



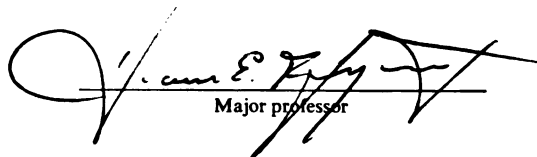
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SEVERITY OF PARENTAL ALCOHOLISM, PARENTAL AGGRESSION,
FAMILY SOCIOECONOMIC STATUS, AND THE BEHAVIOR
OF THREE- TO SIX-YEAR-OLD SONS

presented by

XIAOMEI WANG

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Psychology


Major professor

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**SEVERITY OF PARENTAL ALCOHOLISM, PARENTAL AGGRESSION,
FAMILY SOCIOECONOMIC STATUS, AND THE BEHAVIOR
OF THREE- TO SIX-YEAR-OLD SONS**

BY

XIAOMEI WANG

A DISSERTATION

**Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of**

DOCTOR OF PHILOSOPHY

Department of Psychology

1991

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ABSTRACT

SEVERITY OF PARENTAL ALCOHOLISM, PARENTAL AGGRESSION, FAMILY SOCIOECONOMIC STATUS, AND BEHAVIOR OF THREE- TO SIX-YEAR-OLD SONS

By

XIAOMEI WANG

The present study examined eighty 3- to 6-year-old male children from alcoholic families and eight 3- to 6-year-old male children from nonalcoholic comparison families. The study focused on the effects of severity of parental alcohol problems, parental aggression, and the family's socioeconomic status (SES) on various children's behaviors and traits. Various questionnaires were administered to parents, and children's behavior was also observed.

The results indicated that (1) the severity of fathers' lifetime alcohol problems was positively related to children's externalizing problems and poor intelligence performance. The level of fathers' current drinking was positively related to children's aggressiveness, inability to delay gratification, inattentiveness, arrhythmicity, and reactivity. (2) The severity of mothers' lifetime alcohol problems was positively related to children's externalizing as well as internalizing problems, arrhythmicity, and reactivity. The level of mothers' current drinking was not consistently related to their sons' behavior. (3) Parental aggression did not consistently predict their sons' behavior. (4) A higher family SES predicted higher IQ, more emotional independence, and more optimal reaction

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children demonstrated during the intelligence test performance. However, the influence of family SES on other behavior was conflicting. (5) Fathers were likely to perceive their sons' behavioral problems as related to their wives' alcohol problems and aggression; whereas, mothers were likely to perceive their sons' behavioral problems as equally related to their husbands' as well as their own alcohol problems and aggression.

TO MY PARENTS AND SISTER

ACKNOWLEDGMENT

I wish to thank every member of my dissertation committee for all their support and assistance throughout this study. I specially like to thank Dr. Fitzgerald, the committee chair and my academic advisor, for his editorial patience, valuable comments and suggestions on a number of drafts of this dissertation. Dr. Fitzgerald's guidance and advice is the most important factor for my academic achievement. I thank Dr. Frankmann for his statistic consultation. I thank Dr. Zucker and Dr. McGrath for their valuable comments.

I also wish to thank my colleagues: Linda Sullivan, Gene Maguin, Hazen Ham, and Andrew Schneider, for their support and consultation.

This study was supported in part by grants to Robert A. Zucker, Robert B. Noll and Hiram E. Fitzgerald from the National Institute on Alcohol Abuse and Alcoholism (AA 07065) and from the Michigan Department of Mental Health, Prevention Services Unit.

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INTRODUCTION

The most common estimate of the number of alcoholics in the United States is 10 million (Woodside, 1982). Estimates of the number of children under the age of 20 years who are living with an alcoholic parent range from 7 million to over 28 million (Booz-Allen & Hamilton, 1974). Children from alcoholic families are 6-8 times more likely to grow up to be alcoholic themselves than are children from nonalcoholic families (Goodwin, 1979; Cotton, 1979). However, only 30-50% of children of alcoholic parents eventually develop an alcohol problem as adults (Thacker, Vernon, Veech, & Rutstein, 1984).

Thus, having an alcoholic parent greatly increases the risk, yet many children of alcoholic parents do not have alcohol problems in adulthood nor do they all experience significant problems during childhood. Zucker et al. (Zucker, 1986, 1989; Zucker, Baxter, Weil, Theado, Greenberg, Charlot, & Reider, 1984) have proposed a conceptual framework that attempts to establish the etiology of alcoholism, focusing on early precursors in development.

According to Zucker and associates, there are four classes of influences in the development of alcoholism. Class I influences are concerned with variables of both the culture and the immediate community. They are the setting of the stage for

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possible drinking behavior. Class II focuses on the primary socialization agent, the family. Class II influences include both drinking-specific influences, such as level of parental alcohol consumption, socialization of alcohol use, and nondrinking-specific influences such as family socioeconomic status (SES), parental child-rearing style and so on. Class III is concerned with peer influence and peer modeling which have direct and indirect influences on children's consumption of alcohol. Class IV elements focus on intra-individual influences, including children's behavioral patterns, personality, attitudes, temperament, physiological, and biological characteristics. The four classes of influence interact with one another, and contribute to alcoholism differently at different points in developmental time.

Under this theoretical framework, a longitudinal study was designed to systematically assess all of these contributory influences as well as the manner in which they may interact early in the child's life. The study attempts to establish the etiology of alcoholism and will eventually address questions such as why some but not all children of alcoholics eventually develop alcohol problems later in life.

The present study was a part of the MSU Family Project, a longitudinal study focusing on early childhood precursors of alcoholism. The study compared children whose parents had more severe alcoholic problems with children whose parents had less severe alcoholic problems. Since the present study did not

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attempt to address cultural influences and since peer influence is not a primary influential source during infancy and early childhood, the focus of the present study was on family and intra-individual variables. Specifically, the study examined the effect of drinking-specific and non-drinking specific family factors, namely, severity level of parental alcoholism, parental aggression, family SES, and intra-individual characteristics in the etiology of alcoholism.

LITERATURE REVIEW

Studies on alcoholism have consistently found that the family environment of alcoholics is characterized by parental antisocial behavior, disinterest and lack of involvement with their children, and lack of affectionate and supportive parent-child interactions (Sadava, 1987, Davies, Zucker, Noll, & Fitzgerald, 1989). Alcoholic families are also found to have significant difficulties with occupational and marital conflict and spouse violence (Zucker, Weil, Baxter, & Noll, 1984; Reider, Zucker, Noll, Maguin, & Fitzgerald, 1988, 1989). Children from alcoholic families, therefore, are consistently found to be at heightened risk for developing psychopathology and various behavioral problems and becoming alcoholics themselves later in life.

The Effect of Parental Alcoholism and Severity of Parental Alcoholism on Children's Development

The literature has established a positive relation between parental alcoholism and negative behavioral outcome in children, including aggressive and antisocial behavior, delinquency, troubled interpersonal relationships, emotional and personality problems, cognitive deficits, and school failure. However, most previous studies treat alcoholics as a relatively homogeneous group and have directed relatively

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little attention to the effect of parental drinking level on children's behavior.

Aggressive, Antisocial Behavior and Delinquency

A number of studies have demonstrated a link between parental alcoholism and antisocial and delinquent behavior in children.

Fine, Yudin, Holmes, & Heinemann (1976) compared 8- to 18-year-old children from alcoholic families where one or both parents were in treatment for alcoholism at neighborhood counseling centers to those from families where the parents were not alcoholics but were treated in the same neighborhood centers for other psychiatric disorders. Using the Devereux Child Behavior Rating Scale, the investigators found that children of alcoholic parents were rated significantly higher on the social aggression scale than children of nonalcoholics who suffered from other psychiatric disorders. They also found that, when compared against the data from a sample of normal children, children of alcoholics were rated significantly higher on unresponsiveness, impulsiveness, and inability to delay gratification; traits possibly related to antisocial and aggressive behavior. However, the definition of alcoholism and alcohol consumption level of the subjects was not clearly articulated in this study.

Hughes (1977) studied children (aged 12 to 19 years) of alcoholic and children of nonalcoholic parents who were matched in age, sex, grade level, and father's occupational level and

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reported that the former were significantly more often in trouble with law enforcement officials and had more conduct problems. But again alcoholism was not clearly defined.

Merikangas, Weissman, Prusoff, Pauls, & Leckman (1985) investigated children of depressive patients with and without secondary alcoholism and children from community control families with no history of alcoholism or psychiatric illness. All diagnoses were made according to the modified Research Diagnostic Criteria (RDC). They reported a significantly greater incidence of conduct disorder and antisocial personality in children of depressed alcoholic parents than in children of nonalcoholic depressed parents or children of nonalcoholic and non-depressed parents.

Miller & Jang (1977) conducted a 20-year follow-up study on children from alcoholic and nonalcoholic families. All families were of low SES and had multiple problems. These children were identified and assessed in 1956 and were followed up in 1975 when they were adults. Miller & Jang reported that more children of alcoholics grew up to be heavy drinkers themselves than those of nonalcoholics (54% vs. 33% for sons, 36% vs. 17% for daughters). Moreover, compared to adult children of nonalcoholics, more adult children of alcoholics reported delinquent behavior (50% vs. 31%), receiving school counselling (49% vs. 27%), and confrontations with probation officials (42% vs. 12%) and with runaway agencies (33% vs. 12%). The authors concluded that, "It is clear that whatever

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else was wrong with these multi-problem families, an alcoholic parent increased the degree of misery for the children" (p.28).

Rydelius (1981) conducted a 20 year follow-up study in Sweden on social adjustment and health status of children of lower social class alcoholic fathers, about half of whom had drinking histories of less than 10 years and half longer than 10 years, and all of whom attended an outpatient clinic for alcoholics in Stockholm. A group of socially matched children ("social twins") of nonalcoholic fathers was also studied. At the initial assessment, children (aged 4-12) of alcoholics had a higher rate of child psychiatric symptoms, including aggression, than children of nonalcoholics. A similar pattern was found at the follow-up assessment 20 years later. Compared with children of nonalcoholics, children of alcoholics engaged in more criminal offenses and at younger ages and required more hospital treatment for injuries arising from fighting. Unfortunately, Rydelius did not investigate whether there was any difference between children of fathers who had longer drinking history and who had shorter drinking history nor did he give a clear definition of alcoholism.

Schneider, Sullivan, Bruckel, Fitzgerald, Zucker, & Noll (1989), and Sullivan, Bruckel, Fitzgerald, Schneider, Zucker, & Noll (1989) studied a group of 3- to 6-year-old male children from the MSU Family Project. Paternal alcoholism ("definite alcoholic" and "probable alcoholic") was diagnosed by standard research diagnostic criteria. The investigators found that the

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father's lifetime alcohol problems were positively related to his child's aggression, immaturity, and social withdrawal.

In summary, children of alcoholics are reported to have higher rates of aggressive, antisocial, and delinquent behavior than children of nonalcoholics. However, with the exception of Schneider et al. (1989) and Sullivan et al. (1989), previous investigations have not studied the possible effect of severity of alcohol problems, nor have they clearly defined the criteria used to define parental alcoholism.

Incompetency in Interpersonal Relationships

Children of alcoholic parents are thought to have difficulties with interpersonal relationships and social competence.

Jacob and Leonard (1986) investigated three groups of children aged 10-18. Group 1 contained children whose fathers were alcoholics, Group 2 contained children whose fathers were depressed, and Group 3 contained children whose fathers were social-drinkers but were neither alcoholic nor depressed. Diagnoses of alcoholism and depression were made according to the RDC. Mothers did not have any major disorder nor did they have a history of alcohol-related problems according to the RDC. All families were recruited through newspaper advertisement. Using parental report on the Achenbach Child Behavior Check List, Jacob and Leonard found that sons of Group 1 and 2 had significantly more behavioral problems and were significantly inferior in social competency to sons of Group 3.

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However, the observed group differences were often not very large. The mean values for children of alcoholics and of depressed fathers were clearly within the normal range, suggesting that most children in these groups were not seriously impaired. Of direct concern to the present study is that Jacob & Leonard further compared alcoholic fathers whose children were impaired and those whose children were not impaired and found that the former scored higher on alcohol-related difficulties (social, occupational, marital, etc). This suggests that severity of paternal alcohol problems are related to the degree of psychological problems their children experience.

Emotional Functioning and Personality

A positive association has been found between parental drinking and children's impaired emotional functioning and personality.

Moos and Billings (1982) assessed adolescent and preadolescent children of alcoholic patients. The patients were divided into recovered and relapsed groups. The recovered alcoholics met the criteria of (1) no re-hospitalization for alcoholism in a two year follow-up period, (2) no inability to work because of alcoholism in the follow-up period, (3) abstaining or consuming less than 5 ounces of ethanol on a typical drinking day in the month prior to the follow-up assessment, (4) quantity-frequency index of less than 3 ounces during follow-up, and (5) no problems from drinking. The

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relapsed group consisted of those who were re-hospitalized for treatment of alcoholism, or whose drinking was so severe that they could not be classified as recovered moderate drinkers. Another group of children matched on family size, age, ethnicity, education, and parental religion, but whose parents were not alcoholics, were also assessed. Based on parental responses on The Health and Daily Living Form, children of relapsed alcoholics were found to suffer as much as twice the emotional disturbance (indexed by depression, anxiety, nightmares, and indigestion) as children of recovered alcoholics and nonalcoholics. The latter two groups of children did not differ except that children of recovered alcoholics felt less depressed than children of nonalcoholics. The results suggest that there is a qualitative difference between children of parents with less severe alcoholic problems and children of parents with more severe alcoholic problems.

In the aforementioned study by Merikangas et al. (1985), a greater percentage of children of alcoholic and depressed parents were diagnosed as alcoholics than were children of depressed but nonalcoholic parents and children of nonalcoholic and non-depressed parents. However, there was no difference in experiencing major depression and anxiety in children of alcoholics and depressed parents and children of nonalcoholic but depressed parents. According to the authors, the increased risk of major depression and anxiety disorders in children could be attributed to the presence of depression in parents.

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The presence of alcoholism did not significantly increase the risk of either major depression or anxiety disorders in children. Thus, the relationship between parental alcoholism and depression and anxiety in children may be via parental depression and indirectly via alcoholism.

Cognitive Functioning and School Performance

In addition to social and emotional problems, children living with alcoholic parents are likely to have poor cognitive function and experience school failure.

X Knop, Teasdale, Schulsinger, & Goodwin (1985) conducted a prospective study on a large sample of young adult children (aged 19-20 years) of alcoholics fathers, who were screened and identified in files of the Municipal Alcohol Treatment Clinic in Copenhagen, and matched children of nonalcoholic fathers. Sons of alcoholics were significantly more likely than sons of nonalcoholics to score lower on the WAIS vocabulary test, to fail examinations in school, to repeat a grade, and to be referred to a school psychologist than comparison children.

Shaywitz, Cohen & Shaywitz (1980) examined the impact of maternal heavy drinking during pregnancy at a level that did not result in Fetal Alcohol Syndrome in their children aged 6-18 years. They found that although children's intellectual ability appeared normal (IQ at 82-113 with an average of 98), as assessed by the Wechsler Intelligence Scale for Children and Wechsler Adult Intelligence Scale, their school functioning was characterized by early experience of failure. All 15 children

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exposed to maternal heavy drinking prenatally were recommended for special education services by the 3rd grade, and all experienced one or another kind of learning difficulties. Although the investigation did not assess maternal drinking postnatally, it might be reasonable to infer that mothers who drank heavily during pregnancy were more likely to continue to drink postnatally than mothers who did not drink during pregnancy. Thus, the differences found between the two groups of children may be attributed in part to the presence and absence of maternal drinking after children were born. 

Zucker, Baxter, Noll, Theado, & Weil (1982), and Noll & Zucker (1983) studied a group of families where the fathers were arrested for drunk driving and later identified as alcoholics by the Research Diagnostic Criteria for alcoholism (Feighner, Robins, Guze, Woodruff, Winokur, & Munoz, 1972) and a group of nonalcoholic community-matched families. They found that, when compared with sons of nonalcoholics, 4-year-old sons of alcoholics performed significantly worse on the Verbal Scale in WAIS, scored significantly lower in developmental age, fine motor, adaptive behavior, language, and personal and social development on the Yale Developmental Inventory. Consistent with other findings, children from alcoholic families were also reported to have more instances of mood disturbance (depression) and behavioral undercontrol (impulsiveness and aggression).



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Tarter, Jacob, and Bremer (1989) recruited children (aged 8-17 years) of community-dwelling alcoholic, depressed and normal fathers through newspaper advertisements. They administered a battery of neuropsychological tests assessing intelligence, perceptual efficiency, language, memory, psychomotor skill, attention, and abstracting ability. They found that, compared with the other two groups of children, sons of alcoholics showed deficits on tasks requiring suppression of a distracting stimulus, reflectivity, planning, spatial analysis, and psychomotor efficiency, which the authors called "executive capacities".

In summary, it is demonstrated by numerous studies that children of alcoholics are at higher risk to develop various behavioral problems, including aggression, antisocial behavior, delinquency, incompetent interpersonal relationships, emotional and personality problems, cognitive deficits, and school failure, than children of nonalcoholics. However, with the exception of a limited number of studies (Jacob & Leonard, 1986; Moos & Billings, 1982; Schneider et al, 1989; Sullivan et al., 1989), most studies treated alcoholics as a homogeneous group and did not distinguish children of less severe alcoholics from children of more severe alcoholics. Consequently, little is known about the effects of severity of parental alcoholism on children's outcomes. In addition, different criteria adopted to define alcoholism or unclear definitions used in various studies makes it difficult to

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assess the effect of parental alcohol consumption level on children's behavior.

Heterogeneity of Alcoholics

Alcoholics are not a homogeneous group. There are consistent differences among individuals who have had different alcohol consumption levels ranging from light to problem drinking (Jones, 1968).

In a 30 year follow-up study, Jones (1968) examined data from the Oakland Growth Study to explore the personality correlates of alcohol-related behaviors. Subjects were intensively assessed from age 10 through adulthood, at which time Jones classified the male subjects into 5 categories based on the quantity and frequency of drinking: problem drinkers, heavy drinkers, moderate drinkers, light drinkers, and abstainers. Personality was assessed by the California Q-sort. It was found that problem drinkers were characterized by uncontrolled and impulsive behavior, fluctuating mood, rebelliousness, erotic behavior, self-indulgence and acting-out. Abstainers were characterized by being over-controlled, introspective, conservative, moralistic, giving, and physically attractive. The moderate drinkers were those who liked a drink or two before dinner and who did not get into trouble caused by drinking. They shared the middle position in the ratings. Jones also found that there were substantial continuities in the personalities of problem drinkers, moderate drinkers, and abstainers from junior high-school years through adulthood.

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Unfortunately, Jones did not study the children of these individuals, so little can be learned from her study about whether there was a differential outcome for the children of parents who had different drinking levels.

In addition to persistent personality differences, severity of alcoholism is related to disturbances in the parent-child affective relationship and to marital conflict and children's aggression (Davies, et al., 1989; Reider et al., 1988, 1989). Thus, it may be reasonable to infer that had Jones examined children of alcoholics in her sample, she might have found differences in children's behavior and personality as a function of parental drinking levels.

The Effect of Parental Aggression

A number of studies have reported that parental aggression is one of the leading causes of antisocial and aggressive behavior during childhood, and delinquency, crime, and alcoholism in adulthood (Berry, 1967; McCord & McCord, 1960, 1962; Robins, 1966; Robins, Bates, & O'Neal, 1962; Rydelius, 1981, 1984).

For instance, in McCord & McCord (1960)'s investigation of the origins of alcoholism, 255 lower-class urban boys selected as maladjusted and potentially delinquent children to participate in the Cambridge-Somerville Youth Project in 1930's were studied two decades later when they became adults. Only a minority of these men became alcoholics. The investigators were

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able to compare physiological, familial, and personality traits of the two groups of men that set the alcoholics apart from non-alcoholics before the onset of their drinking problem.

