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Paternal Alcohol Abuse and Psychological Functioning of Adolescents: An Investigation of Moderating Variables

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LOYOLA UNIVERSITY CHICAGO

PATERNAL ALCOHOL ABUSE

AND

PSYCHOLOGICAL FUNCTIONING OF ADOLESCENTS:

AN INVESTIGATION OF MODERATING VARIABLES

A THESIS SUBMITTED TO

THE FACULTY OF THE GRADUATE SCHOOL

IN CANDIDACY FOR THE DEGREE OF

MASTER OF ARTS

DEPARTMENT OF PSYCHOLOGY

BY

BLASE E. MASINI

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CHAPTER 1

INTRODUCTION

The primary aim of this research was to identify factors which moderate the effects of paternal alcohol abuse upon the psychological functioning of children of alcohol abusers (COAs). Although reviewers of COA research conclude that COAs are at increased risk for pathology across psychological measures (West and Prinz, 1987), this conclusion must be qualified: while it is true that COAs typically fare worse than non-COAs, that is, statistically significant differences are often found with higher group means reported for non-COAs, this difference in means is often not of clinical significance. That is, the psychological functioning of COAs, as measured by group means, is still within the normal range (Jacob & Leonard, 1986). Therefore, it is quite possible that protective factors are at work in the lives of many COAs that buffer the effects of paternal alcohol abuse. This research addressed the question of why some children of alcohol abusers are more affected than others, i.e., what variables moderate psychological outcome?

Recently researchers have begun examining the role of protective factors which may allow resilience and explain

individual differences in children of alcohol abusers (Clair & Genest, 1987; Rogosch, Chassin, & Sher, 1990; Rubio-Stipec, Bird, Canino, Bravo, & Alegria, 1991). A specific aim of this research was to examine several potential moderators that may enhance resilience. These include the gender of the COA and the affective quality and quantity of time spent with mothers in families of paternal alcohol abusers. Dependent measures included externalizing symptoms such as alcohol abuse and internalizing symptoms such as depression and self-esteem.

Many studies in the past have relied solely on children of diagnosed alcoholics to form samples; indeed, all 46 studies reviewed by West and Prinz (1987) used some form of direct diagnosis of parental alcohol abuse to classify children. As a result, much COA research is conducted with pure clinical samples that focus exclusively on families with severe parental alcohol abuse. What is needed in this literature is a clearer understanding of the impact upon children of active parental alcohol abusers not currently seeking treatment. Indeed, children of active but non-referred alcohol abusers have been found to experience significant levels of distress and familial discord, resulting in increased adolescent alcohol abuse (Perkins & Berkowitz, 1991). The present study addressed this gap in the literature by including a non-clinical sample drawn from the general public.

In this study, parental alcohol abuse was defined as the average nightly consumption perceived by the adolescent, ranging from abstinence to 12 or more drinks per night. Sample size did not allow for the formation of distinct COA and non-COA groups. That is, in order to maintain statistical power and allow for analysis across gender, the data were analyzed on a continuum.

The conceptual validity of this continuous measure of parental alcohol consumption, particularly as it relates to COA adjustment, can be established when considering criteria typically used in COA research to assess parental alcohol abuse. As discussed above, researchers usually have available to them a clinical diagnosis for alcoholism, for example, from the Diagnostic and Statistical Manual (American Psychiatry Association, 1994; DSM-IV). While an explicit consumption rate for alcohol abuse is not made in the DSM-III-R, negligent child care is among the criteria for alcohol abuse. As such, certain inferences can be made about excessive alcohol consumption: First, as consumption increases, appropriate child care decreases. Second, as appropriate child care decreases, COA psychopathology increases. In other words, based on DSM criteria, it is assumed that inappropriate parenting is the mechanism by which excessive alcohol consumption is associated with COA adjustment. Therefore, alcohol consumption becomes the measure of alcohol abuse for this study.

Because parental alcohol consumption is considered a continuous construct, it could be argued that this research is about alcohol use rather than abuse; but in fact, it is the inverse relationship between excessive alcohol consumption and COA adjustment, and the possibility of protective factors, that are of interest here. Consumption is considered a best approximation of alcohol abuse, particularly as it affects COA adjustment through inappropriate parenting. As such, the term alcohol abuse will be used.

For this study, archival data on 216 9th-12th graders were used. (The sample is described in detail in the Methods section.) Typical of COA research (Jacob & Leonard, 1986; Cumes-Rayner, et al., 1992; Clair & Genest, 1987), few adolescents were identified who had an alcohol abusing mother and a non-abusing father (n=3). Instead, the COA sample consisted largely of paternal alcohol abusers with non-abusing spouses (n=32) and a smaller number of families in which both parents abused alcohol (n=8). Because few maternal alcohol abusers were available, the questions and hypotheses for this study will focus on the effects of paternal alcohol abuse.

It is unfortunate that all four parent/COA gender dyads could not be explored more fully as there is some evidence that the gender of the parent influences COA psychological adjustment. For example, Miller and Jang (1977) found that

sons were more likely to abuse alcohol except when mothers abuse alcohol, in which case daughters were more likely to abuse alcohol. But because of limitations in the sample, questions concerning the effects of parent gender remain unanswered in this study.

For the sake of clarity, the popular term "children of alcoholics" or "COA" was used. In the literature on parental alcohol abuse, use of this term often does not distinguish between "children" and "adolescents". In the literature review to follow, specific ages of samples were included when available. Although the subjects in these samples span childhood to late adolescence, a general trend emerges in the findings that supports the hypotheses for this study.

CHAPTER 2

BACKGROUND LITERATURE AND SIGNIFICANCE

Resiliency Model

Much of the recent research on children of alcohol abusers has been devoid of comprehensive guiding theories or models (Seilhamer & Jacob, 1990). Therefore it is difficult to work within the confines of the COA literature and develop a strong theoretical foundation. The guiding model for this study borrows from the resiliency literature (Garmezy & Tellegen, 1984; Rutter, 1985; 1987). "Resiliency" has been defined as the outcome of successful adaptation despite challenging or threatening circumstances (Masten, Best, & Garmezy, 1990). From this perspective, a fruitful research endeavor is to investigate protective factors that lead to successful psychological adjustment. The relevance of the resilience literature as it relates to children of alcohol abusers will become apparent when considering the range of adjustment of COAs portrayed by recent research on the psychological functioning of this group.

Figure 1 illustrates the overall model to be presented in this study. This model begins with evidence from COA research that there is a direct relationship between parental alcohol abuse and adolescent psychological adjustment (Path

A). In this relationship, alcohol abuse is associated with COA psychopathology. While this relationship reaches statistical significance, it often fails to reach clinical significance, suggesting resiliency to parental alcohol abuse may be important for a fuller understanding of the psychological consequences of a parent's alcohol abuse. Finally, the model predicts that moderating factors may lead to resilience (Path B).

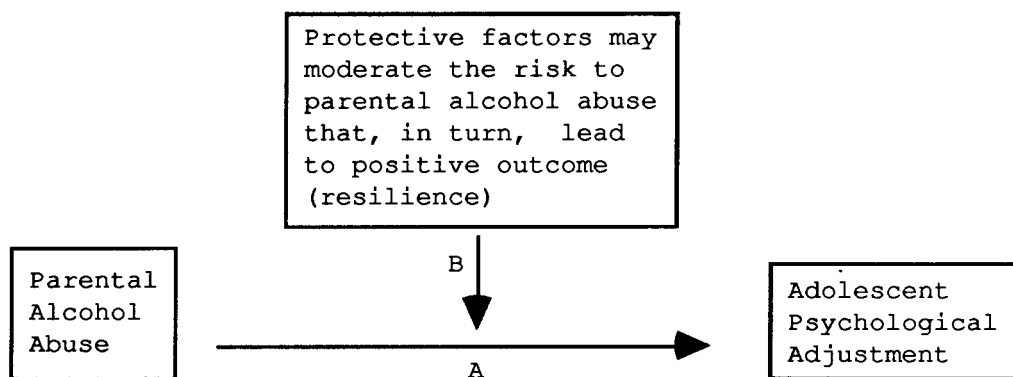


Figure 1. Resiliency model.

Research on the psychological functioning of COAs indicates that there is a direct association between parental alcohol abuse and COA psychological adjustment. Recent reviewers of COA research conclude that COAs are at increased risk for pathology across psychological, biological, social, cognitive and academic domains (West & Prinz, 1987). For example, COAs

are at greater risk for alcoholism and academic failure (Hyphantis, Koutras, Liakos, & Marselos, 1991). Seilhamer and Jacob (1990) regard COAs as a population at risk, relying on the conclusions of Russell, Henderson, Blume (1984) that COAs are over-represented in medical, psychiatric, and child guidance clinics.

In spite of the relationship between parental alcohol abuse and COA psychological adjustment, many COAs are functioning as well as their non-COA peers across psychological outcome measures. This is evident by the fact that COA group means are often within the normal range, resulting in a considerable overlap in the distributions of COAs and their non-COA peers. With so many COAs falling into the gray area of overlapping distributions, they become indistinguishable from their non-COA peers on psychological outcome measures (at least when considering group means, as is the case in significance testing). When considering this pattern of statistical but not clinical significance, the possibility arises that many COAs are resilient to the effects of parental alcohol abuse.

The resiliency literature provides an avenue for identifying protective factors that may moderate the effects of an alcohol abusing parent, leading to successful outcome for some COAs. In the following section, select COA literature is reviewed to illustrate this pattern of statistical but not clinical significance. Following this

review, protective factors identified in the resiliency literature are introduced as potential moderators of parental alcohol abuse.

Empirical Support in the COA literature

In a review of the COA research literature, West and Prinz (1987) concluded that there are significant differences in the functioning of COAs and non-COAs across a host of domains. These authors also conclude that the majority of COAs are not doomed to psychological disorder. In other words, the effect of being exposed to parental alcohol abuse is aversive enough to influence the group mean of COAs to allow for significant differences when compared to their peers, but it is not enough to allow the group mean nor in some cases the median score to fall within the clinical range. Three recent studies of COA psychological functioning, reviewed below, serve as specific examples of this phenomenon.

Rubio-Stepic et al. (1991) tested the association between parental disorders and child maladjustment. Their community sample included 365 children aged 4 through 16, of which 235 were children of normal parents, 52 were from alcoholic parents and 78 were from parents with one of 11 disorders other than alcoholism¹. (The two latter groups met

¹ Other DIS/DSM-III disorders included: major depressive disorder, dysthymia, mania, panic, obsessive compulsive disorder, simple and social phobia, agoraphobia, schizophrenia, somatization and schizophreniform disorders.

diagnostic criteria of the Diagnostic Interview Schedule [DIS; Robins, Helzer, Croughan & Ratcliff, 1981]). Child adjustment was assessed through the total behavior problem scale and the internalized and externalized factors of the Child Behavior Checklist (CBCL; Achenbach, 1991a), administered to parents and teachers, and the Youth Self Report (YSR; Achenbach, 1991b), administered to children. When comparing mean scores, results indicated that CBCL scores differed significantly across all three groups with children of parents with other DIS disorders scoring highest and those of normal parents all scoring lowest. These results were found only for the parent and child self-report. The authors reported mean T-scores but provided no discussion of the overall functioning of each group from a clinical perspective.

