2011

Parent–teen communication and pre-college alcohol involvement: A latent class analysis

Caitlin C. Abar

Anne C. Fernandez

See next page for additional authors

Citation/Publisher Attribution

Abar, C. C., Fernandez, A. C., & Wood, M. D. (2011). Parent–teen communication and pre-college alcohol involvement: A latent class analysis. *Addictive Behaviors, 36*(12), 1357-1360. doi: 10.1016/j.addbeh.2011.07.044
Available at: https://doi.org/10.1016/j.addbeh.2011.07.044

Authors
Caitlin C. Abar, Anne C. Fernandez, and Mark D. Wood

Published in final edited form as:
Addict Behav. 2011 December ; 36(12): 1357–1360. doi:10.1016/j.addbeh.2011.07.044.

Parent-Teen Communication and Pre-College Alcohol Involvement: A Latent Class Analysis

Caitlin C. Abar[a], **Anne C. Fernandez**[b], and **Mark D. Wood**[b]

[a]Brown University, Center for Alcohol and Addiction Studies, 121 South Main St, Providence RI 02906

[b]University of Rhode Island, Department of Psychology, 10 Chafee Road, Kingston, RI 02881

Abstract

Although parent-adolescent communication has been identified as important in delaying the onset and escalation of alcohol use, both the strength and direction of observed associations has varied in prior research with adolescents and college students. The current study categorizes parents according to alcohol-related communication and relates these categories to other parenting factors and late adolescent alcohol involvement.

Method—As part of a larger study, 1,007 college-bound teens and their parents were assessed. Teens were asked to report on their drinking behavior, and parents were asked about the occurrence of several specific alcohol-related communications with their teen, as well as additional parenting characteristics. Profiles of parent alcohol-related communication were derived using latent class analysis. Once the best fitting solution was determined, covariates were entered predicting class membership and investigating how classes were associated with additional parenting characteristics and teen alcohol use.

Results—A five-class solution provided the best fit to the data: *Frequent, All Topics* (28%); *Moderate, All Topics* (25%); *Frequent, General Topics* (25%); *Frequent, Consequences and Limits* (12%); and *Infrequent, All Topics* (10%). Covariate analyses demonstrated class differences with regard to parental modeling, monitoring, knowledge, and parent-teen relationship satisfaction, as well as for students' intentions to join fraternities/sororities and alcohol use.

Conclusions—Findings from the current study add to a small but growing literature supporting the continuing influence of parents in late adolescence and suggest that the frequency and specificity of parent-teen communication are potentially informative for refined parent-based preventive interventions.

For Correspondence: Caitlin Abar Ph.D., Center for Alcohol and Addiction Studies, Brown University, Box G-S121-4, Providence RI 02912 USA, (wk) 401-863-6627, (fx) 401-863-6647, caitlin_abar@brown.edu.

Contributors

Author Wood designed the study and wrote the protocol. Author Fernandez assisted in data collection and study organization. Author Abar conducted literature searches and provided summaries of previous research studies, conducted the statistical analysis, and wrote the first draft of the manuscript. All authors contributed to editing and refining the paper and have approved the final manuscript.

Conflict of Interest

None of the authors are connected in any way to the alcohol, tobacco, pharmaceutical, or gaming industry. None of the authors have any conflicts of interest.

1. Introduction

Familial factors have been ubiquitous in attempts to understand adolescent development and inform effective intervention (Masten & Shaffer, 2006). Parental monitoring, knowledge, permissiveness for drinking, and disapproval of drinking have demonstrated associations with alcohol use and consequences in both cross-sectional (e.g., Chen, Grube, Nygaard, & Miller, 2008; Sessa, 2005) and prospective (e.g., Abar & Turrisi, 2008; Walls et al., 2009; White et al., 2006) research. Although parent-adolescent communication is also thought to be protective against drinking, both the strength and direction of associations has varied in both younger (Ennett et al., 2001; van der Vorst et al., 2005) and older (Turrisi, Wiersma, & Hughes, 2000; Turrisi et al., 2007) adolescents. Given the null or modest effects to date for parent-based alcohol interventions with college students emphasizing communication (Ichiyama et al., 2009; Turrisi et al., 2001; 2009; Wood et al., 2010), refined knowledge of specific aspects of alcohol-related communication could inform intervention revision.