Alcoholism was defined in terms of alcohol-related problems, such as arrests for drunkenness, contact with social agencies, clinics, mental hospitals, or Alcoholics Anonymous. The authors concluded that heightened parental aggression was closely related to criminality in their children. However, there was no evidence linking parental aggression with alcoholism in children. It was found that a significantly greater proportion of criminals than of nondeviants had highly aggressive fathers. Moreover, a significantly greater proportion of the criminals than of the nondeviants had been subjected to punitive discipline by their parents. In addition, parental aggression distinguished criminal alcoholics and noncriminal alcoholics.

In a 30-year follow-up study by Robins (1966), children (average age of 14 years) who sought referral at a St. Louis area hospital for antisocial behavior and other psychiatric symptoms were located and investigated 30 years later. Subjects were matched to a control group in race, age, sex, IQ, and SES, but with no evidence of serious behavioral problems in childhood. The majority of the children were from blue-collar and low-income families. The results indicated that compared with the control group, many more antisocial children grew up to have problems with excessive alcohol use in adulthood (53% vs. 29% for males, 33% vs. 14% for females). They showed



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various symptoms of alcoholism, ranging from death, delirium tremens, liver disease, hospitalization, to various social problems such as being arrested and/or fired from work for drunkenness. Similarly, more antisocial children showed problems with alcohol at time of follow-up than children in control group (57% vs. 29% for males, 35% vs. 14% for females). Their problems with alcohol were in both medical and social aspects. Deviant and antisocial children were likely to grow up in families characterized by parental divorce or separation, parental cruelty, incest, inadequate parental model, and even parental loss. These children tended to have antisocial fathers who were either alcoholics or criminals. The author stated "having an antisocial father tends to increase the number of independent predictors of sociopathic personality that a child may have. Children of antisocial fathers usually live in lower-class neighborhoods where they are likely to find other children who encourage them to engage in truancy and theft; they receive little discipline because the father is uninterested and hedonistic and because, if he fails to hold a job, the mother must become a breadwinner; they are more likely to be sent to a correctional institution when they come to Juvenile Court because the judge wishes to remove them from an environment he considers noxious" (p. 303).

In summary, parental aggression is an important alcohol-nonspecific factor that is related to impaired children's



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outcome vis undesirable parental modeling, family conflict, and improper discipline, etc.

The Effect of Socioeconomic Status (SES)

Alcoholism occurs in every socioeconomic class. It is well documented that parents with different SES carry out different child-rearing practices that are directly related to children's development. Lower-class parents place more emphasis on respectability and obedience to authority and seldom offer a reason when punishing their children; whereas middle-class parents put more emphasis on the development of curiosity, internal control, the ability to delay gratification and work for distant goals, and sensitivity in relations with others (Hetherington & Parke, 1986). Kohn (1978) studied the relationship between occupational self-direction (that is, the extent to which a job requires independence, complex skills, and lack of routine) and fathers' child-rearing values and practices. He found that working-class fathers who were likely to be in jobs with little self-determination, stressed the importance of obedience in their children and focused on the consequences of their children's behavior rather than on their intentions. They tended to treat their children and wives as they were treated by their bosses, demanding obedience, subjection, and service. In contrast, middle-class men whose work was likely to be highly self-directed valued children's self-control, independence, and initiative.

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Thus, SES may be a mediating factor in the relationship between parental alcoholism and child development. It is necessary to take into consideration the family's SES when studying children growing up in alcoholic families. Most studies in the literature have matched the SES of alcoholic and nonalcoholic families in order to eliminate the effect of SES. But by doing so, the studies are unable to obtain the valuable information on questions such as if and how SES plays a role, is there an interaction between parental problem drinking and SES, how they interact, and so on.

There are a few studies examining the influence of parental alcoholism and family SES on children and they have reported conflicting results.

Two earlier studies from the MSU Family Project (Davies et al. 1989; Reider et al. 1988) found that, in a group of alcoholic families, higher levels of family income, social prestige, parent education, and parent intelligence were associated with more child-centered parenting, more positive affective parenting, more encouragement of independence, and greater parental agreement on child-rearing; and family SES was negatively related to husbands' aggression towards their wives. It appears that higher SES may buffer the negative effects of parental alcoholism on child-rearing practice and general family functioning.

However, conflicting results have also been reported. Nylander & Rydellius (1982) investigated children of male

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alcoholics in treatment, including those who were of very high social level with an excellent economic status (college professors, upper echelon officers, doctors, dentists, managers, high civil servants) as well as those who belonged to working class. They found that "children from alcoholic homes with a good social and economic external environment are just as likely to develop problems of criminality and abuse in adulthood as the children from alcoholic homes with a poor social and economic status" (p.36). Werner (1986) studied the factors that could distinguish children from alcoholic families who developed problems during childhood and adolescence and children who did not develop problems. She found that social class, which was based on father's occupation, income level, steadiness of employment and condition of housing, was not one of the factors. However, she pointed out that a majority of children of alcoholics lived in chronic poverty and the families had multiple problems. These two studies suggest that alcoholism is the primary source for children to be at risk for developing problems. Socioeconomic status of alcoholic families appears to have little effect in distinguishing children from upper-middle class and lower class families.

Thus, the picture concerning the influence of SES on parental alcoholism and children is not clear. However, in all of the above mentioned studies, the level of parental alcohol involvement was not studied. Therefore, the potential interaction of the severity of parental alcoholism and SES is

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not identified. Perhaps SES will influence children of heavier drinking parents but has no effect on children from lighter drinking parents. Perhaps, children from higher SES and less severe alcoholic families will be significantly at lower risk than children from lower SES and more severe alcoholic families. The issue remains to be examined.

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THE HYPOTHESES OF THE CURRENT STUDY

The literature suggests that children growing up in alcoholic families are at risk for developing various problems including aggressive and antisocial behavior, delinquency, hyperactivity, social incompetency, emotional problems, and poor cognitive functioning. The current study was designed to examine the relationships among parental alcoholism, parental aggression, and family SES, and children's behavior, with particular emphasis on severity of parental alcoholism, level of parental aggression, and level of family SES.

Based on the review of the literature, the following hypotheses were constructed and tested:

(1). Severity of parental alcohol problems will be positively related to children's antisocial behavior, impulsiveness, depression, socially inadequacy, and inferior intelligent functioning.

(2). Level of parental aggression will be positively related to children's aggressive behavior.

(3). A higher family SES will reduce the detrimental influences of parental alcohol problems on children.



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METHODOLOGY

The present study drew wave 1 data from the ongoing MSU Family Project.

Subjects

High-risk group

This group was comprised of 80 families who were participants in the MSU Family Study. These were intact nuclear families with an alcoholic father, a mother, and at least a male child aged 3 to 6 years. Mother's drinking other than during pregnancy was neither the ground for inclusion nor exclusion in the study.

Subject recruitment was based on a population net in the mid-Michigan area involving four adjacent counties with six district courts. All convicted male drunk drivers with a blood alcohol concentration (BAC) of 0.15 percent or higher (or 0.12 percent or higher if this was a second or more documented drinking related driving problem) who had a biological son between the ages of 3-0 and 6-0 years current living with them were recruited into the study. Probation officers from the district courts requested the permission of these men to release their names and phone numbers to the project. When contacted by project staff, respondents were told that the study had no connection to the courts and that all information collected would be confidential. All families in the study were paid for their participation.

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Later data collected as part of the longitudinal protocol insured that every father in this group met Feighner diagnostic criteria (Feighner, Robins, Guze, Woodruff, Winokur, & Munoz, 1972) for probable or definite alcoholism. No child manifested characteristics required for a diagnosis of fetal alcohol syndrome (i.e., prenatal and /or postnatal growth retardation; central nervous system impairment; and characteristic facial dysmorphology) (Sokol & Clarren, 1989).

Comparison group

After a high risk family was recruited into the study, a matched community comparison family located within the same census tract and consisted of parents who were neither alcoholic nor drug dependent and a male child matching the target child in the high-risk family (within 6 months range) was recruited using door-to-door canvassing interviews. At the time the present study data were analyzed, eight comparison families had been identified and recruited. Later data collection using Feighner diagnosis criteria (Feighner et al., 1972) insured no alcohol and drug abuse in these families.

The community canvassing was used to control for age and sex of target child, sibling composition, community influences and as an approximate control for socioeconomic status. This procedure allowed findings from the high-risk families to be contrasted to an ecologically comparable but non-alcohol/drug abusing population.

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The demographic information of the high-risk group and comparison group is presented in Table 1.

Table 1. Demographic Characteristics

	High Risk Group (n=80)			
<u>Family variables</u>	M		SD	
TSEI2*	29.30		14.13	
Annual family income	\$17,200.00		\$4,720.00	
Years married or coupled	6.92		3.61	
Number of children	2.30		0.94	
Mean age of Children (months)	55.84		5.64	
<u>Parental variables</u>	Fathers		Mothers	
	M	SD	M	SD
Age (years)	30.12	4.76	29.05	4.48
Education (years)	12.40	2.03	12.83	2.01
LAPS*	10.62	1.97	10.24	2.54
QFV*	2.48	1.47	1.79	1.13
ASB*	26.06	16.55	13.68	8.45

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Table 1 (Continued)

	Comparison Group (n=8)			
<u>Family variables</u>	M	SD		
TSEI2*	37.81	13.72		
Annual family income	\$18,240	\$4,900		
Years married or coupled	6.97	4.04		
Number of children	2.25	1.03		
Mean age of children (month)	53.12	4.02		
<u>Parental variables</u>	Fathers		Mothers	
	M	SD	M	SD
Age (year)	31.93	4.05	31.02	4.17
Education (year)	13.46	2.18	13.83	2.55
LAPS*	7.21	2.02	9.45	1.83
QFV*	2.03	0.98	1.63	1.05
ASB*	13.75	7.05	8.36	6.23

- * TSEI2: index score for socioeconomic status
 LAPS: index score for lifetime alcohol problems
 QFV: quantity-frequency-variety score for alcohol consumption during the past 6 months
 ASB: summary score for antisocial and aggressive behavior

Procedure

Once families agreed to participate in the study, they became involved in a 9-session assessment schedule that included numerous questionnaires, interviews, and direct observations. Wave 1 data collection took approximately 15

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hours for each parent and 7 hours for each target child.

Complete data collection was not available for all high-risk families and comparison families. Variation in sample sizes for various measures were noted in the results section.

Measurement and Scoring

Measurement of Alcohol Severity and SES

Drinking and Drug History (Zucker & Noll, 1980a). This questionnaire was administered to both parents. It measures the extent of an individual's involvement with alcohol and drugs. From this questionnaire, two important measurements of parents' drinking were derived: Lifetime Alcohol Problems Score and Quantity-Frequency-Variability Index.

Lifetime Alcohol Problems Score (LAPS). LAPS is a composite measure designed to assess differences in the extent of drinking problems over the life course. It is a multiple index composed of 3 weighted sets of information about alcohol involvement, including data on onset, breadth of problems, and extent of presence over the life course (Zucker, 1988, in press). The data are derived from the Drinking and Drug History, the Diagnostic Interview Schedule III, and the Michigan Alcoholism Screening Interview (Selzer, 1975). LAPS provides information on three components of drinking: (a) the primacy component, involving the squared inverse of the age of the first drink where the individual was drunk; (b) the variety component, involving the number of domains of reported drinking



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problems; (c) the life percent component, involving a measure of interval between most recent and earliest drinking problems, corrected for current age. Scores are standardized separately for men and women within the sample of MSU Family Study. In the sample of current study, LAPS scores ranged from 5.35 to 23.27. A higher LAPS indicates more severe lifetime alcohol problems.

LAPS has been shown to be unrelated to current drinking level in problem drinking samples and to be a valid indicator of differences in long term severity of drinking difficulty in a wide variety of areas (Zucker, in press). LAPS was also used in Davies et al.'s (1988) and Reider et al.'s (1988, 1989) studies and shown to be related to parental child-rearing practice and aggression in the families.

Quantity-Frequency-Variability-R score (QFV, Zucker & Davies, 1989). Information concerning alcohol consumption level in the past six months was derived from the Drinking and Drug History. The QFV index is an expansion of Cahalan, Cisin, & Crossley's (1969) Quantity-Frequency-Variability Index. The QFV score is obtained by multiplying the QV class and the approximate number of drinking episodes per year (based on the reported average frequency). This yields a 0 to 21,000 score which is then subjected to logarithmic transformation (base 10). This version of the scoring system greatly increases the sensitivity of the measure and so increases the information that the score provides about the relative level of current drinking.



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Demographic Questionnaire. This questionnaire was administered to both parents to assess background information of the families, such as occupation, annual income, parents' educational level, religious, marital history, family composition, etc. From this questionnaire, a Duncan TSEI2 score was derived.

Duncan TSEI2 (Duncan, 1961; Stevens & Featherman, 1981) is an index score for socioeconomic status (SES) based on occupational level. According to Mueller & Parcel (1981), the Duncan TSEI2 represents more accurately a family's socioeconomic level than other measures of SES.

The rules determining the family SES in the present study were as follows: (1) If the father was working and mother was not, the father's SES was the family SES. (2) If the mother and father were both working and the mother had a lower SES than the father, the father's SES was the family SES. (3) If the mother and father were both working and mother had a higher SES than the father, the mean of the mother's and father's SES was the family SES. (4) If the mother was working and father was not, the mean of the mother's and father's SES was the family SES. (5) Unemployment was assigned a score of 13.0.

In the present study, the range of scores was from 13.00 to 79.00 (equivalent to electrical engineers and judges).

The Activity Inventory: Antisocial Behavior (ASB, Zucker & Noll, 1980b). This is a 46-item questionnaire assessing the frequency of participation in a variety of delinquent,

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criminal, and antisocial activities. The earlier version of this instrument has previously been used successfully in the assessment of adolescent antisocial behavior (Zucker & Barron, 1973; Zucker & DeVoe, 1975). It differentiates among groups of individuals with major histories of antisocial behavior (inmates) versus individuals with minor offenses versus college students (Noll & Zucker, 1980b), as well as differentiating alcoholic and nonalcoholic men (Jones, Maguin, & Fitzgerald, 1991). The instrument has been also shown to have high test-retest reliability (.91 over four weeks) and internal validity (coefficient alpha = .93) (Zucker & Noll, 1980b).

The questionnaire was administered to both parents. Responses were placed on a 4-point scale with 0 being never, 1 being rarely, 2 being often, and 3 being often. The scores were tallied to provide the ASB score for antisocial and aggressive tendency.

Child Assessment

The instruments for child assessment were selected on the basis that they measured various aspects of child behavior thought to be the target behaviors most likely to be influenced by parental alcohol problems. Such target behaviors included children's aggression, conduct problems, emotional functioning, personality and temperament, interpersonal and social competence, and intellectual development.

Child Behavior Checklist (CBCL). This questionnaire was administered to mothers. The CBCL provides assessment of social

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and emotional functioning of the target child (Achenbach & Edelbrock, 1983). The instrument has been standardized on children 4 to 16 years of age and yields standardized scores on eight narrow-band scales (schizoid, depressed, uncommunicative, obsessive-compulsive, somatic complaints, social withdrawal, hyperactive, aggressive, and delinquent) and two broad-band scales concerning externalizing and internalizing psychopathology, and social competence. The CBCL has test-retest reliability of .89, and inter-rater reliability of .74. It differentiates mentally disturbed children from normal children on all behavior problem and social competence scores (Achenbach, 1978). In previous studies from the data set of the MSU Family Study, children's scores on CBCL aggression and social withdrawal were found to be related to severity of parental alcoholism (Sullivan et al., 1989; Schneider, et al., 1989).

The original raw data from the CBCL were converted into normalized T scores. Like ordinary T scores, normalized T scores have a mean of 50 and a standard deviation of 10 when derived from a normal distribution of the raw scores. However, since they are based on the percentiles of the distribution of raw scores rather than on the standard deviation, T-scores are capable of transforming non-normal distributions into more normal ones (Achenbach & Edelbrock, 1983). T-scores higher than 63 on internalizing and externalizing broad bands or higher

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than 70 on narrow-band behavior belong to clinical range (Achenbach & Edelbrock, 1983).

Because CBCL normative data do not exist for the 3-year-old children, norms for male 4- to 5-year-olds were used as guidelines for evaluating children's behaviors in the current study.

Conners Parent Questionnaire (CPQ; Goyette, Conners, & Ulrich, 1978) is a widely used rating scale that identifies behavioral problems in children 3 to 17 years of age. The questionnaire has been shown to discriminate between normal and hyperactive children (Conners, 1970). Test-retest reliabilities range from 0.70 to 0.90 (Conners, 1973).

The version used in the current study contains 51 questions which required parents to respond from "not at all" , "just a little", "pretty much" to "very much". These responses were registered on a 4-point scale with 0 representing "not at all" and 3 representing "very much". Factor analysis of the questionnaire revealed five factors: conduct problems, hyperactivity, impulsiveness, learning problems, and anxiety. The questionnaire was administered to both parents. Raw scores of each item in each category were tallied. A higher score indicates more serious problem in that category.

Delay of Gratification Task (DGT). Children were given the Delay of Gratification Task (Funder, Block, & Block, 1983) to evaluate their ability to delay immediate gratification. Subsequent to the child's intelligence assessment session,

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(which usually lasts about 1-2 hours), the child was thanked for his participation and told that he could have a present. As the present was being shown, the examiner apologized and said that there would be one more task that must have been completed before the child could have the present. The gift was set aside, but placed in view and reach of the child. The child was then shown a complex block design task (Design #11 of WISC-R) and was asked to solve it.

First, the examiner read the directions for the Block Design and gave the task to the child to solve for 2 minutes. If the child could not solve it, the examiner began to provide some help for the next 2 minutes. At the end of 4 minutes, the examiner finished the task by showing the child where the remaining parts should go. For the next 90 seconds, the child was asked to help the examiner to clean-up the toys. Then finally, the child was permitted to open the gift. Thus, this task involved a maximum of 5 1/2 minute delay period (4 minutes of task time and 90 seconds of post-task delay). The task ended earlier if the child opened the gift before the end of designated time limit.

Total length of delay time the child waited to open the present, timed from the beginning of the task assignment to the moment the child took the present, was recorded. In addition, frequencies of the child's behaviors, including verbal comments, taking the gift, touching the gift, reaching for gift without it, and looking at the gift, were recorded.



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Dimensions of Temperament Survey (DOTS) was administered to both parents separately. DOTS provides a continuous measure of temperament from early childhood through adulthood in activity level, attention adaptability, rhythmicity, and reactivity (Lerner, Palermo, Spiro, & Nesselroade, 1982). The internal reliability of the DOTS has been established with samples of infants, preschoolers, school-aged children, and young adults on 5 scales ranging .31 to .96 (Cronbach Alphas). The DOTS also has acceptable test-retest reliability (.60 -.93) (Lerner et al. 1982). The temperament ratings with the DOTS are significantly related to children's self-esteem, grades in school, and peer relations (Lerner, 1984).

There were 34 true-false items which were grouped into 5 scales: activity level, attention, adaptability, rhythmicity, and reactivity. The number of "true" answers were tallied for each scale. Thus a higher score indicates an active, attentive, adaptive, rhythmic and reactive child, whereas a low score indicates an inactive, inattentive, withdrawn, arrhythmic, and unreactive child.

Miniature Aggressive Situation Task (MAST). This task involves a series of situations that allows a direct observation of child's behavior (Santostefano, 1978). Situations used were such that they involved arousal of aggressive impulses, but also required some degree of cognitive control over those impulses. Specifically, there are 5 sets of games with each involving 3 activities. For each set the child

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must select which of the actions he wants to perform first. Then he must select the next from the remaining two, and finally he performs the remaining activity.

