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ALCOHOL USE AND THE ADOLESCENT MALE'S EXPERIENCE OF
THE PARENTS' MARITAL DISRUPTION

By

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ABSTRACT OF THE DISSERTATION

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Marital Disruption

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This study, a secondary analysis of the National Longitudinal Study on Adolescent Health (Add Health, Resnick, Bearman et al., 1997), examined the influence of the parents' marital disruption during early adolescence on heavy alcohol use for males in young adulthood. The statistical analyses utilized bivariate analysis and multivariate logistic regression.

The research questions were derived from the theories of social control (Hirschi, 1969) and life cycle theory (Carter & McGoldrick, 1989). It was hypothesized that living in an intact family, or living in a never married household, would serve a protective function for drinking behavior in young adulthood. It was hypothesized that the parents' marital disruption when it coincided with early adolescence, would increase the risk of heavy drinking in the 20s. These family structure variables did not reach significance for heavy drinking. The tenets of social control theory were not supported for the outcome measure of heavy drinking in young adulthood. Vulnerability in early adolescence was not confirmed for family disruption and later drinking.

The predictive relationship of feeling close, participating in activities, and communicating about personal problems with the residential and noncustodial parents, as well as visiting the noncustodial parent overnight, was not found to be significant of heavy drinking.

It was determined that Hispanic youth who experienced the parents' marital disruption had significantly more likelihood of heavy drinking in their 20s.

Parent drinking behavior was not a significant predictor. Being affiliated with a religion that has strict rules against drinking alcohol was not significant. However, being Jewish proved significant with lower levels of drinking.

A non-significant finding was that adolescents who experienced conflict and an adolescent disruption, had less likelihood of heavy drinking than those who experienced conflict and disruption in childhood.

Future research should focus on the impact of divorce on alcohol use for different ethnic groups, particularly for Hispanics. Further study is needed on alcohol use depending on the time of the separation when conflict is present.

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DEDICATION

For my husband, who never wavered, and Will, age one,
who taught me that when you fall down, you get up again.

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Alcohol Use and the Adolescent Male Experience of the Parents' Marital Disruption

Chapter One

Statement of the Problem

Epidemiologists and researchers within the field of alcohol studies have recommended that attention be focused on differentiating subgroups of adolescents to delineate risk and protective factors that influence the progression to higher levels of alcohol use (Johnson, Hoffmann, & Gerstein, 1996; Kandel, 1996; Kandel & Jessor, 2002). This research examines how the marital disruption of the parents during early adolescence influences alcohol use for males in emerging adulthood. The use of alcohol in a problematic pattern, repeated heavy drinking on a drinking occasion, not experimental use, will be the outcome behavior to be analyzed. The subgroups of interest are male adolescents living in intact families, those living in a never married, single parent household, adolescents who experience the disruption of their parents' marriage in childhood, and adolescents who experience the disruption of the marriage of their parents in early adolescence. A secondary analysis of the National Longitudinal Study on Adolescent Health (Add Health, Resnick, Bearman et al., 1997) will be completed using data from three waves of the survey. Johnson et al., (1996) and Hawkins, Catalano, and Miller (1992) have concluded that there are other family factors that predict alcohol use in addition to a marital separation. Social control theory (Hirschi, 1969) defines deviancy, including substance use, as a failure in the attachment of the adolescent and the parents. In addition to feelings of closeness, positive communication is considered important in encouraging conventional behavior. Studies based on resiliency theory support the inclusion of these protective factors within the family domain, citing parental warmth and involvement with adolescent activities as positive (Hawkins et al., 1992; Masten, Hubbard, Gest & Telegen, 1999; Pollard, Hawkins & Arthur, 1999). Further, family conflict has been suggested to be a risk factor for alcohol use by Hawkins et al. (1992), Benda-Corwyn (1998), Demo and Acock (1988), and Mechanic and Hansell (1987). Possible differences among different religious denominations will be examined.

Another aspect of parenting behavior is the parents' use of alcohol. In clinical samples, and samples drawn from children of alcoholics, children are at risk for alcohol problems, if the parents drink. However in community samples, parents' use of alcohol has not proven to be significant in a number of

studies (Barnes, Farrell, & Dintcheff, 1997; Barnes, Reifman, Farrell, & Dintcheff, 2000; Warner & White, 2003).

To determine if these parenting factors within the context of marital disruption can predict alcohol use in young adulthood, it is important to consider the role of the noncustodial parent. The differences in relationships between the male adolescent and the noncustodial parent, usually the father, who maintains contact and those who do not, may or may not account for differences in later alcohol use. If there is a decrease in the closeness of the relationship of the youth with the noncustodial parent, does this lack of closeness impact on alcohol use? This study of the frequency of visiting between adolescent and noncustodial parent may provide insight into whether visiting maintains closeness between the two, and decreases the likelihood of alcohol use on a regular basis. For adolescents who reside with the father, it has been shown that there are particular vulnerabilities (Maccoby, Buchanan, Mnookin and Dornbusch., 1993). Epidemiologists have determined that father-residence adolescents are at higher risk for alcohol and drug use than adolescents in mother-headed households (Johnson et al., 1996). Closeness with the noncustodial parent who is the mother has proven to be positive (Maccoby, Buchanan, Mnookin, and Dornbusch, 1993). Furthermore, Thomas, Farrell, and Barnes (1996) determined that there are two different contexts concerning the involvement by the father in the Euro-American and the African American cultures. Whereas involvement buffers the Euro-American adolescent, it is a risk factor for heavy alcohol use for African American male adolescents. The question of whether the involvement of the father, with frequent visitation during early adolescence creates a vulnerability is subject to study.

Studies have determined that religion should be included as a protective factor in research (Wallace, Brown, Bachman, and Laveist, 2003). Brown, Parks, Zimmerman, and Phillips (2001) recommend that future research explore the influence of family and religion in the explanation of ethnic variations in drinking behavior.

Therefore the independent factors that are examined are marital disruption during early adolescence, interparental conflict, feelings of closeness of the adolescent to his or her parents, communication between the adolescent and the parents, parental alcohol use, religious affiliation, and frequent overnight visits by the adolescent with the noncustodial parent. These factors are hypothesized to influence heavy alcohol use in young adulthood.

Prevalence of alcohol use

Early adolescence is a developmental phase during which youth experience many firsts. For over 45% of adolescents, it is the time of first alcohol use (National Household Survey on Drug Abuse, NHSDA, 2001). Thirty-five percent of those in the tenth grade report having used alcohol in the past month (Monitoring the Future, MTF, 2003). Over eighteen percent of tenth graders report having been drunk in the past month (MTF, 2001). The NHSDA estimates that almost 8% of adolescents aged 12 to 17 can be diagnosed with abuse or dependence on alcohol and drugs and 4.8% are in need of treatment (NHSDA, online, 2001). Resnick, Bearman, et al. (1997), using data from the first wave of the National Longitudinal Study on Adolescent Health (Add Health), determined that 17.9% of adolescents drink more than monthly, and 9.9% drink one day each week. Progression into alcohol abuse and dependence have long term health risks, and therefore the widespread alcohol use represents a problem that needs to be addressed by the social work profession.

The data on marital disruption suggests that two fifths of white children and three quarters of African American children will experience their parents' marital dissolution by age 16 (Furstenberg, 1990). These numbers represent a sizeable proportion of the families. The United States Census Bureau (2003) reports over one million divorces each year since 1976. Sixteen and a half million children lived in single female-headed households (23%) and 3.3 million in a male-headed household (5%), with a 7% increase in male-headed households since 2001 (U.S. Census, 2003). Fifty-three percent of African American children have lived with a single parent; 30% of Hispanic children; and 20% of white children. There is a greater likelihood that African American women will divorce compared with Euro-American or Hispanic American women. The Hispanics have the lowest rates of divorce of the three groups, six and half percent (Longres, 1995). The 2003 Census report indicates that over 34% of women between 35 and 49 divorce. If most children are born to women in their mid-twenties, one can estimate that a substantial number of children will experience their parents' divorce in their teen years. There has been an increase in the number of parents who share custody of their children, and more fathers are involved with their children's lives.

Divorce is a process. Demo and Acock (1988) and Cherlin (1992) report that adolescents respond to the stress of divorce with behavior problems. Studies with a focus on substance use have found that adolescents from families without both biological parents use alcohol at a higher rate than those in intact

families (Johnson, et al., 1996; Frost & Pakiz, 1990). In addition, living in the father's residence is associated with more substance use (Johnson et al., 1996), more negative outcomes (Buchanan et al., 1996) and poorer academic performance (Finn & Owings, 1994). These consistent results across different adolescent behaviors point to a problem situation that merits more study.

With the high level of adolescent alcohol use, and current divorce rates, there is a need to study whether family processes make the difference between the youth who try alcohol and those who progress to more active alcohol use. Kandel (2002) uses the image of a funnel as a metaphor of the large numbers of adolescents who experiment with cigarettes, alcohol, and drugs. She recommends that studies focus on what factors differentiate the adolescents who enter the "funnel," but do not progress to the small constriction at the end, from those who develop regular substance use. Current research is equivocal about the influence of family structure being on alcohol use.

Family relationships are consistent contributors to risk and protective factors that may influence adolescents to use substances (Brook, Brook, Gordon, Whiteman, & Cohen, 1990 ; Hawkins, Catalano, & Miller, 1992). Family conflict is a risk (Hawkins et al., 1992). Warmth, parental involvement in activities, and family management provide protective factors (Hawkins et al., 1992; Pollard et al., 1999). With the changes in custody and visitation patterns, there is a gap in the literature about the effect of the noncustodial parents' role in the life of the adolescent, and its possible protective effects on heavy drinking.

Two theories form the basis of this research proposal. The first is social control theory, elaborated by Hirschi (1969). The second theory is life cycle theory, familiarized in social work practice by Carter and McGoldrick (1989). Social control theory, a theory examined by Hirschi (1969), has provided the background for the formulation of the influence of parents on substance and deviant behavior. He determined that adolescents who have a sense of family attachment would be less likely to engage in deviant behavior. Attachment provides the foundation for the development of closeness and positive identification with the parents. Communication with parents on thoughts, feelings, and future aspirations is associated with lower commission of delinquent acts. Hirschi notes, in particular, that intimate communication with father is inversely related to frequency of delinquent acts. Having a belief in the moral order leads to less delinquent acts. The purpose of his research was to explore antecedents to delinquency, including substance use. Social control theory is regularly used in examining the predictors of

adolescent substance use (Dorius, Bahr, Hoffmann, & Harmon, 2004; Griffin et al., 2000; Hawkins et al., 1992).

A primary concern of this research project is whether there is a differential impact on the adolescent if he experiences the parents' separation in childhood or early adolescence. Life cycle theory posits the concept that when an event occurs, its impact will depend upon the individual's age, place in the life cycle, and the stage of the life cycle that the family is in. Early adolescence is a time of significant biopsychosocial change, including identity formation, gender identity, individuation, expanding social relationships, and experimentation with adult roles. An adolescent experiencing the parents' marital disruption, experiences the loss of one parent and changes in the other parent. Life cycle theory would posit that there is higher risk if early adolescence coincides with problems in the marital relations of the parents.

The literature on social control theory as well as studies on the process of marital disruption, raise the question of whether two protective factors, feelings of closeness with parents and positive communication, are affected by marital disruption. Changes in feelings of closeness and communication occur with maturation; however, marital disruption may contribute due to the separation from the noncustodial parent. Furthermore, in several reviews of empirical work on factors associated with alcohol and drug use, researchers have proposed that it is parental conflict, not the marital dissolution per se, that impacts on adolescent drug use (Demo & Acock, 1988; Hawkins, et al.1992).

An additional equivocal factor is the influence of the parents' alcohol use on adolescent alcohol use. Parental alcohol use has been variously defined as frequency of use, alcohol use disorder, and having a family history of alcohol use. Hoffmann and Su (1988), used an operational definition of alcohol use disorder, and White, Johnson and Buyske (2000) used the parents' drinking levels, and both studies report an association with adolescents' drinking and future drinking. However, Barnes, Farrell, and Dintcheff (1997) did not find an association of parents' heavy drinking with adolescent drinking. The equivocal nature of these findings needs further investigation.