Accordingly, this study applied a person-centered approach, latent class analysis (LCA), to the examination of specific communication patterns of parents and their college matriculating teens. We asked: 1) What patterns of alcohol-related communication are reported by parents of pre-college students? 2) How might these patterns be associated with other relevant parenting characteristics (e.g., parental monitoring)? 3) How might these communication patterns be differentially associated with late adolescent alcohol use and intended selection into the fraternity/sorority (“Greek”) system, which is consistently predictive of alcohol-related problems in college (McCabe et al., 2005; Park, Sher, Wood, & Krull, 2009)?

2. Method

2.1 Participants

A sample of 1,007 incoming student-parent dyads at a large northeastern university were recruited as part of a larger randomized control trial aimed at reducing alcohol-related harm in college (Wood et al., 2010). Eligible participants were incoming students between 17 and 21 years of age, with parental consent for those under 18.. Students received $30 and parents received $40 for participation. The average age was 18.4 years (SD = .41), 57% were female, 89% was White/Caucasian, and approximately 84% had tried alcohol.

Parent reports regarding the frequency of alcohol related communications with their college teens were used as latent class indicators, with parent reports of additional parenting practices and teen reports of their own alcohol use and involvement in the Greek system used as covariates.

2.2 Measures

Parental communications about alcohol—Nine items, adapted from Wood et al. (2010) assessed alcohol-related communication topics that parents may have discussed with their college bound students (e.g., “My teen and I have agreed upon limits to his/her drinking in college and have discussed the consequences of violating these limits”; 1 = “not at all,” 2 = “a moderate amount,” and 3 = “a great deal”).

Additional Parenting Practices—Parental Drinking Frequency was assessed by a single item asking, “In the past year, how often did you drink alcohol?” (1= never, 2 = less than monthly, 3 = monthly, 4 = weekly, 5 = daily or almost daily). Parental Monitoring ($\alpha = .66$) and Knowledge ($\alpha = .72$) were the average of four items asking, “How much do you try to know (monitoring)/really know (knowledge) (A) where your teen goes at night, (B) what

your teen does with his/her free time, (C) where your teen is during the day, and (D) about your teen's drinking?" (1 = don't try/know, 2 = try/know a little, 3 = try/know a lot; Parent-teen Relationship Satisfaction was the average of six items asking, "How satisfied are you with (A) the way you and your teen communicate with each other, (B) the way you discipline your teen, (C) the love and affection you show your teen, (D) the emotional support you give your teen, (E) the way you and your teen resolve conflicts, and (F) your overall relationship with you teen?" (1 = very dissatisfied to 5 = very satisfied; $\alpha = .87$).

Intended fraternity/sorority (Greek) involvement)—Greek involvement was assessed by a single item on intentions to affiliate with a fraternity/sorority. Response options included "No and I do not intend to attend fraternity or sorority activities,", "No, but I expect to regularly attend fraternity or sorority activities," and "Yes, I intend to become a member/pledge."

Student alcohol use—More than One Drink on a Single Occasion in the Past Year was measured by a single yes/no variable. Weekend drinking was the sum of drinks consumed on a typical Friday and Saturday (Collins, Parks, & Marlatt, 1985).

2.3 Analysis

A series of LCAs were conducted using Mplus 5.2 (Muthen & Muthen, 1998–2007). We began with a one-class solution, adding additional classes according to the values of the Bayesian Information Criteria (BIC; Schwartz, 1978) and Lo, Mendell, and Rubin's (2001) adjusted likelihood ratio (aLRT). Once the best fitting solution was determined, covariates were entered into the model predicting class membership to investigate how classes might be differentially associated with parenting characteristics, intended Greek involvement, and alcohol use.

