



# The Moderating Impact of Adolescent-Parent Communication and Family Satisfaction on the Relationship Between Anxiety and Alcohol Use During Adolescence

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## Abstract

The objective of this study was to expand current research by exploring whether adolescent-parent communication and family satisfaction moderate the association between anxiety and alcohol use over time during adolescence. The sample was comprised of 345 adolescents who were ages 15-17 at Time 1 and ages 16-18 at Time 2 (58 % girls, 72 % Caucasian, 17 % African American, and 11 % Hispanic). The adolescents completed self-report surveys, and were followed over a one year period of time as part of a longitudinal research project. Results indicated that adolescent-parent communication and family satisfaction were not found to moderate the relationship between anxiety and alcohol use over time.

## The Adolescent Adjustment Project

- The Adolescent Adjustment Project is a five year longitudinal study which utilized a community sample to examine the relationship between family dysfunction and adolescent adjustment
- Data for The Adolescent Adjustment Project were collected in four Waves beginning in the spring of 2006 and ending in the spring of 2009-This study utilized data from Waves 2 and 3 which were collected in the spring of 2007 and 2008
- Adolescents were recruited by contacting public high schools in Delaware, Pennsylvania, and Maryland and inviting them to participate

## Sample

- 345 adolescent boys and girls
- 72% Caucasian, 17% African American, 11% Hispanic
- 58% girls
- Age range = 15-17 years old Time 1; Mean age = 16.07 (SD = .67) and 16-18 years old Time 2; Mean age = 17.06 (SD =.68)
- All participants in the sample were in the 10<sup>th</sup> or 11<sup>th</sup> grade in a public high school in Delaware, Pennsylvania, or Maryland at Time 1

## Measures

**Anxiety:** The Screen for Child Anxiety Related Disorders (SCARED) was utilized to assess anxiety. The SCARED is a 41-item measure that is used to measure overall anxiety, as well as specific types of anxiety (Birmaher, Khetarpal, Cully, Brent, & McKenzie, 1995). The SCARED has been shown to have good internal consistency and discriminant validity (Linyan, Kai, Fang, Yi, & Xueping, 2008; Muris, Merckelback, Ollendick, King, & Bogie, 2002).

**Alcohol Use Survey:** A quantity x frequency index for alcohol consumption was used to indicate alcohol use. Both quantity and frequency of alcohol use were measured with the Alcohol Use Survey. As part of the survey, the adolescents in the sample were asked eleven questions related to the quantity and frequency of alcohol that they had used over the past six months.

**Adolescent-Parent Communication:** Adolescent-parent communication was measured using the Parent-Adolescent Communication Scale (PACS). The PACS includes 20 items that examine communication with an adolescent's mother and father. The PACS has been shown to have good reliability and internal consistency (Barnes & Olsen, 1982).

**Family Satisfaction:** Family satisfaction was measured using the Family Satisfaction Scale (FSS). The FSS includes 14 items that examine overall family satisfaction, adaptability, and cohesion. (Olson & Wilson, 1982). The FSS has been shown to have good reliability and internal consistency (Underhill, LoBello, & Fine, 2004).

**Depression:** Depression was entered as a covariate because it has been shown to be related to alcohol use and anxiety in adolescents (Essau, Conradt, & Petermann, 2000; Marmorstein, 2009). The Center for Epidemiologic Studies Depression Scale for Children (CES-DC) was utilized to assess depression. The CES-DC is a 20-item measure that includes items related to depression symptoms an individual may have experienced over the course of the past week (Weissman, Orvaschel, & Padian, 1980). The CES-DC has been shown to have good reliability and concurrent validity (Faulstich, Carey, Ruggiero, Enyart, & Gresham, 1986; Ohannessian, 2009).

**Parental Alcoholism:** Maternal and paternal alcoholism were entered as covariates because they have been shown to be related to alcohol use and anxiety in adolescents (Essau, Conradt, & Petermann, 2000; Marmorstein, 2009). Maternal and paternal alcoholism were assessed with the Short Michigan Screening Test (SMAST). The SMAST is a 9-item version of the MAST (Michigan Alcoholism Screening Test). Adolescents completed the SMAST for their mother and father separately. The SMAST has been shown to have good reliability and validity (Crews & Sher, 1992; Ohannessian, 2010).

## Results

**Boys:** Depression and maternal alcoholism significantly predicted alcohol use  $F(3,141) = 6.78, p < .001$ . Anxiety, adolescent-mother communication, adolescent-father communication, and the interactions between anxiety x adolescent-mother communication and anxiety x adolescent-father communication were not significant. Depression and maternal alcoholism made statistically significant contributions to the prediction of alcohol use  $F(3,141) = 6.52, p < .001$ . With family satisfaction, depression and maternal alcoholism made statistically significant contributions to the prediction of alcohol use  $F(3,143) = 6.18, p < .01$ . Anxiety and family satisfaction, and the interaction between anxiety x family satisfaction were not significant. See Tables 1, 2, and 3.

**Girls:** With regard to adolescent-mother communication, adolescent-father communication, and family satisfaction, depression and parental alcoholism did not result in a statistically significant increase in the explained variance. Anxiety and adolescent-mother communication, adolescent-father communication, and family satisfaction were not significant. The interactions between anxiety x adolescent-mother communication, adolescent-father communication, and family satisfaction were also not significant. For family satisfaction, maternal and paternal alcoholism and Anxiety at Time 1 were found to predict alcohol use at Time 2. See Tables 4, 5, and 6.