As reported by Achenbach (1991a, 1991b), the clinical range for both the CBCL and the YSR is $T > 63$ with a borderline clinical range of T-scores from 60 to 63. Although elevated as compared to normals, the COA T-scores reported by Rubio-Stepic et al. (1991) were consistently within the normal range. In only two cases, Total Behavior Score and the Internalizing Score for the CBCL, were scores in the borderline range. Therefore it is clear that, on the average, COAs were functioning in the normal range. Without median scores or standard deviations, it is impossible to say what percentage of the children in each group were functioning in

the normal range; however, assuming a normal distribution, the group means do provide evidence that many scores were not severe.

Other research relevant to this discussion was less specific in the reporting of scores for COAs and non-COAs, but reached the same conclusion as Rubio-Stepic et al. (1991): COAs as a group were functioning in the normal range. Bennett, Wolin, and Reiss (1988) studied a community sample of 64 COAs from 37 families and 80 non-COAs from 45 families. After administering questionnaires and interviews to children and parents covering psychological, social, cognitive, behavioral and academic domains², a principle-component factor analysis was conducted. Of 17 dependent variables drawn from the data, 14 loaded on one of three factors, creating three composite dependent variables: behavioral, cognitive and emotional functioning. A multivariate analysis of variance revealed significant differences for the cognitive, $F = 4.01 (1,126)$, $p < .05$ and emotional, $F = 5.79 (1,126)$, $p < .02$ factors, with borderline significance for the behavioral factor, $F = 3.51 (1,126)$, $p < .07$, with non-COAs functioning better. Clearly COAs were not functioning as well as their peers on the whole, but of particular interest is that "the children in both groups (COAs and their peers) performed at high-normal levels on the cognitive measures and did not

²These included the WISC-R IQ test, the Peabody Achievement Test, the Piers-Harris Self-Concept Scale, the CBCL, the Herjanic Diagnostic Interview and the Conners Parent Scale.

exhibit especially severe emotional problems" (Bennett, et al., 1988, p. 189).

Finally, Jacob and Leonard (1986) studied a community sample of 296 children: 100 with alcoholic fathers, 91 with clinically depressed fathers and 105 with normal fathers. To qualify, fathers had to either satisfy the Research Diagnostic Criteria (RDC; Spitzer, Edicott, & Robins, 1978) for alcoholism, for depressive disorder or have no history of mental illness. Analysis included the Total Social Competence Scale, the Total Behavior Scale as well as the Internalizing and Externalizing factors of the parent form of the CBCL. Results indicated that children of alcoholic and depressed fathers fared worse than those of normal fathers across behavioral and social domains. Again, the authors concluded that "the mean scores of all groups (although reliably different from one another on various scales) were not elevated (mean T-scores < 60), indicating that most of the children were rated within the 'normal range'" (p. 376).

This brief review of COA research provides evidence that many COAs are functioning at the level of their peers in spite of statistically significant differences. When the focus of attention shifts from statistical significance to clinical significance, it becomes clear that the distributions of COAs and non-COA peers overlap considerably (West and Prinz, 1987). This fact suggests that some COAs are resilient to the effects of parental alcohol abuse. The

resiliency literature provides insight into factors that have been identified as protective--in spite of risk--and which can, in turn, be considered potential moderators of the effects of paternal alcohol abuse.

Factors Associated with Resilience

Resiliency has been defined as the outcome of successful adaptation despite challenging or threatening circumstances (Masten, Best, & Garmezy, 1990). Empirical evidence of resiliency can be inferred by individual variations in response to risk (Rutter, 1987). The resiliency literature suggests that this variation is a result of protective factors at work which moderate the effects of an aversive environment and allow individuals, especially children, to function well. For example, children raised by parents suffering from psychopathology are at increased risk for psychological maladjustment; yet not all children in this environment emerge into young adulthood maladjusted (Werner, 1993). The resiliency literature suggests that there are protective factors which account for this variance.

The effects of a competent adult. The most frequently cited protective factor associated with resilience is a positive relationship with a competent adult (Rutter, 1978; Rutter 1979; Rutter, Yule, et al., 1974; O'Sullivan, 1991; Werner, 1986; 1993). This literature is rich in theory and spans infancy through adolescence but empirical support is scant and less developed. As a result, definitions of a

competent adult and resiliency differ across studies and are absent in some cases.

Beginning with evidence linking later adjustment to caregiving, Werner (1986) compared 29 resilient COAs with 20 non-resilient COAs³ at age 18 and found that significantly fewer of the resilient COAs had mothers who gave birth to a second child within 20 months after the child studied ($p < .05$)⁴. Implicit here, and verified by public health workers, is that the resilient COAs in Werner's study received more attention from their primary caregiver in the first year of life (Werner, 1986). Although the presence or absence of a spouse would be expected to interact with the attention available from the primary caregiver, there were no analyses to test for this interaction.

Research on the effects of a competent adult during childhood is also less developed in that specific ages are sometimes not reported. Instead, authors simply use the term "childhood" to define the age of contact with the competent adult. Using retrospective data, O'Sullivan (1991) found that, as adults, 136 COAs (age 25 to 65) who had a mentoring relationship as children were more resilient. Mentors were defined as "special relationships with adults when growing up" (O'Sullivan, 1991, p. 50). Resilience was defined as a

³ Werner stated that "the "resilient" group managed to do well in school, at work and in their social life, and had realistic goals and expectations for the future" (1986, p. 36).

⁴ No other statistics available on this finding.

personality characteristic, measured as the degree to which individuals were functioning at their full capacity and free of emotional turmoil. These characteristics were measured with the Personal Orientation Inventory (POI; Shostrom, 1974), an instrument that accurately discriminates groups formed by the Minnesota Multiphasic Personality Inventory (MMPI). Although these adult COAs were found to differ on this personality construct, differences in their psychological functioning were not studied.

In a large epidemiological study (Rutter, 1978; 1979), Rutter and associates found that the presence of one good parent-child relationship during childhood was associated with a reduced incidence of childhood conduct disorder. The sample consisted of 103 10-year old children in two-parent homes: 29 from highly discordant families (21 with one good parental relationship and 8 without) and 74 from families with no familial discord (56 with one good parental relationship and 18 without) (Rutter, 1979). Reports of such relationships were obtained during extensive face-to-face interviews with parents. A good relationship was defined as "warm and non-critical". The dependent variable was the percent of children showing conduct disorder. For the families with no discord, the presence of the good parental relationship had little effect on the percent of children showing conduct disorder (15% for those with a good relationship and 21% for those without). But for the families

with discord there was a significant difference in the percent of children showing conduct disorder (21% for those with a good parental relationship and 75% for those without, $p = 0.016$).

Finally, in a follow-up study of 578 members of the 1955 cohort, Werner attempted to document the chain of protective factors that lead to resilience in adulthood (1992, 1993). Among the clusters of protective factors appearing in the data of high-risk children, Werner (1993) found that the presence of "supportive adults who fostered trust and acted as gatekeepers for the future" (p. 508) were predictive of successful adaptation into adulthood. Successful adaptation was defined as educational and vocational accomplishments, commitments of intimacy and sharing with spouses and parenting styles that encouraged autonomy. Like O'Sullivan (1987), Werner was not specific as to when, during childhood, these adults were present.

More recent evidence suggests that the association between a secure relationship with an adult and psychological well-being carries through into adolescence. Cavell, Jones, Runyan, Constantin-Page, and Velasquez (1993) found that a strong attachment to mothers during adolescence is significantly related to concurrent psychological adjustment. In a sample of 171 late adolescents (mean age = 18.51), these authors found that maternal attachment, as measured by the Inventory of Parent and Peer Attachment (IPPA; Armsden &

Greenberg, 1987) was the only variable in a regression model that significantly predicted alcohol use, psychiatric symptomology or interpersonal problems. Adolescents showing poorer attachment to mothers also showed greater maladjustment.

Within the studies reviewed, definitions of resiliency and a competent adult vary. But taken as a whole they support the argument that the affective quality and quantity of time spent with mothers could moderate the effects of paternal alcohol abuse.

The effects of gender of COA. Another moderating factor identified in the literature is the gender of the COA. A limitation of most COA research is an inability to analyze across the four parent/COA gender dyads because of low numbers of maternal alcohol abusers (Jacob & Leonard, 1986; Cumes-Rayner, et al., 1992). As noted, the same limitation exists in the archival data used for this study. Consequently, only research relevant to the moderating effects of the COA gender was reviewed.

Often researchers fail to analyze COA data across gender of the child or adolescent (Bennett, Wolin, & Reiss, 1988; O'Sullivan, 1991) and, in fact, COA gender is sometimes entered as a covariate in regression models to eliminate variance introduced by gender differences (Rubio-Stepic, et al, 1991). When differences across gender are reported, they most often include the propensity for male COAs to abuse

alcohol, especially sons of paternal abusers. For example, 20 years after the commencement of a longitudinal study of urban youth (147 COAs and 112 non-COAs), Miller and Jang (1977) found that sons were more likely than daughters to drink heavily when fathers were drinking; specifically, 41% of the males of paternal alcohol abusers abused alcohol themselves compared to 24% of the females. The authors failed to report whether or not these descriptive figures were of statistical significance. They also failed to provide sample sizes broken down by gender. Cumes-Rayner et al. (1992) provide additional evidence of the association between alcohol abuse among male COAs and their fathers. In a community study of 260 11th and 12th graders, a strong association was established between the excessive drinking of male children and their fathers ($\chi^2 = 12.68, 1 \text{ df}, N = 90, p < .0004$). Comparisons with daughters were not possible as the sample was exclusively male COAs.

Although few studies in the COA literature analyze psychological data across gender, data are occasionally presented without analysis. For example, in their community sample of 296 children aged 10 through 18, Jacob and Leonard (1986) provided means for their primary dependent variables (parent-reported CBCL scores: Total Behavior Problems, Total Social Competency, Internalizing and Externalizing) across gender of COA; yet in their analysis they failed to test for main effects across this variable. Nonetheless, means on the CBCL indicate that there are indeed differences across

gender: Males evinced greater scores than females for externalizing symptoms ($T = 55.44$ vs. 51.42) and internalizing symptoms ($T = 54.12$ vs. 53.25) and females evinced lesser scores than males for social competency ($T = 45.50$ vs. 49.13). As with the Miller and Jang data, the statistical significance of these data is unknown. Yet in both cases, percentages and means do provide hypothesis-generating evidence.