The 5 sets of games were as follows: The first one was a paper game. The child could either rip the paper, crumple it, or cut it in half. The second set involved an "enemy" soldier. The child could hit it with a stick, or stab it with a plastic knife, or strangle it with a rope. In the third game the child was given a plastic knife and must choose among cutting a play dough, opening an envelope, or cutting through the top of a drum. The fourth set required the child to choose among sticking a pin in a local map to indicate the location of his home, breaking a balloon with a pin, or throwing a dart at a target (bull's eye). And in the last set the child must choose among the following activities: use a screwdriver to turn a screw into a piece of wood, hammer a nail into the wood, or break a light bulb.

The order of the child's choices among the 3 alternative actions in each of the 5 sets was recorded. A score from 1-6 was assigned to each of the 6 possible orders of each set of games with 1 being the most aggressive and 6 being the least aggressive (Santostefano, 1978). For example, for the soldier games, if the child chose to stab the soldier doll first, then hit it, and then tie it, a score of 1 was assigned. If the child tied it first, then hit it, and then stabbed it, a score of 6 was assigned. For the paper games, if the child ripped the

paper first, then crumpled it, and then cut it, a score of 1 was assigned. If the child cut it first, then crumpled it, and then rippled it, a score of 6 was assigned.

The scores for 5 sets of games were tallied to provide an index of aggressive behavior. The possible range was from 5 to 30. The range for the current sample was from 7 to 25. Note that a high score indicates low aggression, strong impulse control and social appropriateness; whereas a low score indicates more impulsiveness and aggressiveness.

The MAST required about 10 minutes to complete. It has already been shown to be capable of differentiating between high and low aggressive children (Santostefano & Reider, 1984).

Stanford-Binet Intelligence Scale (Form L-M). Each child was administered the Stanford-Binet Intelligence Test. The IQ score was recorded. In addition, children's behavior during the test in attention, reaction, emotional independence, and problem solving was observed and rated by the administer on a 5-point scale, with 1 being optimal and 5 being seriously detrimental. Attention was measured along the dimension from being absorbed in the task to being easily distracted. Reaction was measured along the 3 dimensions of (1) from having normal activity level to being either hyperactive or depressed; (2) from taking initiative to waiting to be told; and (3) from responding quickly to needing to be urged. Emotional independence was measured along the 4 dimensions of (1) from being socially confident to being shy, reserved and reticent;

(2) from being realistically self-confident to either distrusting one's own ability or being over-confident; (3) from being comfortable with adult company to ill-at-ease; and (4) from being assured to being anxious about success. Problem solving behavior was measured along the 4 dimensions of (1) from being persistent to either giving up easily or not being able to give up; (2) from reacting to failure realistically to being withdrawn, hostile or denying; (3) from being eager to continue to wanting to stop; and (4) from liking to be challenged by hard tasks to preferring only easy tasks.

Average scores of attention, reaction, emotional independence, and problem solving behavior were obtained by collapsing the scores of the dimensions within each behavior category.

Data Analyses

Due to the small sample size of the comparison group, data from high-risk families and comparison families were combined to maximize the power of statistic analyses.

Multiple regressions were performed with the combined data for each predicted variable to test the hypotheses. The predictor variables were family socioeconomic status (SES), fathers' lifetime alcohol problems (FLAPS), mothers' lifetime alcohol problems (MLAPS), fathers' current drinking level (FQFV), mothers' current drinking level (MQFV), fathers' aggressiveness (FASB), and mothers' aggressiveness (MASB). The predicted variables were: children's aggression, delinquency,

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and conduct problems; hyperactive, impulsiveness, and delay of gratification; emotional functioning indexed by anxiety and depression; social incompetence indexed by withdrawal and immaturity; temperament; and intellectual functioning.

Multicollinearity

Tests for multicollinearity of predictor variables were performed prior to regression analyses. The eigenvalues of unit scaled $X'X$ matrix were computed. When they are closed to zero, collinearity problems may exist. The condition indices were also computed by using the square roots of the ratios of the largest eigenvalue to each successive eigenvalue. A conditional index greater than 15 indicates a possible problem and one greater than 30 suggests a serious problem with collinearity (Belsley, Kuh, & Welsch, 1980).

Initially, all single predictor variables and interactions of predictor variables were entered into the regression equations to test for multicollinearity. The interaction variables were SES by FLAPS, SES by MLAPS, SES by FQFV, SES by MQFV, SES by FASB, and SES by MASB. The results indicated serious multicollinearity problems when the interactional variables were included. Therefore, the interactional variables were deleted from further regression analyses. There were no serious multicollinearity problems for the remaining single predictor variables.

Outliers

Outliers are the cases which have observed responses that do not seem to correspond to the model fitted to the bulk of the data (Weisberg, 1985). An outlier was identified if its studentized residual value was greater than +2.00 or smaller than -2.00 (Weisberg, 1985). All outliers were deleted from the multiple regression models. The deletion of outliers resulted in different sample sizes in various regression equations.

Computer software package (version 4) - The System for Statistics.

All statistic analyses were preformed with Multivariate General Linear Hypothesis program of SYSTAT. All predictor variables were entered into regression models simultaneously. The program also permits the diagnosis of multicollinearity and outliers.

Multiple regression

Multiple regression was performed for each predicted variable with all predictor variables entered into the regression equations simultaneously.



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RESULTS

Descriptive Analyses

First, descriptive analyses were computed for high-risk families and comparison families. Statistical comparisons were not performed due to the small sample size of the comparison group. The results are presented in Table 2.

Table 2. Descriptive analyses for 3- to 6-year-old sons of alcoholics and nonalcoholics

	High-risk group		Comparison group	
	M	SD	M	SD
<u>CBCL (T-scores)</u>	N=75		N=7	
Aggression	61.64	9.31	59.00	6.83
Delinquency	59.64	7.28	58.00	3.74
Withdrawal	60.77	6.70	59.71	6.70
Immaturity	60.08	6.36	59.29	4.82
Depression	58.63	6.59	56.43	2.51
Schizoid	60.45	6.75	60.71	4.50
<u>CPQ1</u>	N=61		N=6	
<u>Fathers' ratings</u>				
Conduct prob.	6.56	4.75	6.00	2.76
Learning prob.	2.85	3.20	2.00	0.62
Hyperactivity	7.86	6.02	6.83	3.19
Impulsiveness	6.08	3.40	4.50	3.27
Anxiety	2.98	4.30	5.00	5.90
<u>Mothers' ratings</u>				
Conduct prob.	7.05	5.55	8.50	5.61
Learning prob.	3.30	3.54	4.17	4.62
Hyperactivity	7.62	5.57	6.50	2.93
Impulsiveness	6.00	4.22	6.00	3.58
Anxiety	4.12	4.95	7.00	5.55

Table 2 (Continued)

<u>DOTS2</u>	N=80		N=8	
<u>Fathers' ratings</u>				
Activity	0.53	0.50	0.42	0.50
Attentiveness	0.41	0.97	0.42	0.35
Adaptability	0.70	0.23	0.71	0.26
Rhythmicity	0.64	0.26	0.72	0.22
Reactivity	0.53	0.23	0.56	0.25
<u>Mothers' ratings</u>				
Activity	0.37	0.23	0.46	0.50
Attentiveness	0.51	0.25	0.64	0.27
Adaptability	0.70	0.27	0.50	0.32
Rhythmicity	0.64	0.26	0.70	0.37
Reactivity	0.52	0.28	0.58	0.24
<u>Delay of Gratification</u>				
	N=66		N=6	
Delay time (Sec.)	234.47	125.00	270.00	94.87
Verbal comment3	5.03	4.47	3.17	3.06
Looking3	1.71	2.24	2.00	2.28
Reaching3	0.23	0.60	0.33	0.52
Touching3	2.70	12.31	0.00	0.00
Taking3	0.94	0.98	0.50	0.55
<u>Miniature Situation4</u>				
	N=75		N=7	
	15.91	4.02	16.71	2.81

Table 2 (Continued)

<u>Stanford-Binet</u>	N=51		N=4	
IQ	100.78	15.20	97.25	15.52
Attention5	3.04	0.77	2.00	1.42
Reaction5	2.79	0.67	2.08	1.50
Independence5	2.57	0.62	1.56	1.16
Prob. solving5	3.23	0.81	2.00	1.58

CBCL scores higher than 70

	N=75		N=7	
	(Number)	(Percent)	(Number)	(Percent)
Aggression	16	21.33	1	14.33
Delinquency	4	5.37	0	0.00
Withdrawal	4	5.37	1	14.33
Immaturity	5	6.77	0	0.00
Depression	5	6.77	0	0.00
Schizoid	2	2.77	0	0.00

- 1: CPQ scores were summary scores for each factor on a 0-3 scale with 0 being "not at all", 1 being "just a little", 2 being "pretty much", and 3 being "very much".
- 2: DOTS scores were the number of "true" answers tallied for each dimension and divided by the number of items in each dimension.
- 3: Frequencies
- 4: Miniature scores were tally scores across 5 sets of games. For each set, a score of 1-6 was assigned with 1 being the most aggressive and 6 being the least aggressive.
- 5: Scores for ancillary behaviors during intelligence test were based on a 1-5 scale with 1 being optimal and 5 being detrimental

As shown in Table 2, the majority of CBCL T-scores were within one standard deviation from average score derived from normal distribution (Achenbach & Edelbrock, 1983), indicating that behaviors of children of both groups fell within the normal range on the reported narrow band dimensions. This result is comparable to that of Fitzgerald, Sullivan, Ham, Zucker, Bruckel, Schneider, & Noll (1991), whose study used the longitudinal sample with 3-year-old sons. Moreover, more children of alcoholics in the current study whose CBCL T-scores fell within the clinical range for narrow-band behaviors (higher than 70) than the normal sample in Achenbach & Edelbrock (1983). The percentage of children with CBCL T-scores higher than 70 is approximately the same with that reported by Fitzgerald et al. (1991), and with those children rated as "clinically impaired" as reported by Jacob and Leonard (1986) in their study of 10- to 18-year-old children of alcoholics.

The range of mean DOTS scores, shown in Table 2, was from .42 to .71 on a scale of 0 (false) to 1 (true). This means that parents had moderate ratings of their children's temperamental pattern. This result is comparable with the report of Windle & Lerner (1984) who studied a sample of college students.

For the Delay of Gratification Task, Table 2 shows that average delay time was 234.47 seconds for high-risk children and 270.00 seconds for comparison children respectively out of 330 seconds possible. The scores are comparable with that



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reported by Fitzgerald et al. (1991), and the difference between the two groups is in the same direction as reported by Fitzgerald et al. (1991).

Lastly, IQ scores shown in Table 2 were within normal range (100.78 and 97.25 for children of alcoholics and nonalcoholics respectively).

Next, multiple regression analyses were performed to test the hypotheses of the relationships between the severity of parental problem drinking, parental aggression, family SES and various children's behaviors. Data from both high-risk and comparison groups were combined in multiple regression to maximize the statistic power.

Multiple Regression Analyses

Child Behavior Checklist (CBCL)

Measurements of the CBCL relevant to the current study are children's aggressiveness, delinquency, social withdrawal, immaturity, depression, and schizoid. The CBCL was administered to mothers and results are presented in Table 3.

Table 3. Multiple regression coefficients for mothers' CBCL ratings of their 3- to 6-year-old sons.

	CONSTANT	SES	FLAPS	MLAPS	FQFV
Aggression (72)	47.81	-0.06	1.04*	0.32	-0.49
Delinquency (75)	48.16	-0.10*	0.26	0.88*	0.89*
Withdrawal (69)	49.47	-0.06	0.57	0.96*	0.02
Immaturity (76)	52.93	-0.10*	0.49	0.63*	0.01
Depression (73)	50.74	-0.00	-0.22	0.72*	0.53
Schizoid (72)	44.24	-0.02	0.63*	1.02*	0.53
	MQFV	FASB	MASB	R2	Adjusted R2
Aggression	1.02	-0.14	0.22	0.18	0.09
Delinquency	-0.50	0.05	-0.03	0.37*	0.30
Withdrawal	-0.78	-0.05	0.08	0.15	0.05
Immaturity	-0.23	-0.08	0.06	0.26*	0.18
Depression	-0.49	0.06	-0.02	0.17	0.08
Schizoid	0.53	-0.10*	-0.06	0.25*	0.17

Numbers in parentheses indicate numbers of subjects after the deletion of outliers.

*: $P < 0.05$ (2 tail)

The results in Table 3 indicate that predictor variables contributed significant amounts of variance for CBCL T-scores for children's delinquency (37%), immaturity (26%), and schizoid (25%).

As hypothesized, children whose fathers had more serious lifetime alcohol problems were more aggressive. Children from lower SES families where mothers had more serious lifetime alcohol problems and fathers drank more currently were more delinquent. Children whose mothers had more serious lifetime alcohol problems were more socially withdrawn and depressed. Children from lower SES families with mothers who had more serious lifetime alcohol problems were more immature. Finally, children for whom both parents had more serious lifetime alcohol problems and whose fathers were more antisocial showed more schizoid behavior.

Conners Parent Questionnaire (CPQ)

CPQ was given to both fathers and mothers. The results of multiple regressions are presented in Table 4 and Table 5.

Table 4. Multiple regression coefficients for fathers' CPQ ratings of their 3- to 6-year-old sons

	Constant	SES	FLAPS	MLAPS	FQFV
Conduct prob. (67)	-6.36	0.03	1.05*	-0.21	0.51
Hyperactivity (67)	-7.50	-0.07	1.05*	0.76*	0.31
Impulsiveness (64)	-6.24	-0.02	0.38	0.74*	0.88
Learning prob.(62)	-3.66	0.03	0.31*	0.09	0.24
Anxiety (67)	3.95	0.02	0.30	-0.72*	-0.30
	MQFV	FASB	MASB	R2	Adjusted R2
Conduct prob.	0.85	-0.02	0.14*	0.26*	0.16
Hyperactivity	0.82	-0.08	-0.04	0.20*	0.11
Impulsiveness	0.53	-0.01	0.01	0.33*	0.23
Learning prob.	0.14	-0.03	0.11*	0.32*	0.21
Anxiety	0.12	-0.00	-0.21*	0.13	0.01

Numbers in parentheses indicate numbers of subjects after the deletion of outliers.

*: $P < .05$ (2 tail)

Table 4 shows that predictor variables contributed significant amounts of variance for fathers' ratings of children's conduct problem, learning problem, hyperactivity, and impulsiveness (26%, 20%, 33%, and 32% respectively).

As hypothesized, fathers' lifetime alcohol problems were positively related to their ratings of their children's conduct problems, learning problems, and hyperactivity; mothers'

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lifetime alcohol problems were positively related to their children's hyperactivity and impulsiveness; mothers' antisocial level was positively related to children's conduct problems and learning problems. However, contrary to hypotheses, children's anxiety was negatively related to mothers' lifetime alcohol problems and antisocial behavior.

Table 5. Multiple regression coefficients for mothers' CPQ ratings of their 3- to 6-year-old sons

	Constant	SES	FLAPS	MLAPS	FQFV
Conduct prob. (67)	-9.48	0.19*	0.67	0.18	1.76
Hyperactivity (67)	-10.00	-0.02	0.79*	0.85*	0.73
Impulsiveness (66)	-4.68	-0.03	0.54*	0.24	-0.25
Learning prob.(56)	-3.78	0.01	0.13	0.36*	0.23
Anxiety (61)	1.25	0.18	-0.03	-0.41	1.14
	MQFV	FASB	MASB	R2	Adjusted R2
Conduct Prob.	-0.16	0.00	0.20*	0.26*	0.13
Hyperactivity	0.39	-0.00	0.11	0.34*	0.24
Impulsiveness	1.04*	0.03	0.12	0.30*	0.20
Learning prob.	-0.43	0.00	0.05	0.27*	0.14
Anxiety	0.68	0.04	0.11	0.10	0.00

Numbers in parentheses indicate numbers of subjects after the deletion of outliers.

*: $P < .05$ (2 tail)

Table 5 indicates that the predictor variables contributed significant amount of variance for mothers' rating of children's conduct problems, learning problems, hyperactivity, and impulsiveness (26%, 34%, 30% and 27% respectively).

As predicted, mothers' rating of their children's conduct problem was positively related to mothers' antisocial behavior; children's learning problem was positively related to mothers' lifetime alcohol problems; children's hyperactivity was positively related to fathers' and mothers' lifetime alcohol problems; and children's impulsiveness was positively related to fathers' lifetime alcohol problems and mothers' current drinking. However, contrary to the hypothesis, children's conduct problem was positively related to family SES.

Next, Pearson correlations were computed to examine the relationship between fathers' and mothers' ratings on children's behavior with CPQ. The results are shown in Table 6.

Table 6: Pearson correlation coefficients for fathers' CPQ ratings and mothers' CPQ ratings of their 3- to 6-year-old sons

		Fathers' ratings				
		Hyper- activity	Conduct Problem	Impul- siveness	Learning Problem	Anxie- ty
Mothers' ratings	Hyper-activity	.65*				
	Conduct Problem		.60*			
	Impul-siveness			.52*		
	Learning Problem				.28*	
	Anxiety					.38*

*: $P < 0.05$

Table 6 shows that fathers' and mothers' ratings were significantly correlated on all CPQ scales, indicating significant agreement between the parents.

Delay of Gratification Task

The Delay of Gratification Task was given to the target child. This task measures children's delay time (in seconds) from beginning of the task to the moment the child took the gift either at the end of the task (a maximum of 330 seconds) or without permission (before the end of the task). Frequency of children's various behaviors during the task was also

recorded, including verbal comments on the gift, looking at the gift, reaching for the gift without touching it, touching the gift without taking it, and taking it without permission. Results of multiple regressions are presented in Table 7.

Table 7. Multiple regression coefficients for children's behavior during the Delay of Gratification Task

	Constant	SES	FLAPS	MLAPS	FQFV
Delay time (60)	451.1	-1.65*	1.32	-16.75*	-23.42*
Verbal (60)	2.01	-0.08*	0.45*	-0.07	0.85*
Look (61)	1.83	0.04*	-0.03	-0.27*	-0.15
Reach (72)	0.95	0.01	-0.06	-0.07	-0.12*
Touch (62)	-0.09	-0.01	0.05	0.01	0.08
Take (67)	0.50	0.00	0.03	0.01	-0.00
	MQFV	FASB	MASB	R2	Adjusted R2
Delay time	43.94*	0.91	-1.06	0.34*	0.25
Verbal	-0.20	-0.02	-0.09	0.32*	0.22
Look	0.10	0.04*	0.03	0.27*	0.17
Reach	-0.01	0.02*	0.02	0.21*	0.12
Touch	0.01	-0.00	-0.01	0.08	0.00
Take	-0.08	0.00	-0.00	0.02	0.00

Numbers in parentheses indicate numbers of subjects after the deletion of outliers.

*: $P < 0.05$ (2 tail)

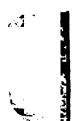


Table 7 shows that this set of predictor variables contributed significant amounts of variance for children's delay time, total verbal comments, looking behavior, and reaching behavior. The predictor variables explained 34% of variance in delay time, 32% in verbal comments, 27% in looking behavior, and 21% in reaching behavior.

As hypothesized, children's ability to delay gratification as indexed by delay time was negatively related to mothers' lifetime alcoholic problems and fathers' current drinking. Children's verbal comments were negatively related to family SES, but positively related to fathers' lifetime alcohol problems and fathers' current drinking. The frequency of children's looking at and reaching for the gift was positively related to fathers' aggression.

However, there are number of findings that were contradictory to the hypotheses. Children's delay time was negatively related to family SES and positively related to mothers' current drinking level. Frequency of looking at the gift was positively related to family SES and negatively related to mothers' lifetime alcohol problems. The frequency of children's reaching behavior was negatively related to fathers' current drinking.