3. Results

3.1 Preliminary Analysis

Results revealed at least 90% of the parents endorsed either a moderate amount or a great deal of discussion on items 1 – 7 listed in Table 1.

3.2 Latent Class Analysis

A five-class solution fit the data best, as indicated by the lowest BIC and a significant aLRT. The first class (28% of the population) was labeled the *Frequent, All Topics* class (see Table 1). Parents in this class were the most likely to endorse a great deal of communication on each of the nine indicators. The second class (25%) was labeled the *Moderate, All Topics* class. As in the first class, parents in this class also discussed all topics, but with a modal frequency of a moderate amount of communication (.56-.92 across all indicators). The third class, the *Frequent, General Topics* class (25%), had high probabilities of communicating a great deal about general topics associated with college alcohol use (.82-.89 items 1–3), but relatively less frequent (i.e., moderate amount) discussions about specific ways to decrease risk and the consequences of exceeding limits while in school. The fourth class, the *Frequent, Consequences and Limits* class (12%), tended to report a great deal of communication with their teens about issues concerning friends' influence on alcohol use, alternatives to use, and consequences of exceeding parental limits for use, while reporting relatively less frequent discussion of more general topics related to college alcohol use. The fifth class (10%) was labeled the *Infrequent, All Topics* class. Parents in this class were much less likely to discuss any of the topics presented compared to parents in the other classes. A substantial majority of students in this class never had discussions with parents

about risky college environments, strategies for limiting use, or consequences of exceeding parental limits ($probability_{never} \geq .70$).

3.3 Covariate Analyses

The *Frequent, All Topics* class served as the reference category due to evidence that greater communication is most promotive of less alcohol use (Windle et al., 2008). Parents in the *Frequent, All Topics* class engaged in less frequent alcohol use than parents in the *Moderate, All Topics; Frequent, General Topics*; and *Infrequent, All Topics* classes (*p's* < .01; See Table 2). Higher levels of parental monitoring, parental knowledge, and parent-teen relationship satisfaction were predictive of membership in the *Frequent, All Topics* over the *Moderate, All Topics* (*p's* < .001); *Frequent, General Topics* (*p's* < .001); and *Infrequent, All Topics* (*p's* < .001) classes. Parents in the *Frequent, All Topics* class also engaged in higher parental monitoring than parents in the *Frequent, Consequences and Limits* class (*p* < .001).

There were trends toward Greek intentions being less common in the *Frequent, General Topics class* (*p* = .08) and more common in the *Moderate, All Topics* class (*p* = .09) than in the *Frequent, All Topics* class. In addition, the *Frequent, Consequences and Limits* class was less likely to have had more than one drink on a single occasion (*p* = .05) and engaged in lower levels of weekend drinking (*p* < .05) than the *Frequent, All Topics* class.

4. Discussion

Extending previous variable-centered data analytic approaches, this study is, to our knowledge, the first application of LCA to parent reports of alcohol-related communication. In general, it appears that the majority of parents in this sample report a moderate to high amount of communication with their teens regarding college alcohol use, with specific attention on potential dangers and the importance of avoiding peer pressure. These findings are encouraging for the involvement of parents in college-based alcohol prevention as they indicate parental willingness to engage in alcohol-related discussions with their teens.

However, analyses revealed considerable heterogeneity in both communication topics and frequency. Combining the first two classes, the majority of parents (53%) reported frequent or moderate levels of discussion on each of the topics examined. Aggregation across the next two classes indicates frequently reported conversations (37%) that vary according to general (25%) and more specific (12%) types of communication.

Covariate analyses suggested that parents who frequently discussed all topics tended to engage in the most optimal parenting behaviors, with regard to reducing late adolescent alcohol misuse (e.g., Abar & Turrisi, 2008; Patock-Peckham & Morgan-Lopez, 2006). This clustering of high levels of traditionally protective parenting characteristics alludes to overarching latent patterns of parenting extending beyond communication patterns. Future research should use person-centered analyses to explore parenting classes on a broader set of characteristics, paying attention to influential theories of parenting styles/practices (Baumrind, 1968; Darling & Steinberg, 1993).