This study is based on the resiliency perspective where the focus is on the quality of the relationship with the parents, family disruption as a life stressor, family conflict, and parental alcohol use. Attention will be placed on the three major ethnic groups given that there appear to be differences in

adolescents' responses to marital disruption, father involvement, and different rates of alcohol use. Hines (1997) has written, that in divorce studies, there has been limited research on African American youth and divorce, and even less on the effects of divorce on Hispanic adolescents.

Research results of the significance of family structure on substance use differ. While some studies have not found family structure to be significant (Amato & Keith, 1991a/b; Barnes, Farrell, & Dintcheff, 1997; Chilcoat, Dishion, & Anthony, 1995; Demo & Acock, 1988); others show significance (Bloch, Crockett, Vicary, 1991; Epstein, Botvin, Gilbert, Diaz, Tray, & Schinke, 1995; Flewelling & Bauman, 1990; Griffin, Botvin, Scheier, Diaz, & Miller, 2000; Hops, Duncan, Duncan, & Stoolmiller, 1996; Vega, Zimmerman, Warheit, Aposperi, & Gil, 1993; Wallace and Bachman, 1991).

Definitions of substance use vary across the literature. For example, the definition of substance use in some research indicates experimental or drug sampling. In the highly publicized reports of teenage substance use, based on the Monitoring the Future (MTF) surveys, one definition of use is, "ever in one's lifetime." Given that experimental use appears to be normative in the United States, one would expect experimentation. Therefore, a high level of alcohol use is proposed as the unit of analysis in this study. This is consistent with Labouvie and White (2002) who define youth at risk as those who progress to higher levels of alcohol use.

Another reason for equivocation in study results is the lack of distinction in the research between families who are single parent households and those who are single parents as a result of a separation or divorce. It is probable that different dynamics that cause family disruption impact the adolescents differently. The literature indicates differential findings between studies using clinical, and self-selected samples, and randomly selected samples. There is also a lack of ethnic and racial diversity in samples. Studies with predominant Euro-Americans samples are Cherlin, 1992; Frost and Pakiz, 1990; Hetherington and Clingempeel, 1992; Hetherington, Henderson, and Reiss, 1999; Hoffmann and Su, 1998; Wallerstein, 1983; White, Johnson, and Buyske, 2000. Samples that are predominantly African American or Hispanic American are: Epstein et al. (1995), Griffin et al. (2000), Stewart (2002), and Vega et al. (1993). Fewer studies have been done on adolescents than younger children (Frost & Pakiz, 1990).

Outcome variables vary in different studies also. At times it is the child's well-being (Kelly, 1988); academic achievement (Finn & Owings, 1994; Sun, 2001); externalizing behavior (Forehand,

Wierson, McCombs, Brody, & Fauber, 198; Jessor, 1982; Jessor, VandenBos, Vanderryn, Costa, & Turbin, 1997); and substance use (Dorius, Bahr, Hoffmann, & Harmon, 2004; Flewelling & Bauman, 1990; Kandel, Simcha-Fagan & Davies, 1992; White et al., 2000).

The rationale for this study is: the need to study heavy drinking levels, specificity in the categorization of separated or divorced families, attention to the critical time period of early adolescence concurrent with the parents' marital disruption, and variation in outcome factors and methodology among prior studies. The involvement of the noncustodial parent addresses a gap in the present research. The study is grounded in social control theory, and includes protective factors such as feelings of closeness and positive communication, as well as the risk factors of parental conflict and parental alcohol use. The impact of these factors on alcohol use in the three largest ethnic groups, African-Americans, Euro-Americans, and Hispanic Americans, will also be examined.

Impact on Social Work

Social workers provide services to a significant number of clients with alcohol and drug problems. A Practice Research Network survey indicates that 71% of social workers counsel clients with these problems (NASW News, 2001). Social workers are employed in a range of services for adolescents, in the school system, family service agencies, prevention programs, juvenile justice, and treatment programs. Another social work specialty involves assistance to the family when there is marital conflict, family disruption, and visitation and custody issues. Learning more about how family disruption and family relations affect substance use progression would provide research results that could be incorporated into prevention and treatment approaches. The influence of the noncustodial parent, particularly the father, is a gap in knowledge that is addressed by this proposal. Comparing the impact of marital disruption in early adolescence among the three major ethnic groups adds to limited research on ethnic differences in response to the parents' divorce.

Research Questions

Kandel (1996) recommends that future research explore greater specification of risk factors for adolescents who progress to regular substance use. Following this recommendation, with a focus on family relationships, the research questions are:

1. Are young male adolescents who experience separation or

divorce more likely to drink heavily, compared to males who live in intact families, in young adulthood?

2. Is the parents' marital disruption during early adolescence a risk factor for heavy alcohol use in young adulthood?
3. Does the presence of parental conflict increase the likelihood of heavy alcohol use?
4. What are the alcohol use patterns for adolescents who feel close with their parents?
5. Does positive communication between parent and adolescent reduce the likelihood of heavy drinking?
6. Do monthly overnight visits with the noncustodial parent decrease later use of alcohol?
7. How does parental alcohol use contribute to heavy alcohol use?
8. Does membership in a religious denomination that has strictures against drinking decrease the likelihood of heavy drinking?
8. How does the influence of family disruption on alcohol use vary by ethnicity?

Chapter Two

Literature Review on Adolescence, Social Control Theory, and Ethnic Differences

This research focuses on how family composition and family processes impact early adolescent alcohol use. In this chapter Hirschi's social control theory (1969) as well as aspects of adolescent development will be reviewed. According to Hirschi (1969) it is through family attachment mechanisms, as well as through communication and positive identification, that adolescents develop behavior which conforms to society's rules. Adolescence is a period of transition that includes changes in family relationships and an increased importance and influence of peers.

The following represents an overview of the literature on adolescence, social control theory, and ethnicity.

Adolescence

Adolescence is marked by sexual development for the boy. Adolescence is generally defined as occurring between the ages of 12 and 18. Adolescence denotes changes biologically, mentally, cognitively, socially and emotionally. Psychologists have studied the increasing ability to reason in early adolescence (Kohlberg, 1984; Piaget, 1954; Blos 1962). Piagetian cognitive development theory distinguishes adolescence as the time of hypothetico-deductive reasoning or "formal operations" (de Anda, 1995). An important developmental marker is the ability to use mental constructs and begin to test out hypotheses about consequences. Issues that require ethical dilemmas appeal to adolescents, and they strive to work out judgements that seem fair to them. Often this cognitive struggle becomes a basis for conflict with authority figures and the status quo, adding a developmental dimension to the adolescent-parent conflict. Redl (1975) states that the parent becomes a symbol of society, and that part of the reaction to the parent is the adolescent's rejection of society's values. Our culture may heighten this conflict due to the emphasis we have on individualism and self-expression. This period is also characterized by the increased development of self-regulatory behavior. Within the cognitive domain, the adolescent needs to learn complex tasks and develop problem-solving skills. An adolescent developmental task is to acquire the ability to delay immediate gratification in order to settle on long-term goals of a future occupation. Early adolescence is a time of increased cognitive ability and gradual acquisition of skills to anticipate the consequences of behavior, to identify conflict situations, and to develop self-restraint.

Erikson (1963) defined the stage of adolescence as identity formation. Based on the successful passage through earlier stages, the adolescent incorporates his or her sense of self, to form a consistent personality. Towards this end, the youth may experiment with different identities and idolize specific adult figures.

Emotionally the adolescent is developing his own identity. Blos (1962), in the psychoanalytic tradition, describes early adolescence as a time of separation from “early object ties” (p.75) to the parent. Simultaneously, the superego is weakening and stress is placed on the ego to maintain self-control and relations with the outer world. The adolescent seeks close relationships with friends of the same sex. These relations are idealized and the friend tends to have characteristics that are valued. This seeking puts the adolescent at risk for experimenting with behavior for which they are not prepared. It is a period of self-absorption, increased anxiety, and intensification of feeling. In psychoanalytic theory, a primary goal of the reorganization of the ego is the heterosexual choice of a love object. In terms of social roles, identity formation includes gender identity and pressure for gender appropriate behavior (de Anda, 1995).

Erikson has been criticized as developing his stage model based on a male, white perspective (de Anda, 1995). These stage theories have also received criticism from researchers on the African American adolescent and family. In general, African American theorists criticize the implicit assumption that behavior, family composition, and values that diverge from the white norm, comprise a deficit theory. Theories that focus on individuation tend to use the model of the nuclear family, and therefore some of the adolescent processes in minority communities may differ from Euro-American families. An example is the value of familism in the Hispanic family. Evidence from epidemiological studies that African American adolescents use substances less frequently than Euro-American adolescents lend support to the idea that there are different processes occurring.

Life Cycle Theory

Attachment is the foundation for affective bonding, development of the autonomous self, and positive peer relations. Sroufe and Waters (1977) refer to the attachment construct as a pathway to trust, to appreciation of emotional closeness, and development of the capacity to nurture others. In a review of the earlier work, Sroufe (2002) notes that a few other critical factors influence child development. Child maltreatment, poor parental boundaries, family violence, and mother’s stress levels, lead to poorer

outcomes. However improvement in life stress is reflected in decreases in problem behaviors of children. In adolescence, the presence of a stable male partner for the mother and parental support appear to aid the changes that are needed to develop autonomy (Sroufe, 2002). Since attachment is an organization of behaviors, which develops in response to parental behavior, it is important to examine the behaviors of the parents.

Marital disruption imposes emotional detachment before the adolescent has attained this stage in the maturation process. In a post hoc analysis of data from high school students, Ryan and Lynch (1989) observed that adolescents experience rejection following a separation or divorce. Greater detachment is discerned in these cases. This rejection was significant for both parents, but stronger for the relationship with the father.

Family life cycle theory incorporates the idea that the growing child is passing through stages at the time that the family is passing through stages (Carter and McGoldrick, 1989). Therefore the early adolescent may be impacted by the events that are happening in the family, such as possible conflict between the parents, marital disruption, readjustment of family roles, new roles of the parents as single, sexually active adults, and career demands of each parent. The life cycle of the family is impacted by the adolescent. Each parent also brings his or her experience of his or her adolescence and may respond to the growing youth with anxiety or positive feelings associated with that experience.

Most parents agree that launching an adolescent is one of the hardest tasks of parenting. In part this is due to a number of changes required within the parental subsystem. Parenting practices have to shift to meet the developmental needs of the adolescent. Research has demonstrated that the adolescent is moving towards autonomy, at the same time that he maintains ongoing close relationships with the parents (Baer, 1999). A disengagement process that is premature results in poorer adjustment (Baer, 2002; Bray, Adams, Getz, & Baer, 2001). Feelings of closeness with the parent are protective for the adolescent during this phase. Additionally, the cognitive development of the adolescent requires a change in family communication. Baumrind (1991a) determined that the parenting style of authoritative parenting is the most supportive and effective style in developing well-adjusted adolescents who are not involved with problematic drug use. Authoritative parenting is characterized by responsive parents who set expectations, clear rules, use supportive not punitive discipline, and exhibit good organization. Strong protective factors

in the other parenting styles categories were the attachment of parent and adolescent that is maintained throughout this period, and an organized family management (Baumrind, 1991a).

Brook et al., (1990) use four constructs to study adolescent outcomes: (a) “identification; (b) lack of conflict; (c) warmth, which refers to a lasting, affectionate bond of substantial intensity; and (d) involvement, the degree of commitment to the parental role and the extent to which the parent centers attention on the child” (p. 131). These four include the relationship of child to parent, identification; qualities of the relationship; and parenting behavior. They utilize the construct of warmth, which has been tested in the research as warmth compared to hostility (White, Johnson, & Buyske, 2000). Brook et al., (1990) make reference to social control theory (Hirschi, 1969) and the importance of the adolescent-parent bond in the development of a bond to larger social institutions. For other researchers, feelings of closeness have been the basis for assessing the emotional bond, frequently measured by the number of activities the youth and parent share. Parental involvement has also been used to measure the parent-adolescent relationship (Sun, 2001). Research has established that bonding to parent continues into adolescence (Brook et al., 1990; Bauman, Carver, & Gleiter, 2001).