Dimensions of Temperament Survey (DOTS)

DOTS was given to both parents to examine children's temperamental style. The predicted variables were activity

level, attentiveness, adaptability (approach/withdrawn), rhythmicity and reactivity. A score of 1 represents an active, attentive, adaptive, rhythmic, and reactive child, whereas a score 0 represents an inactive, inattentive, withdrawn, arrhythmic, and unreactive child. The results of multiple regressions are presented in Tables 8 and 9.

Table 8. Multiple regression coefficients for fathers' DOTS ratings of their 3- to 6-year-old sons

		Constant	SES	FLAPS	MLAPS	FQFV
Activity	(88)	-0.57	0.02	0.13	0.09	0.06
Attention	(82)	0.58	0.03	-0.09	0.07	-0.09
Rhythmicity	(77)	1.25	0.02	-0.08	-0.40*	-0.07
Adaptability	(81)	0.53	0.03	0.09	-0.05	-0.10
Reactivity	(79)	-0.07	0.04	0.07	0.19*	0.73*
		MQFV	FASB	MASB	R2	Adjusted R2
Activity		0.44	0.01	-0.03	0.12	0.01
Attention		-0.27	0.03	-0.13*	0.20	0.09
Rhythmicity		0.02	-0.01	0.03	0.28*	0.19
Adaptability		0.56	-0.01	-0.02	0.09	0.00
Reactivity		-0.20	-0.00	-0.01	0.22*	0.12

Numbers in parentheses indicate numbers of subjects after the deletion of outliers.

*: $P < 0.05$ (2 tail)

Table 8 indicates that predictor variables accounted for significant amounts of variance for fathers' ratings of children's rhythmicity and reactivity (28% and 22%, respectively).

As hypothesized, when rated by their fathers, children's attention was negatively related to mothers's aggression; children's rhythmicity was negatively related to mothers' lifetime alcohol problems; children's reactivity intensity was positively related to mothers' lifetime alcohol problems and fathers' current drinking.

Table 9. Multiple regression coefficients for mothers' DOTS rating of their 3- to 6-year-old sons

		Constant	SES	FLAPS	MLAPS	FQFV
Activity	(84)	0.40	0.01	0.08	0.00	0.21
Attention	(78)	0.58	-0.08	0.17	0.18	-0.90*
Rhythmicity	(81)	0.70	0.04	0.31	-0.27*	-0.69*
Adaptability	(78)	0.24	0.06*	0.08	0.10	0.05
Reactivity	(78)	0.07	0.03	0.05	0.09	0.08
		MQFV	FASB	MASB	R2	Adjusted R2
Activity		0.32	-0.03*	0.03	0.16	0.06
Attention		-0.52	-0.02	-0.06	0.14	0.02
Rhythmicity		1.29*	0.00	0.00	0.22*	0.12
Adaptability		0.72	-0.01	0.03	0.11	0.00
Reactivity		0.55	0.01	0.02	0.22*	0.11

Numbers in parentheses indicate numbers of subjects after the deletion of outliers.

*: $P < 0.05$ (2 tail)

The results shown in Table 9 indicate that this set of predictor variables accounted for significant amounts of variance for mothers' ratings of children's rhythmicity and reactivity (22% and 22% respectively).

As hypothesized, when rated by their mothers, children's attention was negatively related to fathers' current drinking level; children's rhythmicity was negatively related to

mothers' lifetime alcohol problems and fathers' current drinking level; children's adaptability was positively related to family SES; and children's activity level was negatively related to fathers' aggression. Contrary to the hypothesis, children's rhythmicity was positively related to mothers' current drinking level.

Finally, Pearson correlations were computed to examine the relationship between fathers' and mothers' ratings for each predicted variable. The results are presented in Table 10.

Table 10. Pearson correlation coefficients for fathers' DOTS ratings and mothers' DOTS ratings of their 3- to 6-year-old sons

		Fathers' ratings				
		Acti- vity	Atten- tion	Adapta- bility	Rhyth- micity	Reac- tivity
Mothers' ratings	Acti- vity	.31*				
	Atten- tion		.30*			
	Adapta- bility			0.39*		
	Rhyth- micity				0.40*	
	Reac- tivity					0.41*

*: $P < 0.05$ (2 tail)

As indicated in the Table 10, ratings of fathers and mothers were significantly correlated on all DOTS dimensions, which indicates a significant agreement between parents. Nevertheless, all correlation coefficients were relatively low with the highest one being .41, which only accounts for 18.6% of variance.

The Miniature Situation

The Miniature Situation was administered to children. This task measures children's aggressive behavior. A high score indicates low aggression and strong impulse control, whereas a low score indicates high aggressiveness and more impulsiveness. The results of multiple regressions are presented in Table 11.

Table 11. Multiple regression coefficients for children's aggression as assessed by the Miniature Situation Task

	Constant	SES	FLAPS	MLAPS	FQFV
Aggression (76)	18.03	0.03	0.02	-0.23	-0.57*
	MQFV	FASB	MASB	R2	Adjusted R2
Aggression	-0.28	-0.02	0.14*	0.12	0.03

Number in the parenthesis indicates number of subjects after the deletion of outliers.

*: $P < 0.05$ (2 tail)



Table 11 indicates that, as hypothesized, fathers' current drinking level predicted children's aggressiveness. However, contrary to the hypothesis, mothers' aggression was negatively related to their sons' aggression.

Stanford-Binet Intelligence Scale (Form L-M)

The Stanford-Binet Scale was administered to children. It measures children's intelligence as well as their ancillary behaviors during the test, including attention, reaction, emotional independence, and problem solving behavior. Ancillary behaviors were assessed on a 5-point scale with a low score indicating optimal behavior and high score indicating detrimental behavior. The results of the multiple regressions are presented in Table 12.

Table 12. Multiple regression coefficients for children's IQ and ancillary behaviors as measured by the Stanford-Binet Scale

	Constant	SES	FLAPS	MLAPS	FQFV
IQ (46)	117.53	0.40*	-2.60*	1.43	0.24
Attention (48)	3.41	-0.02	-0.03	0.06	-0.08
Reaction (48)	3.29	-0.05*	0.01	0.04	0.10
Emotion (48)	2.71	-0.07*	0.16	0.15	0.14
Problem (46)	3.31	-0.07	-0.26	0.34	-0.15
	MQFV	FASB	MASB	R2	Adjusted R2
IQ	-7.76*	-0.22	0.11	0.50*	0.41
Attention	0.10	0.01	-0.02	0.14	0.00
Reaction	-0.17	-0.04	0.04	0.20	0.06
Emotion	-0.38	-0.09*	0.04	0.21	0.07
Problem	0.25	-0.01	0.06	0.23	0.08

Numbers in parentheses indicate numbers of subjects after deletion of outliers.

*: $p < 0.05$ (2 tail)

Results in Table 12 indicate that this set of predictor variables accounted for significant amount of variance (50%) in children's IQ scores.

As hypothesized, children's IQ was positively related to family SES, but negatively related to fathers' lifetime alcohol problems and mothers' current drinking level; and the higher

the family SES, the more optimal were the children's reaction and emotional independence during the test. However, contrary to the hypothesis, the more aggressive the fathers were, the more emotionally independent were the children during the test.

DISCUSSION

Fathers' Alcohol Problems

One of the purposes of the current study was to examine the effect of fathers' alcohol problems on their sons' behavior. The results indicated that fathers' lifetime alcohol problems and current drinking problems affected their sons' behavior differently.

Fathers' lifetime alcohol problems predicted parental report of their sons' externalizing behavioral problems -- aggression, hyperactivity, impulsiveness, inability to delay gratification, and schizoid -- and their IQ score. That is, children whose fathers had more serious lifetime alcohol problems demonstrated more externalizing behavior problems as perceived by their parents. This result supports the literature which reports that, compared to children of nonalcoholic fathers, adolescent children of alcoholic fathers are rated higher in hyperactivity (Fine et al. 1976; Knop et al. 1985; Lund & Landesman-Dwyer, 1979); and children of alcoholic mothers show more hyperactivity and over-activeness (Aronson, Kyllerman, Sabel, Sandin, & Olegard, 1985; Bell & Cohen, 1981; Steinhausen, Nestler, & Huth, 1982). The current study suggests that a developmental continuity in hyperactivity and impulsiveness for children of alcoholics is a strong possibility, at least one that should be tested as the longitudinal study progresses.

In addition, fathers' lifetime alcohol problems were related to such traits and behaviors of their sons as hyperactivity, impulsiveness, low intelligence, and inability to delay immediate gratification. These traits and behaviors seem to be predisposing for young children to become antisocial and delinquent during later childhood and adolescence (Fine et al., 1976; Hughes, 1977; Merikangas et al., 1985; Miller & Jung, 1977; Rydelius, 1981). Thus, the current study suggests a possible pathway between hyperactivity and impulsiveness during early childhood, and delinquency, conduct problems and troubles with law during later childhood and adolescence for sons of alcoholics.

The precise causality linking fathers' lifetime alcohol problems and children's behavioral problems in this study is not clear. It is suggested by the literature that alcohol problems of the fathers tend to make them less desirable parents. They are likely to be antisocial, disinterested and lacking of involvement with their children, and more violent towards their spouses and children (Davies et al., 1989). It is possible that, in the current study, a destructive family environment, negative child-rearing, and personality disturbance associated with fathers' drinking problems led children to be more aggressive, hyperactive, impulsive, having conduct problems, and showing schizoid signs.

Researchers argue that family interaction is not unidirectional from parents to children, but rather it is a



two-way street from parents to children as well as from children to parents (Hetherington & Morris, 1978). The relationship between fathers' lifetime alcohol problems and their sons' behavioral problems in the present study may be a reciprocal one. Although it is rather difficult to conceptualize that sons' behavioral problems were the origins of their fathers' heavy drinking in their lifetime since these were young children of 3 to 6 years, it is possible that children's behavioral problems, which were attributable to their fathers' drinking initially, made them difficult to manage, which in turn, enhanced and intensified the drinking problems of their fathers. The interaction between fathers and sons may then become a vicious circle.

 Fathers' alcohol problems also predicted children's IQ score in a negative direction. Children of fathers whose alcohol problems were less severe were likely to do better on the Stanford-Binet intelligence test than those whose fathers' alcohol problems were less severe. This result is consistent with Tartar et al.'s (1989) report that children of alcoholics demonstrate deficits in intellectual tasks requiring suppression of a distracting stimulus, planning, spatial analysis, and psychomotor efficiency -- "executive abilities" that are crucial for performance on intelligence test. The literature indicates that fathers' authoritarian and punitive style (Davies, Zucker, Noll, & Fitzgerald, 1991) tend to inhibit early exploration and curiosity in children and

therefore low achievement results (Bradley, Caldwell, & Elardo, 1977; Radin, 1976). And lack of parental involvement has been linked to low intelligence and competence of children (Stevenson, 1983). Therefore, the relationship between paternal alcohol problems and their sons intelligence in the current study is likely to be mediated by negative child-rearing practice, either authoritarian or lack of nurturance and involvement, of the alcoholic fathers.

Most of the previous studies focus on alcoholics who are already in treatment, which possibly indicates that their alcoholism has become so severe that they cannot manage to function normally in their families and in society. In the present study, the alcoholic fathers were in their early 30's and were not yet in treatment. The majority of these alcoholic males were still functioning relatively normally in that 90% of them were employed at the time of study. Apparently, their alcohol problems were still in early stage. Thus, the present study indicates an early manifestation of behavioral problems in children of preschool ages from young alcoholic families. It also underscores the importance of studying the early negative effects of fathers' drinking on children and the relationship between early precursors of behavioral problems and alcoholism during later life. It is possible that the negative effects of paternal drinking may become more detrimental as children develop for at least two reasons. One is the vicious circle in interaction between alcoholic fathers and their sons. That is,

the conflicts and aggression are likely to escalate when children grow older. The other is that fathers' influence on their sons' aggression and delinquency is likely to increase when children become older as a result of the play-making aspect of the paternal child-rearing role.

Furthermore, the current study suggests the importance of severity of fathers' drinking on children's outcome. The literature documents that alcoholics are not a homogeneous group of individuals (Jones, 1968). Moreover, although children of alcoholics are at high risk of developing behavioral problems and alcoholism themselves, not all of them are impaired (Goodwin, 1983). The fact that fathers' lifetime alcohol scores differentiated children' externalizing behavior suggests that fathers' lifetime alcohol problem is an important risk factor for children's outcome.

Few previous studies have focused on the effect of fathers' current drinking level over the course of past six months. Of them, the research results are conflicting. On the one hand, Reider et al. (1988, 1989) reported that parental current drinking level was not related to marital conflict and spousal conflict and aggression. In addition, the researchers reported that fathers' greater current drinking was related to mothers' perception of a positive family environment and less violence. On the other hand, Davies et al. (1989) reported

that fathers' heavy drinking during the past six months was associated with mothers' negative affective parenting.

The current study found that fathers' current drinking predicted actual behavioral problems, namely, aggression in the Miniature Situation, and shorter delay time. It appears that fathers' lifetime alcohol problems contributed to parental perception and their ratings of their sons' behavioral problems, whereas fathers' current drinking was directly related to their sons' observed behavioral problems. A father who had high QFV score was likely to be drinking heavily during the time of study. Since alcohol impairs judgment ability, it is possible that fathers' perception about their sons was distorted. A father who had a high LAPS score did not necessarily drink heavily currently since fathers' LAPS scores were not significantly related to their QFV scores (Pearson $r = -.078$, $P > .05$). Thus, fathers' serious lifetime alcohol problems play a less important role in impairing and distorting their perception about their sons' behavior. The results then suggest that fathers' current drinking level was a strong predictor when their sons' behavior were observed independently as in the Miniature Situation and the Delay of Gratification Task, but a much less strong predictor than their lifetime alcohol problem scores when their sons behavior was assessed through parental report. This result indicates that the effect of current drinking is likely to be assessed with success if

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children' variables are measured through independent observation, not parental report.

The current study also found that fathers' current drinking level predicted their sons' temperament. Sons whose fathers drank heavily were likely to have a temperamental pattern of inattentiveness, arrhythmicity, and intensified reaction to stimuli, attributes that are likely to constitute the "difficult" temperamental style. Previous investigations indicate that children having temperamental attributes such as low rhythmicity, negative mood, and high intensity have a higher incidence of behavioral or emotional disorders than do children having repertoires involving high rhythmicity, positive mood, and moderate intensity (Thomas & Chess 1977; Thomas, Chess & Birch, 1968). Furthermore, it is conceptualized by researchers (Thomas & Chess, 1977, 1981) that the impact of temperament lies in whether a particular individual's traits provide a goodness of fit with the characteristics of a specific context. In the present study, it is unlikely that parenting style of alcoholics, which is characterized by lack of affection, would provide the goodness of fit for their sons' temperament. Rather, the difficult temperament pattern of children was likely to provoke parent-child conflict in these alcoholic families. Since temperamental style is moderately stable from infancy to childhood years (Buss & Plomin, 1984; Goldsmith, Buss, Plomin, Klevjard, Thomas, Chess, Hinde, & McCall, 1987; Kagan, Reznick, & Snidman, 1987), it is possible

that, in the current study, the consistent difficult temperamental attributes of children since very young age and lack of goodness-of-fit between children and parental child-rearing led fathers unable to cope with their sons' lack of attention, irregularity, and strong reactions to stimulation. The fathers' inability to cope with the conflicts may then lead them to drink in order to escape from the reality. Moreover, fathers' heavy drinking certainly would not help their sons to ease on their difficult temperament.

Mothers' Alcohol Problems

Previous investigations on alcoholism have predominantly focused on men not women. Alcoholism and alcohol-related problems have not been considered to be a major problem among women. However, although the reported ratio of men to women alcoholics is as high as 4 or 5 to 1 (Lisansky, 1957; Royce, 1989; Rutledge, Carroll, & Perkins, 1974), some researchers suggest that the actual sex ratio of alcoholism and alcohol problems between men and women is 50:50 (cf. Royce, 1989). The lack of report and understanding of women's alcohol problems is probably due to the double standard in the society regarding women and drunkenness. Women alcoholics are often better able to hide their drinking at home. Alcoholism of women is often misdiagnosed as other symptoms. Perhaps partly due to far less frequent behavioral troubles caused by women's drunkenness, such as being arrested (Edwards, Hensman, & Peto, 1972), and partly



due to the double standard in diagnosing and treating alcoholics, women's drinking problems are under reported.

One study examined the effect of maternal drinking during pregnancy at a level that did not result in Fetal Alcohol Syndrome on their 6- to 8-year-old children (Shaywitz et al., 1980). The researchers found that these children suffered from learning difficulties and school failure despite their normal intelligence. Since the drinking problems of women have not been considered as nearly as serious as that of men, the influence of mothers' drinking alcohol beyond pregnancy period has not been a primary focus of research.

The lack of understanding of mothers' drinking and its effect on children seems to be particularly disturbing because that, in this culture, the mother is the primary caregiver, especially for younger children. In addition, women's drinking problems can be just as serious as that of men. In the current study, although mother's alcoholism was not a criterion for the inclusion nor for the exclusion for participation of the study, LAPS scores indicated the mothers' lifetime alcohol problems were just as serious as their husbands'. Thus, mothers' drinking problems certainly contribute significantly to the outcome of their children.

The results of the present study underscore the effects of mothers' drinking on their sons. Mothers' lifetime alcohol problems predicted parents' ratings of their sons' externalizing behavioral problems, including delinquency,

hyperactivity, impulsiveness, and schizoid. It also predicted a shorter delay time during the Delay of Gratification Task. In light of the literature that links parental alcoholism with delinquent and truant behavior in older and adolescent children (Fine et al., 1976; Hughes, 1977; Miller & Jang, 1977; Offord, Allen, & Abrams, 1978; Rimmer, 1982; Robins, West, Ratcliff, & Herjanic, 1978), children of mothers who had more serious lifetime alcohol problems in the current study will be likely at higher risk of developing antisocial and delinquent behavior, having trouble obeying rules and regulations, engaging in destructive behavior, and breaking the law when they grow older.

The precise mechanism through which mothers' heavy drinking was related to their sons' behavioral problems cannot be addressed by the present study. In the current study, mothers' lifetime alcohol problems was accompanied by their aggressiveness (Pearson $r = .64$, $P < .05$). Moreover, previous research noted that mothers with serious lifetime alcohol problems were likely to adopt harsh discipline and lack of recreational orientation in their parenting (Reider et al., 1988; Davies et al., 1989). Thus, it is possible that mothers' drinking problems affected their sons negatively via mothers' negative child-rearing practices and the modeling effect of their aggressive behavior.

In addition to externalizing problems, mothers' lifetime alcohol problems predicted their ratings of their sons'

internalizing problems: depression, withdrawal, and immaturity. Fathers' alcohol problems failed to predict internalizing problems. Depression has been frequently cited as a correlate of alcoholism (Sher, 1987) and frequently found to characterize children of alcoholics. For instance, Jacob & Leonard (1986) found that preadolescent and adolescent sons of alcoholic fathers and sons of depressed fathers were rated as having more internalizing problems than did sons of fathers who were neither alcoholic nor depressed. Moos & Billings (1982) reported, that adolescent children of relapsed alcoholics suffered twice as much emotional disturbance as indexed by depression, anxiety, and nightmare, than those of recovered alcoholics and nonalcoholics. Nevertheless, little is known about children in infancy and preschool age. Some researchers argue that because of immature cognitive and personality development, it is not possible for young children to be clinically depressed (Weiner, 1982). But the current study reveals that a significant number of preschool-age children already showed depressive symptoms, albeit that parental reported symptoms of depression may not be the same as clinical diagnosis of depression syndrome. In light of the argument by Fitzgerald et al. (1991) that mothers continue to be the primary socializing agents of their young children despite societal changes in the role of fathers in caregiving, the current finding suggests a developmental process that, during preschool years, mothers' alcohol problems and their possible

emotional disturbance that accompany their problem drinking influence directly their children's emotional state.

