (W3)   | 1.61  | 1.47 | 0–6     | .24**| .13**| .14**| .18**| .66**| .75**| —    | —    | —    | —    |
| 8. Alcohol use (W4)   | 2.85  | 1.59 | 0–6     | .16**| .15**| .07**| .12**| .47**| .33**| .36**| —    | —    | —    |
| 9. Binge drinking (W4)| 1.62  | 1.60 | 0–6     | .19**| .14**| .15**| .18**| .38**| .44**| .42**| .64**| —    | —    |
| 10. Drunkenness (W4)  | 1.39  | 1.39 | 0–6     | .24**| .13**| .17**| .19**| .37**| .42**| .47**| .58**| .75**| —    |

Note. W1 = Wave 1; W3 = Wave 3; W4 = Wave 4.

$^{**}p < .01$.
Discussion

The purpose of the current study was to answer two research questions: (1) Are global reports of alcohol use, binge drinking, and drunkenness assessed during adolescence, the transition to adulthood, and young adulthood best understood as indicators of a latent alcohol consumption construct or reflecting distinct alcohol use behaviors? and (2) What is the predictive power of alcohol consumption during each developmental period on the total number of one-time sexual hookups reported in young adulthood? These questions were answered with public-use data from the Add Health study and conceptualized from a life-span developmental perspective (Baltes, 1987).

The first notable contribution of this study is that global assessments of alcohol use, binge drinking, and drunkenness across three developmental periods are best conceptualized as indicators of a latent alcohol consumption construct. This finding has implications for interpreting results from prior studies that used one alcohol variable (e.g., Fielder et al., 2013; Fielder & Carey, 2010a; Garneau et al., 2013; Johnson, 2013; Paul et al., 2000) or a composite variable encompassing multiple alcohol items (Olmstead et al., 2013; Owen et al., 2010; Owen et al., 2011). While these studies operationalized experiences with alcohol differently, the associations observed between alcohol and hooking up are likely a representation, to some degree, of the influence of general alcohol consumption on hookup behavior rather than a function of the specific variable measured (e.g., frequency of alcohol use versus binge drinking). As a result, discrepant findings in these studies regarding how alcohol is related to hooking up must be considered as potentially arising from sampling error or statistical artifact. For example, it would be premature to conclude that binge drinking is able to predict level of sexual involvement during a hookup (Fielder et al., 2013) but alcohol use is not (Paul et al., 2000). Future research could provide more specificity as to which hookup behaviors are related to alcohol consumption by using a latent variable representation of multiple alcohol variables.

Although alcohol use, binge drinking, and drunkenness are best represented as indicators of a latent alcohol use variable during adolescence, the transition to adulthood, and young adulthood, the mean structures for during the transition to adulthood (β = .17, SE = .03, p < .001) and young adulthood (β = .07, SE = .02, p = .002), but not adolescence (β = .02, SE = .02, p = .359), predicted more one-time sexual hookups in young adulthood, after controlling for sex, age of first sexual intercourse, father–adolescent relationship quality, and sexual orientation. In addition, adolescent hookup history was included to account for behavioral continuity across the life span and was associated with a higher number of one-time sexual hookups reported in young adulthood (β = .10, SE = .02, p < .001). The relationships between alcohol consumption during adolescence and the transition to adulthood (β = .25, SE = .03, p < .001), during the transition to adulthood and young adulthood (β = .56, SE = .02, p < .001), as well as during adolescence and young adulthood (β = .08, SE = .03, p = .003), remained significant in this final model. In terms of control variables, being male (β = .11, SE = .02, p < .001), engaging in first sexual intercourse at a younger age (β = −.17, SE = .02, p < .001), having worse father–adolescent relations (β = −.07, SE = .02, p < .001), and identifying as a sexual minority (β = .09, SE = .02, p < .001) were related to reporting more one-time sexual hookups.

