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Parents' and children's self report of parenting factors:

How much do they agree and which is more strongly associated with early adolescent alcohol use?

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Abstract

Objective—The purpose of this study was to determine if parents' and children's reports of parenting practices were correlated, if the reports were differentially associated with alcohol use, and which report had the strongest association with alcohol use.

Design—Cross-sectional and longitudinal.

Setting—Public schools, Chicago, Illinois.

Method—Participants included 1373 ethnically-diverse students and parents involved in an alcohol use prevention intervention. Surveys were conducted in sixth grade and eighth grade. Mixed-effects regression analyses were used to model relationships cross-sectionally and longitudinally.

Results—Parents' and children's perceptions of parenting practices, while significantly correlated, were not strongly associated. Analyses within each parenting domain found parents' report of parental monitoring and children's reports of alcohol-specific communication, general communication, and relationship satisfaction were associated with alcohol use behaviors and intentions. After adjusting for all other parenting practices, parents' report of parental monitoring and children's report of alcohol-specific communication were most strongly related to alcohol use behaviors and intentions both cross-sectionally and longitudinally.

Conclusions—When comparing results across studies, it is important to identify whose report was used, parent or child, as the results may differ based on reporter. Studies with limited resources may consider using parents' reports about parental monitoring and using children's reports for alcohol-specific communication, general communication, and relationship satisfaction.

Keywords

Parenting; parent-child relationships; alcohol use; early adolescence

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Introduction

Little research has been conducted on how parents' and children's perceptions of parenting practices are correlated with each other^{1, 2}, especially among young, urban adolescents. Research is also sparse concerning which perception of parenting - the parents' or the child's - is more strongly associated with early adolescent alcohol use¹. Divergences in perceptions have been suggested to be more likely during extreme developmental changes, such as the transition to adolescence³. Due to financial and time constraints in many intervention and etiologic surveys, it may not be feasible to measure both child and parent perceptions of parenting. Therefore, it is important to determine which report, child or parent, is more strongly related to alcohol use so that studies can use their resources in the best way possible.

Several parenting practices have been associated with adolescent alcohol use. Studies show that less parental monitoring is related to higher rates of alcohol use^{2, 4-8}, while active parental monitoring is associated with lower rates of alcohol use and abuse^{1, 4, 5, 9-12} and a decreased risk of alcohol abuse and dependence at 21¹³. Yet, little research to date has examined whether the parent or child report of parental monitoring is more strongly related to alcohol use. Cottrell and colleagues¹ examined the association between parents' and children's reports of parental monitoring among rural adolescents aged 12-16. Parents' and children's reports were significantly correlated only for 16 year old adolescents. However among the entire sample, both reports of monitoring were significantly negatively associated with drinking, with the children's report having the stronger association. Stattin and Kerr¹⁰ also used both parents' and children's reports however their analyses did not directly compare the two. Other studies have used only child report^{4-6, 8, 11, 13}, others only the parent report^{9, 12}, and one other study combined both parents' and children's report into a latent variable⁷.

Parent-child communication has also been proposed to prevent or reduce involvement in risk behaviors¹⁴. Open and frequent parent-child communication has been found to be a protective factor for alcohol use^{15, 16}. In contrast, other studies have found that increased communication about alcohol was associated with increased adolescent alcohol use¹⁷ and delinquency¹². At least two studies have found no relationship between parent-child communication and alcohol use^{18, 19}. These discrepant findings for parent-child communication may be due in part to the perceptions of different reporters, parents or children.

Adolescents who are satisfied with the relationship with their parent are less likely to be heavy substance users⁶ and are less likely to use alcohol²⁰. Among African-American youth, relationship satisfaction has been found to have a direct, positive effect on higher alcohol resistance efficacy¹⁴. Further research is needed to more fully explore relationship satisfaction and alcohol use as well as the comparability between parents' and children's reports of satisfaction. The three studies discussed above used children's report of satisfaction.