It is interesting to note that fathers' alcohol problems failed to predict their sons' internalizing problems. This finding is supported by some previous investigations. For instance, Steinhausen et al. (1984) compared children of alcoholic mothers with children of alcoholic fathers and found that 69% of children whose mothers were alcoholics showed emotional disorders, compared to only 31% of children whose fathers were alcoholics showing the same symptoms. Fitzgerald et al. (1991) reported similar results that mothers' alcohol problems, not fathers', predicted their sons' internalizing problems. Schneider et al. (1989) reported that maternal depression was related to children's behavioral problems. Thus, there seems to be a direct connection between mothers' drinking and their sons' emotional disturbance. However, as researchers have suggested (Davies et al. 1989, Fitzgerald, et al., 1991; Schneider et al., 1989), it is possible that fathers' drinking affected mothers' depression and self-esteem, which then affected their relationship with their children. In other words, mothers' alcohol problems and depression exerted negative influence on their sons' emotion indirectly via their husbands' drinking problems.

It is worth noting that the current study focused on 3- to 6-year old children, a time period in development when mothers are more likely to be the primary caregivers. As children

develop, fathers' involvement in parenting may become increasingly important for their sons, particularly with respect of sex-role development and modeling behavior. Thus, as the longitudinal study progresses, role changes in mothers' and fathers' parenting behavior may lead to discontinuities in the relationship between fathers' and mothers' alcohol problems. As stated by Fitzgerald et al. (1991), "During later childhood and adolescence, father's role as play-mate may provide the modeling and reinforcing context for his son's (internalizing behavior as well as) overt expression of externalizing behaviors" (p.22). In other words, the father's alcohol problems may become a more important predictor of his son's behavior as his caregiving involvement increases. Conversely, a decrease in mother's direct caregiving interactions with her son may diminish the predictive significance of her lifetime alcohol involvement. Completion of son's identification with the male sex role model (father or other significant male) may enhance the salience of male modelled behavior. The next result would be discontinuity in the effect of father's behavior as compared with the preschool years.

The negative correlation between mothers' lifetime alcohol problems and their sons' anxiety was contrary to the hypothesis. It seems that these 3- to 6-year-old children attempted to be more independent from their mothers whose alcohol problems were more serious and whose child-rearing practice was less than desirable. However, this premature

autonomous effort of young children at an age when they need their parents' nurturance and protection the most could be maladaptive.

Moreover, mothers' lifetime alcohol problems predicted fathers' ratings of their sons' difficult temperamental pattern, which was also predicted by fathers' drinking problems as rated by mothers. Both parents did not see their sons as difficult children with respect to their own drinking. Is it reasonable to speculate that the parents attempted to blame their spouses' drinking problems for their sons' difficult temperamental traits that made them difficult to care for and to handle? The current study cannot answer this question. Nevertheless, one can be certain that children with difficult temperament obviously were at risk of developing various behavioral problems in an alcoholic family environment where their interaction style could hardly fit into their parents' expectation and child-rearing practice.

In the current study, mothers' current drinking was not consistently related to children's problems. Unlike fathers' drinking, it was not related to children's temperament. Although significantly correlated to their own lifetime alcohol problems (Pearson $r=.35$, $P < .05$), mothers' current drinking level was significantly lower than that of their husbands. The average QFV score for fathers was 2.5 but only 1.8 for mothers.

Perhaps, the low level of current alcohol consumption of mothers can not differentiate children's outcome.

In summary, the current study underscores the strong predictive power of mothers' lifetime alcohol problems on externalizing as well as internalizing problems of their 3- to 6-year-old sons. This finding is supported by the recent study of Fitzgerald et al. (1991). In their study of 3-year-old sons of alcoholic fathers, they reported that maternal functioning was strongly related to their sons' externalizing and internalizing behavioral problems, and parental functioning (IQ, education, and occupation). In addition, maternal psychopathology (alcohol problems, antisociality, and depression) was significantly elevated when their husbands were alcoholics.

In this culture, men's drinking is likely to be more overt than that of women since men are more aggressive so that their drinking and alcoholism may be more likely to make them involved in antisocial behavior and trouble with the law. Nevertheless, the increasing trend in number of women alcoholics (cf. Royce, 1989) serves as an unpleasant but alarming indicator that mothers' drinking problems negatively affect their children just as much as fathers' drinking, if not more.

Parental Aggression

Although fathers' aggressiveness (ASB score) was positively correlated to their lifetime alcohol problems, it did not consistently predict children's behaviors. In fact, fathers' aggression only predicted the frequency of children's looking and reaching behavior during the Delay of Gratification task. But it was not related to actual delay time. In addition, fathers' aggression was puzzlingly related to mothers' ratings of their sons' emotional independence, lower activity level, and less schizoid tendency.

It is well established in the literature that alcoholism and aggression are closely related. Indeed, the present study found that fathers' and mothers' lifetime alcohol problems were correlated to their aggressiveness (Pearson $r=.56$, $P<.05$ for fathers; Pearson $r=.64$, $P<.05$ for mothers). Furthermore, parental aggression has been shown to be related to violence among family members (Reider et al. 1988, 1989) Thus, parental aggression was hypothesized to have negative impact on their sons. It is puzzling then that the present study failed to find fathers' aggression to be a predictor of their sons's behavior.

Compared with fathers' aggression, mothers' aggression was a more powerful predictor for their son's behavioral problems. It was associated with both parents' ratings of their sons' conduct problems. Children with conduct problems tended to, among other behaviors, disobey their parents. This finding supports the report of Reider et al. (1989) where they found

that mothers' antisocial and aggressive behavior was related to not only their violence and physical aggression towards their sons, but also their sons' use of violence and physical aggression towards their parents. This relationship was not found with fathers' antisocial and aggressive behavior in the current study as well as in that of Reider et al.. It appears that sons were likely to obey and tolerate their fathers' physical violence toward them, but they tended to disobey their mothers and use violence back to them. This finding is consistent with extensive literature that documents children's noncompliant behavior towards their mothers in intact families as well as in single families headed by the mother. For instance, Hetherington, Cox, & Cox (1982) reported that children exhibited less noncompliant and deviant behavior toward their fathers than toward their mothers, and when undesirable behavior occurred, the father could terminate it more effectively than the mother could.

However, some negative predictions regarding maternal aggression and antisociality found in the current study are difficult to explain, such as mothers' aggression was negatively related to their children's anxiety, attentiveness, and to children's aggression in the Miniature Situation.

The possible reason for lack of consistent prediction of both fathers' and mothers' antisociality and aggression, especially fathers', might be as follows: Although The Antisocial Behavior Survey yields a ASB score of total

antisocial behavior which was used in the present study to represent the antisociality and aggressiveness of parents, it also yields 8 specific factors (Jones et al. 1991). Of them, Sexual Problems and Lying have been shown to differentiate alcoholic males from nonalcoholics using the longitudinal sample. It might be possible that a specific factor may be related to a specific aspect of children's behavior. Perhaps, the summary score of The Antisocial Behavior Survey did not capture the relationship between the specific parental antisocial behavior and the specific behavioral problem of children. The issue remains an interesting task for future studies to examine.

Family SES

The literature regarding on the effect of family SES on children's behavior in alcoholic families indicates conflicting results. Some studies reveal that higher family SES is associated with optimal parental child rearing practice. Parents with higher SES are more likely to be child-centered, affective, and encouraging of independence of their children (Davies et. al., 1989). Other studies, however, reveal that "children from alcoholic homes with a good social and economic external environment are just as likely to develop problems of criminality and abuse (of alcohol) in adulthood as the children from alcoholic homes with a poor social and economic status" (p.36, Nylander & Rydelius, 1982). And social class did not

distinguish children from alcoholic families who developed problems during childhood and adolescence and children who did not develop problems (Werner, 1986).

The results regarding family SES in the present study reflect the conflicting status of the literature. A higher socioeconomic status of the family was related to reduced delinquent behavior in children, but was related to increased conduct problems. Also contrary to the literature indicating that parents from middle-class families are likely to encourage their children's development of self-control and delay of immediate gratification (Kohn, 1979), the current study found that a higher SES was associated with shorter delay time in children.

However, there were positive predictions of family SES on children's outcome, mainly on their IQ score, and optimal reaction and emotional independence during intelligence test performance. Differences in performance on standardized intelligence tests among children from various social classes have been noted in numerous studies (Broman, Nichols, & Kennedy, 1975; Hall & Kaye, 1980). A 10-15 point difference in scores has been found between children from middle-class and lower-class families. It is suggested that children's performance on intelligence test is not only influenced by their actual intelligence level, but also by their motivation, expectation, attention, received support, and problem strategies (Ziger & Butterfield, 1968). The result of the

current study is consistent with literature suggesting that testing conditions are deleterious to the performance of low SES and minority children, who are likely to be unfamiliar with test situations and less likely to be motivated to perform well on the tests (Bucky & Banta, 1972; Golden & Birn, 1976; Katz & Greenbaum, 1963; Katz, Roberts, & Robinson, 1965). Moreover, it is suggested that differences in parental behavior may mediate the correlation between intelligence test performance and social class. Middle-class parents tend to use individualistic approach that emphasizes the child's feelings, characteristics, and to direct the child toward attending to relevant cues in problem-solving situations in environment. They also frequently use praises for their children's problem-solving performance and place great emphasis on achievement and motivation (Feshbach, 1973). Lower-class mothers, on the other hand, tend to use status-oriented control, restrictive language, and negative reinforcement. They tend to give the specific instruction for problem solving only relevant to the specific task, which is unlikely to generalize to other situations and to foster children's motivation on problem-solving and achievement (Streissguth & Bee, 1972). Therefore, for children in the present study, a higher SES family environment may facilitate the their intellectual development by enhancing their self-confidence and their problem-solving strategies, factors that actively contribute to intelligence test performance.

The majority of families in the present study were from lower-class. The mean TSEI2 score was 30 which is equivalent to occupations of postal clerk, bookkeeper, school monitor, secretary, office machine repairman, etc. Nevertheless, the sample does include a wide range of socioeconomic levels. The range of the TSEI2 scores was from 13, which is equivalent to unemployment or house-husband/house-wife, to 79, which is equivalent to electrical engineers, judges, urban and regional planners, art and music teachers, foreign language teachers, etc. The distribution of TSEI2 scores was as follows: 22 scores were below 20, 31 scores were between 21 to 30, 17 scores between 31 to 40, 7 scores between 41 to 50, 7 scores between 51 to 60, 3 scores between 61 to 70, and 1 score between 71 to 80. Thus, a small portion of the families can probably be classified as "middle-class". It is likely that parents from families with higher SES taught their sons appropriate problem-solving skills and encouraged emotional independence in them, which contributed to their superior performance in the Stanford-Binet intelligence test.

The negative results that linked higher family SES with increased conduct problems and inability to delay gratification in children are difficult to explain. In the present study, socioeconomic status was conceptualized as the property of the household. The criteria on which TSEI2 scores were computed put less emphasis on the mothers' SES. The criteria dictated that if the mother had higher SES score, the family SES was the

average of hers and her husband's. On the other hand, if the father had higher SES, the family SES was his SES rather than the average of his and his wife's. There were 27 families in the current study in which mothers had higher SES scores. According to the criteria, the SES for these families were likely to be lower than their counterparts where fathers had higher SES scores.

Nevertheless, in this culture, the mother is the primary caregiver. Children spend more time with their mothers than with fathers, especially during early childhood. The literature suggests that the mother plays a more important role in contributing to the intellectual level of the home environment than the father does. For instance, in homes where the father was of average intelligence but the mother was retarded, retardation was 2.5 times more frequent among the children than in homes with equally retarded fathers and normal intelligent mothers (Reed & Reed, 1965). Mothers also seem to be more important than fathers in shaping the aptitudes of their children. When university students had fathers who were less educated than their mothers, their aptitude scores were higher than those of students whose fathers were the better-educated parent. This occurred in spite of the fact that homes with the more educated fathers were of higher SES (Willerman & Stafford, 1972). Therefore, the de-emphasis of the influence of mothers' SES in the current study may account for the mixed results in relationship between family SES and children's outcome.

Consistent with this argument is that in previous studies where family SES was not found to be related to the outcome of children of alcoholics, SES was either not clearly defined or determined only by father's occupation and/or education. For instance, Nylander & Rydellius (1982) classified families in their study into three class -- the lower social class, the middle class, and the higher social class. However, the criteria on which these classifications were made were not clearly stated. In Werner's study (1986), SES was classified into five categories: professional, semiprofessional, skilled trade and technical, semiskilled, and unskilled labor, based solely on father's occupation.

Although SES has been the single most factor examined in the study of parent-child relationship (Belsky, Hertzog, & Rovine, 1986), it has been argued that the effect of social class "cannot be understood until the structural variable is conceptualized as a set of psychological processes or mechanisms that cause the outcome to be explained" (p.81, Elder, 1981). Apparently, more research on a microanalytic level must be done before a comprehensive understanding of the effect of family SES can be achieved.

The Predictor Variables

Through the above discussion, it appears clearly that this set of predictor variables do not have equal powers in predicting children's behavioral outcome. One way to examine

this issue is to tally the number of predictions consistent with and contrary to previous hypotheses for each predictor variable, an analysis that is presented in Table 13.

Table 13. Number of predictions for predictor variables

	Consistent with hypotheses	Contrary to hypotheses	Total
SES	7	3	10
FLAPS	9	0	9
MLAPS	13	1	14
FQFV	7	1	8
MQFV	0	2	2
FASB	2	2	4
MASB	4	2	6
TOTAL	42	11	53

As shown in Table 13, the most consistent and powerful predictor variables were fathers' and mothers' lifetime alcohol problems, followed by fathers' current drinking. The weakest predictor variables were mothers' current drinking and fathers' aggression. The Family SES and mothers' aggression were in between. This finding should be considered as a tentative suggestion that, in general, it is parental problem drinking, especially their lifetime alcohol problems, that is most consistently related to various behavior problems of their children. Nevertheless, a complete comprehension of alcoholism

cannot be achieved until nonspecific alcohol factors are taken into consideration (Zucker, 1986). Other predictor variables are certainly worthy to be examined in future research.

The Comparison Between Mothers and Fathers' Ratings

The data collection of the current study was derived from multiple sources. Parental report from both parents and direct observation were used. It is interesting to examine whether parents agreed with each other in their ratings of their sons' behavioral problems and whether they attributed their sons' problems to the their own or their spouses' drinking problems and aggression. In the current study, there were two questionnaires that were answered by both parents -- CPQ and DOTS. Parents ratings on the two questionnaire were significantly correlated. This means that parents agreed to one another's perception about their sons' behavioral problems and their temperamental pattern. But did they attribute their sons' problems to their own drinking problems and aggression or to their spouses'? Table 14 presents data from examining number of predictions made with CPQ and DOTS from fathers and mothers.

Table 14. Number of predictions as a function of the rater, fathers' predictor variables (FLAPS, FQFV, FASB), and mothers' predictor variables (MLAPS, MQFV, MASB)

	Father as the rater	Mother as the rater
Father's predictor variable	2	5
Mothers' predictor variable	8	4

Table 14 shows that fathers were more likely to perceive that their children's problems were related to their wives' problems, rather than to themselves, whereas mothers were more equally attributing their children's problems to their own and their husbands' problems. Thus, although both parents perceived the problems in their sons, they did not agree with each other as to the source of the problems. The current study does not permit an examination to determine which source of information was more accurate. One may speculate that the primary caregiving role of the mother should give her more opportunities to interact with her son from which her observation was drawn. Thus, mothers' observation and perception of their sons' behaviors was likely to be more precise and accurate than their husbands', especially during early childhood. But another possibility exists. Perhaps the fathers deliberately attributed their sons' problems to their wives. Or, perhaps fathers simply held the traditional view that it

was the mother who should be responsible for raising the children. Thus they may believe that their wives should be the one to blame when their sons demonstrated behavioral problems. Whatever the case may be, the results of the current study suggest the importance of obtaining information from multiple sources -- from parental report and from independent observation.

CONCLUSIONS

The following conclusions can be drawn from the current study on the effects of parental alcohol problems, parental aggression, and family SES on their 3- to 6-year-old sons:

(1). The severity of fathers' lifetime alcohol problems was positively related to children's externalizing problems and poor intelligence test performance. The level of fathers' current drinking was positively related to children's aggressiveness, inability to delay gratification, inattentiveness, arrhythmicity, and reactivity.

(2). The severity of mothers' lifetime alcohol problems was positively related to children's externalizing as well as internalizing problems, arrhythmicity, and reactivity. The level of mothers' current drinking was not consistently related to their sons' behavior.

(3). Parental aggression did not consistently predict their sons' behavior.

(4). A higher family SES predicted higher IQ, more emotional independent, and more optimal reaction children demonstrated during intelligence test performance. However, the influence of family SES on other behavior was conflicting.

(5). Fathers' were likely to perceive their sons' behavioral problems as related to their wives' alcohol problems and aggression; whereas mothers' were likely to perceive their sons' behavioral problems as equally related to their husbands' as well as their own alcohol problems and aggression.

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APPENDIX
INSTRUMENTS

APPENDIX A

Information on Drinking and Other Drug Use

Information on Drinking and Other Drug Use

R number _____
 Given by _____
 Date _____

The questionnaire takes about 15 minutes to complete. All information will be used for research only and will be kept strictly confidential. If you are not sure of the answer to a question please answer the best you can. Please try to answer each one.

A. The following questions are about your drinking of alcoholic beverages:

1. How old were you the first time you ever took a drink? Do not count the times when were given a "sip" by an adult.

_____ years old.

2. Over the last 6 months, on the average, how many days a month have you had a drink?

_____ days a month.

3. Over the last 6 months, on a day when you are drinking, how many drinks do you usually have in 24 hours? (A drink is a 12 oz. can, glass or bottle of beer; a 4 oz. glass of wine; a single shot or a single "mixed drink"

_____ drinks per 24 hours.

4. Over the past 6 months, when you got drunk, how bad was your hang over?

_____ never bad

_____ not bad

_____ a little less than
average

_____ average

_____ a little more than
average

_____ pretty bad

_____ terrible

_____ worst possible

_____ never drank enough

_____ to get hangover

If you drank no alcoholic beverages at all (not even a few sips) in the last 6 months, go now to question 5.

B. The following questions are about your drinking patterns. In answering the questions, please think about what you have done on the average over the last 6 months.

1. When drinking wine:

a. How often do you usually have wine or a punch containing wine?

- | | |
|--|--|
| ☐ 3 or more times a day | ☐ 2 or 3 times a month |
| ☐ 2 times a day | ☐ about once a month |
| ☐ once a day | ☐ less than once a month |
| ☐ nearly every day | ☐ but at least once a year |
| ☐ 3 or 4 times a week | ☐ less than once a year |
| ☐ once or twice a week | ☐ never (if checked, go to question # 2a) |

b. Think of all the times you had wine or a punch containing wine recently. When you drink wine, how often do you have 10 or more glasses?

- ☐ nearly every time: skip to question #2 below
☐ more than half the time: skip to question #2 below
☐ less than half the time
☐ once in a while
☐ never

c. When you drink wine, how often do you have as many as 7 to 9 glasses?

- ☐ nearly every time: skip to question #2 below
☐ more than half the time: skip to question #2 below
☐ less than half the time
☐ once in a while
☐ never

d. When you drink wine, how often do you have as many as 5 to 6 glasses?

- ☐ nearly every time: skip to question #2 below
☐ more than half the time: skip to question #2 below
☐ less than half the time
☐ once in a while
☐ never

e. When you drink wine, how often do you have as many as 3 to 4 glasses?

- ☐ nearly every time: skip to question #2 below
☐ more than half the time: skip to question #2 below
☐ less than half the time
☐ once in a while
☐ never

f. When you drink wine, how often do you have as many as 1 to 2 glasses?

- ☐ nearly every time
☐ more than half the time
☐ less than half the time
☐ once in a while
☐ never

2. When drinking beer

a. How often do you usually have beer?