Social Control Theory

Social control theory (Hirschi, 1969), has provided the background for formulation of the influence of parents on substance use and deviant behavior. Hirschi determined that adolescents who have a sense of family attachment will be less likely to engage in deviant behavior. Attachments provide the bond to society and other social institutions, such as school, and a commitment to conventional educational and occupational goals. Attachment leads to feelings of closeness and positive identification with the parents. Additionally, communication on thoughts and feelings and future aspirations is associated with lower commission of delinquent acts. Those least likely to be delinquent are also characterized as having a belief in the moral order, in comparison to delinquents who recognize the laws of society, but use neutralizing techniques, such as denial, to account for their behavior. In general, positive regard for one parent is related to positive regard for the other parent. Hirschi (1969) notes in particular that intimate communication with father is negatively related to frequency of delinquent acts.

Hirschi (1969) determined that attachment to peers does not preclude an ongoing attachment to family. More current empirical research on the relative influence of parents and peers on substance use supports this finding (Bauman, Carver, & Gleiter, 2001; Kandel, 1996).

Contrary to his expectations, Hirschi (1969) underestimated the influence of peer socialization and the associated group processes that reinforce delinquent behavior. Smoking and alcohol consumption were included as delinquent acts. He identifies these behaviors as adult status behaviors, which serve a function to the adolescent in defining his maturity. He found these status behaviors correlated with delinquent acts. Barnes et al. (1997) provide this descriptive analysis: “for many adolescent males, movement into adult roles seems to include adoption of a culture of heavy drinking” (p. 172). Social control theory is regularly used in adolescent substance use research (Dorius, Bahr, Hoffman, & Harmon 2004; Griffin, Botvin, Scheier, Diaz & Miller, 2000; Kandel, Simcha-Fagan, & Davies, 1986).

Ethnicity

There are significant variations in family structure depending upon the racial or ethnic group. Thirty-three percent of African American adolescents live in single family households, headed by a mother, whereas the similar family structure for Hispanics and Euro-American is 16% and 12% respectively (Johnson et al., 1996). Eleven percent of African American families are divorced compared to about 6.5 percent of Hispanic families and 8.3% of Euro-American families (Longres, 1995). Thirty-nine percent of African American women are never married (Leashore, 1995).

Johnson et al., (1996) studied extensively the effect of family structure on substance use. This study will be reviewed separately in the analysis of empirical research. In brief, black adolescents use less alcohol, marijuana, and other illicit drugs, across all family types. For instance, living in single parent homes, 45.3% of the Euro-Americans had used alcohol, 30% of African Americans, and 37.5 % of Hispanics. Furthermore other researchers have determined similar trends.

Williams et al. (1999) compared quality of family relationships across ethnic groups. Areas of difference are that Euro-American adolescents are more likely to be affected by peer and sibling influences, family practices, and school problems. Another difference is that African-American and Hispanic adolescents were more likely than Euro-Americans to have substance abuse problems in their families

(Vega, Zimmerman, Warheit, Apospori & Gil, 1993). Furthermore, alcohol and drug use varies in Hispanic subgroups (Gil et al., 1998).

Wallace and Bachman (1991) determined that living in single parent home increases the likelihood of using marijuana. Jordan and Lewis (2005), in a study of family structure, determined that although family structure had marginal significance (.07), the trend supported Johnson et al. (1996): those in intact families had the least drinking, living in families with a non-biological father had an intermediate likelihood of drinking, and those with the biological father absent had the greatest likelihood of drinking. It is evident that ethnicity needs to be assessed in a study of adolescent alcohol use and family structure.

The next chapter focuses on different family structures and the factors of parent-child closeness, communication, parental conflict, and parental alcohol use. Theoretical and empirical research of the adolescent's response to the parents' marital disruption is reviewed. Chapter four reviews empirical studies that are specific to family structure resulting from marital disruption and alcohol and other substance use outcomes. Chapters five, six and seven describe the methodology, the results, the discussion and implications for future research.

Chapter Three

Family Structure, Family Processes, and the Adolescent's Response to Parents' Marital Disruption

Family structure and family processes are hypothesized to influence heavy alcohol use by adolescents. Variables involved in family relations that will be examined are: feelings of closeness, communication, interparental conflict, and the role of the noncustodial parent. The impact of the parents' marital disruption during early adolescence has been studied less frequently than during childhood (Hines, 1997). Parental alcohol use is also integrally involved and background material on this variable is examined in the following chapter along with the empirical studies on adolescent substance use outcomes.

Family Structure

Half of the marriages in the United States end in divorce and only 69% of American children live in the traditional intact family (Hetherington, Henderson, & Reiss, 1999). There are ethnic variations. For example, thirty-three percent of African American adolescents live in single family households, headed by a mother, whereas the similar family structure for Hispanics and Euro-Americans is 16% and 12% respectively (Johnson et al., 1996). Eleven percent of African American families with adolescents are divorced compared to approximately 6.5% of Hispanic families, and 8.3% of Euro-American families.

Following a separation or divorce, custody arrangements and visitation present a range of patterns. There continues to be a tendency for child custody to be awarded to the mother. Joint custody is becoming more common, especially for those predominantly white, educated, and middle class. In 1993, Maccoby, Buchanan, Mnookin, and Dornbusch (1993) learned that one sixth of the custody arrangements were for joint custody, with the children spending four to ten days with the nonresidential parent. In three years time about half of these families had discontinued joint custody. Subsequently, this research group found considerable mobility among the parents' homes over three years (Buchanan, Maccoby, & Dornbusch, 1996). Mobility has also been reported in the studies by King, Harris, and Heard (2004) and Brown (2004).

In a national study based on the National Household Survey on Drug Abuse (NHSDA), the estimate of adolescents living with their fathers, including father-stepmother families, is 3.4% (Johnson et al., 1996).

Eggebein, Snyder, and Manning (1996) note that a meaningful proportion of children reside with fathers of minority groups and with low incomes. Some of these children live in father-headed households in which the father is cohabitating with a partner (sex unspecified), and in extended families. Brown (2004), studying adolescents in the Add Health data, reported that there are many adolescents who live with cohabitating, unmarried parents. Despite these subgroups, few visitation studies examine families when the father has custody of the children. This is probably due to the difficulty of obtaining adequate sample sizes. King et al., (2004) found that children who visited their non-residential fathers, frequently had better educated, Euro-American fathers.

Many parents remarry. The average time between separation and marriage is five years (Furstenburg, 1990), resulting in 50% of children living in stepfamily situations, some with step-siblings (Demo, 1992). In Zaslow's comprehensive review (1988/1989) of 27 studies, only two studies examined custodial parents who had not remarried. Therefore studies to that date are conclusions about children in stepfamilies, not specifically children whose only transition is the parents' divorce. Other studies limit their review to literature comparing single parent families and two parent families, not divorced families, because those categories encompass most of the studies. Recent research indicates that there may be further transitions for children, moving between one parents' home to another (Brown, 2004; Buchanan et al., 1996).

Examination of the developmental stage of the child at the time of the marital disruption has led to equivocal findings in outcome studies. Emery and Forehand (1990) state that there are no clear patterns to indicate if one developmental stage places a child at greater risk than another. Other research indicates that younger children are more affected (Hetherington, 1972). An extensive literature review by Amato (1993) did not support previous results that younger children are more affected by the parents' divorce. Amato (1993) notes that the length of time since the divorce is an important factor in the adjustment of the child, concluding that further study is needed. Also divorce is not a discrete event, but is a process that begins prior to the filing for divorce itself. Researchers have cautioned that some behavior that has been attributed to post-divorce events may have preceded the divorce (Doherty & Needle, 1991; Hetherington, Cox, & Cox 1982; Sun, 2001). Some families may elect to remain separated and not pursue a divorce, although the dynamics of the disruption would be expected to be similar to divorcing families.

Noncustodial Parents

The majority of children who live with one parent, live with their mother (Johnson et al., 1996). Over 27% of adolescents live with their biological mother, the biological father being absent.

Who lives with the fathers? More adolescent boys live with fathers than adolescent girls (Johnson et al., 1996). Johnson et al. (1996) caution that there is a need to learn about circumstances that lead to placement in the father's home. Meyer and Garasky (1993) stress that the extent to which it is said that older boys live with fathers may obscure the fact that many girls also live with their fathers. The Current Population Survey (CPS, 1990, as cited by Meyer & Garasky, 1993) estimates about 56% of the children in father-only home are boys. However offspring living with the mother proved to provide the most stable situation, because there were more transitions for those living in father custody and dual custody arrangements (Maccoby et al., 1993). Additionally Buchanan et al., (1996) found that the reasons adolescents move into the father's residence, as compared to the mother's residence, were more likely to be related to family conflict. A transition to the mother's residence was often related to a parent's move or a decision for the child to remain in the school system. With these factors controlled, however, Maccoby et al. (1993) still determined that youth in father only residences were less well-adjusted than those in mother-headed households, a result they attribute to less intimacy and less monitoring of the adolescents' activities.

Mothers' having custody more often is relevant because research suggests that there is a decrease in parental functioning following separation or divorce (Brambring et al., 1989; Simons, Lin, Gordon, Conger, & Lorenz, 1999; Hetherington et al., 1982). The custodial parent assumes additional roles within the family as well as increased work outside the home to meet financial demands of the family. Most studies focus on the functioning of the mother, due to small samples of sole custody fathers in most studies. Hetherington et al. (1982) did compare both custodial and noncustodial mothers and fathers in a study of divorced and non-divorced families with preschool children, whether they were the custodial parent or not. The sample was Caucasian and middle class, numbering 72 families. They describe the fathers as experiencing difficulties in maintaining order and a household routine. Men reported poor eating habits, sleep problems, and difficulties in shopping, cooking, and other household tasks. Therefore in this study, both mothers and fathers experienced behaviors symptomatic of depression, contributing to a diminished sense of competence.

Studies of the mediating influence of mother's parenting have confirmed that the diminished quality of the mothers' parenting does mediate adolescent outcomes (Hetherington & Clingempeel, 1992; Simons et al., 1999). The most adverse outcomes for adolescents are for those residing in father only households (Buchanan et al., 1996; Johnson et al., 1996). These results are consistent for well-being, depression, deviancy, and substance use variables. Other studies concluded that boys are at risk for behavior problems in opposite sex parent-child dyads (Amato and Rezac 1994; Zaslow, 1988; 1989). It has been noted above that parenting behavior enters a crisis period immediately following the divorce, extends for approximately one year, and improves by the end of two years (Hetherington, Cox, & Cox, 1982; Wallerstein, 1983). The diminished parenting is righted within four years of the divorce (Buchanan et al., 1996).

The resiliency perspective maintains a focus on the transaction of the individual with his or her environment. For the adolescent who lives in a family in which the parents are in the process of separating, how the adolescent perceives the separation and how he or she copes with the changes in the relationships will define if the life event represents a risk. Risk, defined as factors that may predict negative outcomes (Richman & Fraser, 2001), can be internal or external to the individual. Risks are conceived as being cumulative (Bry et al., 1982; Pollard, Hawkins & Arthur, 1999).

The impact of the parents' marital dissolution at the same time as maturational changes in early adolescence may represent a cumulative risk. Additionally, the role of conflict in the parents' relationship has received strong support for being a major contributor to adolescent decreased well-being (Amato & Rezac, 1994; Buehler et al., 1994; Fraser & Galinsky, 2004; Pollard et al., 1999). There are two strains of opinion within the resiliency perspective on the question of whether risk and protective factors represent opposite ends of the same construct (Scheier, 1991a), or are conceptually distinct constructs. Protective factors have been found to diminish the influence of risk factors (Jessor, VandenBos, Vanderryn, Costa, & Turbin, 1997; Newcomb & Felix-Ortiz, 1992; Pollard et al., 1999). Recent research has found evidence that protective factors moderate the risk factors, serving a buffering function (Fraser, 2005; Pollard et al., 1999).