This study will address three research questions: 1) Are parent and child reports of parenting practices correlated?; 2) Which report of these parenting practices (i.e., parent or child) is more strongly associated with alcohol use behaviors and intentions in early adolescence?; and 3) Which parenting practice is most strongly associated with alcohol use behaviors and intentions, regardless of reporter (i.e., parent or child)? Data from an ethnically diverse sample of children and their parents living in primarily low income neighborhoods in a large Midwestern city will be used to answer these questions.

Methods

Study Design

Project Northland Chicago (PNC) was a randomized controlled trial of schools and surrounding community areas in the city of Chicago which included both a repeated cross-sectional sample and an embedded cohort^{21, 22}. The primary aim of PNC was to reduce alcohol use among the cohort of children who were in sixth grade in the fall of 2002. Participating schools, located throughout the city of Chicago, had similar demographic characteristics to students throughout the Chicago school district^{21, 22}. Individual-, school-, and community-level data were collected for all participating students, parents, schools and communities. Surveys were administered to students and parents at the beginning of sixth grade and end of eighth grade. Students ($n=4259$) completed the survey in sixth grade and 3802 students completed the survey in eighth grade. The response rate at each time point was 91% and 96%. Parents completed a self-administered mailed survey with 3250 parents completing the survey in sixth grade (response rate 70%) and 2670 parents in eighth grade (response rate 67%). The cohort follow-up rate was 61% for students and 48% for parents. The present study is a secondary data analysis of the data collected in the larger intervention trial and is both cross-sectional and longitudinal by design. Data from both the intervention and control conditions are used in this study as no significant differences were found between conditions on the alcohol use outcomes²³.

Participants

Participants eligible for this study included all students who completed a survey at the beginning of sixth grade and the end of eighth grade, who also had a parent who completed a survey at both time points. After removing students with inconsistent responses (4 or more) on alcohol behavior and intentions (2.3% on average for the 2 data points) and movement between schools the sample of this study included 1373 students and parents. The students in this study sample did not differ from the full sample on mean levels of alcohol behaviors and intentions at the beginning of sixth grade.

Students were 55.5% female and 66.8% received free or reduced price lunch and the sample was ethnically diverse (39.0% Black, 29.3% Hispanic, 16.7% White, 8.2% Asian, and 6.8% of other ethnicities). A majority of students lived in two parent families (56.3%), however almost one-third (30.2%) lived with only a mother. At the beginning of sixth grade, the parents in this study were 85.9% female and 80.1% were mothers. A majority of parents were married (57.6%) and 79.1% completed high school or additional education.

Measures

Dependent Variable—The Alcohol Use Behavior and Intentions (AUBI) scale is comprised of nine items. Five items measure alcohol use behaviors (e.g. “During the last 12 months, on how many occasions, or times, have you had alcoholic beverages to drink?”) and four items measure intentions to use alcohol (e.g. “Do you think you will be drinking alcohol in next month?”). The AUBI scale had a mean=10.84 ($SD=2.33$, range: 9-45) at the beginning of sixth grade and mean=13.62 ($SD=4.87$) at the end of eighth grade. The scale had good reliability at both time points ($\alpha = 0.80, 0.89$). The alcohol questions were drawn from the “Monitoring the Future” questionnaire²⁴ and have been used extensively in previous intervention studies²⁵⁻³⁰. A higher score on indicates increased risk or increased levels of alcohol use or intentions to use alcohol.

Alcohol use behaviors and intentions were combined into one scale because intentions are powerful predictors of future behaviors^{31, 32}. In addition, there is considerable variability in the AUBI scale that measures stages associated with early alcohol use as well as the continuum of alcohol use onset and progression from early intentions to problematic use²⁷. Therefore it

is important to measure not only alcohol use behavior but also to measure alcohol use intentions, especially among younger adolescents.

