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Offspring Self-Disclosure Predicts Substance-Related Outcomes in an Emergency Department Sample of Young Adults with Traumatic Injury

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Abstract

Background: Hundreds of thousands of individuals visit the emergency department (ED) every year, with many visits occurring following alcohol misuse. Parent-child relationship factors are associated with alcohol-related outcomes. For example, offspring choice to self-disclose information about their lives to parents, rather than parents actively soliciting this information, is associated with substance use. However, it is unclear whether self-disclosure uniquely predicts alcohol-related outcomes in a young adult ED sample.

Methods: Data were collected from young adults (age 18-30 years) visiting an ED for a traumatic injury (n=79). Participants were about 24.4 years old, majority male (53.7%), and Caucasian (76%; 24% African-American). A bifactor model within a structural equation model tested unique effects of self-disclosure on age at first drink, propensity for risky drinking, and likelihood of consuming substances prior to ED visit, over and above parental solicitation and a general factor and gender.

Results: Those who shared more information with their caregivers reported an older age at first drink, lower propensity for risky drinking and lower propensity to consume substances prior to their ED visit.

Conclusions: These findings suggest that self-disclosure may be a unique risk factor in the initiation of alcohol use, development of problem use, and consequences following use.

Keywords

Emergency Department; Alcohol Use; Young Adults; Parenting

Traumatic injuries involving sudden onset and requiring immediate medical attention impact hundreds of thousands of individuals in United States emergency departments (ED) every year, with approximately 79,000 deaths following such injuries (DiMaggio, Avraham, Lee, Frangos, & Wall, 2017). Many of these visits are associated directly or indirectly with problem alcohol use, as well as single-occasion drinking, resulting in accidents, fights, assaults, or other traumas that warrant intense hospital care (Charalambous, 2002). Alcohol use begins in adolescence, reaches a peak in the mid 20's and then declines (Chen & Jacobson, 2012), making young adults a vulnerable group. As "ED users" (i.e., one or more ED visit in past year) have a higher prevalence of alcohol use disorder (AUD), spend more days consuming alcohol, and show higher rates of comorbid substance misuse compared to "ED non-users" (Wu et al., 2012), there is a need to identify who is at risk for alcohol misuse and alcohol-related accidents in an ED sample—particularly among young adults.

The research on predictors of alcohol-related outcomes in non-treatment seeking, ED samples is limited. However, among the studies published, research suggests that individuals with greater risk-taking propensity (Rui, 2017) and less parental monitoring (Chun et al., 2010) report more alcohol misuse or visits to the ED because of alcohol-related incidents. Indeed, albeit in community samples, parental monitoring impacts offspring alcohol-related outcomes, including age at first drink, a robust predictor of later alcohol use (Padilla-Walker, 2008; Ryan, Jorm, & Lubman, 2010), as well as effects of parental monitoring on AUD (Guo, 2001). Despite links between parental monitoring and offspring substance use behaviors, a seminal paper by Stattin and Kerr (2000) found that most of the variance in "parental monitoring" was explained not by parental solicitation of information, but by offspring choice to disclose personal information about their lives to their caregivers. Additionally, a meta-analysis found that the effect of parental monitoring on adolescent substance use was larger when "monitoring" was purely defined in terms of parental knowledge of the adolescent's whereabouts (Lac & Crano, 2009). Therefore, offspring self-disclosure, rather than parental solicitation, may drive risk for substance outcomes. Indeed, child disclosure uniquely predicts alcohol use (Stavrinides, Georgiou, & Demetriou, 2010). However, to our knowledge, this work has not been examined in the ED.

It is also unclear the extent of child/adolescent self-disclosure extends to prediction of substance-related outcomes in young adulthood. Individuals who chose to share less with their caregivers in adolescence may engage in more frequent deviant behaviors, in turn increasing the likelihood of use/misuse of alcohol and other substances once they began living independently as young adults. One group found that "parental monitoring" in adolescence predicted binge drinking in young adulthood (Donaldson, Handren, & Crano, 2016). However, the measure used in these analyses focused on lack of autonomy granting and control (e.g., do your parents allow you to make your own decisions about who you spend time with).

Although child disclosure may impact offspring alcohol-related outcomes, it may also be that some broader processes within a family promote both child disclosure and parent solicitation of information (e.g., strong parent-child relationship or communication skills, emphasis on transparency and honesty in the family unit; Laird, 2003). Thus, it is important in future research to examine the effects that are uniquely child-driven or uniquely parent-driven on alcohol-related outcomes.