Next, we used a Wald test of parameter constraints (Chou & Bentler, 2002; Kline, 2010) to determine whether alcohol consumption during the transition to adulthood and young adulthood equally predicted total hookups or if consumption exhibited a significantly stronger association during a particular developmental period. This test showed alcohol consumption during the transition to adulthood was a significantly stronger predictor of one-time sexual hookups than consumption in young adulthood (χ²(1) = 5.196, p = .023).
each variable were not equivalent during these periods. Specifically, the intercepts for each variable were significantly smaller during adolescence than during the transition to adulthood or young adulthood. This finding has important implications for global evaluations of alcohol consumption assessed longitudinally. The use of alcohol during adolescence, while common, is not a legally sanctioned behavior, providing a likely explanation for why the mean structure of variables assessing the frequency of consumption would differ substantially from measurement later in the life span, when alcohol use is legally permissible. For studies examining latent variable means (e.g., second-order latent variable growth curve modeling) of alcohol behavior spanning adolescence to young adulthood, we recommend considerable attention be devoted to the selection of measures that are likely to be less influenced by legalization. For example, it is plausible that the number of drinks consumed when drinking might prove more consistent than frequency of consumption.

Turning to the second research question, our findings showed alcohol consumption during the transition to adulthood and young adulthood was associated with a greater number of one-time sexual hookups reported in young adulthood, but alcohol consumption during the transition to adulthood was a significantly stronger predictor than consumption during young adulthood. The large sample size provided ample statistical power to detect the significance of the effect from young adult consumption (β = .07), but the magnitude of this effect can be considered trivial (Cohen, 1988). The only substantive association was from alcohol consumption during the transition to adulthood. This finding is all the more striking when considering the analysis accounted for continuity in behavior across the life span (nonrelational sexual encounters and alcohol consumption during adolescence), a number of important control variables were incorporated, mean levels of alcohol consumption were very similar during the transition to adulthood and young adulthood, and an inflated association would be expected between one-time sexual hookups and young adult alcohol consumption since they were both assessed during the same measurement occasion. This finding implies growth in self-control after entering young adulthood, where alcohol consumption remains relatively steady but no longer contributes in a meaningful way to one-time sexual encounters. The young adult roles of partner, spouse, and parent and acquisition of career-focused employment demand self-regulation to meet the increased responsibilities of work and family life compared to the transition to adulthood.

In terms of theoretical contributions, this study also provides strong evidence supporting the transition to adulthood as a unique developmental period with the power to shape important life outcomes (e.g., Arnett, 2000; Masten et al., 2004). In addition, this work highlights the value of incorporating a life-span developmental perspective (Baltes, 1987) to inform studies investigating hookup behavior. The adoption of a developmental perspective in future hookup research would strengthen the literature by providing a more comprehensive understanding of the ways in which earlier biographical experiences contribute to one’s uncommitted sexual behaviors.

Although not a main focus of the present study, we examined whether the association between alcohol consumption and hookups would differ between heterosexual and sexual minority participants and those identifying as a sexual minority. Sexual orientation is not often considered in contemporary studies examining hooking up (Garcia et al., 2012), so this analysis provides an additional contribution to the literature. We examined our model separately for those who identified as heterosexual and sexual minority participants and constrained corresponding parameters to be equal to see if the two groups were empirically distinguishable. Our results demonstrated the effect of alcohol consumption on lifetime hookups did not differ between heterosexual and sexual minority participants, although sexual minority participants reported a greater number of lifetime hookups by young adulthood.