Independent Variables

Students: Parental monitoring, monitoring of the child's activities and whereabouts, was measured with a one item indicator (see Table 1 for descriptions of the measures). This item was taken from the DARE Plus student survey²⁵. **Alcohol specific communication**, communication that occurs between parent and child that is specifically about alcohol, was measured with a three item scale adapted from Project Northland and DARE Plus surveys^{25, 26, 30}. **General communication**, communication that occurs between a parent and child that is not specific to a particular topic, was measured with a one item indicator taken from the DARE Plus survey²⁵. **Relationship satisfaction**, the extent to which the child is happy and satisfied with the relationship with his/her parent, was measured only at eighth grade with two questions taken from Ledoux and colleagues⁶.

Parents: Parental monitoring was measured with two items adapted from Spoth and colleagues³³. **Alcohol specific communication** was measured with a three item scale adapted from the communication scale used in the Family Matters intervention¹⁸. **General communication** was measured with a one item indicator adapted from the involvement scale used in the Family Matters Intervention³⁴. **Relationship satisfaction** was measured only at eighth grade with two items taken from Ledoux and colleagues⁶.

Analysis

Pearson correlations were calculated to determine if child and parent reports of the parenting practices were correlated at the same point in time (i.e. sixth and/or eighth grade) and longitudinally (i.e. from sixth to eighth grade). Then, a series of regression models was used to evaluate how much of the variability between/among the parenting practices was shared to determine if each measure was a unique construct. Using an equation developed by Snijders and Bosker³⁵ to assess the modeled variance in two level (e.g., mixed-effects) regression models, the explained variance between students and between schools was calculated. Each parenting practice was determined to measure a separate construct, as none of the parenting practices had an explained variance above 0.29 considering variability between individuals or 0.70 for variability between schools (see Table 2). For example, at the beginning of sixth grade, the variance explained in the child's report of parental monitoring explained by the child's report of alcohol-specific and general communication was 11%.

Next, cross-sectional mixed effects regression analyses were conducted to determine if the child or parent report of the parenting practice was more strongly associated with AUBI at one point in time, in either sixth or eighth grade ("Model 1"). Longitudinal mixed effects regression analyses, when appropriate, were also conducted to determine if the child or parent report of these parenting practices in sixth grade was a stronger predictor of alcohol behavior and intentions in eighth grade ("Model 1"). These cross-sectional and longitudinal models ("Model 1") were conducted within each parenting practice domain (e.g., parental monitoring). Another second set of cross-sectional and longitudinal mixed-effects regression analyses were also used to determine which parenting practices were the most strongly associated with alcohol use ("Model 2"). All parenting practices, including both parent and child reports, were entered into the regression model to begin, and then practices not significantly related to alcohol use behavior and intentions ($p > 0.10$) were eliminated one at a time, until all of the remaining practices were significant ($p < .10$).

Mixed effects regression models are appropriate for studies like these (i.e. students nested within schools) as they adequately account for the variability in the dependent variable not

only between students, but also between schools^{36, 37}. To do this, school was specified as a nested random effect. For the regression analyses, all parenting practice items and scales were standardized prior to conducting analyses which allows for the direct comparison of the strength of association of the parenting practices as each estimate is on a similar scale³⁸.

Results

Cross-sectionally, child and parent reports of these parenting practices were significantly and positively correlated (see Table 3). Longitudinally, for each parenting practice, sixth grade child report and eighth grade parent report were also significantly and positively correlated. Sixth grade parent report was significantly and positively associated with eighth grade child report. The strongest correlation between child and parent report was between eighth grade alcohol-specific communication.