Given gaps in the existing literature, the present study had two goals. First, we sought to test whether the unique effects of child self-disclosure, parental solicitation of information, or the common factor of parent-child communication exerted unique effects on age at first alcoholic drink consumed, propensity for alcohol misuse, and likelihood of consuming alcohol prior to a visit to the ED. Additionally, given the gender differences in alcohol-related outcomes (e.g., men at higher risk for alcohol use and misuse than women, Brady, 1999; Wilsnack, Wilsnack, Kristjanson, Vogeltanz-Holm, & Gmel, 2009), we also examined these questions over and above gender.

Methods

Study Design, Study Setting and Population, and Study Protocol

Data were collected in accordance with the university's institutional review board (IRB) and with The Code of Ethics of the World Medical Association (Declaration of Helsinki). Participants were young adults between the ages of 18 and 30 years who visited the ED with a traumatic injury at a large hospital in the Southeast between September 2016 and July 2018. Individuals meeting these two inclusion criteria (i.e., age and traumatic injury) were asked to participate in the study, involving (1) completing the 30-45-minute Research Electronic Data Capture (RedCap) survey, which is a secure, online application that allows for data collection for research studies, and (2) allowing staff to access medical records (e.g., date and reason for ED visit). Of the 481 contacted, 79 participated (16.4%), 25 refused (5.2%), and 377 did not respond (78.4%). This study's participation rate of 16.4% is consistent with prior studies conducted in large public ED settings (with 13-22% recruitment rates; Holeva & Tarrier, 2001; Molnar et al., 2007). There were no significant ($p < .05$) differences among those who participated and those who did not on age ($F = .61$, NS; Cohen's d 's between .07-.23), gender (Chi Square=8.5, NS; Cramer's V : .09), and whether individuals lived inside or outside of the state whether the ED was located (Chi Square=7.72, NS; Cramer's V : .09).

Most (75%) visited the ED because of a motor vehicle accident, with the next most common reasons being accidentally falling (6%; e.g., down stairs, off roof), experiencing a gunshot wound or being hit by a car while walking (each 2.5%). Participants were on average 24.4 years old ($SD = 3.5$), and primarily Caucasian (76%; 24% African-American).

Measurements

Gender.—Participants were asked to indicate if they identified as male or female (53.7% male).

Offspring Self-Disclosure and Parental Solicitation of Information.—Young adults, asked to think about and report on the household in which they grew up, answered questions regarding their choice to self-disclose information about their friendships and free time to caregivers, as well as the extent to which their caregivers initiated conversations with them about their daily activities. Specifically, participants answered five questions capturing self-disclosure and parental solicitation of information using 5-point Likert scales (Stattin & Kerr, 2000). Cronbach's alphas were high (i.e., .83 for disclosure and .95 for solicitation).

Age at First Alcoholic Beverage.—Individuals reported the age at which they consumed their first alcoholic beverage ($M=16.8$, $SD=3.6$).

Use of Alcohol or Drugs Prior to their ED Visit.—Participants reported whether they consumed alcohol or drugs within four hours of their ED visit for traumatic injury. Those reporting any substance use prior to their visit received a score of 1 and those not reporting substance use received a score of 0; 23.2% said that they had consumed some substance. Of those reporting some substance use prior to their visit, a majority (79%) reported only using alcohol, 5% reported alcohol and cocaine, 5% reported only marijuana, and 11% did not report which substance(s) they consumed.

Risky Drinking.—Individuals reported on their alcohol use for the two months prior to their ED visit using the Alcohol Use Disorders Identification Test-Consumption/AUDIT-C (Bradley et al., 2007). Those meeting criteria for risky drinking were given a score of 1 and those not exceeding cut-offs were given a 0; 45.1% met these criteria.

Data Analysis

To test study questions, structural equation modeling (SEM), a statistical approach that allows for tests of relations among constructs using latent variables (Hox & Bechger, 1999), was estimated. Within that framework, a bifactor model (Holzinger, 1937) was fit to the data, which estimates two unique factors, and one general factor, recommended when the research question focuses on the unique effects of one of the lower order factors on outcomes, over and above the other factor and the general factor (Chen, West, & Sousa, 2006).

After estimating the measurement portion of the model, age at first alcoholic beverage, risky drinking, and whether the individual reports use of alcohol or drugs prior to their ED visit, were regressed on child disclosure, parental solicitation, and the general factor, as well as the covariate gender. Models were assessed for goodness of fit using the Comparative Fit Index (CFI): .95, Tucker Lewis Index (TLI) .95, Root Mean Square Error of Approximation (RMSEA) .08, as well as the Standardized Root Mean Square Error of Approximation .08 (Hu, 1999). Analyses ($n=76$) were conducted on those with non-missing data on predictors in MPlus Version 8.