Protective factors in the environment are: attachment to parents; bonding to school; community involvement; and support for the norms of society (Jensen, 2004). Effective parenting and positive parent-

child relationship are protective (Fraser, 2004). Feeling close with each of one's parents, with a measure for doing activities together, and communication, are to be examined in this research. Thus, both risk and protective factors will be included in this research.

The literature on the adolescent's response to parental marital disruption follows.

Adolescent Response to Marital Disruption

Children's understanding of divorce, which Wallerstein (1983) conceptualizes as six tasks, will depend on the maturational level of the child. In adolescence there are sufficient cognitive skills to engage in anticipatory mourning in the pre-separation stage. Characteristic responses of pre-adolescents and adolescents are: irritability, anger, denial, depression, and withdrawal from school, friends and usual activities. Brambring et al. (1989) cites symptoms of anger, difficulty with impulse control, and rebelliousness. For some adolescents, there is stimulation and preoccupation with their parent's new sexual behavior. The initial period coincides with the custodial parent, usually the mother, behaving in new ways, such as preoccupation with her own problems, depression, and decreased ability to maintain routines and consistent discipline (Brambring et al., 1989; Buchanan et al., 1996). This coincides with reduced time spent with children whether due to a change in employment or new recreational activities. Therefore the mother is less able to respond constructively to the adolescent's anger, initiating a cycle of escalating anger.

In the view of Wallerstein and her colleagues (1983, 2000), children work at the task of acceptance of the permanence of divorce. They strive to develop a vision of mutual love for their own future. Continuation of the anger in the "forgiving the parent" phase is common for pre-adolescents and adolescents. This may result in decreased concentration, delinquency, and promiscuity. The adolescent achieves improved management of the anger as he or she alters the relationship with the mother. He or she gains increased understanding that the divorce was a necessary alternative and awareness of the benefits of the separation or divorce, such as reduced conflict. Without resolution of this final task, the risks are promiscuity, dropping out of school, and severe depression (Wallerstein, 1983).

Therefore the question of which factors facilitate resolution arises. Feelings of closeness, communication, and the degree of conflict between parent and child, have been suggested as salient factors. Overall closeness with mother has the strongest influence on the adjustment of the adolescent (Buchanan et al., 1996; Maccoby et al., 1993). Patterns of parent-child closeness and adjustment have been examined in

the context of the home in which the adolescent resides. Even those who do not reside with the mother benefit from a positive close relationship with her. Adolescents in a father's residence benefit from a close relationship with both parents, compared to a close relationship with just one parent (Maccoby et al., 1993). However the strength of the association between feelings of closeness to either parent and adjustment is weaker for father residence adolescents (Maccoby et al., 1993).

Visitation

In the study by Maccoby et al. (1993), most children visited in the two weeks prior to the study interview. However the proportion of those visiting declined over the duration of the study, with 40% not visiting three years later. The figures show a contrast between adolescents who live with their fathers and adolescents who live with their mothers. Actual visits with the mothers increased as the time lengthened since the divorce. A similar decrease in the frequency of visits by the father was reported by Amato and Rezac (1994), showing decreased visits as the period of the divorce receded. Kelly (1988) learned that frequency and predictability of visitation resulted in better adjustment for boys, gender-specific results that are confirmed by Amato and Rezac (1994). Maccoby et al. (1993) determined that even short visits by father helps both sexes to adjust.

In a study of Euro-American and African American youth's response to contact with the noncustodial father, Thomas, Farrell, and Barnes (1996) found contrasting interaction effects for race and gender. Males were most likely to have adverse outcomes, including heavy drinking, use of illicit drugs, and delinquent behavior. Results from a multivariate analysis of variance demonstrated that the Euro-American males who fared worse had no involvement with their fathers. In contrast, among African American families and adolescents, African American males who had involved fathers did less well than African American males who had no father involvement. The authors indicate that these African American youth with involved fathers were not significantly different from Euro-American males with father involvement. In discussing their results, Thomas et al. (1996) state that for the majority of the Euro-American youth, the reason for the family disruption is divorce (84% in this sample). On the other hand, for the African American youth, the families are single, never married, mother-headed households (77%). They suggest that it is possible that the African American community provides an extended family support system that is lacking within the white community. The authors further explain the differences in the

contrasting subgroups may be due to conflict in the African American homes when the father remains involved. They refer to other studies that conclude that conflict between the partners is a major risk factor for the adolescent (Amato & Rezac, 1994).

In a post hoc analysis of the Add Health data (Resnick, Bearman et al., 1997) on African American youth, Jordan and Lewis (2005) learned that the nonresidential father were involved with their children as evidenced by communication about school and personal problems, participation in school projects, and participation in recreational activities. Although the relationship with the nonresidential father was not reported separately, they determined that having a quality relationship with one's father decreased the likelihood of having ever drank alcohol.

Father involvement has not been adequately studied. Demo (1993) draws attention to the differing behavior of noncustodial fathers according to the gender of the child. Fathers are more likely to visit boys and financially provide support if the child is male. Maccoby et al. (1993) state close relations with fathers may be underestimated because of suppression in the statistical analysis. Therefore, it is important to study closeness with the noncustodial father.

Communication

Communication is a factor that is regularly included in the study of children's outcomes. Positive communication is considered indicative of a positive relationship. Baer (1999) used the following criteria: open communication, listening capabilities, receptivity to communication, and understanding, to operationalize attachment. Epstein et al, (1995), used limited communication as the operationalization of poor parental support. Hirschi (1969/2002), in his development of social control theory, highlighted that the adolescent's sharing of concerns with the parent is a component of his or her attachment to that parent (Baer, 1999).

In a study of mother's and father's interactions with adolescents, Youniss and Smollar (1985) found differences between the kinds of communication in the father-adolescent dyad and the mother-adolescent dyad. Data was combined from eight different studies, collected from 1980 to 1983. The sample numbered over 1,000 teenagers. Fathers tend not to encourage the development of different facets of the adolescent's personality. Instead the content of their conversations with their adolescent children focused on achievement and social issues. Fathers are perceived more frequently as the authority figure in

the family. The adolescent seeks his approval. In response to a question on whom they would choose to discuss feelings or problematic issues, fathers were chosen less than 50% of the time. Relationships with the fathers are more distant than with the mothers, especially for daughters, who report a distant relationship with the father in 64% of the time. Daughters did not select the response of “feeling loved” to indicate how they felt in their relationships with the father. In contrast, 36% felt loved by their mother. Eight percent of sons selected the description of “feeling loved” by the fathers, in comparison to 38% who choose “feeling loved” by their mothers. Mothers’ relationships with sons and daughters are more reciprocal, more empathic, less judgmental, given to sharing more confidences. Mothers still maintain appropriate authority in the relationship.

Simons et al. (1999) also found different parenting behaviors on the part of fathers in comparison to mothers. Fathers were less likely to utilize problem-solving techniques. They were less likely to enforce standards of conduct and less likely to follow through on discipline.

Thus, there are qualitatively different relationships between adolescents and their fathers and mothers. A marital separation means that the kind of relationship is changed, and may be diminished for the noncustodial parent, most commonly the father. It may be that younger cohorts of fathers, since the period of the Youniss and Smollar study (1985), have developed a more reciprocal parenting styles.

Interparental Conflict

Hawkins and his colleagues have determined that it is the parental conflict that has a negative effect on children, not the divorce itself (Hawkins et al., 1992). Other theorists concur that conflict in the marriage influences child behavior (Amato, Loomis, & Booth, 1995; Amato & Rezac, 1994; Cherlin, 1991; Demo & Acock, 1988; Forehand, Neighbors, Devine, & Armistead, 1994; Simons, et al., 1996).

Amato and Rezac (1994) found an interaction with conflict and contact, significant for boys, concluding that the conflict can moderate the relationship between contact with the father and behavioral outcomes. Amato (1993) reviewed research on the impact of divorce on children from five perspectives: the parental loss assumption, economic pressures, the adjustment of the custodial parent, interparental conflict, and stressful life events. He determined that there is not convincing support for the parental loss or the economic pressures perspectives. The perspective of the adjustment of the custodial parent receives good support, as does the cumulative life stressors approach. The strongest support is for the perspective

purporting that interparental conflict has a negative influence on children. There is support for three different conflict situations: conflict during the years prior to the divorce, ongoing conflict between the parents in the post-divorce period, and conflict in intact families and separated families. He concluded that research should include aspects from the three perspectives to explain the contextual factors that account for reduced well-being in children who experience the parents' marital disruption. Alcohol use and deviancy were rarely included in the research studies reviewed by Amato (1993). Rather, well-being is used as a generalized concept that includes psychological well-being, behavior problems, and academic achievement. This meta-analysis highlights the limited exploration of substance use outcomes for adolescents and marital separation in the 1980s.

An examination of this model by Amato, Loomis, & Booth (1995) focuses on conflict prior to the separation and its effect on adult behavior. In situations of high conflict, the child appears to be better off when a divorce occurs. Contrary to expectations, children who experience the least amount of conflict test at the lowest levels of well-being in adulthood. They conclude that when conflict is low, the divorce is experienced as a loss.

Buehler, Krishnakumar, Anthony, Titsworth, and Stone (1994) focused on the perception of the adolescent of the interparental conflict. They found different mechanisms in the two different kinds of families, the married and the divorced. In the divorced families, there was a relationship between hostile interparental conflict and poor adolescent adjustment. However parenting behavior such as limit-setting, parental warmth, and time spent together mediated the association between conflict and adjustment. Adolescent perceptions served a mediating function between these variables in the married families. Adolescents could compartmentalize the problems experienced between their parents from their own relationships with the parents.

Therefore the presence of parental conflict has consistently demonstrated an influence on adolescent outcomes. Empirical studies that specifically focus on the influence of parental conflict on alcohol use will be analyzed in the next chapter.

Ethnicity

One consistent pattern that comparative studies and meta-analyses have demonstrated is that children in the African American community do not experience poorer well-being following divorce.

Amato & Keith (1991) attribute this difference to sociocultural traditions in the African American community. They also surmise that divorce may be only one risk factor when growing up African American and therefore it does not convey the significance it does for Euro-American children. The extended family may serve as a buffer (Thomas et al., 1996). Both of these conditions result in additional adults available for the child for monitoring, role modeling, and sharing resources, both of an economic and social capital nature (Coleman, 1988).

There is variation in the influence that visitation by the noncustodial father has in African American and Euro-American families. What proves to be a protective factor for Euro-Americans increases the likelihood of heavy drinking for African American youth, as described above.

Summary

Separation and divorce constitute a process during which the adolescent experiences stressors, such as exposure to the parents' conflict, reduced quality of the parenting, mother's and father's depression, loss or altered the relationship with the noncustodial parent, and adjustment to the new family structure. Although most children live in the custody of their mothers, there is a subgroup that lives with their fathers. Most studies have determined that living with fathers makes an adolescent vulnerable to poorer adjustment and substance use (Buchanan et al., 1996; Johnson et al., 1996; Maccoby et al., 1993). There appears to be varying visitation patterns when the noncustodial parent is the mother or the father and varying patterns if the child is male or female (Demo, 1993). Furthermore, visiting with the noncustodial parent is protective for white male adolescents in terms of less drinking, and illicit drug use, but research varies on the influence of an involved father for the African American male (Jordan & Lewis, 2005; Thomas et al., 1996).

In concluding that more involved noncustodial fathers are a risk factor for substance use, Thomas et al. (1996) state the differences may be due to the different reasons for single parenthood in the African American community compared to the Euro-American community. More African American mothers have never married; more Euro-American mothers have either separated or divorced. This explanation highlights the need to specify the reasons that result in a single parent family. The occurrence of the separation or divorce during early adolescence, compared to childhood, continues to be an area for productive research (Hines, 1997).

Chapter Four

A Literature Review of the Empirical Studies on Family Factors and Adolescent Alcohol Use

The research question is whether the marital disruption of the parents during early adolescence results in the specific behavior of heavy alcohol use for men in emerging adulthood. This chapter reviews studies that focus on alcohol use as the outcome variable. The selection criteria for inclusion in the review are: examination of alcohol or marijuana use as the dependent variable, a sample size of over 140 subjects in the early adolescent stage, utilization of quantitative statistics, and inclusion of the independent variables of family structure and family process factors. These independent variables include separation or divorce of the parents, interparental conflict, feelings of closeness to parents on the part of the adolescent, communication, religious affiliation, and parental alcohol use. Studies on visitation of the noncustodial parent were reviewed in chapter three.