Finally, evidence presented by Werner (1986) indicated significant differences in the coping skills of male and female COAs. When comparing resilient COAs with non-resilient COAs, she found that significantly more of those in the resilient group were female (72.4% ; $p < .01$). The pattern was reversed for males, with only 30% of the males in the resilient groups ($p < .01$). Although she does define resiliency (see Footnote 3), she failed to provide a specific description of coping. Nonetheless, differences in psychosocial functioning across gender of COAs are clear.

This Study

The search for factors that moderate risk for COAs is among one of the most active areas of alcoholism research (Rogosch, Chassin, & Sher, 1990). Baron and Kenny (1986) define a moderator as "a qualitative (e.g., sex, race, class) or quantitative (e.g., level of reward) variable that affects the direction and/or strength of the relation between the

independent or predictor variable and a dependent or criterion variable" (p. 1174).

Time-sampling procedures were used to capture the quality and quantity of time spent with non-abusing mothers. Participants carried pagers and reported at random times throughout the day their objective situation and mood state. Aggregate means were then obtained of the percent of time spent with their mothers as well as the adolescent's affect and the friendliness of mothers. These maternal factors, along with the gender of COAs, were investigated as moderators.

Before concluding with question and hypotheses, three final points specific to this study must be made: (1) handling of maternal alcohol abusers, (2) handling of developmental differences, and (3) handling of base rate differences in gender of psychological adjustment above and beyond the predicted affect of paternal alcohol abuse.

As mentioned in the introduction, the focus of this study was on the effects of paternal alcohol abuse on the psychological functioning of adolescent COAs as few adolescents were identified who had alcohol abusing mothers. A total of 11 maternal alcohol abusers were identified; they were handled in one of two ways depending on whether the father abused alcohol or not: (1) when only mothers abused (N=3), the cases were eliminated; (2) when both parents

abused (N=8), the variance attributed to mother's alcohol abuse was controlled.

The focus of this study was specific to the period of adolescence. Developmental differences are not of empirical interest. Rather it was the influence of moderating factors in the lives of adolescents of paternal alcohol abusers. Because the sample spanned middle to late adolescence, preliminary analyses of the archival data were conducted to test for developmental differences. These analyses revealed moderate to strong correlations between age (as measured by the grade of the subject) and several of the moderating and dependent variables. All correlations are presented in Table 1. Based on these preliminary findings, grade was entered in all analyses as a covariate to control for developmental differences.

Finally, base rates of psychopathology typically vary as a function of gender, with the incidence of internalizing symptoms higher for females (e.g., depression; Petersen, Compas, Brooks-Gunn, Stemmler, Ey, & Grant, 1993) and the incidence of externalizing behaviors higher for males (e.g., antisocial behavior; Tolan & Loeber, 1993). To understand the moderating effects of gender as it interacts with paternal alcohol abuse, the main effect of COA gender was controlled. By entering gender before paternal alcohol abuse in all analyses, the variance in the dependent measures above and beyond the main effects of gender was pin-pointed.

TABLE 1
CORRELATIONS FOR GRADE AND ALL MODERATING
AND DEPENDENT VARIABLES

Variable	Males	Females	Both
Percent time with Mother	-.12	-.11	-.12**
Affect when with Mother	-.02	-.12	-.08
Friendliness of Mother .....	.07	-.02	.01
Internalizing .....	.18**	.13*	.14**
Externalizing .....	.12	.13*	.12**
Self-esteem	-.01	.05	-.01
Depression .....	.10*	.13*	.10*
Alcohol use .....	.31***	.26***	.31***

*p < .10 **p < .05 ***p < .01

Question and Hypotheses

Guided by the resiliency and COA literature, the specific questions and hypotheses of this study are as follows.

Question One: What are the moderating effects of the affective quality and quantity of time spent with a non-abusing mother on the psychological functioning of COAs?

Considering the buffering effects of a competent adult that have been illustrated in past research (e.g., Rutter, 1978; Werner, 1986; 1993), it is possible that the affective

quality and quantity of time spent with a non-abusing mother could be functioning as moderators to offset the negative psychological effect of paternal alcohol abuse.

Hypothesis 1: The negative effects of paternal alcohol abuse on the overall psychological functioning of COAs was predicted to decrease as the affective quality and quantity of time with non-abusing mothers increase.

Question Two: What are the moderating effects of the gender of the COA on the psychological functioning of COAs?

As past research suggests that the psychological functioning of COAs differs across gender of COA (Werner, 1986; Jacob & Leonard, 1986), it is possible that gender is functioning to moderate the effects of paternal alcohol abuse.

Hypothesis 2a: Relative to males and non-COA females, female COAs were expected to show higher levels of internalizing symptoms as measured by an overall internalizing factor score, higher depression and lower self-esteem after controlling for gender main effects.

Hypothesis 2b: Relative to females and non-COA males, male COAs were expected to show higher levels of externalizing symptoms, specifically, an overall externalizing factor score and alcohol abuse after controlling for gender main effects.

Question Three: What are the moderating effects of the interaction of gender of the COA by the affective quality and

quantity of time spent with a non-abusing mother on the psychological functioning of COAs?

Finally, a 3-way interaction was predicted between the two moderators presented in Questions One and Two and paternal alcohol abuse.

Hypothesis 3a: Relative to males and non-COA females, female COAs were expected to show a decrease in internalizing symptoms as measured by an overall internalizing factor score, lower depression and higher self-esteem, as the affective quality and quantity of time spent with non-abusing mothers increase.

Hypothesis 3b: Relative to females and non-COA males, male COAs were expected to show a decrease in externalizing symptoms as measured by an overall externalizing factor score and lower levels of alcohol use as the affective quality and quantity of time spent with non-abusing mothers increase.

CHAPTER 3

METHOD

Subjects

The sample of 216 9th-12th grade students was drawn from the third round of data collection of a larger longitudinal study on adolescence. The original sample consisted of 483 5th-9th grade students randomly selected from two midwestern communities: one an urban, blue collar, middle class community and the other, a suburban, white collar, middle to upper-middle class community. The two communities did not differ significantly from one another in education, occupation or income (Larson, 1989a). Both were almost entirely white. Four years later, 328 of the original 483 children were eligible to participate with 155 excluded either because they graduated from high school or because they were studied during the summer the first time. Of these 328, 72 (22%) were unreachable, 28 (9%) refused, and 9 (3%) produced incomplete information; for 3 (<1%), only mothers abused alcohol. The present study focused on the remaining 216 subjects. (See Table 2 for breakdown by grade and gender.) To increase the sample size, 8 cases were included in which both parents abused alcohol. As mentioned earlier,

the confounding effects of maternal alcohol abuse were controlled for statistically.

In the end, 19% of the sample for this study were children of fathers who drank excessively (three or more drinks per night). This is comparable to past community samples in which the percent of alcohol abusers ranged from 14% (Roosa, Sandler, Gehring, Beals, & Cappo, 1988; Filstead, McElfresh, & Anderson, 1981) to just over 40% (Bennett, Wolin, & Reiss, 1988; Cavell, Carson, Runyan, Constantin-Page, & Velasquez, 1993).

TABLE 2
BREAKDOWN OF SAMPLE BY GRADE AND GENDER

	9th Grade	10th Grade	11th Grade	12th Grade
Males	21	26	26	27
Females	27	35	25	29

Procedures

The Experience Sampling Method (ESM) was used to document the daily life experiences of subjects. For one week subjects carried beepers and a booklet of self-report forms. Seven signals were sent each day at random times every two hours between 8:00 AM and 10:30 PM (12:00 PM on weekend

nights). At each signal they filled out a brief self-report describing their objective situation and mood state. At the end of seven days of ESM data collection, beepers and booklets were collected. To obtain further outcome measures of psychological and social functioning, each subject was interviewed and completed a battery of questionnaires. Subjects were paid \$20.00 for their participation.

Design

The primary independent variable was paternal alcohol abuse. Moderating variables included gender and the affective quality and quantity of relations with a non-abusing parent. Dependent variables were grouped into internalizing and externalizing symptoms. (Variables controlled for include gender, age, and maternal alcohol abuse). Table 3 identifies each construct included in the design of this study. Within these constructs is the independent variable and the moderating and dependent variables.

Instruments

Alcohol Questionnaire. The frequency and quantity of paternal alcohol abuse was measured with one item from a 12-item Alcohol Questionnaire (Jessor, Chase, & Donovan, 1980). For this item, subjects were asked to indicate the average number of drinks their fathers consumed per night. Response alternatives ranged from "Does not drink" to "12 or more". The resulting data are continuous.

TABLE 3
CONSTRUCTS, VARIABLES and MEASURES

Construct	Variable	Measure
Parental Alcohol Abuse (Independent Variable)	Alcohol Consumption item	Jessor, Chase, & Donovan (1980)
Relations with non- abusing Mother (Moderator)	Time with Non-abusing Mother Affect with Non-abusing Mother Perceived Friendliness of Non-abusing Mother	ESM (Csikzentmihalyi & Larson, 1987)
Gender (Moderator)	Gender of COA	
Psychological Adjustment (Dependent Variables)	Internalizing Internalizing Factor Depression Self-Esteem Externalizing Externalizing Factor Alcohol Use	YSR (Achenbach, 1991) CDI (Kovacs, 1983) Rosenberg (1965) YSR Crowe, Philbin, Richards, & Crawford (1995)

While COA researchers typically rely solely on children of diagnosed alcoholics to form samples, the present study included a non-clinical sample drawn from the general public. Although there is some criticism of the use of child-report data (Roosa, Michaels, Groppenbacher, & Gersten, 1993), the same critics find that these methods are adequate for identifying children of problem drinking parents, the target sample of this study. Rather than pitting sampling procedures

against each other, the goal of the present study was to enrich the COA literature by investigating the impact upon children of active parental alcohol abusers not currently seeking treatment.

Adolescent alcohol use was also measured with this instrument. In this case, a 6-item Alcohol Consumption scale was developed to measure alcohol use behaviors (Crowe, Philbin, Richards, & Crawford, 1995). These items include "how often", "when last used", "amount on average", "greatest amount", "strongest effect", and "frequency of drunkenness". Because the items are on different metrics (ranging from five- to ten-choice alternatives), they are normalized as z-scores and averaged (See Appendix A for individual items making up this scale). The internal consistency of the scale for males and females is .96 with a Guttman split-half reliability coefficient also of .96. The scale has concurrent validity with two ESM data points on subject's alcohol use. First, the percent of time subjects report using alcohol when signaled was significantly correlated with their Alcohol Consumption scale scores ($r = .32, p < .001$). Second, the percent of time subjects reported having used alcohol since their last signal was also significantly correlated with their Alcohol Consumption scale scores ($r = .53, p < .001$).

Experience Sampling Method (ESM). Experience Sampling Method documented the objective situations and subjective states within the lives of COAs and their peers. Subjects

completed self-reports at random times within every two hour block. With minimal intrusiveness, this method documented most experiences of the subjects and is optimal for two reasons: (1) it is effective for studying how people perceive and experience daily events (Csikszentmihalyi & Larson, 1987), in this case, life in a home with alcohol abuse; and (2) research indicates that few alcoholics would consent to having an observer in their home (West & Prinz, 1987).