While some trends toward profile differentiation in Greek intentions and student alcohol use were observed, they were not consistent with a priori expectations. For example, the lowest levels of student alcohol use were not seen in the class characterized by the most frequent communication on all topics. Similarly, the *Infrequent, All Topics* profile was not associated with the highest Greek intent or alcohol use. While a plethora of alternative explanations exist, one possible reason may be the underlying motivations for parent-teen communications. Specifically, these communications may be proactive, based on parents'

general knowledge of escalating alcohol use in late adolescence, or reactive, based on parents' *specific* knowledge of their teens alcohol use. The presence of highly proactive parenting and highly reactive parenting in the same class could effectively mask class differences in alcohol use and consequences and other covariates. The current cross-sectional analyses cannot disentangle reactive from proactive parenting. Future longitudinal research including consideration of age of onset of first and regular drinking would be informative on this issue. Similarly, parents in the *Infrequent, All Topics* class may be uninvolved and uncommunicative with their teen *or* have a strong reason to believe their teen is not using alcohol, thus, in their view, obviating the need for alcohol-related communications. Future research should examine parental motivations for engaging with teens in addition to the frequency and content of communications about alcohol in order to better understand the differential influence of parents on student substance use.

There are several additional limitations to be considered. First, the sample consists of a largely homogeneous group of college-bound students from a single U.S. university. Second, our cross-sectional assessment occurred in the summer prior to college matriculation. The examination of potential longitudinal effects of communications about alcohol across the college years on a more diverse sample could provide prevention scientists with time sensitive intervention targets and better facilitate disentangling reactive and proactive communication. Finally, the response scale used for each topic of communication was open to interpretation by participants. Future research may benefit from a more explicit scale of measurement (e.g., never, 1–2 times, 3–4 times, etc.).

4.1 Conclusions

In spite of these limitations, findings from the current study support the continuing influence of parents in late adolescence and imply that the frequency, specificity, and quality (see Otten et al. 2007) of parent-teen communication are informative for parent-based preventive interventions. As recognized in the earlier adolescent literature (Ennett et al., 2001), multi-dimensional assessment of communication, as well as the incorporation of elements of authoritative parenting (Baumrind, 1968), such as "reciprocity of communication" and "explanation of reasoning" (Darling and Steinberg, 1993, p. 492) is needed.

Acknowledgments

Role of Funding Sources

Funding for this study was supported by grants from the National Institute on Alcohol Abuse and Alcoholism (NIAAA) to C. Abar (F31 AA018063-01) and M. Wood (R01 AA013919). NIAAA had no role in the study design, collection, analysis or interpretation of the data, writing the manuscript, or the decision to submit the paper for publication.

References

Abar C, Turrisi R. How important are parents during the college years? A longitudinal perspective of indirect influences parents yield on their college teens' alcohol use. Addictive Behaviors. 2008; 33:1360–1368. [PubMed: 18635318]

Baumrind D. Authoritarian v. authoritative parental control. Adolescence. 1968; 3:255–272.

Chen M, Grube JW, Nygaard P, Miller BA. Identifying social mechanisms for the prevention of adolescent drinking and driving. Accident Analysis and Prevention. 2008; 40:576–585. [PubMed: 18329409]

Collins RL, Parks GA, Marlatt GA. Social determinants of alcohol consumption: The effects of social interaction and model status on the self-administration of alcohol. Journal of Consulting and Clinical Psychology. 1985; 53:189–200. [PubMed: 3998247]

Darling N, Steinberg L. Parenting style as context: An integrative model. Psychological Bulletin. 1993; 113:487–492.

Ennett ST, Bauman KE, Foshee VA, Pemberton M, Hicks KA. Parent-child communication about adolescent tobacco and alcohol use: What do parents say and how does it affect youth behavior. Journal of Marriage and the Family. 2001; 63:48–62.