- | | |
|--|--|
| ☐ 3 or more times a day | ☐ 2 or 3 times a month |
| ☐ 2 times a day | ☐ about once a month |
| ☐ once a day | ☐ less than once a month |
| ☐ nearly every day | ☐ but at least once a year |
| ☐ 3 or 4 times a week | ☐ less than once a year |
| ☐ once or twice a week | ☐ never (if checked, go to question # 3a) |

b. Think of all the times you had beer recently. When you drink beer, how often do you have 10 or more cans, glasses, or bottles?

- ☐ nearly every time: skip to question #3 below
- ☐ more than half the time: skip to question #3 below
- ☐ less than half the time
- ☐ once in a while
- ☐ never

c. When you drink beer, how often do you have as many as 7 to 9 cans, glasses, or bottles?

- ☐ nearly every time: skip to question #3 below
- ☐ more than half the time: skip to question #3 below
- ☐ less than half the time
- ☐ once in a while
- ☐ never

d. When you drink beer, how often do you have as many as 5 to 6 cans, glasses, bottles?

- ☐ nearly every time: skip to question #3 below
- ☐ more than half the time: skip to question #3 below
- ☐ less than half the time
- ☐ once in a while
- ☐ never

e. When you drink beer, how often do you have as many as 3 to 4 cans, glasses, or bottles?

- ☐ nearly every time: skip to question #3 below
- ☐ more than half the time: skip to question #3 below
- ☐ less than half the time
- ☐ once in a while
- ☐ never

f. When you drink beer, how often do you have as many as 1 to 2 cans, glasses, or bottles?

- ☐ nearly every time
- ☐ more than half the time
- ☐ less than half the time
- ☐ once in a while
- ☐ never

3. When drinking whiskey or liquor

a. How often do you usually have whiskey or liquor (such as Martinis, Manhattans, Highballs, or straight drinks including Scotch, Bourbon, Gin, Vodka, Rum, etc.)?

- | | |
|--|---|
| ☐ 3 or more times a day | ☐ 2 or 3 times a month |
| ☐ 2 times a day | ☐ about once a month |
| ☐ once a day | ☐ less than once a month |
| ☐ nearly every day | ☐ but at least once a year |
| ☐ 3 or 4 times a week | ☐ less than once a year |
| ☐ once or twice a week | ☐ never (if checked, go to question # 4) |

b. Think of all the times you had drinks containing whiskey or other liquor recently, when you had them, how often do you have 10 or more drinks?

- ☐ nearly every time: skip to question #4 below
- ☐ more than half the time: skip to question #4 below
- ☐ less than half the time
- ☐ once in a while
- ☐ never

c. When you had drinks containing whiskey or other liquor, how often do you have as many as 7 to 9 drinks?

- ☐ nearly every time: skip to question #4 below
- ☐ more than half the time: skip to question #4 below
- ☐ less than half the time
- ☐ once in a while
- ☐ never

d. When you had drinks containing whiskey or other liquor, how often do you have as many as 5 to 6 drinks?

- ☐ nearly every time: skip to question #4 below
- ☐ more than half the time: skip to question #4 below
- ☐ less than half the time
- ☐ once in a while
- ☐ never

e. When you had drinks containing whiskey or other liquor, how often do you have as many as 3 to 4 drinks?

- ☐ nearly every time: skip to question #4 below
- ☐ more than half the time: skip to question #4 below
- ☐ less than half the time
- ☐ once in a while
- ☐ never

f. When you had drinks containing whiskey or other liquor, how often do you have as many as 1 to 2 drinks?

- ☐ nearly every time
- ☐ more than half the time
- ☐ less than half the time
- ☐ once in a while
- ☐ never

4. When you drink anything, check how often you have any drink containing alcohol, whenever it is wine, beer, whiskey or any other drink. Make sure that your answer is not less frequent than the frequency reported on any of the preceding questions.

- | | |
|--|---|
| ☐ 3 or more times a day | ☐ once or twice a week |
| ☐ 2 times a day | ☐ 2 or 3 times a month |
| ☐ once a day | ☐ about once a month |
| ☐ nearly every day | ☐ less than once a month, |
| ☐ 3 or 4 times a week | ☐ but at least once a year |
| | ☐ less than once a year |

5. Now a question about earlier in your life: How old were you the first time you ever drank enough to get drunk?
_____ years old.

6a. We are also interested in the occasions that may be rare (or not), when people drink a little more than they usually do. In the last 6 months, think of the 24 hour period when you did the most drinking; This would be a day somewhere in the period between _____ (month), _____ (year) and now. On that day, how many drinks did you have? (A drink is a 12 oz. can, bottle, or glass of beer, a 4 oz. glass of wine, a single shot, or a single mixed drink).

- ☐ 30 or more drinks
- ☐ 25 - 29 drinks
- ☐ 20 - 24 drinks
- ☐ 15 - 19 drinks
- ☐ 10 - 14 drinks
- ☐ 7 - 9 drinks
- ☐ 5 - 6 drinks
- ☐ 3 - 4 drinks
- ☐ 1 - 2 drinks
- ☐ none

6b. Approximately when did this happen?
_____ (month), _____ (year)

6c. Now answer this question for any time in your life before last 6 months. In the 24 hour period when you did the most drinking, how many drinks did you have?

- ☐ 30 or more drinks
- ☐ 25 - 29 drinks
- ☐ 20 - 24 drinks
- ☐ 15 - 19 drinks
- ☐ 10 - 14 drinks
- ☐ 7 - 9 drinks
- ☐ 5 - 6 drinks
- ☐ 3 - 4 drinks
- ☐ 1 - 2 drinks
- ☐ none

6d. Approximately when did this happen?

____ (month), ____ (year)

C. Now some question about outcomes people sometimes have because of drinking. Have you ever had any of following happen because of your drinking?

Answer key for questions blow: 1, 2, 3-5, 6-10, 11-20, 21-50, 51-100, 101-250, 251-500, 501-1000, 1000+ (more than 1000)

	Yes	No	Now many times (see key)	Age first time	Age most recent
1. Missed school or time on job					
2. Thought I was drinking too much					
3. Gone on a binge of constant drinking for 2 or more days					
4. Lost friends					
5. My spouse or others in my family (my parents or children) objected to my drinking					
6. Felt guilty about my drinking					
7. Divorce or separation					
8. Took a drink or two first thing in morning					
9. Restricted my drinking to certain times of day or week in order to control it or cut it down (like after 5pm, or only on weekends, or only with other people)					
10. Been fired or laid off					
11. Once started drinking, keep on going till completely intoxicated					
12. Had a car accident when I was driving					
13. Kept on drinking after I promised myself not to					
14. Had to go to a hospital (other than accident)					
15. Had to stay in a hospital overnight					
16. Had the shakes "the morning after"					

17. Heard or saw or felt things that weren't there (hallucinations) several days after stopping drinking
 18. Had blackouts (couldn't remember later what you'd done while drinking)
 19. Been given a ticket for drunk drinking (DWI or DUIL)
 20. Had a jerking or fits (convulsions) several days after stopping drinking
 21. Been given ticket for public intoxication, drunk and disorderly, or other nondrinking alcohol arrest
 22. Had the D.T.'s (delirium tremens, shakes, sweating, rapid heart, etc.) within 2-3 days after stopping drinking
-

D. The last section of this questionnaire deal with various drugs other than alcohol. There is still a lot of talk these days about this subject, but very little accurate information, particularly about patterns of use of these substances in adulthood. Therefore, we still have a lot to learn about the actual experiences of people your age.

We hope that you can answer all questions. But if you find one which you feel you cannot answer honestly, we would prefer that you leave it blank.

Remember that your answers will be kept strictly confidential and they are never connected with your name. That is why this questionnaire is identified only with a code number.

The following questions are about cigarettes (check the best answer):

1a. Have you ever smoked cigarettes?

- ☐ never (go to question 3)
- ☐ once or twice
- ☐ occasionally but not regularly
- ☐ regularly in the past
- ☐ regularly now

1b. Have you smoked cigarettes during the past 12 months?

- ☐ never (go to question 3)
- ☐ once or twice
- ☐ occasionally but not regularly
- ☐ regularly in the past
- ☐ regularly now

2. How frequently have you smoked cigarettes during the past 30 days?

- ☐ not at all
- ☐ less than one cigarette per day
- ☐ one to five cigarettes per day
- ☐ about one-half pack per day
- ☐ about one pack per day
- ☐ about one and one-half packs per day
- ☐ two packs or more per day

E. The following questions are all about non-prescription use of drugs, either for recreation or for self-medication.

Answer key:

- 0 - 0 occasion
- 1 - 1-2 occasions
- 2 - 3-5 occasions
- 3 - 6-9 occasions
- 4 - 10-19 occasions
- 5 - 20-39 occasions
- 6 - 40-99 occasions
- 7 - 100-1000 occasions
- 8 - more than 1000 occasions

0 1 2 3 4 5 6 7 8

3. On how many occasions (if any)
have you used marijuana (grass,
pot) or hashish (hash, hash oil)
in your life time?
during the last 12 months?
during the last 30 days

4. On how many occasions (if any)
have you used LSD (ACID)
in your life time?
during the last 12 months?
during the last 30 days

5. On how many occasions (if any)
have you used psychedelics
other than LSD (like mescaline,
peyote, psilocybin, pcg)
in your life time?
during the last 12 months?
during the last 30 days

6. On how many occasions (if any)
have you used cocaine (coke
or crack)
in your life time?
during the last 12 months?
during the last 30 days

7. Amphetamines are sometimes prescribed by doctors to help people lose weight or give people more energy. They are sometimes called uppers, ups, speed, crystal, crank, bennies, dexied, peppill, and diet pills. On how many occasions (if any) have you taken amphetamines on your own - that is, without a doctor telling you to take them in your life time?
during the last 12 months?
during the last 30 days
8. On how many occasions (if any) have you used quaaludes (quads, soapers, methaqualone) on your own - that is, without a doctor telling you to take them in your life time?
during the last 12 months?
during the last 30 days
9. Barbiturates are sometimes prescribed by doctors to help people relax or get to sleep. They are sometimes called downs, downers, goofballs, yellows, reds, blues, rainbows. On how many occasions (if any) have you used barbiturates on your own - that is, without a doctor telling you to take them in your life time?
during the last 12 months?
during the last 30 days
10. Tranquilizers are sometimes prescribed by doctors to calm people down, quiet their nerves, or relax their muscles. Librium, valium, and miltown are all tranquilizers. On how many occasions (if any) have you used barbiturates on your own - that is, without a doctor telling you to take them in your life time?
during the last 12 months?
during the last 30 days

11. On how many occasions (if any)
have you used heroin (smack,
horse, skag)
in your lifetime?
during the last 12 months?
during the last 30 days
12. There are a number of narcotics
other than heroin, such as
methadone, opium, morphine,
codeine, demerol, paregoric,
talwin, and laudanum. They
sometimes prescribed by doctors.
On how many occasions (if any)
have you taken narcotics
other than heroin on your own
- that is, without a doctor
telling you to take them
in your lifetime?
during the last 12 months?
during the last 30 days
13. On how many occasions (if any)
have you sniffed glue, or
breathed the contents of
aerosol spray cans, or inhaled
any other gases or sprays in
order to get high
in your lifetime?
during the last 12 months?
during the last 30 days

F. Now some questions about nonprescription use of drugs.
Have you ever had any of following outcomes because of the
nonprescription drugs asked about in section E (the last
section)?

Answer key for questions below: 1, 2, 3-5, 6-10, 11-20,
21-50, 51-100, 101-250, 251-500, 501-1000, 1000+ (more than
1000)

	Yes	No	Now many times (see key)	Age first time	Age most recent
1. Missed school or time on job					
2. Lost friends					
3. Divorce or separation					
4. Been fired or laid off					
5. Had a car accident when I was driving					

- 6. Had to go to a hospital (other than accident)
 - 7. Had to stay in a hospital overnight
 - 8. Had to see a doctor because of drug use (unintentional overdoses) or had a doctor say drugs had harmed your health
 - 9. Gone through physical withdrawal from drugs
 - 10. Been arrested for possession or sale of drugs other than marijuana
-

1 1a. Have you ever taken drugs intravenously (using a needle)?
Don't count shots you were given by a doctor or nurse or
shots you may have taken for treatment of diabetes.
_____ no _____ yes

1 1b. If yes, what drugs have taken intravenously (IV)?

1 1c. At what age did you first take an IV drug?
_____ years old

1 1d. At what age was the most recent time?
_____ years old

APPENDIX B

Background Information

Background Information

Respondent number _____

Given by _____

Date _____

We would like to ask you a few questions about yourself. The questions ask about your life during the time you were growing up as well as now. Please answer all of them as completely as possible.

1. What is your date of birth?
_____ month _____ day _____ year
2. Where were you born?
_____ (city/town/county)
_____ state, _____ country if not USA
3. Where did you live most of the time until you were 18?
_____ (city/town/county)
_____ state, _____ country if not USA
4. Until you were 18, about how many times did you family move.
circle one 0 1 2 3 4 5 6 7 or more
- 5a. Did you live together with both of your natural parents for most of the time from birth to 18?
Yes (go to question 6), No (go to question 5b)
- 5b. What was the main reason your parents did not live together with you during that time? circle one
 1. mother died
 2. father died
 3. both parents died
 4. parents divorced or separated
 5. parents never lived together
 6. other (please explain)
- 5c. Which adult(s) did you live with most of the time from birth to 18? circle one
 1. mother, but no adult male
 2. father, but no adult female
 3. mother, and step-father
 4. father, and step-mother
 5. other (please explain)
6. Who was the main wage earner in your home while you were growing up? check one
 - a. your father
 - b. your mother
 - c. someone elseWhat was their relationship to you _____

About your father

7a. Where was your father born?

_____ state, _____ country if not USA

7b. What kind of work did your father do (or the adult male who lived with you most of time until you were 18)? That is, what was his occupation (for example: electrical engineer, machinist, stock clerk, assembly line worker, farmer)? _____

7c. What were his most important activities or duties (for example: keep account books, filling, selling cars, operate printing press, finish concrete)? _____

7d. What kind of business or industry was this (for example: TV and radio mfg., retail shoe store, automobile manufacturing, state labor dept., farm work)? _____

7e. What was the highest grade of school he completed? Circle the highest grade completed.

none	0	
elementary	1 2 3 4 5 6 7 8	
high school	9 10 11 12 13	
college	1 2 3 4	degree? _____
graduate school	5 6 7 8+	degree? _____

7f. How would you describe your father's primary cultural/ethnic heritage? circle one

white	native american
black	asian
hispanic	other (describe) _____

About your mother

8a. Where was your mother born?

_____ state, _____ country if not USA

8b. What kind of work did your mother do (or the adult female who lived with you most of time until you were 18)? That is, what was her occupation (for example: electrical engineer, file clerk, assembly line worker, bookkeeper, sales clerk)? _____

8c. What were her most important activities or duties (for example: keep account books, filling, selling clothing, teaching fifth graders)? _____

8d. What kind of business or industry was this (for example: TV and radio mfg., retail shoe store, automobile manufacturing, state labor dept., farm work)?

8e. What was the highest grade of school he completed? Circle the highest grade completed.

none	0	
elementary	1 2 3 4 5 6 7 8	
high school	9 10 11 12 13	
college	1 2 3 4	degree? _____
graduate school	5 6 7 8+	degree? _____

8f. How would you describe your mother's primary cultural/ethnic heritage? circle one

white	native american
black	asian
hispanic	other (describe) _____

9a. Until you were 18, what religion was practiced in your home most of the time? circle one

1. Protestant
2. Roman Catholic
3. Jewish
4. None, no religion
5. Other religion (please explain) _____

9b. What denomination? (please try to specify fully)

9c. Until you were 18, how often did you attend religious services? circle one

1. several times a week
2. about once a week
3. 2-3 times a month
4. once a month or less
5. never

10a. What is your religious preference now? circle one

1. Protestant
2. Roman Catholic
3. Jewish
4. None, no religion
5. Other religion (please explain) _____

10b. What denomination? (please try to specify fully)

10c. About how often did you attend religious services in the last year? circle one

1. several times a week
2. about once a week
3. 2-3 times a month
4. once a month or less
5. never

10d. Regardless of your attendance at religious services, how religious do you consider yourself to be?

1. not religious at all
2. not very religious
3. fairly religious
4. very religious

11. What was the highest grade you completed? Circle the highest grade completed.

- | | | |
|------------------|-----------------|---------------|
| none | 0 | |
| elementary | 1 2 3 4 5 6 7 8 | |
| high school | 9 10 11 12 | |
| post high school | | |
| Voc-Tech school | 1 2 3 | |
| college | 1 2 3 4 | degree? _____ |
| graduate school | 5 6 7 8+ | degree? _____ |

12a. What kind of work are you doing? What is your occupation (for example: electrical engineer, machinist, stock clerk, assembly line worker, teacher, farmer)

12b. What are your most important activities or duties (for example: keep account books, filling, selling cars, operate printing press, finish concrete, teach fifth grades, answer phone)?

12c. What kind of business or industry is this (for example: TV and radio mfg., retail shoe store, automobile manufacturing, state labor dept., farm work)?

12d. Are you: check one

An employee of a private company, business or individual for wages, salary or commission? _____

A government employee (federal, state, county, or local government)? _____

Self-employed in own business, professional practice, or farm?

own business not incorporated _____

own business incorporated _____

working without pay in a family business or farm _____

12e. Approximately what is your present annual family income?

- | | |
|----------------------|----------------------|
| 1. under \$4,000 | 6. \$16,001-\$20,000 |
| 2. \$4,001-\$7,000 | 7. \$20,001-\$30,000 |
| 3. \$7,001-10,000 | 8. \$30,001-\$50,000 |
| 4. \$10,001-\$13,000 | 9. \$50,001-\$75,000 |
| 5. \$13,001-\$16,000 | 10. over \$75,000 |

13. How many times have you been married? circle one

0 1 2 3

14a. What was the date of your marriage to your (present) spouse? _____

14b. If married more than once, what was the date of your first marriage? _____

15a. List the children you have had from your present marriage or any previous marriage. Please list all children, starting with the oldest, and include birthdate, sex, and check if the child lives with you now?

	First name	Birthdate (mo/day/year)	Sex	Living with you now	Not living with you now
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					

15b. Now please circle the names of the children you listed in question 15a above who are from your present marriage. If all are from your present marriage just check a mark here _____.

Thank you for filling out this questionnaire

•

APPENDIX C

The Activity Inventory

•

The Activity Inventory

Many of us have had adventures during our lives ... times that were exciting and carefree, even though they may have been a bit impulsive or happy-go-lucky. Please read each of the following items. Indicate (with a check) if you have ever done any of the following activities and how often.