Three ESM data points are relevant to this proposal. Because of the complexity of ESM data, examples of the measures are included in Appendix B. In each case the subject spent time with his or her mother, sometimes alone and sometimes with siblings or extended family:

(1) The amount of time spent with the non-abusing mothers was simply the percent of the ESM signals occurring when the subject was with his/her mother.

(2) The affect of the subject when with non-abusing mothers was the mean affect of the subject whenever mothers were present during a signal. This is derived from an affect scale containing three, 7-point semantic differential items (happy-unhappy, cheerful-irritable, friendly-angry; the anchors for the seven points are Very, Quite, Some, Neither, Some, Quite and Very.) This scale has strong internal reliability ($\alpha = .75$) and construct validity (Larson, 1989).

As the primary aim was to examine across-subject differences within a specific context, i.e., the affect of the subjects specific to interactions with mothers, individual response tendencies were controlled. For example, subject's with an overall high affect (regardless of context) would have a positive response tendency that would inflate their affect scores. This would create a base rate in the affect score which would be irrelevant to the particular context. To control for this base rate, each set of within-subject affect scores were standardized, using the mean and the standard deviation of each subject. The equation for this standardization, described in Larson and Richards (1991), is $z_{ij} = (X_{ij} - \text{mean}_j) / \text{SD}_j$, in which x_{ij} is the raw score for a given self-report, mean_j is the person's mean for the scale, and SD_j is the person's standard deviation for the scale. By this process, the subject's z-scores have a mean of 0.0 and a standard deviation of 1.0, with positive scores indicating affect that is more positive.

(3) The friendliness of non-abusing mothers was derived from a 7-point semantic differential item (friendly-unfriendly) with anchors identical to the items making up the affect scale. In this case, subjects were asked to report on the perceived friendliness of others, with "other" being situations in which mothers were present during a signal. Again the scores were standardized using the method described above.

Achenbach Youth Self-Report (YSR). The Youth Self-Report (Achenbach, 1991b) was developed to identify behavioral competence and difficulties in children and adolescence. Nine replicable subscales have been developed which can be grouped to form two broad band scales, namely the internalizing and externalizing factors. Achenbach reports internal consistencies across gender with males showing in alpha of .89 for both the internalizing and externalizing factors and females showing alphas of .91 for the internalizing factor and .89 for the externalizing factor (Achenbach, 1991b).

Self-Esteem Scale. The Rosenberg self-esteem scale is a widely used 10-item Guttman scale. Rosenberg (1965) reported a two-week test-retest reliability coefficient of .85. Self-esteem scores from this measure have been associated with school participation and anxiety.

The Children's Depression Inventory (CDI). This 27-item depression inventory was designed to assess an array of overt behavioral, social and affective depression in children aged 8 to 17 years. The CDI asks subjects whether they have experienced depressive symptoms within the last two weeks. It has been found to be highly reliable and valid (Kovacs, 1983).

Data Analysis

To answer the questions of how moderators affect the relationship between paternal alcohol abuse and COA

psychological functioning, two- and three-way interactions were analyzed. A moderating variable is a third variable that alters the relationship between an independent variable (IV) and a dependent variable (DV) (Baron and Kenny, 1986). As such, a variable moderates the effect of the IV on the DV when the effect of an IV x Moderator interaction on the DV is significant after controlling for the main effects of the IV and the moderator. The relationships among variables necessary for moderation are presented in Figure 2.⁵

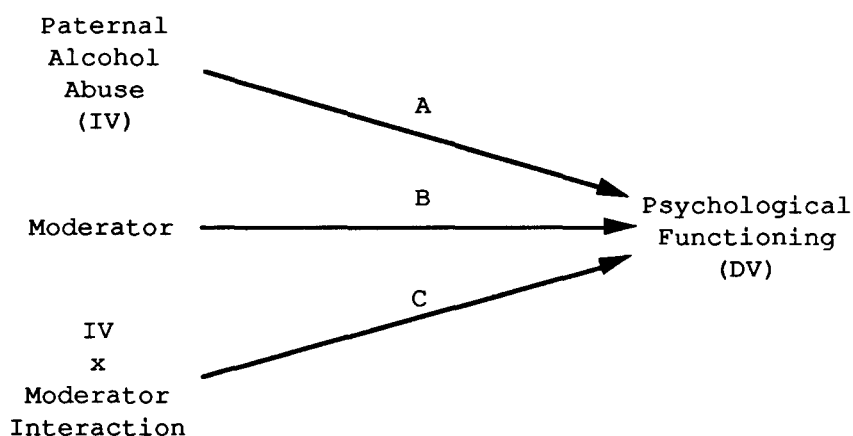


Figure 2. Moderator model (Baron and Kenny, 1986).

A multiple regression model was built to test for moderation. Dependent variables were internalizing and externalizing factors as well as specific symptoms such as

⁵Baron and Kenny (1986) indicate that significant main effects may exist between paternal alcohol abuse and outcome variables (Path A) or the moderator and outcome variables (Path C) but that these relationships are not relevant to hypothesis testing of moderating variables.

depression, self-esteem and adolescent alcohol use. Expected outcomes are illustrated in the figures below.

For Hypothesis 1 the effects of paternal alcohol abuse on the psychological functioning of COAs was predicted to decrease as the affective quality and quantity of time with non-abusing mothers increases. This prediction is illustrated in Figure 3.

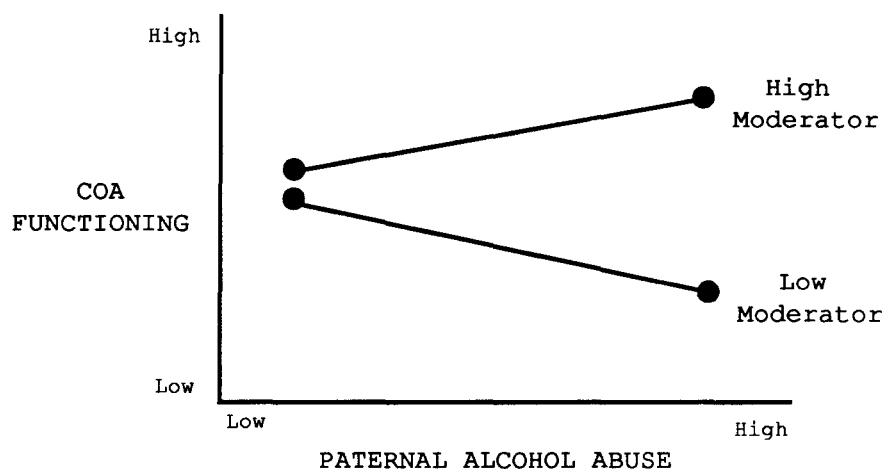


Figure 3. Predicted effects of the affective quality and quantity of time spent with mothers (Moderators) on COA psychological functioning (Hypothesis 1).

For Hypotheses 2a and 2b, the effects of paternal alcohol abuse on the psychological functioning of COAs was predicted to differ across the gender of the COA. Male COAs were predicted to show higher externalizing symptoms while females were more likely to show higher internalizing symptoms. The moderating effects of gender were expected to

predict unique variance in the dependent variables above and beyond base rate differences typical across gender. These predictions are illustrated in Figure 4.

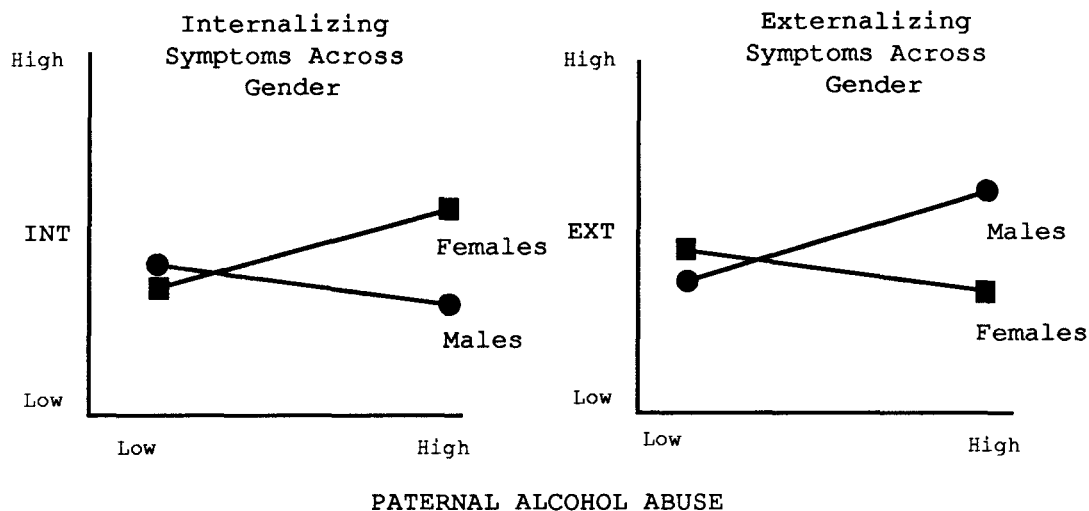


Figure 4. Predicted effects of COA gender on COA psychological functioning (Hypotheses 2a and 2b).

For Hypotheses 3a and 3b, the effects of paternal alcohol abuse on the psychological functioning of COAs was predicted to change differentially by the gender of the COA as the affective quality and quantity of time spent with non-abusing mothers increases. For male COAs, little change was predicted for internalizing symptoms, but externalizing symptoms were expected to decrease. For female COAs, little change was predicted for externalizing symptoms, but internalizing symptoms were predicted to decrease. Again, the

moderating effects of gender were expected to predict unique variance in the dependent variables above and beyond base rates differences typical across gender. These predictions are illustrated in Figure 5. Because maternal involvement was not expected to influence internalizing and externalizing for males and females respectively, these relationships are not illustrated.