Results

The bifactor model showed adequate fit to the data, CFI: .98, TLI: .95, RMSEA: .10, SRMR: .04. See Table for unstandardized factor loadings for the results of this bifactor model.

The larger SEM showed great fit to the data, CFI: .99, TLI: .99, and RMSEA: .01. Over and above the covariate gender, which did not predict outcomes, the unique effect of child disclosure was associated with all three outcomes. Specifically, those who reported sharing more information with their caregivers reported older age at first drink, lower likelihood of meeting the risky drinker criteria, and lower likelihood of consuming alcohol or drugs prior to their ED visit for traumatic injury. Neither the unique parental solicitation factor nor the general factor of parent-child communication was significantly associated with any of the outcomes. See Figure for depiction of associations among variables.

Discussion

To our knowledge, this is the first study to date examining associations among key parenting constructs and alcohol-related outcomes in a sample of young adults following a traumatic injury. Findings suggest that those reporting more disclosure to their caregivers also reported older age at first drink, lower likelihood of risky drinking, and lower likelihood of having consumed substances prior to the ED visit.

The effect of self-disclosure is consistent with prior work finding unique effects of youth disclosure on youth substance use and delinquency (Jimenez-Iglesias, Moreno, Granado-Alcon, & Lopez, 2012; Kerr, 2010). However, this is the first study to use a bifactor model to test the influence of the unique effect of self-disclosure on outcomes, over and above not only parental solicitation but also a common factor capturing parent-offspring communication. While self-disclosure may exert prospective effects on alcohol-related outcomes, we cannot rule out the possibility that individuals who began using alcohol earlier and at high levels chose to tell their parents less about their lives. Longitudinal research is needed within a young adult ED setting in order to test the direction of these effects.

Gender did not predict the study outcomes, which is somewhat inconsistent with prior work finding that males consume higher amounts of alcohol than females (Brady, 1999). However, it may be that this gap narrows when investigating young adults in this ED setting, during a developmental period in which rates of alcohol misuse are particularly high.

These findings should be interpreted in light of limitations. First, this study was cross-sectional, so no assumption about direction of effects can be made. Second, individuals were asked to think about and report on interactions with their caregivers when they were adolescents, so it is possible that they are misremembering aspects of those relationships. In addition, as this study was small in size, it is likely that we were under-powered to detect effects. Finally, the current study was primarily comprised of Caucasian participants, so findings may not generalize to other ethnic/racial groups visiting the ED due to a traumatic injury.

Despite these limitations, this study has many strengths. This is the first study to test unique effects of offspring self-disclosure, over and above parental solicitation and the general factor of parent-child communication, via a bifactor model, on alcohol-related outcomes. This is also the first study to examine these associations in a young adult ED sample, known to show high rates of alcohol misuse. Finally, these results are the first to suggest that offspring self-disclosure may impact substance use and likelihood of being involved in a substance use-related ED incident. Future findings building on this work may be used to guide decisions about how to prioritize intervention efforts aimed at reducing risk for early consumption of alcohol, propensity for risky drinking, and alcohol-related ED incidents.

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Figure.

Depiction of Structural Equation Model Testing Associations among Study Constructs.

Notes. * $p < .05$, ** $p < .01$, *** $p < .001$. Unstandardized regression coefficients (and standard errors) for predictor and covariate effects are shown. Bolded black lines are significant; dashed gray lines are not.

Table.

Unstandardized Loadings for Bifactor Model.

Item	Unique Factor: Child Disclosure (DISCL.)	Unique Factor: Parental Solicitation (SOLIC.)	General Factor: Parent-Child Communication
How often did you spontaneously tell your caregivers about your friends (which friends you hang out with and how they think and feel about various things)? DISCL.1	.335		.841
How often did you usually want to tell your caregivers about school (how subjects are going, your relationships with teachers)? DISCL.2	.177		1.261
How often did you keep a lot of secrets from your caregivers about what you do during your free time? (R) DISCL.3	1.160		.193
How often did you hide a lot from your caregivers about what you do during nights and weekends? (R) DISCL.4	1.107		.234
How often did you like to tell your caregivers about what you did and where you went during nights and weekends? DISCL.5	.283		.767
How often did your caregivers talk with your friends when they came over to the house? SOLIC.1		.744	.487
How often did your caregivers ask you about what happened during your free time? SOLIC.2		.921	.731
How often did your caregivers initiate a conversation with you about your free time? SOLIC.3		.855	.829
How often did your caregivers have extra time to sit down and list to you when you talk about what happened during your free time? SOLIC.4		.700	.983
How often did your caregivers ask you to sit and tell them what happened at school on a regular day? SOLIC.5		.784	1.002