Ichiyama MA, Fairlie AM, Wood MD, Turrisi R, Francis DP, Ray AE, Stanger LA. A randomized trial of a parent-based intervention on drinking behaviors among incoming college freshmen. Journal of Studies on Alcohol and Drugs, Supplement. 2009; 16:67–76. [PubMed: 19538914]

Lo Y, Mendell NR, Rubin DB. Testing the number of components in a normal mixture. Biometrika. 2001; 88:767–778.

Masten, AS.; Shaffer, A. How families matter in child development: Reflections from research on risk and resilience. In: Clark-Stewart, A.; Dunn, J., editors. Families Count: Effects on Child and Adolescent Development. New York: Cambridge University Press; 2006. p. 5-25.

McCabe SE, Schulenberg JE, Johnston LD, O'Malley PM, Bachman JG, Kloska DD. Selection and socialization effects of fraternities and sororities on US college student substance use:A multi-cohort national longitudinal study. Addiction. 2005; 100:512–524. [PubMed: 15784066]

Muthen, LK.; Muthen, BO. Mplus User's Guide. 5. Los Angeles, CA: Muthen & Muthen; 1998–2007.

Otten R, Harakeh Z, Vermulst AA, Van den Eijnden RJJM, Engels R, CME. Frequency and quality of parental communication as antecedents of adolescence smoking cognitions and smoking onset. Psychology of Addictive Behaviors. 2007; 21:1–12. [PubMed: 17385950]

Park A, Sher KJ, Wood PK, Krull JL. Dual mechanisms underlying accentuation of risky drinking via fraternity/sorority affiliation: The role of personality, peer norms, and alcohol availability. Journal of Abnormal Psychology. 2009; 118:241–255. [PubMed: 19413401]

Patock-Peckham JA, Morgan-Lopez AA. College drinking behaviors: Mediational links between parenting styles, impulse control, and alcohol-related outcomes. Psychology of Addictive Behaviors. 2006; 20:117–125. [PubMed: 16784353]

Schwartz G. Estimating the dimension of a model. The Annals of Statistics. 1978; 6:461–464.

Sessa FM. The influence of perceived parenting on substance use during the transition to college: A comparison of male residential and commuter students. Journal of College Student Development. 2005; 46:62–74.

Turrisi R, Jaccard J, Taki R, Dunnam H, Grimes J. Examination of the short-term efficacy of a parent-based intervention to reduce college student drinking tendencies. Psychology of Addictive Behavior: Special Issue on Understanding Binge Drinking. 2001; 15:366–372.

Turrisi R, Larimer ME, Mallett KA, Kilmer JR, Ray AE, Mastroleo NR, et al. A randomized clinical trial evaluating a combined alcohol intervention for high-risk college students. Journal of Studies on Alcohol and Drugs. 2009; 70:555–567. [PubMed: 19515296]

Turrisi R, Wiersma KA, Hughes KK. Binge-drinking-related consequences in college students: Role of drinking beliefs and mother-teen communications. Psychology of Addictive Behaviors. 2000; 14:342–355. [PubMed: 11130153]

van der Vorst H, Engels R, Meeus W, Dekovic M. The impact of alcohol-specific socialization on adolescents drinking behavior. Addiction. 2005; 100:1464–1467. [PubMed: 16185208]

Walls TA, Fairlie AM, Wood MD. Parents do matter: A longitudinal two-part mixed model of early college alcohol participation and intensity. Journal of Studies on Alcohol and Drugs. 2009; 70:908–918. [PubMed: 19895767]

Windle M, Spear LP, Fuligni AJ, Angold A, Brown JD, Pine D, Smith GT, Gieedd J, Dahl RE. Transitions into underage and problem drinking: Developmental processes and mechanisms between 10 and 15 years of age. Pediatrics. 2008; 121(Supplement 4):S273–S289. [PubMed: 18381494]

White HR, McMorris BJ, Catalano RF, Fleming CB, Haggerty KP, Abbott RD. Increases in alcohol and marijuana use during the transition out of high school into emerging adulthood: The effects of leaving home, going to college, and high school protective factors. Journal of Studies on Alcohol. 2006; 67:810–822. [PubMed: 17060997]

Wood, MD.; Fairlie, AM.; Fernandez, AC.; Borsari, B.; Capone, C.; Laforge, RG.; Barros, R. Manuscript submitted for publication. 2010. Brief Motivational and Parent Interventions for college students: A Randomized factorial study.