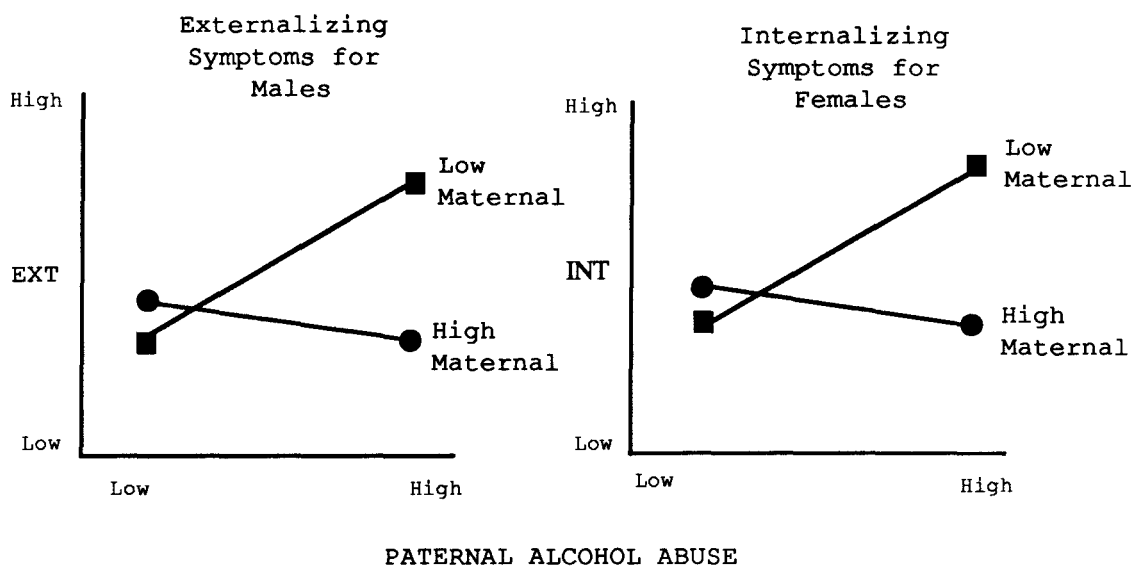


Figure 5. Predicted joint effects of gender of COA and the affective quality and quantity of time spent with mothers (Maternal Moderators) on COA psychological functioning (Hypotheses 3a and 3b).

CHAPTER 4

RESULTS

Final Sample Characteristics

The sample for this study was reduced to 116 because of missing data; a significant portion of those dropped were adolescents who reported no time with their mothers (46%). Although zero was a valid value for the Time with Mother variable, these cases were eliminated from the analyses because they were considered missing for the Affect and Friendliness variables. Characteristics of those who were dropped reflect what one would expect from adolescents who report no time with their mothers; they evinced significantly higher externalizing scores and alcohol use than those who remained in the analyses, $F = 12.13 (1,210), p < .01$; $F = 11.12 (1,208), p < .01$ respectively. Furthermore, more males and less females than expected were dropped, $\chi^2 = 18.47, df = 1, p < .001$. In sum, those who were dropped (1) were more likely to be males, (2) had higher levels of externalizing and alcohol use, and (3) were likely to have spent no time with their mothers. Although the loss of subjects is easily explained given the characteristics of those dropping, the

reduced sample undoubtedly lowered the power of the statistical analyses.

Analytic Model

The goal of this research has been to identify variables that moderate or buffer the effects of parental alcohol abuse on the psychological functioning of adolescents. To review, a moderating variable is a third variable that alters the relationship between an independent variable (IV) and a dependent variable (DV) (Baron and Kenny, 1986). As such, a variable moderates the effect of the IV on the DV when the effect of an IV x Moderator interaction on the DV is significant after controlling for the main effects of the IV and the moderator. The relationships among variables necessary for moderation were presented in Figure 2. Presentation of results will be structured around the three paths in this figure.

Correlations and Regression Main Effects

Before presenting the regression analyses designed to test for moderation, preliminary results not directly relevant to analyses for moderation are presented briefly. These include correlations and regression main effects constituting Paths A and B in Figure 2. Correlations among all the variables are presented in Table 4 and the regression main effects for paternal alcohol abuse and each moderator for each dependent variable are presented in Table 5.

First consider the relationship between paternal alcohol abuse and each dependent variable (Path A). The correlations in Table 4 between paternal alcohol abuse and each of the dependent variables are close to zero. Likewise the low beta weights of the regression main effects in Table 5 for each dependent variable indicate no relationship with paternal alcohol abuse. These relationships are the weakest in this study.

Second, consider the relationship between each moderator and dependent variables. The correlations in Table 4, constituting Path B, are moderate for some variables and weak for others. Friendliness of Mother showed the strongest relationship with the dependent variables, correlating significantly with depression, $r = -.27$, $p < .01$, internalizing, $r = -.16$, $p < .05$. externalizing, $r = -.34$, $p < .01$, and alcohol use, $r = -.24$, $p < .01$. Affect with Mother showed a weaker relationship with the dependent variables, correlating significantly with depression only, $r = -.16$, $p < .05$. For Time with Mother, correlations approached zero, indicating no relationship.

The regression main effects in Table 5 show a similar pattern with Friendliness of Mother, predicting significant variance in depression, $R^2 = .07$, $\beta = -.27$, $p = .004$, externalizing, $R^2 = .12$, $\beta = -.34$, $p < .001$, and alcohol use, $R^2 = .05$, $\beta = -.22$, $p < .05$, and Affect with Mother

TABLE 4

CORRELATIONS AMONG ALL VARIABLES (N = 116)

	1	2	3	4	5	6	7	8	9	10
M (SD)	6.33 (1.08)	2.76 (2.25)	-.05 (.73)	-.04 (.84)	7.14 (5.3)	9.39 (5.63)	14.53 (8.3)	12.99 (6.93)	3.21 (.43)	-.32 (.84)
1. Grade .....	....	.02	.00	-.05	-.06	.01	.08	.12	.05	.31**
2. Paternal alcohol abuse ...		....	.17*	-.06	-.12	.10	.01	-.08	.00	.11
3. Affect of adolescent with Mother.....			....	.35**	.01	-.16*	-.03	-.10	.06	-.12
4. Friendliness of mother ...				....	-.04	-.27**	-.16*	-.34**	.05	-.24**
5. Time with mother .....					....	-.03	.03	.00	.01	.06
6. Depression .....						....	.56**	.39**	-.58**	.23**
7. Internalizing .....							....	.47**	-.50**	.10
8. Externalizing .....								....	-.12	.43**
9. Self-esteem .....									....	.01
10. Adolescent alcohol use ...										....

*p < .05 **p < .01.

TABLE 5

SUMMARY OF REGRESSION MAIN EFFECTS FOR PATERNAL ALCOHOL ABUSE
AND ALL MODERATORS ACROSS FIVE DIMENSIONS OF
ADOLESCENT FUNCTIONING (N=116)

Variable	BDI	INT	EXT	SESMEAN	ALCUSE
PAA					
R ² .....	.01	.00	.002	.001	.01
Sign R ² .....	.33	.79	.60	.73	.25
Beta In .....	.10	-.03	-.05	.03	.11
AFFECT w/ MOTHER					
R ² .....	.03	.01	.005	.01	.02
Sign R ² .....	.05	.37	.45	.33	.11
Beta In	-.19	-.03	-.07	.09	-.14
FRIENDLINESS OF MOTHER					
R ² .....	.07	.02	.12	.002	.05
Sign R ² .....	.004	.10	.00	.60	.01
Beta In	-.27	-.15	-.34	.49	-.22
TIME W/ MOTHER					
R ² .....	.00	.00	.00	.00	.01
Sign R ² .....	.88	.74	.97	.89	.29
Beta In	-.01	.03	.00	.01	.09
Gender of COA					
R ² .....	.00	.09	.01	.02	.00
Sign R ² .....	.78	.001	.34	.17	.55
Beta In	-.03	.30	-.09	-.13	-.06

predicts significant variance in depression, $R^2 = .03$, beta = $-.19$, $p = .03$. As with the correlations, the relationship of Time with Mother across all five dependent variables was non-existent.

Finally, seven of the ten possible correlations among the dependent variables were significant to the $p < .01$ level. These statistics speak well of the concurrent validity of the scales used to measure adolescent functioning.

Aside from the strong interrelations among the dependent variables, the relationships between paternal alcohol abuse and the dependent variables was virtually non-existent while the relationships among the moderators and dependent variables were moderate to weak.

Gender and Maternal Factors as Moderators

The main analyses for this study involve relationships of variables along Path C of Figure 2. As Baron and Kenny (1986) clearly state, a variable is a moderator when the effect of an IV x Moderator interaction on the DV is significant after controlling for the main effects of the IV and the moderator.

In addressing the issue of moderation in this study, 3 questions were posed: (1) What are the moderating effects of the affective quality and quantity of time spent with a non-abusing mother on the psychological functioning of COAs? (2) What are the moderating effects of the gender of the COA on the psychological functioning of COAs? and (3) What are the moderating effects of the interaction of gender of the COA with the affective quality and quantity of time spent with a non-abusing mother on the psychological functioning of COAs?

According to the analytic guidelines of Baron and Kenny (1986), multiple regression is among the most powerful statistical techniques to test for moderation. Therefore, to test for moderation of paternal alcohol abuse, 20 hierarchical regressions were performed using the following general model:

Step 1	Grade	(Covariate)
Step 2	Maternal Alcohol Abuse	(Covariate)
Step 3	Paternal Alcohol Abuse	(Main Effect)
Step 4	Maternal variable or Gender (Moderator)	(Main Effect)
Step 5	Moderator x PAA	(2-way Interaction)
Step 6	Moderator x SEX	(2-way Interaction)
Step 7	PAA x SEX	(2-way Interaction)
Step 8	Moderator x SEX x PAA	(3-way Interaction)

In each regression, 1 of 4 variables was tested as a moderator across 5 dependent variables (Moderators included Gender of COA, Time with Mother, Affect with Mother, and Friendliness of Mother; dependent variables included Depression, Self-Esteem, Internalizing, Externalizing, and Alcohol Use.) In each case, the first 2-way interaction (Step 5) was the interaction term for the moderator under investigation. In addition to testing for significant 2-way interactions between the moderators and paternal alcohol abuse, 3-way interactions were built into the model to allow testing for the moderating effects of the interaction of gender of the COA with the affective quality and quantity of

time spent with a non-abusing mother (PAA x SEX x Maternal Variables)⁶.

Table 6 lists all the variables along the left side of Figure 2--the independent variable, the moderators, and the interaction terms. The interaction terms are grouped according to those used to address each main research question. In all cases paternal alcohol abuse was the sole independent variable.

Question 1. What are the moderating effects of the affective quality and quantity of time spent with a non-abusing mother on the psychological functioning of COAs?

When testing the moderating effects of the affective quality and quantity of time spent with mothers, it was predicted by Hypothesis 1 that the negative effects of paternal alcohol abuse on the overall psychological functioning of COAs would decrease as the affective quality and quantity of time with non-abusing mothers increase. For all three maternal variables, this prediction was not supported.

⁶When gender was the moderator under investigation, the model stopped at Step 5. When 3-way interactions involving paternal alcohol abuse, gender, and maternal moderators were tested, relevant 2-way interactions were entered before the 3-way interaction just as main effects were entered before the 2-way interaction.

TABLE 6

INDEPENDENT AND MODERATOR VARIABLES AND INTERACTION
TERMS USED IN REGRESSION ANALYSES

Independent Variable	PAA	Paternal Alcohol Abuse		
Moderator Variables	TWM	Time with Mothers		
	MAFF	Affect with mothers		
	MFRD	Friendliness with Mothers		
	SEX	Gender of COA		
PAA x Moderator Interactions for:				
Question 1:	PAA	x	TWM	
	PAA	x	MAFF	
	PAA	x	MFRD	
Question 2:	PAA	x	SEX	
Question 3:	PAA	x	TWM	x SEX
	PAA	x	MAFF	x SEX
	PAA	x	MFRD	x SEX

Question 2. What are the moderating effects of the gender of the COA on the psychological functioning of COAs?