A review of the literature demonstrates that these family process variables are studied in different combinations with other individual or family variables, resulting in few models that are directly comparable, precluding a meta-analysis. The purpose of this chapter is to synthesize the significant outcomes and critique the research for unanswered questions and contradictory results. A large epidemiological study on family structure using data from the National Household Survey on Drug Abuse (NHSDA, Johnson, Hoffman, & Gerstein, 1996) is reviewed first. Studies that specify families who have had a marital disruption are reviewed next, followed by a review of studies that focus on the impact of parental conflict. Studies that test for the influence of the remaining independent variables, feelings of closeness, communication, parental alcohol use, and religious affiliation are then reviewed.

There are a number of differences among the studies that limit comparisons and conclusive statements about the overall results. There are differences in sample characteristics, especially on prevalence of alcohol use, age, and ethnicity. The operationalization of the outcome variable varies from having ever had a drink to frequency of intoxication. The independent variables are different but related constructs. Model specification and statistical strategies of the research result indifferent outcomes. These differences are explained under each topic area. How these differences lead to dissimilar results is

explicated in the summary of the chapter. Synopses of the empirical studies are in the Appendix, Tables A.1 to A.5.

Family Structure

While demographers state that 40% of white children and 75% of African American children will live in divorced households, the percentage of adolescents in separated or divorced households in most surveys ranges from 11.6% (Flewelling & Bauman, 1990) to over 16% (Johnson et al., 1996).

In a major epidemiological study, Johnson, Hoffmann, and Gerstein (1996) determined that family structure was significant for all substances, including alcohol use. They studied drinking in the past year, alcohol dependence, and need for addiction treatment, and similar measures for tobacco, marijuana, and illicit drugs. The sample numbered over 22,000 adolescents who were surveyed in the National Household Survey on Drug Abuse (NHSDA) from 1991, 1992, and 1993.

The results show that adolescents in intact families have a lower likelihood of substance use, dependence, and need for treatment. The differences reached significance with 32% of adolescents in *mother/father* families using alcohol in the past year, 39% in *mother only* homes; 40% in *mother/stepfather* homes; and 51% living in *father/stepmother* families. Therefore with the exception of married teenagers, the highest risk was for adolescents in the *father/stepmother* form of family for substance use and dependence. The *father only* families had higher risks than the *mother only* families. The log odds ratios of using alcohol are one and a half times greater for those in nontraditional families (Johnson et al, 1996, Table 4.2). It is suggested that it is the broad prevalence of nontraditional family forms among low income families that determines the findings that lower income adolescents use higher amounts of alcohol (Johnson et al., 1996).

This extensive survey provides convincing evidence that family structure place adolescents at risk for alcohol use. However, even in this large sample, the authors did not specify families who had experienced a marital disruption as a subgroup. Therefore, we cannot conclude from this study if there is an increased risk of alcohol use when the parents separate. Other subpopulations were not sufficiently large to perform further analysis on possible interactions, such as living in a *father only* home and race. Further, factors that precipitated moving to the father's home could not be discerned from the data. This is

a cross-sectional study and therefore there are no causal implications from the research. Johnson et al. (1996) recommend more longitudinal research on family factors that would clarify their results.

Other studies that have the same conclusions as the Johnson et al. (1996) study are: Griffin, Borvin, Scheier, Diaz, and Miller (2000) and Bloch, Crockett, and Vicary (1991). Groffom et al. (2000) is a small sample (n=228) from two urban, low income, predominantly African American schools. Sixth grades were sampled. The base rate of drinking alcohol (35%) was comparable to national rates. It is a cross-sectional study, analyzed with hierarchical linear regression. Their findings are that living in a single parent household contributes to an increase in drinking. The study by Bloch et al. (1991) represents a different sample, one from a poor rural southern school district (n=463). Two waves (1985 and 1987) from a larger prospective study were analyzed with the students in seventh and ninth grades. No ethnic group analysis was provided. The outcome variable was operationalized as having an incidence of drunkenness. Sixty-two percent of the sample reported having been drunk. The variable of drunkenness represents the highest measure of alcohol use in this review, and the prevalence of 62% represents higher prevalence than other studies. Using analysis of variance, they determined that living in a single parent household was a risk factor, and this living arrangement placed the adolescent at even greater risk for more frequent episodes of drunkenness.

The studies reviewed above compare single parent families to intact families. In fact only four studies focus on families that have been disrupted by a dissolution of the marriage. To further the analysis of the impact of marital disruption, four studies with the focus on marital disruption will be reviewed next. Three studies, Sun (2001), Flewelling and Bauman (1990), and Simons, Lin, Gordon, Conger, and Lorenz (1999), select adolescents who have experienced the marital disruption of their parents within the past three years. The fourth study, Forehand, Wierson, McCombe, Brody and Fauber (1989) used the outcome variable of externalizing behavior. Sun (2001) derived his sample for the large national survey, the National Education Longitudinal Study (NELS, 1990; 1992). The focus of the study was adolescents who experienced the parents' marital disruption between two waves of study (n=798). At the baseline there were no differences on substance use between these adolescents and adolescents who did not experience the disruption between the waves. Utilizing a model to measure net changes in substance use, the author demonstrated that the predisruption family environment does contribute to problems in education, well-

being, and marijuana use for males. The predisrupted group differed from those without a marital disruption on family relations and communication which will be explored in detail below. There was no statement concerning membership in the different ethnic groups for the sample, but Sun (2001) stated that a limitation to the study was that parents who separate when the children are older tend to be Euro-American, older and from a higher income bracket than parents who separate at an earlier stage in the marriage cycle. Ethnic representation given for the 1988 NELS follow-up surveys is 8% African American, 9% Hispanic American and 75% Euro-American (Rodgers-Farmer, 2000). Another notable difference in this study is that the adolescents were older than in the other studies to be discussed: their mean age was 16. This raises the question of both ethnic differences and the influence of age on alcohol outcomes.

Flewelling and Bauman (1990) used a prospective, probability sample from southeastern United States. In the logistic regression on their cross-sectional data, they learned that adolescents in intact families were significantly less likely to initiate alcohol and drugs. Family structure was significant for alcohol use. Using the longitudinal data, family structure was predictive of alcohol use at significant levels. However, when they formed a subsample of adolescents whose families separated between the two measurement periods, and who had not initiated alcohol use prior to wave one, 11.6% of the sample, there was not a significant difference between the two groups. They concluded that marital disruption in early adolescence, before age 14, is more strongly predictive of initiating alcohol use.

This study also exemplifies that cross-sectional studies can result in stronger effects than longitudinal analysis. The authors did not test for the influence of marital disruption in childhood, nor did they test for alcohol use at a level higher than having ever used alcohol. Flewelling and Bauman (1990) therefore used a low measure of alcohol use, with prevalence at 50% of the sample. These researchers recommend more research on family processes and adolescent problem behaviors during the disruption period.

The three studies that select families with marital disruption (Forehand et al., 1989; Sun, 2001; and Simons et al., 1999) are the studies that examine the influence of interparental conflict on adolescent alcohol use. From the studies by family theorists, reviewed in chapter three, Amato and Rezac (1994), Amato (1993), Buehler et al. (1994), and Demo and Acock (1988), determined that conflict has a strong association with problem behavior. From the resiliency perspective, Hawkins et al. (1992) found that it

was the conflict in the relationship, not the marital disruption itself that leads to substance use and deviant behavior. The role of interparental conflict will be reviewed next.

Interparental Conflict

The research by Simons, Lin, Gordon, Conger and Lorenz (1999) was designed to learn the effect of divorce on adolescents. The final sample was Euro-American, 61% in two parent families and 39% in divorced families. The total sample numbered 34, indicating the power is adequate for a large effect size. The researchers explored parental conflict, the quality of the mother's and father's parenting, measures of depression and anti-social personality disorder. There were multiple informants as well as videotapes of the mother-child interaction. Outcome variables were externalizing behavior, including a measure of alcohol use, and internalizing behavior.

Conflict impacted depression in boys and externalizing behavior in girls. Overall a consistent result is that the quality of the mother's parenting mediated the influence of the divorce on the adolescent's well-being. The noncustodial father's involvement decreased the possibility of conduct problems in boys. The measures for parental conflict were retrospective. Measures differed for intact families and divorced families, for the mother and noncustodial father. Noting the problems of intercorrelation of the factors of divorce, parental conflict, and quality of parenting, Simons et al. (1999) employed hierarchical multiple regression to learn the independent contribution of each variable.

Parental conflict was studied by Forehand et al. (1989) in conjunction with the mother's parenting skills. The outcome variables were externalizing and internalizing behavior. The researchers learned that the mechanism through which conflict had its effect on adolescent behavior differed from divorced families to intact families. They separated the sample into these two groups to better discern how conflict influenced behavior. For externalizing problems, which are most closely related to substance use, the interparental conflict proved to be a direct effect for the divorced families, but indirect through the adolescent's perception of conflict for the intact families. Therefore, Forehand et al. (1989) concluded that conflict perceived within different contexts may have different meaning for the adolescent. One critique of this study is that the division into the separate groups decreased the power for the path analysis.

Studies described in the section on family structure that included conflict in the models are Bloch et al. 1991) and Sun (2001). Both these studies concur that negative family relations are positively

associated with substance use, drunkenness in the Bloch et al. (1991) study, and marijuana use by males in the Sun (2001) study. Table A.2 on interparental conflict is on the Appendix.

A large, longitudinal study by Bray, Adams, Getz, and Baer (2001) examined family conflict and its impact on alcohol use as part of a study on family cohesion and the process of adolescent individuation. This is a large sample ($n=3148$) with a diverse population. The sample was Mexican American Euro-American, and African American. This study did not specify if adolescents were living in families with a prior marital disruption. The outcome variable was a quantity and frequency measure, with the mean level of drinking once or twice in the past month, and drinking one or two drinks at a time, at Time3 when the adolescents were in the 11th grade. Conflict predicted increased alcohol use in each ethnic group. However ethnicity was a significant factor in the prediction of the rate of increase in alcohol use. African Americans had less of an increase in alcohol use than the white or Mexican American adolescents. Family structure is not examined in the study by Bray et al. (2001). Family conflict, based on the Family Adaptability and Cohesion Scales (Moos and Moos, 1981, as cited by Bray et al., 2001), resulted in an increase in alcohol use for each ethnic group at the different grades.

Results

Therefore the influence of interparental conflict on alcohol use has robust results in the empirical studies. The influence is consistent whether the sample is large or small, predominantly Euro-American or diverse; whether the study examines externalizing behavior or alcohol use; low or high prevalence of drinking, or low or high levels of drinking; and whether different covariates are hypothesized in the models. Of these five studies, Bloch et al. (1991) and Bray et al. (2001) did not specify if the adolescent had experienced the parents' marital disruption. Conflict impacts adolescents in the three major ethnic groups (Bray et al., 2001). These empirical studies reinforce the findings in the studies on family relations and child well-being (Amato & Keith, 1991a; Amato, 1994; and Buchanan et al, 1996) that determined that high conflict situations are detrimental to children. It is clear that the variable of interparental conflict should be included in a study of the effect of marital disruption on alcohol use.

The literature on the role of the noncustodial parent has been examined in the previous chapter.

Closeness with Parents

Social control theory posits that attachment to the parents prevents the commission of deviant acts, including alcohol use. This sense of positive feelings and feeling loved by the parent has been explored (Brook et al., 1990). Central to the study of closeness to parents and that father's influence on drinking patterns in young adulthood, is examination of constructs related to feeling loved. Most simply expressed is the item: how close do you feel to parents?