Table 4 presents the results of the first set of regression analyses ("Model 1"), where both parent and child report of a parenting practice were included to compare the strength of association between reporters, within each parenting practice domain (e.g., parental monitoring). For parental monitoring in sixth and eighth grade, both parent and child reports were significantly associated with AUBI ($p < 0.05$). However, the parent report was more strongly associated with AUBI at both time points, as compared to the child report (-0.23, -0.70 vs. -0.20, -0.29). For alcohol-specific communication, the parent report at both time points was not significantly associated with AUBI, while the child report was significantly associated ($p < 0.0001$). Child report of general communication was significantly associated with AUBI at both time points ($p < 0.01$), while parent report was not. At the end of eighth grade, both parent and child reports of relationship satisfaction were significantly associated with AUBI ($p < 0.01$), with the child report having the stronger association (-0.73 vs. -0.34). Longitudinally, parent report of parental monitoring and child report of alcohol-specific communication were the only significant predictors of AUBI ($p < 0.01$). In each of the regression models higher levels of the parenting factor were associated with lower levels of AUBI.

The results of the backwards stepwise regression ("Model 2") found the sixth grade parenting practices most strongly related to AUBI were child-reported alcohol-specific communication and parent-reported parental monitoring ($p < 0.001$) (see Table 5). In eighth grade, the practices that were most strongly related to AUBI were child-reported alcohol-specific communication, child-reported general communication, child-reported relationship satisfaction, and parent-reported parental monitoring. However, child report of general communication was only significant at $p = 0.10$ while the other parenting practices were significant at $p < 0.0001$. Longitudinally, parent report of parental monitoring and child report of alcohol-specific communication in sixth grade was the only significant predictor of AUBI in the eighth grade ($p < 0.05$). In each of these analyses higher levels of each parenting practice were associated with lower levels of AUBI.

Discussion

Parents and children appear to have similar perceptions of the amount of parenting that is occurring, however correlations between parent and child report were not high (0.05 - 0.35). These similarities do not appear to be very robust, suggesting that parent and child report may not be suitable as substitutes for each other. This finding has important implications for comparing the results of studies examining the influence of parenting, as results may differ depending on who reported on the parenting behavior, the child or the parent. The strongest correlation was between alcohol-specific communication, suggesting that parents and children perceive similar amounts of communication specific to adolescent alcohol use. In addition, alcohol-specific communication had the most consistent longitudinal association with AUBI.

Alcohol-specific communication may be particularly salient to both child and parent because of its more defined nature. Further research on communication specific to other risk behaviors would help to clarify if it is something about alcohol-related communication that results in the perceived similarity between parents and children, or if it is specific communication about risk behaviors that is more strongly correlated than other parenting behaviors.

Analyses within each parenting domain found parents' report of parental monitoring and children's reports of alcohol-specific communication, general communication, and relationship satisfaction were associated with AUBI. These results suggest that child report of parenting may be better to obtain for communication and relationship satisfaction, while parents may be the better reporter for parental monitoring. When thinking about which parenting practices may be the most strongly related to AUBI, researchers may want to include parental monitoring as reported by the parents and alcohol-specific communication as reported by the child on survey instruments if limited in space as this study found that after adjusting for all other parenting practices, parents' report of parental monitoring and children's report of alcohol-specific communication were most strongly related to AUBI both cross-sectionally and longitudinally.

The findings in this study differ from other studies which examined parents' and children's reports of parental monitoring. Cottrell and colleagues¹ found a significant correlation of 0.35 between reports of parental monitoring among the 16 year old adolescents and parents in their sample of rural youth. However, among the entire sample of 12-16 year olds the correlation between the two reports was not significant. In addition, Pettit and colleagues² also found that parents' and children's reports of parental monitoring in a sample of 13 year olds were significantly correlated at 0.26. The present study did find a significant correlation between parental monitoring among 11 year olds ($r = 0.09$) and among 14 year olds ($r = 0.21$). Similar to the present study, these studies also found both parents' and children's report of monitoring significantly negatively associated with drinking. However, unlike this study which found that parents' report of monitoring was more strongly associated with alcohol use, Cottrell and colleagues¹ found the children's report to be more strongly associated. Nash and colleagues³⁹ asked both parents and children (11-13 year olds) if the parents had discussed drinking with their child. Over 70% of parents reported they had discussed drinking with their child while only 40% of children reported that their parent discussed drinking with them, showing discrepant perceptions about alcohol-specific communication between parents and children.