- 1: never = you have never done this
 2: rarely = done only once or twice in your life
 3: sometimes = done three to nine times in your life
 4: often = done more than ten times in your life

	1	2	3	4
1. Skipped school without a legitimate excuse for more than 5 days in one school year				
2. Been suspended or expelled from school for fighting				
3. Been suspended or expelled from school for reasons other than fighting				
4. Lied to a teacher or principal				
5. Cursed at a teacher or principal (to their face)				
6. Hit a teacher or principal				
7. Repeated a grade in school				
8. Taken part in a gang fight				
9. "Beaten up" another person				
10. Broken street lights, car windows, or car antennas just for the fun of it				
11. Gone for a ride in a car someone else stole				
12. Teased or killed an animal (like a dog or cat) just for the fun of it				
13. Defied your parents' authority				
14. Hit your parents				
15. Cursed at your parents (to their face)				
16. Stayed out overnight without your parents' permission				
17. Run away from home for more than 24 hours				
18. Lied to your parents				
19. Snatched a woman's purse				
20. Rolled drunks just for the fun of it				
21. Shoplifted merchandise valued under \$25				
22. Shoplifted merchandise valued over \$25				
23. Received a speeding ticket				
24. Been questioned by the police				
25. Taken part in a robbery				
26. Taken part in a robbery involving physical force or a weapon				
27. Been arrested for a felony				
28. resisted arrest				

29. Been arrested for any other non-traffic police offenses (except fighting or a felony)
 30. Been convicted of any non-traffic police offenses
 31. Defaulted on a debt
 32. Passed bad checks for the fun of it
 33. Ever used an alias
 34. Gone AWOL from the military
 35. Received a bad conduct or undesirable discharge from the military
 36. Performed sexual acts for money
 37. Engaged in homosexual acts
 38. Had intercourse with more than one person in a single day
 39. "Fooled around" with other women/men after you were married
 40. Hit your husband/wife during an argument
 41. Lied to your spouse
 42. Spend six months without any job or permanent home
 43. Been fired for excessive absenteeism
 44. Been fired for poor job performance (except absenteeism)
 45. Changed jobs more than 3 times in one year
 46. Lied to your boss
-

APPENDIX D

Child Behavior Checklist for Ages 4-6

Child Behavior Checklist for Ages 4-16

Child's name _____ Today's date _____
 Sex _____ Grade in school _____
 Age _____ Not attending school _____
 Child's birthday _____
 Ethnic group or race _____

Parents' usual type of work (even if not working now. Please be specific -- for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant)

Father's type of work _____
 Mother's type of work _____

This form filled out by:

_____ mother, name _____
 _____ father, name _____
 _____ other, name & relationship to child _____

Please fill out this form to reflect your view of the child's behavior even if other people might not agree. Feel free to write additional comments beside each item and in the space provided.

I. Please list the sports your child most likes to take part in. For example: swimming, baseball, skating, skate boarding, bike riding, fishing, etc.

None _____
 a. _____
 b. _____
 c. _____

Compared to other children of the same age, about how much time does he/she spend in each?

a b c

Don't know
 Less than average
 Average
 More than average

Compared to other children of the same age, how well does he/she do each one?

Don't know a b c
 Less than average
 Average
 More than average

- II. Please list your child's favorite hobbies, activities, and games, other than sports. For example: stamps, dolls, books, piano, crafts, singing, etc (Do not include listening to radio or TV)

None _____
 a. _____
 b. _____
 c. _____

Compared to other children of the same age, about how much time does he/she spend in each?

	a	b	c
Don't know			
Less than average			
Average			
More than average			

Compared to other children of the same age, how well does he/she do each one?

	a	b	c
Don't know			
Less than average			
Average			
More than average			

- III. Please list any organizations, clubs, teams, or groups your child belong to.

None _____
 a. _____
 b. _____
 c. _____

Compared to other children of the same age, about how much time does he/she spend in each?

	a	b	c
Don't know			
Less than average			
Average			
More than average			

- IV. Please list any jobs or chores your child has. For example: paper route, babysitting, making bed, etc (include both paid and unpaid jobs and chores).

Compared to other children of the same age, about how much time does he/she spend in each?

	a	b	c
Don't know			
Less than average			
Average			
More than average			

V. 1. About how many close friend does your child have? (not include brothers and sisters)

___ None, ___ 1, ___ 2 or 3, ___ 4 or more

2. About how many times a week does your child do things with friends outside of regular school hours? (do not include brothers and sisters)

___ less than 1, ___ 1 or 2, ___ 3 or more

VI. Compared to other children of his/her age, how well does your child:

Worse About average Better

a. Get along with his/her brothers and sisters

b. Get along with other children

c. Behave with his/her parents

d. play and work by himself/herself

___ Has no brothers and sisters

VII. 1. For age 6 and older - performance in academic subjects (if child is not being taught, please give reason):

Below

Above

Falling average Average average

a. reading, English, or language arts

b. history or social studies

c. arithmetic or math

d. science

Others, for example:

computer, foreign

language, business

(do not include gym,

shop, driver's ed, etc)

e. _____

f. _____

g. _____

2. Is your child in a special class or special school?
___ no, ___ yes - what kind of class or school?

3. Has your child repeated a grade?
___ no, ___ yes - please describe

4. Has your child had any academic or other problems in school?
___ no, ___ yes - please describe

When did these problems start?

Have these problems ended?

___ no, ___ yes - when?

Does your child have any illness, physical disability, or mental handicap?

___ no, ___ yes - please describe

What concerns you most about your child?

Please describe the best things about your child?

Below is a list of items that describe children. For each item that describes your child now or within the past 6 month, please circle the 2 if the item is very true or often true of your child. Circle the 1 if the item is somewhat or sometimes true of your child. If the item is not true of your child, circle the 0. Please answer all items as well as you can, even if some do not seem to apply to your child.

0 = not true (as far as you know)

1 = somewhat or sometimes true

2 = very true or often true

-
- | | |
|-------|---|
| 0 1 2 | 1. Acts too young for his/her age |
| 0 1 2 | 2. Allergy (describe) |
| 0 1 2 | 3. Argues a lot |
| 0 1 2 | 4. Asthma |
| 0 1 2 | 5. Behaves like opposite sex |
| 0 1 2 | 6. Bowel movements outside toilet |
| 0 1 2 | 7. Bragging, boasting |
| 0 1 2 | 8. Can't concentrate, can't pay attention for long |
| 0 1 2 | 9. Can't get his/her mind off certain thoughts;
obsessions (describe) |
| 0 1 2 | 10. Can't sit still, restless, or hyperactive |
| 0 1 2 | 11. Clings to adults or too dependent |
| 0 1 2 | 12. Complains of loneliness |
| 0 1 2 | 13. Confused or seems to be in a fog |
| 0 1 2 | 14. Cries a lot |
| 0 1 2 | 15. Cruel to animals |
| 0 1 2 | 16. Cruelty, bullying, or meanness to others |
| 0 1 2 | 17. Day-dreams or gets lost in his/her thoughts |
| 0 1 2 | 18. Deliberately harms self or attempts suicide |
| 0 1 2 | 19. Demands a lot of attention |
| 0 1 2 | 20. Destroy his/her own things |
| 0 1 2 | 21. Destroys things belonging to his/her family or other
children |
| 0 1 2 | 22. Disobedient at home |
| 0 1 2 | 23. Disobedient at school |
| 0 1 2 | 24. Doesn't eat well |
| 0 1 2 | 25. Doesn't get along with other children |
| 0 1 2 | 26. Doesn't seem to feel guilty after misbehaving |
| 0 1 2 | 27. Easily jealous |
| 0 1 2 | 28. Eats or drinks things that are not good - don't
include sweets (describe) |
| 0 1 2 | 29. Fears certain animals, situations, or places, other
than school (describe) |

- 0 1 2 30. Fears going to school
- 0 1 2 31. Fears he/she might think or do something bad
- 0 1 2 32. Feels he/she has to be perfect
- 0 1 2 33. Feels or complains that no one loves him/her
- 0 1 2 34. Feels others are out to get him/her
- 0 1 2 35. Feels worthless or inferior
- 0 1 2 36. Gets hurt a lot, accident-prone
- 0 1 2 37. Gets in many fights
- 0 1 2 38. Gets teased a lot
- 0 1 2 39. Hangs around with children who get in trouble
- 0 1 2 40. Hears sounds or voices that aren't there (describe)
- 0 1 2 41. Impulsive or acts without thinking
- 0 1 2 42. Likes to be alone
- 0 1 2 43. Lying or cheating
- 0 1 2 44. Bites fingernails
- 0 1 2 45. Nervous, highstrung, or tense
- 0 1 2 46. Nervous movement or twitching (describe)
- 0 1 2 47. Nightmares
- 0 1 2 48. Not likely by other children
- 0 1 2 49. Constipated, doesn't move bowels
- 0 1 2 50. Too fearful or anxious
- 0 1 2 51. Feels dizzy
- 0 1 2 52. Feels too guilty
- 0 1 2 53. Overeating
- 0 1 2 54. Overtired
- 0 1 2 55. Overweight
- 0 1 2 56. Physical problems without known medical causes:
 - 0 1 2 a. Aches or pains
 - 0 1 2 b. Headaches
 - 0 1 2 c. Nausea, feels sick
 - 0 1 2 d. Problems with eyes (describe)
 - 0 1 2 e. rashes or other skin problems
 - 0 1 2 f. Stomachaches or cramps
 - 0 1 2 g. Vomiting, throwing up
 - 0 1 2 h. Others (describe)
- 0 1 2 57. Physically attacks people
- 0 1 2 58. Picks nose, skin, or other parts of body (describe)
- 0 1 2 59. Plays with own sex parts in public
- 0 1 2 60. Plays with own sex parts too much
- 0 1 2 61. Poor school work
- 0 1 2 62. Poorly coordinated or clumsy
- 0 1 2 63. Prefers playing with older children
- 0 1 2 64. Prefers playing with younger children
- 0 1 2 65. Refuses to talk
- 0 1 2 66. Repeats certain acts over and over, compulsions (describe)
- 0 1 2 67. Runs away from home
- 0 1 2 68. Screams a lot
- 0 1 2 69. Secretive, keeps things to self
- 0 1 2 70. Sees things that aren't there (describe)
- 0 1 2 71. Self-conscious or easily embarrassed
- 0 1 2 72. Sets fires

- 0 1 2 73. Sexual problems (describe)
0 1 2 74. Showing off or clowning
0 1 2 75. Shy or timid
0 1 2 76. Sleeps less than most children
0 1 2 77. Sleeps more than most children during day and/or
night (describe)
0 1 2 78. Smears or plays with bowel movements
0 1 2 79. Speech problems (describe)
0 1 2 80. Stares blankly
0 1 2 81. Steals at home
0 1 2 82. Steals outside the home
0 1 2 83. Stores up things he/she doesn't need (describe)
0 1 2 84. Strange behavior (describe)
0 1 2 85. Strange ideas (describe)
0 1 2 86. Stubborn, sullen, or irritable
0 1 2 87. Sudden changes in mood or feelings
0 1 2 88. Sulks a lot
0 1 2 89. Suspicious
0 1 2 90. Swearing or obscene language
0 1 2 91. Talks about killing self
0 1 2 92. Talks or walks in sleep (describe)
0 1 2 93. Talks too much
0 1 2 94. Teases a lot
0 1 2 95. Temper tantrums or hot temper
0 1 2 96. Thinks about sex too much
0 1 2 97. Threatens people
0 1 2 98. Thumb-sucking
0 1 2 99. Too concerned with neatness or cleanliness
0 1 2 100. Trouble sleeping (describe)
0 1 2 101. Truancy, skips school
0 1 2 102. Underactive, slow moving, or lacks energy
0 1 2 103. Unhappy, sad, or depressed
0 1 2 104. Unusually loud
0 1 2 105. Uses alcohol or drugs for nonmedical purposes
(describe)
0 1 2 106. Vandalism
0 1 2 107. Wets self during the day
0 1 2 108. Wets the bed
0 1 2 109. Whining
0 1 2 110. Wishes to be of opposite sex
0 1 2 111. Withdrawn, doesn't get involved with others
0 1 2 112. Worrying
0 1 2 113. Please write in any problems your child has that
were not listed above.

0 1 2 _____
0 1 2 _____
0 1 2 _____
-

APPENDIX E

Conners Parent Questionnaire

Conners Parent Questionnaire

Family number _____

Given by _____

Date _____

Parent completing questionnaire (circle one): mother, father

Listed below are items concerning children's behavior or the problems they sometimes have. Read each item carefully and decide how much you think your child has been bothered by this problem during the past month. Use the following scale to indicate your answer.

- 0 = not at all
- 1 = just a little
- 2 = pretty much
- 3 = very much

0 1 2 3

1. Afraid of new situations
2. Does not act his or her age
3. Lets him/herself get pushed around by other children
4. Bullying
5. Shy in making friends
6. Feels cheated with brothers and sisters
7. Disturbs other children
8. Restless or overactive
9. Has temper outbursts, explosive and unpredictable behavior
10. A very early riser
11. Has difficulty learning in school
12. Denies have done wrong
13. Steals things
14. Inattentive, easily distracted
15. Constantly fidgeting, restless in the "squirmy sense"
16. Always climbing
17. Disobey parents
18. Afraid of people
19. Cries easily
20. Unhappy
21. Bragging and boasting
22. Afraid friends do not like him/her
23. Mean towards brothers and sisters
24. Wants to run things
25. Excitable, impulsive
26. Pouts and sulks
27. Does not like to go to school
28. Blames others for his/her mistakes
29. Throws and breaks things

30. Demands must be met immediately,
easily frustrated
 31. Gets over excited easily
 32. Forgets to do important tasks, unreliable
 33. Cries often and easily
 34. Easily bored by a repetitive activity
 35. Acts as if driven by a motor
 36. Is afraid of being alone
 37. Wants help doing things he/she should
do alone
 38. Carries a chip on his/her shoulder
 39. Sassy to grown-up
 40. Feelings are easily hurt
 41. Fights constantly with brothers and sisters
 42. Picks on other children
 43. Fails to finish things he/she started,
short attention span
 44. Is afraid to go to school
 45. Tells stories which did not happen
 46. Mood changes quickly and drastically
 47. Poorly aware of surrounding or time of day
 48. Clings to parents or other adults
 49. Has no friends
 50. Daydreams
 51. Will not obey school rules
-

APPENDIX F

Delay of Gratification - Gift Delay

Delay of Gratification - Gift Delay

Instructions

Materials: toy car wrapped as gift, WISC-R blocks and small book

Timing: last task during the child assessment session

Say Look what I found over here! It's a present for you! I wonder what it could be (show general enthusiasm). Oh, I forgot. There is one more thing I want you to do. Place the toy in front of child, but just out of his reach. Read the directions for Block Design on the WISC-R and give the child the design number 9 to try.

Start timing for 2 minutes. Let the child work without help and do not respond to his looks or questions. From 2 to 4 minutes, the experimenter can begin to provide some help. At 4 minutes show the child where the remaining blocks should go.

The experimenter should now begin to put away all of the parts to the YDI and S-B. Leave the WISC-R blocks and booklet, and the gift on the table in front of the child. If the child asks for the present during the task or delay, do not respond. After 90 seconds say, O.K. you can have your present now.

Timing:	0 - 2 minutes	child work along
	2 - 4 minutes	assist child on task
	4 - 5.5 minutes	delay and clean up
	5.5 minutes	give child the toy

Scoring

The criterion for terminating the session at anytime is if the child begins to open the present or takes the present and starts to leave the room with it.

In recording separate physical behavior, when several behaviors are occurring simultaneously (i.e. looking at the gift while touching it) record only the behavior with the highest weight (touching). Record as separate only those instances of behavior which are not simultaneously.

Scoring

Verbal comments about present when introduced _____

Behavior during explanation:

	# of behavior	Weighted score
verbal comments	_____	
takes spontaneously	_____ 4 x	_____
touches, fingers	_____ 3 x	_____
reaches without touching	_____ 2 x	_____
looks	_____ 1 x	_____

Behavior during block design task:

	# of behavior	Weighted score
verbal comments	_____	_____
takes spontaneously	_____ 4 x	_____
touches, fingers	_____ 3 x	_____
reaches without touching	_____ 2 x	_____
looks	_____ 1 x	_____
total time _____		

Behavior during delay: .

	# of behavior	Weighted score
verbal comments	_____	_____
takes spontaneously	_____ 4 x	_____
touches, fingers	_____ 3 x	_____
reaches without touching	_____ 2 x	_____
looks	_____ 1 x	_____
total delay time _____		

Summary scores

Time

during task _____ seconds
 during delay _____ seconds
 total time _____ seconds

Physical behavior

during task _____
 during delay _____
 total weighted score _____

Verbal behavior

total number of verbal comments _____

APPENDIX G

Dimensions of Temperament Survey

Dimension of Temperament Survey - Child

Respondent number _____
 Given by _____
 Date _____

How to answer: On the following pages are some statements about children like your own may behave. Some of the statements may be true of your child's behavior, and others may not apply to him/her. For each statement we would like you to indicate if the statement is usually true of your child or is usually untrue of your child. There are no "right" or "wrong" answers because all children behave in different ways. All you have to do is answer what is true for your child.

Here is an example of how to fill out this questionnaire. Suppose a statement said:

"My child eats the same things for breakfast every day."

If the statement were generally true for your child, you would respond: "1" more true than false.

If the statement were generally untrue for your child, you would respond: "2" more false than true.

Circle the "1" if the statement is more true than false.

Circle the "2" if the statement is more false than true.

Please keep these four things in mind as you answer:

1. Given only answers that are true for your child. It is best to say what you really think.

2. Don't spend too much time over each question. Give the first, natural answer as it comes to you. Of course, the statements are too short to give all the information you might like, but give the best answer you can under the circumstances. Some statements may seem similar to each other because they ask about the same situation. However, each one looks at a different area of your child's behavior. Therefore, your answers may be different in each case.

3. Answer every question one way or the other. Don't skip any.

4. Remember: 1 = more true than false
 2 = more false than true

True 1 False 2

1. My child can't sit still for long
2. My child wakes up at different times
3. Once my child is involved in a task,
 he/she can't be distracted away from it
4. My child persists at a task until it's
 finished
5. My child can make hi/herself at home
 anywhere
6. My child reacts intensely when hurt

7. No matter what my child is doing, he/she can be distracted by something else
8. There is no set time when my child goes to sleep
9. My child stays with an activity for a long time
10. If my child is doing one thing, something else occurring won't get him/her to stop
11. My child does not do any one thing for a long period
12. My child eats about the same amount for dinner whether he/she is home, visiting someone, or travelling
13. Things going on around my child can take him/her away from what he/she is doing
14. Sunlight bothers my child's eyes
15. Once my child takes something up, he/she stays with it
16. When my child has to be still, he/she gets very restless after a few minutes
17. When a person comes towards my child, his/her first response is to move back
18. My child doesn't keep at activity when other things are going on around him/her
19. On meeting a new person my child tends to move towards him or her
20. When my child reacts to something, his/her reactions is intense
21. If stopped from doing something, my child will always go back to it
22. My child never seems to slow down
23. It takes my child no time at all to get used to new people
24. If watching something, my child will keep at it for a long period
25. My child moves a great deal in his/her sleep
26. My child seems to get sleepy just about the same time every night
27. My child moves towards new situation
28. When my child is away from home, he/she still wakes up at the same time each morning
29. My child eats about the same amount at breakfast from day to day
30. My child moves a lot in bed
31. It takes my child a long time to get used to new people
32. My child eats about the same amount at supper from day to day
33. My child doesn't move around much at all in his/her sleep
34. My child's appetite seems to stay the same day after day

APPENDIX H

Miniature Situation Test

Miniature Situation Test

General. Say Each of the games we will play has three parts. You will play three parts, but I want you to play first the part you feel like playing most of all. After you play that game, there will be two parts left, so you can go ahead and play whichever one of the two parts you want to play next. And then you will play the last game that is left. This first game will give you the idea.

Item 1. Place 3 sheets of paper and a pair of scissors before the child. With this game (pointing) you can rip up this sheet of paper. With this game (pointing) you can crumple up this sheet of paper. And with this game (pointing) you can cut this sheet of paper in half along the line. Go ahead and do the one you want to do most of all. After the child has performed on the game, the experimenter removes the material and says, Now there are two games left. Go ahead and do the one you feel like doing best. When the child has completed his response, the experimenter removes the material and says, Now go ahead and do the last game.

Record the order.

____ rip
 ____ crumple
 ____ cut in half

Items 2. Now with this game, one part is you can hit the enemy soldier with this stick (pointing). The other is you can stab the enemy soldier in the back with his dagger (pointing). The other is you can tie the enemy soldier with this rope. Do the one you feel like doing most of all first.

Record the order.

____ stick
 ____ knife
 ____ rope

Item 3. With the next game, one part is you can cut this playdough in half with the knife (pointing). Another part is you can open this envelope with the knife (pointing). Another part is you can cut the top of this drum with the knife (pointing). Do the one you feel liking doing most of all first.