Barnes, Reifman, Farrell, and Dintcheff (2000) conceptualized parental support as nurturance, attachment, acceptance, cohesion, and love. These characteristics are operationalized as parenting behaviors: praise, encouragement, physical affection, and love. Nurturance was operationalized with questions on maternal nurturance only. Dorius, Bahr, Hoffmann, and Harmon (2004) operationalized parental support as recognition for doing a good job, praise, and feeling proud of the child. They factored out the constructs into feelings of closeness for mother, feelings of closeness for father, and parental support (Dorius et al., 2004). Feelings of closeness for Dorius et al. (2004) include communication, such as sharing thoughts and feelings, and spending time together. White, Johnson and Buyske (2000) chose the quality of parent-adolescent relations as warmth in contrast to hostility. Table A.3 in the Appendix summarizes these studies.

One conceptual issue is the question of the extent to which parenting behaviors and feelings of closeness are intercorrelated. Spurious effects can occur when variables are intercorrelated (Simons et al., 1999) depending on the choice of statistical procedures.

The studies in this section that examine feeling of closeness as an independent variable have samples numbering from 250 to 1999 and are categorized as being medium size. The samples from this group are regional and randomly selected with the exception of Hoffmann and Su (1998), which is a recruited sample. Ethnic diversity is present in the Barnes group of studies (1997; 2000) with 71% Euro-Americans in the Barnes et al. (2000) study. Diversity was also present in Dorius et al. (2004), with 88% Euro-American. These studies rely on the self-report by the adolescent, including their report of the parents' behavior. This research design has been critiqued by Buehler et al. (1994) and Buchanan et al. (1996) because the report is more accurately a perception of the adolescent. Buchanan et al. (1996) determined that the adolescent's report more accurately reflected how well adjusted he was. In studies by

Hetherington and colleagues (Hetherington & Clingempeel, 1992; and Hetherington et al., 1999), results show variation depending upon who is the respondent.

These studies include the variable of closeness to parents. However they do not include the same covariates in their models. Barnes et al. (1997), Barnes et al. (2000), and Kandel and Andrews (1987), study parental alcohol use, and peer substance use. White et al. (2000) include warmth and parental alcohol use. Dorius et al. (2004) tested for closeness to each parent, parental support, monitoring, peer use, and “getting caught” for substance use as independent variables.

There is variation in the operationalization of the dependent variable. Quantity and frequency measures are used in the study by White et al. (2000). Kandel and Andrews (1987) used having *ever used* hard liquor. *Frequency of alcohol use* and *frequency of drunkenness* were measured by Hoffmann and Su (1998). *Frequency of heavy drinking* was the operationalization in Barnes et al. (1997) and an alcohol misuse index in Barnes et al. (2000). Dorius et al., (2004) measured *marijuana* use in the past month. Comparing the different operationalization presents a difficulty. Examples of low prevalence of the substance use in the samples are: Dorius et al. (2004) at less than 10%, and Kandel and Andrews (1987) at 30%. The White et al. (2000) study separated users into different groups based on drinking behaviors; the stage of development at the time of the outcome was adulthood. Hoffmann and Su (1998) had 38% with lifetime alcohol use, a proportion slightly less than the results of the National Household Survey on Drug Abuse (NHSDA, 1994) for the geographic region. Barnes et al. (1997) had the broadest prevalence and the higher measure of drinking. The alcohol misuse index developed by Barnes et al. (2000) is difficult to convert to frequency of drinking, but it appears to be less than four times a year.

Each study adopted a unique statistical strategy. Barnes et al. (1997) used multiple analysis of variance, MANOVA. Different types of structural equations modeling were employed by Barnes et al. (2000) and Hoffmann and Su (1998). White et al. (2000) used growth mixture modeling to form four groups of different patterns of drinking. The study by Dorius et al. (2004) utilized ordinal logistic regression. Hoffmann and Su (1998) had a non-recursive model, and therefore the research focus was the reciprocal influence of the adolescent’s alcohol and drug use on the family attachment. In addition, some studies explored direct effects, moderating and mediating influences of a variable other than closeness with parents.

Results

There is some support for the influence of feeling close to one's parents and reduced drinking although the outcomes vary from study to study. Support comes from Kandel and Andrews (1987) and Barnes et al., (2000), and limited support from Hoffmann and Su (1998) and White et al. (2000). Kandel and Andrews (1987) found a significant association with feeling of closeness and frequency of alcohol use, and initiation and frequency of marijuana use. Barnes et al., (2000) determined there was an indirect effect on parental support on adolescent alcohol use, not the direct effect found by Kandel & Andrews, (1987). The results of White et al. (2000) were stated to demonstrate a trend towards a positive influence of warmth on adolescents to delay drinking. However, warmth was not significant in the model that included parental drinking. Examining a non-recursive model, Hoffmann and Su (1998) determined that drug use was associated with lower attachment, although the strength of the association was weaker than for recursive models. Dorius et al. (2004) confirmed direct model for closeness with mother, closeness with father, and parental support on marijuana use, at marginal levels. Closeness to parents did not effect initiation of alcohol use.

The empirical literature on closeness has a broad range of studies, employing a variety of operational definitions and statistical methods. The studies cannot be compared because each has different independent variables and different levels of drinking. None of the studies in this section specify if the families were effected by the parent's marital disruption. The three studies that referenced family structure, Barnes et al. (1997), Barnes et a. (2000), and Hoffmann and Su (1998), state that living in a single parent household was not a significant factor on alcohol use. The first two analyze data from the same sample. Overall the studies suffer from a low prevalence of alcohol use in the samples. Barnes et al. (1997) operationalized alcohol use as heavy use.

Communication

Most studies related to parent-adolescent communication are focused on communication specific to alcohol and drug use for prevention purposes. The research question here is communication on personal problems, the "intimacy of communication" determined by Hirschi (1969), that acts as a deterrent to deviancy. Five studies address communication in this personal manner: Epstein et al., 1995), Griffin et al.

(2000), Jordan and Lewis (2005), Kafka and London (1991), and Sun (2001). The studies on communication are summarized in Table A.4 in the Appendix.

As has been stated in the subsection on family structure, Sun (2001) did a secondary analysis of the National Education Longitudinal Study (NELS) of 1990 and 1992 (n=10,088). Jordan and Lewis (2005) is a secondary analysis of the first two waves of the Add Health data (Resnick, Bearman et al., 1997), focusing on the African American subsample (n=1027). The studies of Epstein et al. (1995) and Griffin et al. (2000) are low income minority samples of selected middle schools. Kafka and London (1991), a small study, is not a randomly selected sample. The power in this study is limited (less than .48). This is the only study that does not have adequate power. It is included in this review because of its direct relevancy to the proposed study on the variable of communication.

Sun (2001) used frequency of alcohol and marijuana use in the past twelve months, with the average use being slightly more than once or twice a year. Jordan and Lewis (2005) operationalized drinking as having drank two or three times in the adolescent's lifetime, a low pattern of drinking. The prevalence for drinking matched prevalence rates of other national studies for African American youth. Griffin et al. (2000) used a composite measure of substance use that included cigarettes. Epstein et al. (1995) examined drinking once a month and drunkenness. The operationalization of alcohol use, measured by having finished a whole drink, was low in the Kafka and London (1991) study. Given the low level of drinking, the prevalence across was higher than reported in the national study, Monitoring the Future (Johnston, Bachman, & O'Malley, 1986): 39% at the urban school site, although less than the national proportions at the suburban school (19.2%).

Results

Different models were tested in this category. Independent variables for Kafka and London (1991), Sun (2001), Epstein et al. (1995), and Griffin et al. (2000) are: family structure, peer drinking, and parental support. Griffin et al. (2000) added monitoring, and Sun (2001) added family relations. Jordan measured the quality of the relationship with the residential, step-father or noncustodial father in addition to communication with these categories of parent. Kafka and London (1991) learned that openness of communication with parents was correlated to less substance use, including less alcohol use. Only 10% of the respondent reported open communication with their fathers. Of the heaviest drinkers, only one reported

open communication with any adult. There were several selection biases, including a disproportionately high number of Haitian students in the sample.

The author of Epstein et al. (1995) operationalized parental support as the frequency of communication between parent and adolescent. They determined that low communication was associated with higher experimental and current drinking. It was not associated with drunkenness.

In two studies communication appears to decrease the likelihood of alcohol use (Epstein et al., 1995 and Kafka and London, 1991) and in a third study, marijuana use (Sun, 2001). Alcohol use had either a low operational definition or a low prevalence in these studies; marijuana was lifetime use. The respondents were older in the studies by Kafka and London (1991), Jordan and Lewis (2005) and Sun (2001); the adolescents were young, middle school students in Epstein et al. (1995) and Griffin et al. (2000). Both Jordan and Lewis (2005) and Griffin et al. (2000) had contrary results, indicating a positive relation between communication and drinking. In the Sun (2001) study, communication was a limited construct of communication on school and achievement issues. Communication, when included in models of the net change from the pre-disruption period, did have a significant negative association with marijuana (Sun, 2001). The authors summarize the study with an overemphasis on the results from correlational analysis. In addition, the measure of communication was not in-person communication, but included communication by letter or telephone.

The results of Kafka and London (1991) on the influence of open communication highlights the lack of positive communication adolescents have with their fathers. Having used conceptualization based on the work of Youniss and Smollar (1985), the results parallel those of the earlier study: father's interaction with their children is circumscribed to certain areas related to school and goals. It is qualitatively different from communication with mothers which is characterized as more confiding and reciprocal. (Conclusions from the research of Youniss and Smollar (1985) were presented in chapter three.) This qualitative difference in types of communication raises an important research question about the influence of communication that on drinking outcomes once there is a separation or divorce. This question represents a gap in the field at the present time.

The longitudinal study of Jordan and Lewis (2005), using Waves I and II of the Add Health data, operationalized drinking at the minimal of having drunk two or three times in a lifetime. The study

population was limited to African American youth. Furthermore, the authors did not specify if drinking results differed when the relationship being examined was with the residential or the noncustodial father. Both communication with the noncustodial father and heavy drinking are examined in this study.

Parental Alcohol Use and Adolescent Alcohol Use

The studies are regional. Hops, Duncan, Duncan, and Stoolmiller (1996) and Hoffmann and Su (1998) studies are not random samples, rather they utilized advertisements, and in the case of Hoffmann and Su (1998), recruited from different health centers, including mental health centers and drug treatment centers. Only the studies from the research group led by Barnes (Barnes et al., 1997 and Barnes et al., 2000) have a representative number of African Americans (22%-29%). All studies are longitudinal, ranging from a short-term longitudinal study by Kandel and Andrews (1987) of five to six months to a 13 years follow-up period (White et al., 2000). These studies are of medium size, except Pandina and Johnson (1989) which is large and White et al. (2000) which is small. These studies are summarized in Table A.5 in the Appendix.

The operationalization of parental drinking varied from family history (Pandina and Johnson, 1989), to substance use disorder (DSM III-R, Hoffman and Su (1998). Barnes et al. (1997) and Barnes et al. (2000) used the occasion of drinking five or more drinks in a session during the past year for mothers, three negative consequences or three drinks per day for fathers. If the fathers were unavailable to investigators, the mother was asked to respond if the father was a problem drinker. This study points how the definition of alcohol use varies from the mother's use to the father's use. The other studies that specified mother's drinking and father's drinking were Hops et al. (1996) and White et al. (2000). Hops et al. (1996) operationalized the parent's drinking as a frequency measurer, and learned that mean of parental drinking was less than four times in a month. White et al. (2000) used a continuous measure of quantity and frequency of alcohol. Similar measures were used for mothers and fathers in these two studies. Pandina and Johnson (1989) divided the parents into four groups among which were two groups of drinkers: those with a family history of alcoholism, a retrospective measure and those with high levels of drinking.

The outcome variables of these studies for adolescent drinking were *frequency of alcohol use* in the past year, six months or past month (Hops et al. 1996), *quantity and frequency* (Pandina and Johnson, 1989; and White et al., 2000), *heavy drinking* (Barnes et al. 1997) and an *alcohol misuse index* (Barnes et

al. 2000). Prevalence appears low for Barnes et al. (2000), and at national levels for Barnes et al. (1997) with male adolescents reporting drinking heavily nine times a year. Hops et al. (1996) the alcohol use was less than four times in a month.; Hoffmann and Su (1998) measured *lifetime use*, and the prevalence was slightly less than the prevalence from the NHSDA for that geographic region; a similar prevalence was reported on quantity and frequency measure in the Pandina and Johnson study (1989). White et al. (2000) divided adolescent drinkers into four groups, with a group they labeled persistent group equaled one third of the sample. One-fifth of the sample could be categorized as heavy drinkers.