Research Highlights

- Performed latent class analysis on 1,007 college-bound teens and their parents.
- Identified five distinct patterns of alcohol-related parent-teen communication.
- Majority of parents (90%) discussed all alcohol-related topics with at least moderate frequency.
- Parents who frequently discussed all alcohol-related topics tended to model alcohol use the least.
- Profiles of alcohol-related communication also differed on monitoring, parent-teen relationship satisfaction, and teen drinking.

Table 1

Conditional item-response probabilities

	Population Responses	Frequent All Topics (28%)	Moderate All Topics (25%)	Frequent General Topics (25%)	Frequent Consequences and Limits (12%)	Infrequent All Topics (10%)
My teen and I have had conversations about…						
1. College student drinking in general	.04	.00	.01	.00	.02	.31
	.41	.03	.87	.11	.82	.63
	.55	.97	.12	.89	.16	.07
2. Their drinking in college	.07	.00	.04	.01	.11	.48
	.43	.02	.92	.17	.89	.47
	.50	.97	.04	.82	.00	.05
3. How heavy drinking can lead to serious consequences	.03	.00	.01	.00	.03	.26
	.23	.00	.56	.11	.15	.46
	.74	1.00	.43	.89	.83	.28
4. How their drinking may be affected by their friends	.07	.00	.03	.02	.00	.63
	.43	.04	.90	.48	.38	.33
	.50	.96	.07	.51	.62	.04
5. Environments where the pressure to drink is greater	.10	.00	.09	.01	.04	.70
	.44	.06	.83	.54	.49	.28
	.46	.94	.08	.45	.47	.02
6. The importance of not being pressured to drink by others	.04	.00	.00	.00	.01	.36
	.37	.01	.83	.38	.25	.44
	.59	.99	.17	.62	.74	.20
7. How to find fun things to do instead of drinking	.09	.01	.12	.04	.00	.48
	.47	.19	.75	.59	.38	.41
	.44	.80	.13	.37	.61	.12
8. Strategies for limiting use when in college	.26	.02	.38	.25	.16	.81

	Population Responses	Frequent All Topics (28%)	Moderate All Topics (25%)	Frequent General Topics (25%)	Frequent Consequences and Limits (12%)	Infrequent All Topics (10%)
	.53	.42	.61	.71	.55	.19
	.21	.56	.01	.04	.29	.00
9. Setting drinking limits and consequences	.24	.02	.33	.23	.17	.82
	.42	.21	.64	.58	.36	.18
	.33	.77	.03	.19	.48	.00

Note: The conditional response rows for each item represent the probabilities of parents never communicating, communicating a moderate amount, and communicating a great deal about each topic respectively.

Table 2

Covariate odds ratios

	Moderate All Topics	Frequent General Topics	Frequent Consequences and Limits	Infrequent All Topics
Parent Covariates				
Parental Drinking Frequency	1.45***	1.36***	1.12	1.39**
Parental Monitoring	.03***	.10***	.14***	.01***
Parental Knowledge	.10***	.15***	.42	.09***
Parent-Teen Relationship Satisfaction	.13***	.26***	.91	.09***
Student Alcohol-Related Covariates				
Intended Fraternity/Sorority Involvement	1.26†	.78†	1.23	1.20
More than 1 Drink on a Single Occasion in the Past Year	1.04	1.84	.52†	.67
Weekend Drinking	1.00	1.00	.87*	.92

Note: Reference category = Frequent, All Topics class.

† $p < .10$,

* $p < .05$,

** $p < .01$,

*** $p < .001$