When testing the moderating effects of the gender of the COA, it was predicted by Hypothesis 2a that, relative to males and non-COA females, female COAs would show higher levels of internalizing symptoms. Likewise, Hypothesis 2b predicted that, relative to females and non-COA males, COA males would show higher levels of externalizing symptoms. For both males and females, the predictions were not supported.

Question 3. What are the moderating effects of the interaction of gender of the COA by the affective quality and

quantity of time spent with a non-abusing mother on the psychological functioning of COAs?

When testing the moderating effects of the interaction of gender and the affective quality and quantity of time spent with mothers, it was predicted by Hypothesis 3a that, relative to males and non-COA females, female COAs would show a decrease in internalizing symptoms as the affective quality and quantity of time spent with non-abusing mothers increase. Likewise, Hypothesis 3b predicted that, relative to females and non-COA males, male COAs would show a decrease in externalizing symptoms as the affective quality and quantity of time spent with non-abusing mothers increase.

The interaction of Gender and Time with Mother and the interaction of Gender and Affect with Mother did not function as a moderator of paternal alcohol abuse. On the other hand, the interaction of Gender and Friendliness of Mother did function as a moderator of paternal alcohol abuse. Specifically, a 3-way interaction (SEX x MFRD x PAA) predicted 7% of the variance in self-esteem scores, $\beta = 1.74$; $p = .003$. To probe this finding, 2-way interactions for MFRD x PAA were run for males and females separately; the 2-way interaction was significant for males, predicting 13% of the variance in self-esteem scores, $\beta = -.78$; $p = .029$, but non-significant for females. Self-esteem was not diminished by high levels of paternal alcohol abuse when male

adolescents experienced their mothers as high in friendliness but self-esteem dropped as the Friendliness of Mother and the level of paternal alcohol abuse dropped. The results for males are presented in Figure 6.

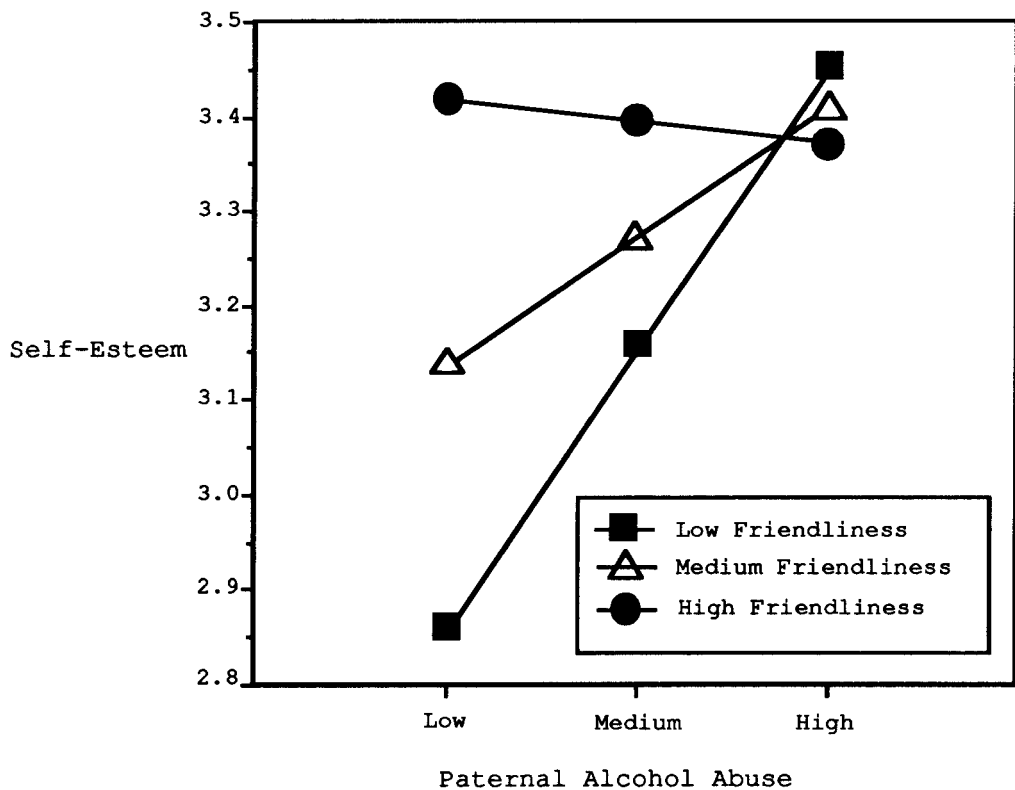


Figure 6. Interaction of friendliness of mothers and paternal alcohol abuse on the self-esteem of male adolescents.

CHAPTER 5

DISCUSSION

The results of this study provide only limited evidence that gender of COA and the affective quality and quantity of time with mothers moderate the risk of paternal alcohol abuse on the psychological functioning of COAs. The only factor that had a moderating effect was Friendliness of Mother, which interacted with gender making the moderator significant for males only. Specifically, when adolescent males experienced their mother's as high in friendliness, self-esteem was high regardless of the level of paternal alcohol abuse. As Friendliness of Mother dropped, so did self-esteem levels. Although Friendliness of Mother predicted self-esteem, two components of this finding are contrary to the predictions. First, the effect of maternal friendliness was expected to buffer females against low self-esteem, not males, as was found. Second, self-esteem dropped as both the maternal friendliness and the level of paternal alcohol abuse dropped. In spite of these anomalies, what is important is the fact that high maternal friendliness predicted high self-esteem in spite of high paternal alcohol abuse.

These limited findings provide little support for the agenda put forth by COA researchers who contend that the

search for moderators should remain high priority. This emphasis on moderators is largely due to the fact that COAs do not consistently evince psychological disorder. For example, while a typical outcome of COAs is a family history risk for alcoholism, not all COAs become alcoholics. Why? Rogosch, Chassin and Sher (1990) successfully uncovered personality characteristics that moderate this family history risk for alcoholism. They found that both high risk personality traits like impulsive and aggressive behavior and a sense of self-awareness moderated the family risk for alcoholism. It is perhaps research like that of Rogosch and associates that West and Prinz (1987) hoped to inspire by stating that the task for researchers is to identify factors that lead to positive outcome in spite of parental alcohol abuse.

Two possible conclusions can be reached based on the results of this study. First, that gender of COA and the affective quality and quantity of time with mothers do not moderate the relationship between paternal alcohol abuse and adolescent functioning. Based on the conceptual framework upon which this research rests, this conclusion seems unlikely. For this study, the resiliency literature was used as a guide to identify potential moderators of paternal alcohol abuse--factors that have proven protective against high risk situations like poverty. Researchers in this paradigm provide ample evidence that gender and exposure to

competent adults hold promise as potential moderators (Rutter, 1978; Werner, 1986). Yet the results of this study provide little evidence that similar factors moderated paternal alcohol abuse.

Rather than concluding that these factors are not viable moderators, a second conclusion can be drawn: that methodological shortcomings may have obscured moderation. Therefore, the remainder of this discussion will provide a closer examination of the model used to test for moderation in an attempt to highlight weak points where it may have broken down. The moderator model presented in Figure 2 will serve to organize this discussion. While the regression analyses presented in the Results section were solely concerned with Path C of this model, for the present discussion, Paths A and B will be considered as potential weaknesses.

Two questions are at issue here: (1) are the potential moderators related to the dependent variables in a way to suggest resilience? (i.e., Path B) and (2) is the independent variable related to the dependent variables in a way to suggest risk? (i.e., Path A). To answer these questions, correlations and main effects will be highlighted. Table 4 lists all correlations among all variables. Table 5 lists main effects for paternal alcohol abuse and all moderators on all dependent variables.

Baron and Kenny (1986) comment on the role of Paths A and B in the moderator model. Given the resiliency framework used in this study, their comments are less relevant but noteworthy nonetheless. First, they state the neither Path A nor B need be statistically significant for moderation. While their point is related to whether or not the relationships among variables along either path reaches significance, the issue as it relates to resiliency is not one of statistical significance but rather the direction of the relationship. For moderators to have applied meaning within the resiliency framework, they must be related to the dependent variables in a direction that promotes well-being, regardless of the significance of this relationship.

Second, Baron and Kenny state that it is desirable for the moderator to be uncorrelated with the dependent variables "to provide a clearly interpretable interaction term" (p. 1174, 1986). This statement relates specifically to Path B. (In this regard, the authors made no specific statements about Path A.) Again, for moderators to have any applied meaning within the resiliency framework, this extra clarity may have to be sacrificed because it makes conceptual sense for the moderators to be related to the dependent variables in a direction that promotes well-being.

To address the first question, the relationship between select moderators and all dependent variables suggests resilience (i.e., Path B); both Friendliness of Mother and

Affect with Mother were correlated in a positive (resilient) direction across all five dependent variables (Table 4). On the other hand, the relationship between Time with Mother and Gender across most dependent variables was minimal. The regression main effects in Table 5 illustrate a similar pattern. When considering the direction of the correlations and the regression main effects, these findings illustrate that the moderators investigated in this study--two of the three maternal moderators--were related to adolescent functioning in a way consistent with the predictions from a resiliency research paradigm. In other words, the model does not seem to break down from a poor choice of variables to investigate as moderators.

To address the second question, the relationship between paternal alcohol abuse and the dependent variables does not suggest risk (i.e., Path A). The correlations presented in Table 4 between paternal alcohol abuse and all five dependent variables indicate no relationship; the regression main effects of paternal alcohol abuse on the five dependent variables (Table 5) illustrate a similar pattern. These findings suggest that the data used to measure paternal alcohol abuse were not related to outcome in such a way to suggest risk and furthermore that Path A could be the weak point in the model. There are several methodological reasons why this is the case. These are discussed next.

Although often used in COA research, child self-report data on parental alcohol abuse have some limitations. Most notable, COAs tend to under-report parental alcohol abuse which can at times lead to unacceptable levels of false negatives (Roosa, Michaels, Groppenbacher, & Gersten, 1993). When this is the case, error variance is introduced into the data and design sensitivity is reduced. While this is one trade-off for gaining access to children of parents who are active but untreated alcohol abusers, it is a source of error that should be addressed and minimized.

A second matter is an artifact of the archival data used for this research. Within the COA research paradigm, an effort is often made to develop a psychological profile of the parents. For example, schedules for 12 DIS/DSM-III disorders were used by Rubio-Stipec et al. (1991) to classify children into one of three groups: COAs, children of parents of DIS disorders other than alcoholism, and control children. In this way the authors were able to control for the variance in child outcome that might be due to negative parental attributes other than alcoholism, which from the current perspective, would be error variance. Likewise, Jacob and Leonard (1986) compared COAs, children of depressed fathers and controls. To do this, fathers had to either satisfy the Research Diagnostic Criteria for alcoholism, for depressive disorder or have no history of mental illness. Again, variance in child functioning due to negative parental

attributes other than alcohol abuse was controlled. Of course in both of these examples, researchers required direct access to parents to administer the diagnostic interviews, a procedure that is difficult at best when working with samples drawn from the general public. The end result of excess error variance in adolescent outcome due to negative parental attributes other than alcohol abuse is again reduced design sensitivity.