Results

Parental alcohol use was a significant factor on alcohol use in studies by Kandel and Andrews (1987), White et al. (2000), Hops et al. (1996), and Hoffmann and Su (1998). Hoffmann and Su (1998) learned that the parental substance use disorder was significant and direct on adolescent drug use at Time 1, but indirect at Time 2. In the study by White et al. (2000), each parent's drinking proved significant. Hops et al. (1996) determined the mother's drinking was critical for the younger adolescents, based on interaction effects of the mother's drinking by the father's drinking by age. White et al. (2000) learned that both the mother's and the father's drinking was significant with higher levels of drinking, although the mother's drinking proved a stronger predictor. In contrast, Barnes et al. (1997) determined that the mother's heavy drinking and the father's problem drinking were not a significant factor in adolescent heavy drinking.

The results of Barnes et al. (2000) are that parental alcohol use has a direct effect on parental support, and an indirect effect, through parental support on adolescent initiation of use and the rate of increase in alcohol use. The model included peer use and family attachment.

The studies on parental alcohol use are more likely to use a definition for the outcome variable of alcohol use either in adolescence or young adulthood, that is higher than the definition utilized in studies related to the other independent variables. Some studies using the higher levels of alcohol determined significance for parental alcohol use (Hops et al., 1996; Pandina and Johnson, 1989; and White et al., 2000). The results of Barnes et al. (2000) do not agree, having learned there were mediating and moderating effects. Hoffmann and Su (1998) found having ever used alcohol significant at Time 1 with parental alcohol use, and parental alcohol use determining a significant indirect effect at Time 2.

Pandina and Johnson (1989) did not find parental heavy drinking, or a family history of drinking, significant for adolescent drinking. Their outcome indicated a trend of parental heavy use or family history predicted intoxication and repeated intoxication in young adulthood. The family history measure may be flawed as it was retrospective, with grandparents representing the largest group of problem drinkers among family members.

In summary, parental alcohol use was predictive of adolescent alcohol use in a variety of studies using varying statistical methods and different levels of drinking, Hoffmann and Su (1998), Hops et al. (1996), Kandel and Andrews (1987), and White et al. (2000). Parental drinking had mediating and moderating effects through family socialization factors (Barnes et al. (1997; Barnes et al., 2000). A significant indirect effect was determined at Time 2 in a non-recursive study by Hoffmann and Su (1998), but family history only indicated a trend for frequency of intoxication in young adulthood in Pandina and Johnson (1989).

None of these studies specified whether there had been a marital disruption in the family. As stated previously, Hops et al., (1996) did find that the family structure of living in a single parent, household in comparison to living in an intact household, had a significant effect on adolescent alcohol and marijuana use, whereas Barnes et al. (1997) did not. The sample examined by Pandina and Johnson (1989) and White et al. (2000) had few families affected by a marital disruption.

The research design of these studies varied Hoffmann and Su (1998) utilized a non-recursive model with the intent of learning if the adolescent's alcohol use affected the parental use. A growth mixture model was used in the White et al. (2000) study. A generalized linear model was employed by Hops et al. (1996). Peer substance use and association were factors for Hoffmann and Su (1998), Kandel and Andrews (1987) and Barnes et al. (1997). Parental monitoring and support were in the model by Barnes et al. (2000) and parental warmth in the White et al. (2000) study.

Religion

Research evidence indicates that adolescents involved with religion are less likely to use alcohol and other drugs (Brunswick, Messeri & Titus, 1992; Marcos and Bahr, 1995; Wallace and Bachman, 1991). This study examines the role of denominations that have strict rules against drinking.

In social control theory, Hirschi (1969) includes the factor of belief in the moral order of society. This concept is defined as attachment to conventional attitudes, not specifically a measure of religious beliefs. Marcos and Bahr (1995) tested for the influence of religion as an added predictor to social control theory. Religious attachment increased the explanatory strength of the model that included parental attachment, educational attachment, and traditional values (Marcos & Bahr, 1995).

In a study to determine the extent to which it is adolescent's religious involvement rather than other cultural factors that effect alcohol use, Wallace, Brown, Bachman, and Laveist (2003) completed bivariate and logistic regression analyses with data from the Monitoring the Future study (2002). Abstinence from alcohol was the outcome variable. Euro-American males and females who stated that they had no religious affiliation were the least likely to be abstinent. In the logistic regression, African American and Euro-American youth who stated that religion was very important to them were significantly different in their abstinence rates from other youth. For Euro-Americans, the influence of a conservative religious denomination was mediated through their attendance and the degree to which they indicated religion was important to them. This mediating effect of conservative denomination was not present for African Americans. Therefore, among youth who consider religion important to them, the association between abstinence and strong religious feelings is more powerful for the Euro-American group.

Brown, Parks, Zimmerman, and Phillips (2001) further explored the question of the effect of religion on African American and Euro-American adolescent drinking patterns. This was a regional study of early adolescence in Ohio and Kentucky (n=899). The outcome variable for the hierarchical regressions was a frequency measure: the number of days they drank in the past month. They determined that Euro-American males consumed more alcohol and had more problem drinking. African American youth are more religious, but religiosity did not significantly predict a lower rate of drinking problems for African American males. However, for white males, fundamental religious affiliation was negatively associated with alcohol use. This study supports the work of Wallace, Brown, and Bachman (2002) on two issues: lower drinking rates of African Americans in comparison to Euro-Americans; and the influence of fundamentalist religion on the lower drinking rates for Euro-American males.

To consider a different perspective on religious affiliation and drinking patterns, I turn to the research of Abel and Kruger (1995). They studied how the public defines drinking behaviors. They

learned those with lower rates of drinking defined light, moderate and heavy drinking at lower levels. Comparing different religious groups, they found the significant differences in definitions were that Catholics defined heavy drinking (on weekends) higher than people who are Jewish or Protestant, and Jews had lower definitions of heavy drinking than those of “other” faiths, that is, religious affiliation other than Protestant, Catholic or Islam. Overall, those who are Jewish have lower definitions of different drinking patterns than those who are Protestant, Catholic, and Islamic, with Muslims defining drinking at a higher level than Jews, but lower than Catholics and Protestants.. However, being a member of the Muslim tradition did not mean that you defined the three drinking patterns significantly differently than the other three main religions. Those who report they are Catholic defined light, moderate, and heavy drinking at higher thresholds consistently than the other religions. There were no significant differences on ethnicity. More precise categories of denomination, such as the Nation of Islam, or specific African American churches were not studied. There was a trend that indicated that education resulted in lower definitions of heavy drinking, which supports the association of lower drinking rates being associated with higher education.

Religious affiliation may serve a protective factor in reducing the level of drinking. This explanatory variable is included in the model.

Summary of the Empirical Review

This review highlights aspects in the research on adolescents and the parents’ marital disruption that require further analysis. The review has used prevalence of alcohol use, sampling characteristics, level of the alcohol use, conceptualization of the independent variable constructs, and specification of marital disruption, as the algorithm by which the studies were analyzed. The major epidemiologic study by SAMHSA (Johnson, et al., 1996), using three years of the National Household Survey on Drug Abuse, determined that living in a single parent household increases the odds for an adolescent to use alcohol one and a half times. However, this study did not examine different subgroups based on whether the adolescents had experienced the marital disruption of their parents. In fact, few studies have specifically approached the question of the effect of separation or divorce on adolescent alcohol use. Rather the distinction has been between single families and intact families. This review uncovered three studies that specified if the single parenthood is a result of the parents’ marital disruption: Flewelling and Bauman

(1990), Simons et al. (1999), and Sun (2001). A fourth study by Forehand et al. (1989) studied outcome of externalizing behavior, an outcome correlated with alcohol use. The lack of specification represents a gap in the current research. I hypothesize that parental marital disruption increases the use of alcohol, a finding obscured when comparing single parent households only with intact households. Further, there have been limited studies on the coincidence of marital disruption and early adolescence (Hines, 1997). Of the studies reviewed here, the analysis by Sun (2001) was of separation during mid-adolescence. This study focuses on the period of early adolescence to learn if the parents' marital disruption presents more risks at this stage in the life cycle. In addition, there is an examination of differential responses of adolescents in the three major ethnic groups.

The studies that examine the impact of interparental conflict are the same studies that specify if the adolescent has experienced the marital disruption of the parents. Family theorists (Amato, 1993; Buehler et al., 1994) and resiliency theorists (Fraser and Galinsky, 2004; Hawkins et al., 1992, and Pollard, Hawkins & Arthur, 1999) provide strong support that it is the conflict in the family that results in poorer adolescent outcomes, including increased substance use. The review here provides supporting evidence: interparental conflict is associated with externalizing behavior (Forehand et al. 1989; Simons et al., 1999) and substance use (Bloch et al., 1990; Bray et al., 2001; and Sun 2001). Sun (2001) established that the net changes in the family environment from the pre-disrupted time periods to the post-separation period predicts increased drug problems for males. Given that few studies focused on alcohol use, there is continued need to study the influence of conflict on alcohol outcomes.

The studies on the involvement of the noncustodial parent are limited. Simons et al. (1999) learned that the father's involvement with the boys served to decrease the likelihood of conduct disorder. However, contradictory findings emerged from the study specifically related to the substance use of African American males, by Thomas et al. (1996), reviewed in chapter three. Jordan and Lewis (2005) concluded that fathers, including noncustodial fathers, had a protective influence on drinking at the level of having tried alcohol two or three times. However their study did not utilize visiting as the measure of involvement, or in person communication to determine the noncustodial fathers' impact. In the present study, visitation, in person communication, and feelings of closeness with the noncustodial parent, father or mother, is examined to learn their influences alcohol use. Study of the involvement of the noncustodial

parent in the three major ethnic groups, utilizing a nationally representative sample, addresses a gap in the prior research.

Social control theory examines the role of the attachment of the adolescents to their parents. The construct of closeness has been variously defined. The conceptualization of the constructs, while differing, do not appear to be the reason for different results in the studies. The factors that seem to lead to different outcomes are the operationalization of the dependent variable, alcohol use at different levels, and the inclusion of different covariates in the models. Since the level of drinking varies from *lifetime use* to *heavy alcohol use*, the definition needs to be factored with the prevalence levels. Low prevalence rates are present for Barnes et al. (2000), Kandel and Andrews (1989), and Dorius et al. (2004); prevalence rates that approximate national rates are present in Barnes et al. (1997), Hoffmann and Su (1998), and White et al. (2000). Different covariates, outcome variables, and research design effects, such utilization of a non-recursive model, contribute to the variation in results. Recognizing this variation, there is still some support for feelings of closeness as a protective factor in adolescent alcohol use from Barnes et al. (2000) Hoffmann and Su (1998), Kandel and Andrews (1987), and White et al. (2000). White et al. (2000) detected a trend of parental warmth having a positive influence, in a test of drinking in adulthood.

None of the studies on feelings of closeness specified marital disruption as a covariate. The influence of the parents' marital disruption examined with the independent variable of feelings of closeness needs further research. None are national samples, only the two studies by Barnes and her colleagues (1997; 2000) have adequate representation of minority members. These limitations are addressed in this study. This research extends the construct of feelings of closeness to the noncustodial parent, father or mother. The operationalization of the dependent variable is heavy drinking, having had five drinks on a drinking occasion, at least two times in the past two weeks. The Add Health data for Wave III has a prevalence rate of drinking at this level at 57.5%, broad enough to provide a meaningful analysis.