Record the order.

____ playdough
 ____ envelope
 ____ drum

Item 4. With the next game, one part is you can stick a pin in the map where Lansing is (E points to the star on the map). Another part is you can break this balloon with the pin (pointing). Another part is you can throw the dart at the target and try to stick the bull's eye (pointing). Do the one you feel likely doing most of all first.

Record the order.

- ☐ Lansing
- ☐ balloon
- ☐ dart game

Item 5.. With this next game one part is you can take the screwdriver and turn the screw into the wood (pointing). Another part is you can hammer the nail into the wood (pointing). Another part is you can break this lightbulb (point). Do the one you feel like doing most of all first.

Record the order.

- ☐ screw
- ☐ nail
- ☐ bulb

APPENDIX I

Stanford-Binet Intelligence Scale

Record Booklet - Form L-M

**Stanford-Binet Intelligence Scale
Record Booklet - Form L-M**

Name _____ Sex ____ Date of test ____ yr ____ mon ____ day
 Address _____ Birthdate ____ yr ____ mon ____ day
 Age ____ yr ____ mon ____ day
 School _____ Grade ____ Examiner _____
 Birth place _____
 Father _____
 Mother _____
 Occupation of father _____ of mother _____
 CA _____
 MA _____
 IQ _____

Test summary

	year	month		year	month
II			XI		
II-6			XII		
III			XIII		
III-6			XIV		
IV			XV		
IV-6			AA		
V			SA I		
VI			SA II		
VII			SA III		
VIII			TOTAL		
IX			MA score		
X					

Test time _____

**Factor Affecting Test Performance
Overall Rating of Conditions**

	Optimal	Good	Average	Detrimental	Seriously detrimental
Attention					
a. absorbed					easily distracted
Reactions during test performance					
a. normal activity level					hyperactive or depressed
b. initiates activity					waits to be told
c. quick to respond					urging needed
Emotional independence					
a. socially confident					shy, reserved, reticent
b. realistically self-confident					distrusts own ability or overconfident
c. comfortable in adult company					ill-at-ease
d. assured					anxious about success

Problems solving behavior

- | | |
|------------------------------------|----------------------------------|
| a. persistent | gives up easily or can't give up |
| b. reacts to failure realistically | withdrawing, hostile or denying |
| c. eager to continue | seeks to terminate |
| d. challenged by hard tasks | prefers only easy tasks |

Independence of examiner support

- | | |
|----------------------------------|---|
| a. needs minimum of commendation | needs constant praise and encouragement |
|----------------------------------|---|

Was it hard to establish a positive relationship with this person? _____

Examiner's notes

Test evidence of special strengths:

Test evidence of special weakness:

Reason for referral:

Suggestions:

Year II

(6 tests, 1 month each, or test, 1 1/2 months each)

1. Three-hole form board (1+) a. ____, b. ____
2. Delayed response (2+) a. middle ____, b. right ____, c. left ____
3. Identifying parts of the body (same as II-6,2) (4+)
 - a. hair ____, b. mouth ____, c. feet ____, d. ear ____, e. nose ____, f. hands ____, g. eyes ____
4. Block building: tower (+-)
5. Picture vocabulary (same as II-6,4; III,2; IV,1) (3+)
 1. airplane ____, 2. ball ____, 3. hat ____, 4. ball ____, 5. tree ____, 6. key ____, 7. horse ____, 8. knife ____, 9. coat ____, 10. ship ____, 11. umbrella ____, 12. foot ____, 13. flag ____, 14. cane ____, 15. arm ____, 16. pocket knife ____, 17. pitcher ____, 18. leaf ____
6. Word combination (+-) Example _____
- ____ Alternate. Identifying objects by name (5+)
 - a. dog ____, b. ball ____, c. engine ____, d. bed ____, e. doll ____, f. scissors ____
- ____ Mos. credit at year II

Year II-6

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Identifying objects by use (3+0)
 - a. cup ____, b. shoe ____, c. penny ____, d. knife ____, e. automobile ____, f. iron ____

2. Identifying parts of the body (same as II, 3) (6+)
3. Naming objects (5+)
 - a. chair ____, b. automobile ____, c. box ____, d. key ____,
e. fork ____, f. flag ____
4. Picture vocabulary (same as II,5: III,2; IV,1) (8+)
5. Repeating 2 digits (1+)
 - a. 4-7 ____, b. 6-3 ____, c. 5-8 ____
6. Obeying simple commands (2+), a. ____, b. ____, c. ____
 ____ Alternate. Three-hole form board; Rotated (II, must
 precede) (2+), a. ____, b. ____ c. ____
 ____ Mos. credit at year II-6

Year III

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Stringing beads (4+) (2 min)
2. Picture vocabulary (same as II; II-6,4; IV,1) (10+)
3. Block building: bridge (+-)
4. Picture memories (1+) a. ____, b. ____, c. ____
5. Copying a circle (1+) a. ____, b. ____, c. ____
6. Drawing a vertical line (+-)
 ____ Alternate. Repeating 3 digits (1+)
 a. 6-4-1 ____, b. 3-5-2 ____, c. 8-3-7 ____
 ____ Mos. credit at year III

Year III-6

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Comparisons of balls (3 of 3, or 5 of 6+)
 - a. ____, b. ____, c. ____, d. ____, e. ____, f. ____
2. Patience, picture (1+)
 - a. ____, b. ____
3. Discrimination of animal pictures (4+)
4. Response of animal picture (same as VI,A) (level I,2+)
 - a. grandmother's story _____
 - b. birthday party _____
 - c. wash day _____
5. Sorting buttons (2 min. +-) Errors ____
6. Comprehension (1+)
 - a. _____ b. _____
 ____ Alternate. Comparison of sticks (3 of 3, or 5 of 6+)
 - a. ____, b. ____, c. ____, d. ____, e. ____, f. ____
 ____ Mos. credit at year III-6

Year IV

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Picture vocabulary (same as II,5 II-6,4; III,2) (14+)
2. Naming objects from memory (2+) a. ____, b. ____, c. ____
3. Opposite analogies I (same as IV-6,2) (2+)
 - a. ____, b. ____, c. ____, d. ____, e. ____

4. Pictorial identification (same as IV-6,A) (3+)
 - a. stove ___, b. umbrella ___, c. cow ___, d. rabbit ___,
 - e. moon ___, f. cat ___
5. Discrimination of farms (8+)
6. Comprehension II (2+)
 - a. _____ b. _____
 ___ Alternate. Memory for sentences (1+)
 - a. We are going to buy some candy for mother.
 - b. Jack likes to feed the little puppies in the barn.
 ___ Mos. credit at year IV

Year IV-6

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Aesthetic comparison (3+) a. ___, b. ___, c. ___
2. Opposite analogies (same as IV,3) (3+)
3. Pictorial similarities and differences 1 (3+0)
4. Materials (2+) a. house ___, b. window ___ c. book
5. Three commissions (3+) a. ___, b. ___, c. ___
6. Comprehension III (1+)
 - a. _____, b. _____
 ___ Alternate. Pictorial identification (same as IV,4) (4+)
 ___ Mos. credit at year IV-6

Year V

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Picture completion: man (2 points+)
2. Paper folding: triangle (+_)
3. Definitions (2+) a. ball ___, b. hat ___, c. stove ___
4. Copying square (1+0) a. ___, b. ___, c. ___
5. Pictorial similarities and differences II (9+)
 - a. ___, b. ___, c. ___, d. ___, e. ___, f. ___, g. ___, h. ___, i. ___, j. ___
6. Patience: rectangles (2+) a. ___, b. ___, c. ___
 - ___ Alternate. Knot (+-)
 - ___ Mos. credit at year V

Year VI

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Vocabulary (6+)
2. Differences (2+)
 - a. bird and dog _____
 - b. slipper and boot _____
 - c. wood and glass _____
3. Mutilated picture (4+)
 - a. ___, b. ___, c. ___, d. ___, e. ___
4. Number concepts (4+) a. ___, b. ___, c. ___, d. ___, e. ___
5. Opposite analogies II (3+) a. ___, b. ___, c. ___, d. ___
6. Maze tracing (2+) a. ___, b. ___, c. ___
 - ___ alternate. Response to pictures (same as III-6,3) (level II,2+)
 - ___ Mos. credit at year VI

Year VII

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Picture absurdities 1 (4+)
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
2. Similarities: two things (2+)
 - a. wood and coal (or charcoal) _____
 - b. apple and peach _____
 - c. ship and automobile _____
 - d. iron and silver _____
3. Copying a diamond (1+) a. _____, b. _____ c. _____
4. Comprehension IV (same as VIII,5) (3+)
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
 - f. _____
5. Opposite analogies III (2+)
 - a. _____, b. _____, c. _____, d. _____
6. Repeating 5 digits (1+)
 - a. 3-1-8-5-9 _____, b. 4-8-3-7-2 _____, c. 9-6-1-3-8 _____
- ___ Alternate. Repeating 3 digits reversed (1+)
 - a. 2-9-5 _____, b. 8-1-6 _____, c. 4-7-3 _____
- ___ Mos. credit at year VII

Year VIII

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Vocabulary (8+)
2. Memory for stories: the wet fall (5+)
 - a. _____, b. _____, c. _____, d. _____, e. _____, f. _____
3. Verbal absurdities (3+)
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
4. Similarities and differences (3+)
 - a. baseball-orange _____
 - b. airplane-kite _____
 - c. ocean-river _____
 - d. penny-quarter _____
5. Comprehension IV (same as VII,4) (4+)
6. Naming the days of the week (order correct. 2 checks+)
 - Tu _____, Thu _____, Fri _____

___ Alternate. Problem situations (2+)

- a. _____
 b. _____
 c. _____

___ Mos. credit at year VIII

Year IX

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Paper cutting (same as VIII,A) (1+) a. ____, b. ____

2. Verbal absurdities II (same as XII,2) (3+)

- a. _____
 b. _____
 c. _____
 d. _____
 e. _____

3. Memory for designs ((same as XI,1) (1 or 2 with 1/2 credit each) a. ____, b. ____

4. Rhymes: new form (3+) a. ____, b. ____, c. ____, d. ____

5. Making change (2+) a. 10-4 ____, b. 15-12 ____, c. 25-4 ____

6. Repeating 4 digits reversed (1+)

a. 8-5-2-6 ____, b. 4-9-3-7 ____, c. 3-6-2-9 ____

___ Alternate. Rhymes: old form (2+) (30 sec. ea.)

- a. _____
 b. _____
 c. _____

___ Mos. credit at year IX

Year X

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Vocabulary (11+0)

2. Block counting (8+)

3. Abstract words 1 (same as XII,5) (2+)

- a. pity _____
 b. curiosity _____
 c. grief _____
 d. surprise _____

4. Finding reasons 1 (2+)

- a. _____
 b. _____

5. Word naming (26 words in one minute+)

6. Repeating 6 digits (1+)

- a. 4-7-3-8-5-9 ____, b. 5-2-9-7-4-6 ____,
 c. 7-2-8-3-9-4 ____

___ Alternate/ Verbal absurdities III (2+)

- a. _____
 b. _____
 c. _____

___ Mos. credit at year X

Year XI

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Memory for designs 1 (same as IX,3) (1 1/2+)
2. Verbal absurdities IV (2+)
 - a. _____
 - b. _____
 - c. _____
3. Abstract words (same as XIII,2) (3+)
 - a. connection _____
 - b. compare _____
 - c. conquer _____
 - d. obedience _____
 - e. revenge _____
4. Memory for sentences II (1+)
 - a. At the summer camp the children get up early in the morning to go swimming.
 - b. Yesterday we went for a ride in our car along the road that cross the bridge.
5. Problem situation II (+-)
6. Similarities: three things
 - a. snake-cow -sparrow _____
 - b. rose-potato-tree _____
 - c. wool-cotton-leather _____
 - d. knifeblade-penny-piece of wire _____
 - e. book-teacher-newspaper _____
- ___ Alternate. Finding reasons II (2+)
 - a. _____
 - b. _____
- ___ Mos. credit at year XI

Year XII

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Vocabulary (15+)
2. Verbal absurdities II (same as IX,2) (4+)
3. Picture absurdities II: the shadow (+-)
4. Repeating 5 digits reversed (1+)
 - a. 8-1-3-7-9 _____, b. 6-9-5-8-2 _____, c. 9-2-5-1-8 _____
5. Abstract words 1 (same as X,3) (3+)
6. Minkus completion 1 (5 min.) (3+)
- ___ Alternate. Memory for designs II (+-)
- ___ Mos. credit at year XII

Year XIII

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

1. Plan of search (+-)
2. Abstract words II (same as XI,3) (4+)
3. Memory for sentences III (1+)

- a. The airplane made a careful landing in the space which had been prepared for it.
- b. Tom Brown's dog ran quickly down the road with a huge bone in his mouth.
- 4. Problems of fact (2+)
 - a. _____
 - b. _____
 - c. _____
- 5. Dissected sentences (2+) (1 min. each)
 - a. _____
 - b. _____
 - c. _____
- 6. Copying a bead chain from memory (+-) (2 min.)
 ___ Alternate. Paper cutting (same as IX,1) (2+)
 ___ Mos. credit at year XIII

Year XIV

(6 tests, 1 month each; or 4 tests, 1 1/2 months each)

- 1. Vocabulary (17+)
- 2. Induction (+-) a. ____, b. ____, c. ____, d. ____, e. ____, f. ____, Rule _____
- 3. Reasoning 1 (+-)
- 4. Ingenuity 1 (same as AA,2; SA 11,4) (1+) (3 min. each)
 - a. _____
 - b. _____
 - c. _____
- 5. Orientation: direction (3+) a. ____, b. ____, c. ____, d. ____, e. ____
- 6. reconciliation of opposites (same as SA 1,2) (2+)
 - a. winter-summer
 - b. happy-sad
 - c. loud-soft
 - d. much-little
 - e. beginning-end
- ___ Alternate. Ingenuity 11 (1+) (3 min.)
 a. _____
- ___ Mos. credit at year XIV

Minkus completion I

- a. We like to pop corn _____ to roast chestnuts over the fire
- b. One cannot always be a hero _____ one can always be a man
- c. The streams are dry _____ there has been little rain
- d. Lincoln aroused no jealousy _____ he was not selfish

Minkus completion II

- a. He is _____ well grounded in geography _____ his brother, _____ he is not so quick in arithmetic.
- b. _____ he give me his word, I will not trust him.

- c. You must not _____, imagine that my silence has be due to ignorance of what is going on.
- d. _____ either of use could speak, we were at the bottom of the stairs.

Average adults

(8 tests, 2 months each; or 4 tests, 4 months each)

1. Vocabulary (20+)
 2. Ingenuity 1 (same as XIV,4; SA 11,4) (2+) (3 min. each)
 3. Differences between abstract words (2+)
 - a. laziness and idleness _____
 - b. poverty and misery _____
 - c. character and reputation _____
 4. Arithmetical reasoning (2+) (1 min. each) a. ___, b. ___, c. ____
 5. Proverbs 1 (2+)
 - a. _____
 - b. _____
 - c. _____
 6. Orientation: direction 11 (4+)
 - a. ___, b. ___, c. ___, d. ___, e. ____
 7. Essential differences (same as SA 11,5) (2+)
 - a. work and play _____
 - b. ability and achievement _____
 - c. an optimist and a pessimist _____
 8. Abstract words III (4+)
 - a. generosity _____
 - b. independence _____
 - c. envy _____
 - d. authority _____
 - e. justice _____
- ___ Alternate. Binet paper cutting (+-)
- ___ Mos. credit at Average Adult Level

Superior Adult I

(6 tests, 4 months each; or 4 tests, 6 months each)

1. Vocabulary (23+)
2. Enclosed box problem (4+) a. ___ b. ___, c. ___, d. ____
3. Minkus completion 11 (2+) (5 min.)
4. Repeating 6 digits reversed (1+)
 - a. 4-7-1-9-5-2 _____, b. 5-8-3-6-9-4 _____,
 - c. 7-5-2-6-1-8 _____
5. Sentence building (2+)
 - a. ceremonial-dignity-impression _____
 - b. baffle-sunning-pursuit _____
 - c. failure-business-incompetent _____
6. Essential similarities (3+)
 - a. farming and manufacturing _____
 - b. melting and burning _____
 - c. an egg and a seed _____

- ___ Alternate. Reconciliation opposites (same as XIV,6) (4+)
 ___ Mos. credit at Superior Adult Level 1

Superior Adult II

(6 tests, 5 months each; or 4 tests, 7 1/2 months each)

1. Vocabulary (26)
2. Finding reasons III (2+)
 - a. _____
 - b. _____
3. Proverbs II (1+)
 - a. _____
 - b. _____
4. Ingenuity 1 (same as XIV,4; AA,2) (+-) (3 min. each)
5. Essential differences (same as AA,7) (3+)
6. Repeating thought of passage 1: Value of life
 (4 or 5 of 7,+)

Many opinions have been given on the value of life. Some call it good, others all it bad. It would be nearer correct to say that it is mediocre, for on the one hand our happiness is never as great as we should like, and on the other hand our misfortunes are never as great as our enemies would wish for us. It is this mediocrity of life which prevents it from being radically unjust.

- ___ Alternate. Codes (1+ or 2 with 1/2 credit each)
 (3 min. ea.) a. ___, b. ___

___ Mos. credit at Superior Adult level II

Superior Adult III

(6 tests, 6 months each; or 4 tests, 9 months each)

1. Vocabulary (30+)
2. Proverbs III (2+)
 - a. _____
 - b. _____
 - c. _____
3. Opposite analogies (2+) a. ___, b. ___, c. ___
4. Orientation: direction III (2+) a. ___, b. ___
5. Reasoning II (5 min.) (+-)
6. Repeating thought of passage II: tests (4 of 8,+)

Tests such as we are now making are of value both for the advancement of science and for the information of the person who is tested. It is important for science to learn how people differ and on what factors these differences depend. If we can separate the influence of heredity from the influence of environment, we may be able to apply our knowledge so as to guide human development. We may thus in some cases correct defects and develop abilities which we might otherwise neglect.

- ___ Alternate. Opposite analogies V (2+)

a. ___, b. ___, c. ___

___ Mos. credit at Superior Adult Level III

Vocabulary

score _____

- _____ 1. orange _____
- _____ 2. envelope _____
- _____ 3. straw _____
- _____ 4. puddle _____
- _____ 5. tap _____
- _____ 6. gown _____
- _____ 7. roar _____
- _____ 8. eyelash _____
- _____ 9. Mars _____
- _____ 10. juggler _____
- _____ 11. scorch _____
- _____ 12. lecture _____
- _____ 13. skill _____
- _____ 14. brunette _____
- _____ 15. muzzle _____
- _____ 16. haste _____
- _____ 17. peculiarity _____
- _____ 18. priceless _____
- _____ 19. regard _____
- _____ 20. tolerate _____
- _____ 21. disproportionate _____
- _____ 22. lotus _____
- _____ 23. shrewd _____
- _____ 24. mosaic _____
- _____ 25. stave _____
- _____ 26. bewail _____
- _____ 27. ochre _____
- _____ 28. repose _____
- _____ 29. ambergris _____
- _____ 30. limpet _____
- _____ 31. frustrate _____
- _____ 32. flaunt _____
- _____ 33. incrustation _____
- _____ 34. retroactive _____
- _____ 35. philanthropy _____
- _____ 36. piscatorial _____
- _____ 37. milksop _____
- _____ 38. harpy _____
- _____ 39. depredation _____
- _____ 40. perfunctory _____
- _____ 41. achromatic _____
- _____ 42. casuistry _____
- _____ 43. homunculus _____
- _____ 44. sudorific _____
- _____ 45. parterre _____

Age level	Score
VI	6
VIII	8
X	11
XII	15
XIV	17
AA	20
SA I	23
SA II	26
SA III	30

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