Finally, the results of this study might serve to inform intervention efforts aimed at providing education around linkages between alcohol consumption and risky sexual behavior, which likely includes at least some one-time sexual encounters. First, educational curricula should recognize that conceptually distinct alcohol consumption behaviors (alcohol use, binge drinking, and drunkenness) may share considerable overlap with one another in the lives of adolescents, those in the transition to adulthood, and young adults. Thus, rather than targeting seemingly high-risk alcohol behaviors (such as binge drinking or drunkenness), it may be more accurate to provide information regarding the robust associations between alcohol consumption, ranging from how frequently one drinks to how often one becomes intoxicated, and uncommitted sexual encounters. On the other hand, advocating responsible alcohol use may prove an ineffective strategy for reducing higher-risk behaviors, as reports of alcohol use in this large, diverse sample shared a substantial proportion of its variance with binge drinking and drunkenness.

A second implication of these results for intervention is that the transition to adulthood is an ideal developmental period when interventions targeting alcohol consumption and one-time sex might be most impactful, as the association between consumption and one-time sexual encounters was strongest when participants were aged 20 to 27 years. Education efforts during adolescence and young adulthood might be critical for reducing associations between alcohol consumption and other risk behaviors (such as driving while intoxicated or illicit substance use) but might have a more muted effect on reducing total one-time sexual liaisons. Alternatively, early intervention during adolescence might provide additional
time for individuals to initiate behavioral changes regarding alcohol consumption prior to the critical transition to adulthood period.

Limitations

There are several limitations to the current research. This study examined one specific type of hookup behavior: sexual interaction with a partner once and only once. This operationalization does not encompass the broad range of definitions young adults commonly use to describe a hookup. For example, research suggests that nearly half of college student hookups (46.7%) do not involve oral or penetrative sex (Lewis et al., 2012), and another study found 44% of female college students hooked up more than once with their most recent hookup partner (Fielder & Carey, 2010b). Thus, results of this study likely do not apply to all types of hookups. The focal items of interest assess lifetime hookup encounters and alcohol consumption over the past year. This retrospective questioning may be subject to memory bias or inaccurate recall. Although this study used prospective data spanning approximately 15 years, the examination of lifetime hookups raises the possibility that some of the reported hookups may have occurred prior to the measurement during adolescence. While we statistically accounted for whether the respondent had experienced a preadolescent nonrelational sexual encounter, the temporal ordering between alcohol consumption and one-time sexual hookups cannot be conclusively determined with these data. These analyses demonstrate only the significance of alcohol consumption during adolescence, the transition to adulthood (most of all), and young adulthood for understanding lifetime reports of one-time sexual encounters, and we acknowledge the possibility that preadolescent alcohol consumption could be driving some of observed associations. Finally, this study examined alcohol use, binge drinking, and drunkenness, but other potentially important alcohol variables not considered in this study deserve further exploration. For example, items reflecting problematic alcohol consumption (e.g., Paul et al., 2000) and peak levels of intoxication (Fielder & Carey, 2010a) exhibited robust associations with hooking up in prior research.

Conclusion

The purpose of this study was to determine whether global reports of alcohol use, binge drinking, and drunkenness across three developmental periods are best represented as indicators of a latent alcohol consumption construct and to examine the predictive power of alcohol consumption during each developmental period on the total number of one-time sexual hookups reported in young adulthood. Results indicated that alcohol use, binge drinking, and drunkenness are best represented as predictors of a latent alcohol consumption variable, and alcohol consumption during the transition to adulthood exhibited the most substantive association with the lifetime number of one-time sexual hookup reported in young adulthood. Findings from this study, in conjunction with the extant literature, demonstrate that alcohol consumption is clearly a powerful indicator of one’s engagement in one-time sexual encounters, particularly during the transition to adulthood.

Funding

This research used data from Add Health, a program project directed by Kathleen Mullen Harris and designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullen Harris at the University of North Carolina at Chapel Hill, and funded by grant P01-HD31921 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development, with cooperative funding from 23 other federal agencies and foundations. Special acknowledgment is due to Ronald R. Rindfuss and Barbara Entwisle for assistance in the original design. Information on how to obtain the Add Health data files is available on the Add Health website (http://www.cpc.unc.edu/addhealth). No direct support was received from grant P01-HD31921 for this analysis.

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