Excess error variance in outcome due to false negatives in child-reported data or the effects of negative parental attributes left to vary may render the relationship between parental alcohol abuse and adolescent outcome uninterpretable. In this study, if one looks only at the main effects of parental alcohol abuse across the five dependent variables, the most parsimonious conclusion is that there is nothing to moderate. It is possible that these factors weakened Path A, obscuring both risk associated with paternal alcohol abuse and the statistical significance of the moderating effects of gender and the affective quality and quantity of time spent with non-abuse mothers.

In spite of these methodological weaknesses, the moderator model proposed by Baron and Kenny (1986) is an appropriate design to use to investigate factors that interact with paternal alcohol abuse. Clearly each component of the model must be attended to in order to detect moderation. Recommendations are presented in the concluding

chapter which revolve around the identified weaknesses in the moderator model that was used to guide this research.

CHAPTER 6

RECOMMENDATIONS

The guiding model for this research was developed from the resiliency literature. While it remains a viable model for investigating factors that moderate the risk of parental alcohol abuse, several recommendations are at hand. These recommendations center around methodological concerns of the current study and opportunities for future research.

1. Continued Sampling from Public Schools

More research is needed on the psychological impact upon children of active alcohol abusers not currently seeking treatment. Addressing this gap in the COA research would compliment what is known about children of referred parents. Public schools provide an optimal setting for identifying these children.

The major advantage of forming samples for COA research within public schools is that direct participation of parents is not required. While relying on one source for data has inherent limitations for reliability and validity, these methodological concerns must be weighed against the benefits of having accessible children of parents who themselves would

refuse to participate⁷. With appropriate instruments and procedures, the benefits of working solely with children outweigh the systematic loss of subjects that would occur if parents were required to provide data. A methodological concern relevant to this research, collecting valid COA-reported data on parental functioning, will be addressed in the next two recommendations.

2. Assessment of Parental Alcohol Use

Instruments more appropriate than the frequency/quantity measure used for this study should be used for assessing parental alcohol use. Among the instruments that exist for obtaining from children valid and reliable data on their parents' alcohol use, two are reviewed below in some detail. One operationalizes parental alcohol abuse as COA reports of parental problems due to parental drinking and the other as the emotional distress COAs experience due to parental drinking, again reported by COAs.

The Short Michigan Alcoholics Screening Test for Mothers and Fathers (M-SMAST and F-SMAST; Sher and Descutner, 1986) consists of 13 face valid questions which assess the child's perceptions of the amount of problems a parent experiences due to drinking. This instrument is an extension of the SMAST which is administered directly to subjects (Selzer, Vinokur, & van Rooijen, 1975). SMAST questions were reworded to form

⁷ This discussion is not meant to suggest that parental consent for child participation is not required. While such consent is still required, it comes easier than direct participation of parents.

two new screening tests administered directly to children. To establish reliability, eighty-eight sibling pairs completed both tests. Using the recommended cut-off score of ≥ 5 for alcoholism, the kappa coefficient of agreement was .72. Concurrent validity was established by comparing F/M-SMAST data with Research Diagnostic Criteria data collected directly from parents; the kappa coefficient of agreement of .74 for the F-SMAST and .73 for the M-SMAST. Of note is that these reliability and validity studies were conducted with college freshmen. The psychometric soundness of the instrument for early or middle adolescents has yet to be established.

A second instrument, the Children of Alcoholics Screening Test (CAST, Jones, 1983), consists of 30 face valid items developed to measure "children's attitudes, feelings, perceptions, and experiences related to their parent's drinking behavior" (Jones, 1983. p. 156). This measure assesses the distress a child experiences due to drinking rather than the quantity, frequency or other consequences of parental drinking. It is argued that a concern about parental drinking is sufficient to assume that a child has been exposed to something more than social drinking (DiCicco, Davis, & Orenstein, 1984).

Reliability was established with a Spearman-Brown split-half coefficient. This statistic was computed for 2 groups: 97 COAs (82 children of clinically diagnosed alcoholics, mean

age = 13, and 15 self-reported children of alcoholics, mean age = 16) and 118 children for whom the drinking status of the parent was not known, mean age = 16. For both groups, the coefficient of agreement was .98. Validity was estimated by a chi-square analysis of all 30 items; in all cases, the items discriminated between COAs and non-COAs, $p < .05$. High sensitivity was established as the CAST identified 100% of the COAs but specificity estimates could not be made because the drinking status of the control parents was not known. The fact that 22% of the controls scored in the COA range could either reflect identification of COAs or low specificity of the CAST. Notwithstanding this fact, the CAST seems to hold up well with early to middle adolescents.

The issue with the CAST is less its psychometric properties and more about the manner in which parental alcohol abuse is conceptualized. Is a measure so far removed from direct diagnosis of parental alcohol abuse valid? When the psychological functioning of COAs constitutes outcome, as is generally the case in COA research, the "distress" method gains credibility. That is, it is likely that the child's distress due to parental drinking provides a concise and valid measure of what is experienced as abuse and what is likely to have a psychological impact.

3. Assessment of Parental Functioning Beyond Alcohol Use

Another recommendation regarding methodological concerns of relying solely on COA reporting is collecting valid data

of parental functioning beyond alcohol use. Because parental functioning can have an impact on COA functioning, this is a major concern. While most data on parental functioning from previous COA research was collected directly through diagnostic interviews (e.g., DIS or RDC), the issue here is to gain access to equally valid data in a less intrusive manner, either directly through the COA or at least through a parent-report procedure that does not require face-to-face contact. Two instruments will be reviewed briefly, the first is a parental self-report questionnaire and the second is a COA-reported interview on parental functioning.

The Brief Symptom Inventory (BSI; Derogatis, 1975) holds promise as a self-report questionnaire of parental functioning. The BSI is a shortened version of the SCL-90 (Derogatis, 1977) designed to provide self-report psychological profiles for both patients and non-patients across nine primary symptom dimensions and three global indices of distress⁸. The inventory consists of 53 items rated on a 5-point scale anchored between "not at all" and "extremely".

Psychometric research on the BSI (Derogatis, 1983) indicates that it is valid and reliable. Internal consistency reliability was established on a sample of 1002 psychiatric

⁸ Symptom dimensions include somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism; distress indices include general severity index, positive symptom distress index, and positive symptom total.

out-patients; Cronbach's coefficient of agreement for the symptom dimensions ranged from .71 to .85. The stability of the inventory was established through a 2-week test-retest interval on a sample of 60 non-patient subjects. Coefficients of agreement ranged from .68 to .91 across the 12 scales.

Convergent validity of the BSI was established by correlating symptom dimension scores of the BSI with MMPI scales designed to measure similar constructs. For a sample of 209 symptomatic volunteers, seven of the nine symptom dimensions had correlations that ranged from .48 to .72, demonstrating convergence with an established instrument. Furthermore, correlations between BSI dimensions and MMPI scales designed to measure other constructs were consistently low, demonstrating discriminant validity.

To use the BSI in COA research, parent participation would have to be solicited. While this would not require face-to-face contact with parents, it would require that parents complete the BSI on their own. A typical procedure when working in school systems is to request that parents complete a "parent packet" that is either mailed home or brought home by the child. While these packets usually contain questions on family demographics, the BSI could be incorporated into such a packet. One potential pitfall of the BSI is the high face validity of the items; while the specific pathologies that items are designed to measure may not be detected by parents, the general feel of the items

speak clearly of psychological functioning. As such, parents may be reluctant to complete the questionnaire. Extra effort would be needed to assure parents of confidentiality and particularly that the data are only analyzed and presented as averages, masking specific details of individuals.

It is not always desirable to work directly with parents. For example, the incidence of missing data is often increased when parents give consent for their child to participate but fail to complete a parent packet. In such cases, it may be better to collect data directly from the child. The Family History-Research Diagnostic Criteria (FH-RDC; Andreasen, Endicott, Spitzer, & Winokur, 1977) holds promise as a valid and reliable instrument designed to assess psychological functioning without direct contact with subjects. The FH-RDC is a variation of the Research Diagnostic Criteria (RDC) which is used by researchers to collect data directly from subjects. To use the FH-RDC, a 2-step process is required. First, relatives of a subject are interviewed about any type of psychiatric illness in any of the subject's first degree relatives (Andreasen et al, 1977), a method used independent of the RDC in genetic and familial studies of psychopathology (Thompson, Orvaschel, Prusoff, & Kidd, 1982). Second, the explicit diagnostic criteria of the

RDC are applied to the family history data to make a diagnosis⁹.

Reliability of the FH-RDC was established through agreement between professional raters and a criterion diagnosis for 75 vignettes of actual family history data. Inter-rater agreement between the criterion and the professional raters ranged from .46 to .98 across all diagnostic categories with the majority falling above .60.

While the FH-RDC method could have particular relevance to COA research by providing a means of collecting data on the psychological functioning of parents when the parents themselves are not accessible, the reliability and validity of child and adolescent FH-RDC data has yet to be established. This is because the age of the family member interviewed in each of the 75 vignettes was not reported in the reliability study just discussed. Nevertheless, it has been used in COA studies with spouses being interviewed (Chassin, Barrera, Bech, and Kossal-Fuller, 1992) and is a promising instrument for assessing parental functioning through COA reports. In fact, if proven appropriate, the FH-RDC provides a diagnosis for parental alcoholism, obviating the need to use a separate measure to assess parental alcohol use.

⁹ Diagnoses include chronic schizophrenia, remitting schizo-affective disorder, chronic schizo-affective disorder, depressive disorder, manic disorder, senile organic brain syndrome, unspecified functional psychosis, antisocial personality, alcoholism, drug abuse, other psychiatric disorder, and no known mental disorder.

4. Testing Moderating Effects of each COA/Parent Gender Dyad

A limitation to this research and to much of the past COA research is that a paucity of alcohol abusing mothers prevented analysis of the effects of maternal alcohol abuse. More specifically, had data been available for this study from maternal alcohol abusers, analysis could have spanned the four COA/parent dyads, allowing for a more thorough exploration of the effects of gender. For example, while it is generally accepted that sons of parental alcohol abusers are at greater risk for alcohol abuse than daughters (Cumes-Rayner et al, 1992; Miller & Yang, 1977), the few researchers that have had data on both maternal and paternal alcohol abuse indicate an interaction between COA and parent gender. In 1976, 20 years after the commencement of their longitudinal study of urban youth, Miller and Jang found that, while sons were more likely to drink heavily when only father's drank, daughters were more likely to drink when only mothers drank:

Parent Abusing Alcohol	Heavy Drinkers (Sons)	Heavy Drinkers (Daughters)
Mother Only	29%	57%
Father Only	41%	24%

The authors failed to report whether or not these descriptive

figures were of statistical significance yet the pattern is clear.