Table 1  
Summary of Hierarchical Regression Analysis for Anxiety at Time 1, Adolescent-Mother Communication, Adolescent-Mother Communication x Anxiety at Time 1 Predicting Alcohol Use at Time 2 for Boys (n = 145)

Variable	B	SE B	B
<b>Step 1</b>			
Depression	.07	.02	.22*
Maternal Alcoholism	.90	.34	.22*
Paternal Alcoholism	.16	.17	.08
<b>Step 2</b>			
Anxiety at Time 1	-.03	.02	-.13
Adolescent-Mother Communication	.02	.02	.08
<b>Step 3</b>			
Adolescent-Mother Communication x Anxiety at Time 1	-.00	.00	-.88

Note.  $R^2 = .13$  for Step 1;  $\Delta R^2 = .01$  for Step 2,  $\Delta R^2 = .02$  for Step 3. \* $p < .01$ .

Table 2  
Summary of Hierarchical Regression Analysis for Anxiety at Time 1, Adolescent-Father Communication, Adolescent-Father Communication x Anxiety at Time 1 Predicting Alcohol Use at Time 2 for Boys (n = 145)

Variable	B	SE B	B
<b>Step 1</b>			
Depression	.07	.02	.25**
Maternal Alcoholism	.82	.36	.18*
Paternal Alcoholism	.16	.17	.08
<b>Step 2</b>			
Anxiety at Time 1	-.02	.02	-.09
Adolescent-Father Communication	.01	.01	.01
<b>Step 3</b>			
Adolescent-Father Communication x Anxiety at Time 1	-.00	.00	-.39

Note.  $R^2 = .12$  for Step 1;  $\Delta R^2 = .01$  for Step 2,  $\Delta R^2 = .01$  for Step 3. \* $p < .05$ , \*\* $p < .01$ .

Table 3  
Summary of Hierarchical Regression Analysis for Anxiety at Time 1, Family Satisfaction, Family Satisfaction x Anxiety at Time 1 Predicting Alcohol Use at Time 2 for Boys (n = 145)

Variable	B	SE B	B
<b>Step 1</b>			
Depression	.06	.02	.21*
Maternal Alcoholism	.90	.34	.21*
Paternal Alcoholism	.11	.17	.05
<b>Step 2</b>			
Anxiety at Time 1	-.02	.02	-.10
Family Satisfaction	.01	.02	.05
<b>Step 3</b>			
Family Satisfaction x Anxiety at Time 1	-.00	.00	-.32

Note.  $R^2 = .12$  for Step 1;  $\Delta R^2 = .01$  for Step 2,  $\Delta R^2 = .01$  for Step 3. \* $p < .01$ .

Table 4  
Summary of Hierarchical Regression Analysis for Anxiety at Time 1, Adolescent-Mother Communication, Adolescent-Mother Communication x Anxiety at Time 1 Predicting Alcohol Use at Time 2 for Girls (n = 200)

Variable	B	SE B	B
<b>Step 1</b>			
Depression	.01	.02	.06
Maternal Alcoholism	.11	.23	.03
Paternal Alcoholism	.07	.13	.04
<b>Step 2</b>			
Anxiety at Time 1	.00	.02	.00
Adolescent-Mother Communication	-.02	.01	-.11
<b>Step 3</b>			
Adolescent-Mother Communication x Anxiety at Time 1	.00	.00	.24

Note.  $R^2 = .01$  for Step 1;  $\Delta R^2 = .01$  for Step 2,  $\Delta R^2 = .00$  for Step 3.

Table 5  
Summary of Hierarchical Regression Analysis for Anxiety at Time 1, Adolescent-Father Communication, Adolescent-Father Communication x Anxiety at Time 1 Predicting Alcohol Use at Time 2 for Girls (n = 200)

Variable	B	SE B	B
<b>Step 1</b>			
Depression	.02	.02	.07
Maternal Alcoholism	.07	.22	.02
Paternal Alcoholism	.10	.13	.06
<b>Step 2</b>			
Anxiety at Time 1	-.01	.02	-.04
Adolescent-Father Communication	.01	.01	.05
<b>Step 3</b>			
Adolescent-Father Communication x Anxiety at Time 1	-.00	.00	-.19

Note.  $R^2 = .01$  for Step 1;  $\Delta R^2 = .00$  for Step 2,  $\Delta R^2 = .00$  for Step 3.

Table 6  
Summary of Hierarchical Regression Analysis for Anxiety at Time 1, Family Satisfaction, Family Satisfaction x Anxiety at Time 1 Predicting Alcohol Use at Time 2 for Girls (n = 200)

Variable	B	SE B	B
<b>Step 1</b>			
Depression	.02	.02	.07
Maternal Alcoholism	.04	.23	.01*
Paternal Alcoholism	.08	.13	.05*
<b>Step 2</b>			
Anxiety at Time 1	.00	.02	.01**
Family Satisfaction	-.02	.02	-.09
<b>Step 3</b>			
Family Satisfaction x Anxiety at Time 1	.00	.00	.11

Note.  $R^2 = .01$  for Step 1;  $\Delta R^2 = .01$  for Step 2,  $\Delta R^2 = .00$  for Step 3. \* $p < .05$ , \*\* $p < .01$ .

## Conclusions

The interactions between anxiety and adolescent-parent communication and family satisfaction were not significant for boys or girls. Some studies have found adolescent-parent communication to be protective with substances other than alcohol, and others have found different aspects of family functioning to buffer adolescents with regard to alcohol use. It is possible that this study did not find significant results as it examined overall family satisfaction, and did not examine substances besides alcohol. It would be important for future research to explore the moderating impact of adolescent-parent communication between anxiety and other substances. It would also be important to examine other components of family satisfaction such as support and cohesion.