Overall, there are differences in the association between parenting and AUBI by reporter with parent report of monitoring and children's report of alcohol-specific communication having the most consistent associations. This suggests that increasing perceptions of monitoring by parents - by encouraging greater monitoring - and increasing perceptions of alcohol-specific communication by students - by providing opportunities for such communication - may be efficacious as strategies to deter early adolescent alcohol use.

There are some limitations to this study. The measure of parental monitoring only consisted of one question for the children and two questions for the parents. Future studies should include additional questions to more fully measure the domain of parental monitoring as suggested by Stattin and Kerr¹⁰. In addition, to have a comparable measure of general communication, this domain was only measured with one item for both parents and children which focused on time spent talking with each other. Future studies are needed which explore the relationships between a broader range of general communication items. Another limitation of this study is that although children's report of parenting was obtained at four time points, parents' report was only obtained at baseline and final follow-up so comparisons could only be made at these two time points. Replications of these findings across a longer time period are needed to

determine if there are changes in the strength of these parenting practices over time, both prior to sixth grade as well as after eighth grade.

While this study does have some limitations, it is strengthened by the longitudinal nature of the data, large sample size, and ethnically diverse, urban population. The results of this study provide researchers and practitioners important information about which report of parenting, parents' or children's, is most beneficial to obtain. This information may help to reduce burden on participants by limiting the focus of surveys to those questions which will provide the most information as well as help projects reduce the cost of survey administration by reducing the length of surveys while still getting the most useful data.

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Table 1
Description of Parenting Practice Measures (n=1373)

	Items	α (6 th Grade 8 th Grade)	Range	Mean (SD) 6 th Grade	Mean (SD) 8 th Grade	Example
Student Measures ¹						
Parental Monitoring	1	--	1-5	4.9 (1.0)	4.4 (1.0)	How often does your parent ask you where you are going or who you will be with?"
Alcohol-Specific Communication	3	0.61 0.85	3-16	10.4 (3.5)	8.4 (3.6)	How often does your parent talk with you about problems drinking alcohol can cause young people?
General Communication	1	--	1-5	3.4 (1.1)	3.4 (1.2)	How often does your parent have a conversation with you that last 10 minutes or more?
Relationship Satisfaction	2	-- 0.86	2-10	--	7.8 (2.0)	How satisfied are you with your relationship with your parent?
Parent Measures ¹						
Parental Monitoring	2	0.65 0.78	2-10	9.6 (0.9)	9.2 (1.1)	In a usual day, how often do you know where your child is?
Alcohol-Specific Communication	3	0.88 0.87	3-15	11.9 (3.6)	11.4 (3.4)	How often have you told your child that it is not okay for him or her to drink alcohol?
General Communication	1	--	1-5	4.4 (0.9)	4.2 (1.1)	During the past 7 days, about how often did you spend time just talking with your sixth grader?
Relationship Satisfaction	2	-- 0.85	2-10	--	8.7 (1.8)	How satisfied are you with your relationship with your child?

¹ A higher score indicates higher levels of the parenting practice

Table 2
Amount of Variance Explained in Parenting Practices by Other Parenting Practices^a
(n=1373 students and parents)

Parenting Practice	Child Report		Parent Report	
	R ²	R ²	R ²	R ²
	Students	Schools	Students	Schools
Sixth grade				
Parental Monitoring	0.11	.. ^b	0.08	0.06
Alcohol-Specific Communication	0.24	0.28	0.06	0.00
General Communication	0.26	0.55	0.06	.. ^b
Eighth grade				
Parental Monitoring	0.15	0.28	0.11	0.21
Alcohol-Specific Communication	0.28	0.43	0.11	0.14
General Communication	0.29	0.50	0.15	0.15
Relationship Satisfaction	0.18	0.70	0.11	0.24

^a Amount of variance explained in each parenting practice by all other parenting practices from that reporter at each time point

^b Amount of variance explained was less than zero. This is common in situations where the variability at the higher level (e.g., between schools in this study) is small.