Werner (1986) did an exceptionally good job of analyzing across the four gender dyads. When comparing resilient COA's with non-resilient COA's, she found that significantly more of those in the resilient group were female than male (72.4% vs. 27.6%, $p < .01$) but more importantly, that only one COA (3%) in the resilient group had an alcoholic mother. Taken together, Werner states that the "boys and the offspring of alcoholic mothers (are) more vulnerable than girls and the offspring of alcoholic fathers" (Werner, 1986, p. 37). Clearly, the gender of the alcohol abusing parent is as important as the gender of the COA as a potential moderator. The next two recommendations are related to further testing of the moderating effects of other people in the lives of COAs.

5. Multi-dimensional Aspects of Exposure to Others

The emphasis within the resiliency literature on the buffering effects of one good parent-child relationship (Rutter, 1978) is reason to pursue further research in this area. There are many aspects of the non-abusing parent/COA relationship that could be functioning as moderators. For example, there are other ways beyond those used in this study to measure the quality and/or quantity of time the child has with a parent. In the Isle of Wight study, Rutter et al. (1974) looked for differences in family size between 10 year

old children with psychiatric disorders and those without and found that 10 year old children with psychiatric disorders were significantly more likely than those without to come from families with 4 or more children (35.1% vs. 12.9%, $p < .01$). From a COA perspective, fewer siblings could be tested as a moderator to parental alcohol abuse with the assumption that smaller families allow non-abusing parents more or better quality time with their children.

6. Exposure to Others Outside of Immediate Family

Research should move beyond parents as potential "buffering individuals." From within the resiliency paradigm, this buffering individual can be someone outside of the family, including teachers, clergy, scout leaders and even stable friendships with peers. Again Rutter et al. (1974) provides hypothesis generating information by finding higher rates of deviance among 10 year old children who experience high rates of teacher and pupil turnover compared to those who experience low turnover (22.9% vs. 11.2%, $p < .001$ for teacher turnover and 27.8% vs. 12.5%, $p < .001$ for pupil turnover). Again from a COA perspective, stable relationships with teachers or peers could be tested as moderators of parental alcohol abuse.

7. Testing for Mediation

As a last recommendation, researchers should investigate possible factors that account for, rather than moderate, the relationship observed in past research between parental

alcohol abuse and the psychological functioning of COAs. In this case a factor would mediate the relationship between parental alcohol abuse and COA functioning. A model depicting mediation is presented in Figure 7.

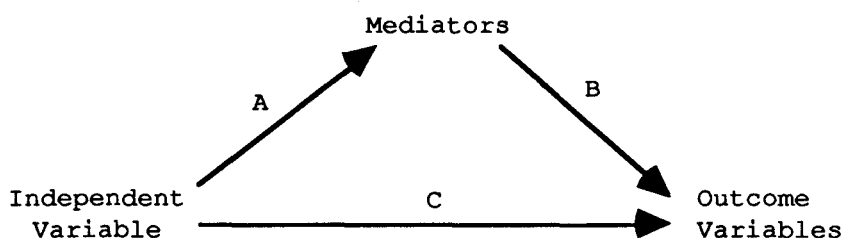


Figure 7. Mediator model (Baron & Kenny, 1986).

Unlike the moderator model, in the mediator model a series of causal links are assumed: both the mediator and the independent variable are assumed to have a causal relationship with the outcome variable (Path B and C respectively); there is also a causal relationship assumed between the independent variable and the mediator (Path A) (Baron and Kenny, 1986). In short, the independent variable has both a direct and indirect effect on the dependent variable. From a statistical perspective, a variable functions as a mediator when: (1) the independent variable significantly predicts both the mediator and the outcome variable, (2) the potential mediator significantly predicts the outcome variable, and (3) the previously significant

relationship between the independent variable and the outcome variable is non-significant or at least weakened when controlling for the mediator (Baron and Kenny, 1986). Two brief examples will serve to illustrate the effects of mediators as potential bufferers of risk as they relate to COA research.

Dekovic and Janssens (1992) investigated the influences of pro-social behavior as potential mediators of the effects of parental rearing practices on the sociometric status of 112 6 through 11 year old children. In this case parental rearing practices (PRP) would be the independent variable, pro-social behavior (PSB) would be the mediator and sociometric status (SMS) would be the outcome variable.

The authors found support for PSB as a potent mediator of the relationship between PRP and SMS by reporting (1) a significant relationship between PRP and PSB (Path A) and PRP and SMS (Path C), (2) a significant relationship between PSB and SMS (Path B), and (3) a weakened relationship between PRP and SMS when controlling for PSB. For example, when predicting sociometric status, a maternal authoritative style had a beta weight of .61 when entered in a regression first (Path C) but a beta weight of .47 when entered after pro-social behavior (i.e., controlling for the pro-social behavior).

In a similar vein, Rubio-Stepic and associates (1991) tested the mediating effects of the family environment on the

relationship between parental alcoholism and child adjustment for 365 4 through 16 year old children. Parental alcoholism (PAA), the independent variable, was established using the DIS. Family environment variables (FE), the mediators, included marital harmony (scale developed by authors), stressful life events (Coddington Life-Event Scale; Coddington, 1972) and family functioning (adapted version of the Family APGAR Questionnaire; Delvecchio-Good, Smilkstein, Good, Shaffer, & Arons, 1979). Child adjustment (CA), the outcome variable, was limited to the total behavior problem scale of the parent CBCL. Again, following the analytic procedures laid out by Baron and Kenny, the authors found support for family environment as a potent mediator of the relationship between PAA and CA by reporting (1) a significant relationship between PAA and FE (Path A) and PAA and CA (Path C), (2) a significant relationship between FE and CA (Path B. [The three FE variables were entered on one step.]), and (3) a previously significant relationship between PAA and CA rendered non-significant after controlling for FE.

The significance of these examples to COA research is the possibility that factors may account for, rather than moderate, the relationship between parental alcohol abuse and COA functioning. Perhaps the children in the Dekovic and Janssens study had the advantage of personality traits that functioned as mediators and therefore served to buffer the

effects of poor parenting styles. Likewise, the children in the Rubio-Stepic et al. study may have had the advantage of a stable family environment (in spite of the significant association between parental alcoholism and COA functioning) that served to buffer the effects of parental alcoholism.

These recommendations come out of the experience gained from conducting this study. By following them, future investigations of factors that moderate (or mediate) the relationship between parental alcohol abuse and outcome will undoubtedly prove fruitful.

APPENDIX A

ALCOHOL CONSUMPTION SCALE

The following items make up the Alcohol Consumption Scale (Crowe, Philbin, Richards & Crawford, 1994). Items were standardized across the sample and averaged.

How often do you usually have an alcoholic drink (not including at religious services)?

- Everyday
- 3 or 4 days a week
- 1 or 2 days a week
- 3 or 4 days a month
- About once a month
- Less than one a month, but at least once a year
- Less than once a year

When did you last drink alcohol?

- Not for over a year
- 6-12 months ago
- Several weeks ago
- Last week or a few days ago
- Yesterday
- Today

Think if all the times you have had liquor recently. When you usually drink alcohol, how much do you usually have at one time, ON THE AVERAGE?

- | | |
|-------------|---------------|
| 12 or more | 4 drinks |
| 9-11 drinks | 3 drinks |
| 7-8 drinks | 2 drinks |
| 6 drinks | 1 drinks |
| 5 drinks | Less than one |

What is the greatest amount of alcohol you have ever had at one time?

12 or more	4 drinks
9-11 drinks	3 drinks
7-8 drinks	2 drinks
6 drinks	1 drinks
5 drinks	Less than one

What is the strongest effect you have had from drinking?

A loose easy feeling
Moderately high
Drunk
Became ill
Passed out

During the past year, how often have you gotten drunk?

0 to 1 times	11 to 15 times
2 to 3 times	16 to 20 times
4 to 5 times	21 or more times
6 to 10 times	

APPENDIX B

EXPERIENCE SAMPLING METHOD (ESM) DATA POINTS

Three data points were used from the ESM booklets.

(1) Mean affect when with mom (MAFF). This data point is the mean affect (standardized within subject) experienced by the subjects when in the presence of their mothers. The affect scale score was derived from three individual items:

OVERALL, HOW WERE YOU FEELING? (CIRCLE ONLY ONE (+) ON EACH LINE)

	VERY	QUITE	SOME	NEITHER	SOME	QUITE	VERY	
HAPPY	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	UNHAPPY
ANGRY	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	FRIENDLY
CHEERFUL	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	IRRITABLE

(2) Mean friendliness of other when with mom (MERD).

This data point is the mean perceived friendliness of the mother (standardized within subject) when in the presence of mothers. The friendliness score was derived from the following item:

IF YOU WERE WITH PEOPLE WERE THEY:

	VERY	QUITE	SOME	NEITHER	SOME	QUITE	VERY	
FRIENDLY	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	+-----+	UNFRIENDLY

(3) Percent of time spent with mothers (TWM). This data point is the percent of ESM signals that subjects are with their mothers at the time of a signal (either alone with mothers or with mothers and others). An example of the portion of the ESM booklet used to measure this variable is presented below:

WHO WERE YOU WITH (OR TALKING TO ON THE PHONE)?
CHECK ALL WHO APPLY

ALONE, OTHER PEOPLE NEARBY	ONE FRIEND - BOY
ALONE, NO ONE AROUND	ONE FRIEND - GIRL
FATHER	SEVERAL FRIENDS - BOYS
MOTHER	SEVERAL FRIENDS - GIRLS
SISTER(S)	SEVERAL FRIENDS - BOYS &
GIRLS	
BROTHER(S)	BOYFRIEND/GIRLFRIEND
BOSS/COACH/SUPERVISOR	IN CLASS
COWORKER(S)	OTHERS

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Mr. Masini attended Illinois State University and was awarded his Bachelor of Science degree in Fine Arts in 1982. He completed two years of graduate study at Arizona State University also in fine arts before entering the Peace Corps in 1985. He served for two years in Swaziland, a small nation in southeast Africa, where he assisted in a large scale agriculture research project and coordinated a local community development water project. Upon completion of his Peace Corps tenure, Mr. Masini attended the University of Missouri at Columbia where he was awarded a Master of Science degree in Community Development in December, 1990.

Before entering the doctoral program in developmental psychology at Loyola University, Mr. Masini worked for two years at the Jewish Vocational Service where he acquired research and data management experience. During his time there he co-authored two research articles concerning vocational patterns of Jewish Refugees from the former Soviet Union. He is currently a research assistant for Dr. Maryse Richards.

APPROVAL SHEET

The thesis submitted by Blase E. Masini has been read and approved by the following committee:

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The final copies have been examined by the directors of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the committee with reference to content and form.

The thesis is, therefore, accepted in partial fulfillment of the requirements of the degree of Masters of Arts.

11-20-95

Date

Maryse Richards

Director's Signature