Table 3
Correlational Relationship Between Parent and Child Report of each Parenting Practice
(n=1373 students and parents)

Reporter/Time	Monitoring	Alcohol-Specific Communication	General Communication	Relationship Satisfaction
Child, 6 th grade - Parent, 6 th grade	0.09 ⁺	0.30 ⁺	0.12 ⁺	NA
Child, 8 th grade - Parent, 8 th grade	0.21 ⁺	0.35 ⁺	0.18 ⁺	0.24 ⁺
Child, 6 th grade - Parent, 8 th grade	0.06 ⁺	0.24 ⁺	0.07 ⁺	NA
arent, 6 th grade - Child, 8 th grade	0.10 ⁺	0.27 ⁺	0.13 ⁺	NA

⁺ p<.05

Table 4
Child vs. Parent Report of Parenting Practices and Alcohol Use Behaviors & Intentions (n = 1373 students and parents)

Model 1 *			
Sixth Grade Cross-Sectional	Sixth Grade AUBI Estimate	SE	p-value
Child Parental Monitoring	-0.20	0.06	0.001
Parent Parental Monitoring	-0.23	0.06	0.0002
Child Alcohol Communication	-0.50	0.07	<.0001
Parent Alcohol Communication	0.08	0.07	0.23
Child General Communication	-0.18	0.06	0.005
Parent General Communication	-0.06	0.06	0.35
Eighth Grade Cross-Sectional	Eighth Grade AUBI Estimate	SE	p-value
Child Parental Monitoring	-0.29	0.13	0.03
Parent Parental Monitoring	-0.70	0.13	<.0001
Child Alcohol Communication	-0.84	0.14	<.0001
Parent Alcohol Communication	0.18	0.14	0.20
Child General Communication	-0.27	0.13	0.04
Parent General Communication	-0.19	0.13	0.14
Child Relationship Satisfaction	-0.73	0.13	<.0001
Parent Relationship Satisfaction	-0.34	0.13	0.009
Longitudinal: Sixth Grade to Eighth Grade	Eighth Grade AUBI Estimate	SE	p-value
Sixth Grade Child Parental Monitoring	-0.08	0.13	0.52
Sixth Grade Parent Parental Monitoring	-0.36	0.13	0.006
Sixth Grade Child Alcohol Communication	-0.37	0.14	0.008
Sixth Grade Parent Alcohol Communication	0.18	0.14	0.18
Sixth Grade Child General Communication	-0.25	0.13	0.06
Sixth Grade Parent General Communication	-0.25	0.13	0.06

* Adjusted for the other report (parent or child) within each parenting practice

Table 5
Adjusted Analyses: Parenting Practices and Alcohol Use Behaviors & Intentions using
Backwards Regression (n = 1373 students and parents)

Model 2 ⁺	AUBI Estimate	SE	p-value
Sixth Grade			
Child Alcohol Communication	-0.45	0.06	<0.0001
Parent Parental Monitoring	-0.21	0.06	0.0006
Eighth Grade			
Child Alcohol Communication	-0.65	0.15	<0.0001
Child General Communication	0.24	0.15	0.10
Child Relationship Satisfaction	-0.55	0.14	<0.0001
Parent Parental Monitoring	-0.63	0.13	<0.0001
Longitudinal: Sixth Grade to Eighth Grade			
Child Alcohol Communication	-0.27	0.13	0.04
Parent Parental Monitoring	-0.32	0.13	0.01

⁺ Adjusted for all other parenting practices from both reporters (parent and child)