In three studies, communication appears to decrease the likelihood of alcohol use (Epstein et al. 1995; Kafka and London, 1991; and Sun (2001). Griffin et al. (2000) and Jordan and Lewis (2005) had contrary results, indicating a positive relation between communication and substance use. In the Sun (2001) study, communication was a limited construct of communication on school and achievement issues. Communication when included in models of the net change from the disruption period, did have a

significant negative association with marijuana (Sun, 2001). The research question of Kafka and London (1991) on the influence of open communication highlights the lack of positive communication adolescents have with their fathers. This type of communication raises an important research question about communication once there is a separation or divorce. This question represents a gap in the field at the present time. There are few studies on parent-adolescent communication that focus on the noncustodial parent, another impetus for the current study. Furthermore, this study examines noncustodial parent-adolescent communication during early adolescence not later in adolescence as did Jordan and Lewis (2005) and Sun (2001).

The studies on the impact of parental alcohol use were regional, most of medium size, and lacked ethnic representation, with the exception of the two studies from the Barnes group (1997; 2000). Two had recruited samples: Hoffmann and Su (1998) and Hops et al. (1996). The drinking measure for adolescents or adults at later waves of data collection (Pandina and Johnson, 1989; White et al. 2000) varied from having *ever drank* to *heavy drinking*. Studies with the highest prevalence of adolescent drinking had contrary results: Hops et al. (1996) determined significance of parental alcohol use with adolescent use, but in the study by Barnes et al. (1997), having parents who were heavy drinkers was not significant with adolescent drinking.

To summarize, while parental alcohol use was significant for higher adolescent alcohol use in a number of studies (Hops et al., 1996; Hoffmann and Su, 1998; Kandel and Andrews, 1987; and White et al., 2000), no significance was reported by Pandina and Johnson (1989) or Barnes et al. (1997). These equivocal findings leave this an open question. Generally the inclusion of other key factors such as parenting behaviors and peer influence reduced the significance of the parental drinking (Barnes et al. 1997; Barnes et al. 2000; Hoffmann and Su, 1998). The impact of separation and divorce during early adolescence on later drinking has not been studied as a covariate with parental alcohol use. None of these studies on parental alcohol use examined the impact of the noncustodial parent. There is a need to study the issues with a nationally representative sample, as noted by Barnes et al. (2000).

Religion is important for African Americans. However, religion was not determined to influence problem drinking for African American males in the Brown et al. study (2001). Fundamentalist religions were protective for Euro-Americans but not African Americans (Brown et al., 2001). In a study of lay

people's perception of how different drinking patterns are defined, Muslims who have strict rule against drinking, defined drinking behavior at higher levels than Jews, but lower levels than Protestants and Catholics (Abel & Kruger, 1995) Religion is included as an explanatory variable in this research.

Since low levels of drinking are present in the African American community, it is important to study ethnicity and family structure. The lower levels of drinking can suppress other variables both for alcohol initiation because African American youth initiate later, and for heavy drinking. The question about whether African American youth responded with less behavioral problems to the parents' marital disruption is suggested by Amato and Keith (1991a). This review has highlighted the contrasting results for African American male adolescents of having an involved father, protective for Jordan and Lewis (2005) and a risk factor for substance use for Thomas et al. (1996). The focus is on relations with the noncustodial parent following a marital disruption and heavy drinking among the three major ethnic groups.

To conclude, identified research addressed by this study are: utilization of a national probability sample, adequate representation of African American and Hispanic American youth, a long-term panel study design, specification of marital disruption during early adolescence, broad prevalence of alcohol use, examination of heavy drinking as an outcome variable in emerging adulthood. Explanatory variables are: relations with parents, including the noncustodial parent, interparental conflict, influence of visits, religion, and parental alcohol use are studied.

Chapter Five

Methodology

Problem Statement

The focus of the research is the impact of parents' marital disruption during early adolescence on alcohol use in young adulthood. The dependent variable is heavy drinking, defined as drinking five or more drinks on one occasion, two or more times in the past two weeks. In addition to family structure, the adolescent-parent relationship characteristics measured for both the biological residential parent and the noncustodial parent, are: interparental conflict, feelings of closeness between parent and adolescent, activities with the parent, communication, and visitation with the noncustodial parent. The factors of the parents' alcohol use and religious affiliation are included in the model. The sample comprised males in their early adolescence because males have higher rates of heavy drinking and more frequently progress to problematic drinking in the adult years.

This chapter is divided into four sections: description of the data source (Add Health, Resnick, Bearman, et al., 1997), the subsample, operationalization of the variables, and the methodology.

Data Source

This study is a secondary analysis of the National Longitudinal Study on Adolescent Health (Add Health). This is a nationally representative, multi-stage, sequential panel database of 26,000 adolescents and their families, at Wave I. The study consists of an unequal probability sample of 80 high schools and 52 middle schools in the United States. The systematic sampling methods and stratification allows for a representative sample of geographic area, ethnicity, and population density (Add Health, faqs, internet communication, 2006). Minority group members and well-educated African Americans were over-sampled. Study participants were interviewed at Wave I in 1994-1995; Wave II in 1996, and Wave III in 2001-2002. Additionally, there were in-home interviews of a subsample of parents at Wave I. At Wave III, there were 10,828 respondents with data from all three waves.

The study was a prospective study, in which independent variables were derived from the first two waves and the unit of observation was the individual. The primary aim was to predict the impact of the

parents' marital disruption, parent-adolescent relations, and parent qualities, on heavy drinking by men in young adulthood (Wave III).

The subsample used for this study was composed of younger male adolescents, aged 12-15 at Wave I, who completed all three waves, yielding a final sample size of 2,669. The respondents were between ages 19-23 at the time of Wave III. The outcome variable, heavy drinking, was defined as consuming five or more drinks on one occasion, in the past two weeks, in young adulthood. The saliency of the adolescent's response to marital disruption was examined by comparing the effects of the parents' marital disruption at two time periods, childhood, defined as ten years old or less, and the adolescent period, ages 11 to 15.

The following study participants were excluded: adolescents in single-headed of households as a result of death, adopted children, and adolescents in group homes. The intent was to exclude other major life experiences from the effects of separation and divorce. Older adolescents, aged 16 or older at Wave I were excluded, as were members of ethnic groups other than the three major ethnic groups (Euro-American, African American, and Hispanic American). In addition, since the focus was on the parents' disruption, interparental conflict and drinking patterns, a decision was made that only those who had biological or stepparent respondents would be in the sample. Exclusion of extended family members and information on their separation or conflict and drinking, ensured that the adolescent had the experience of the parents' behavior, not exposure to behaviors by extended family members when the adolescent was out of the parental home. Since the study interest was in relationship qualities with the noncustodial parent, those adolescents whose noncustodial parent is deceased were excluded. Only those respondents who have weights at Wave III were included.

Measures

Three waves of the Add Health data are used. Respondents to the Parent Questionnaire were 2487 biological residential mothers, 43 stepmothers; 136 biological residential fathers, and 3 stepfathers. In addition to data from the adolescents, the Parent Questionnaire provided information from the parents' perspective. Such parental data include the alcohol use of the parents and interparental conflict. Measures of feelings of closeness, communication between parent and adolescent, including between the

noncustodial parent and the adolescent, and activities they participate in, are from the youth's perspective at Wave I.

Definition of Dependent, Independent and Demographic Variables

The definition for the dependent variable was based on the National Household Survey on Drug Abuse (SAMHSA, 2001). These data indicate that over 35% of people aged 18-20 had an occasion of binge drinking in the past month. Furthermore, males whose ages range between 18 and 25, the emerging adult period, report 39 binge drinking episodes in the past year (Naimi et al., 2003). Researchers utilize heavy drinking and binge drinking with similar measures for the quantity of alcohol: five or more drinks in a drinking episode, with the frequency of two to four days a month (Nielsen, 2000; Schulenberg, O'Malley, Bachman, Wadsworth, & Johnston, 1996; Windle, Munn & Windle, 2005). Schulenberg et al. (1996) determined that those drinking at a similar level demonstrate a trajectory that leads to chronic drinking pattern by emerging adulthood.

From the perspective of how the average person defines heavy drinking, Abel and Kruger (1995) learned that young adults, ages 21-30, quantified heavy drinking as five or more drinks on weekend days, approximating the researchers' definition of heavy drinking. Based on this literature, the outcome variable of heavy drinking for this study was defined as consuming five or more drinks on an occasion, two or more times during the past two weeks. Although this amount is slightly less than the drinking pattern of chronic drinkers reported in the Schulenberg study (Schulenberg et al., 1996), it ensures consistency among young adults attending college and those not attending college (Muthen & Muthen, 2000; White, Labouvie & Papadaratsakis, 2005).

The sample has four mutually exclusive subgroups based on family structure: (1) intact families who have never experienced a disruption, (2) marital disruption when the child is younger than age 11, (3) marital disruption during the child's early adolescence, and (4) families headed by a single, never married parent. In the instances when the adolescent reported having not lived with the biological, noncustodial parent from Waves I to II, and also a disruption prior to age 11, the adolescent was categorized as having had a childhood disruption. The rationale was that the first disruption had been a separation from the biological parent, and therefore this separation was the

most likely to have had an influence on later behavior. Given that there were discrepancies in the parental data and the adolescent data, concerning when the adolescent last lived with the noncustodial parent, the adolescent report as used by performing a cross-tabulation of when he lived with both parents. The items used to define if the adolescent had experienced a marital disruption were the year the adolescent last lived with the biological noncustodial parent, and the year they last lived with the biological, noncustodial parent at Wave II.

Given that the independent and control variables were categorical, dummy variables were formed. Interparental conflict was measured by an item (pb20) on the Parent Questionnaire indicating if the parents argue or fight. The measure of conflict consisted of the conflict the adolescent observed in early adolescence, not necessarily conflict between married partners, because some respondents may be referring to former partners. Conflict was coded as 0 when there was no response, there was no partner (not applicable), and there was low conflict. Coding for the conflict variable, as well as the independent and demographic variables is detailed in Table 1.

Closeness with parents was measured at Wave II. When the family was intact, the responses for the mother were used; when the biological mother was absent, the responses of the residential biological father were used. With regard to the measures assessing an activity with the parent in the past four weeks as well as communication, the responses from the biological parent who resided with the adolescent were used.

Relations with the Noncustodial Parent

Variables for the adolescent's relationship with the noncustodial parent were: feelings of closeness, participation in activities, and communication. In addition, the frequency of overnight visitation was assessed. There was no distinction made between a noncustodial father and mother.

Parent alcohol use was a frequency measure, the higher of either the respondent or the partner of the respondent, coded 1 for drinking nearly every day. In only 56 cases was there a step-parent respondent, so the majority of the respondents were the residential, biological parent. The parental alcohol use question differs from the measure of heavy alcohol use as defined for the young adults in this study.

Religion

Five groups were developed to determine religious affiliation: no religion (11.5%), mainline Christian religions that do not have strong rules against drinking alcohol (Eastern Orthodox, Catholic, and Protestant, 76.7%), Jewish (.9%), religions with strict abstinence rules (6.1%) and religions other than the 28 specified, refusal or missing responses (4.9%). The strict religious groups were: Evangelical Protestant, Mormon, Moslem, Nation of Islam and Hindu. The reference group was formed of respondents who endorsed having no religious affiliation.

Demographic Variables

The family's socioeconomic status was established by using the family income as reported by the parent respondent at Wave I. There was ten percent missing responses on the income variable, and these were imputed with the impute command of STATA 8.2, based on mother's education, receipt of public assistance, ethnicity, and religious affiliation. The ethnic group membership was African American, 19.4% (n=517), Euro-Americans 64.3% (n=1717), and Hispanic Americans, 16.3% (n=435).

Table 1: Dependent, Independent and Demographic Variables.

Study Variables			Source	
Description	Format	Wave/ variable name	Question	Response Format
Dependent Variable				
Heavy Drinking	Binary 1 = Heavy drinking (5 or more drinks per occasion/2 or more times in past two weeks) 0 = Not heavy drinking	Wave III h3to41	During the past two weeks, how many times did you have 5 or more drinks on a single occasion, for example, in the same evening?	0 none, drinks range 1-14 .
Independent Variables				
Family disrupted in childhood	Binary	Wave I		
CHI.DISR	1 = disrupted when adolescent was less than age 11; if experienced a second disruption, considered childhood disruption 0 = no disruption in childhood	H1nm7 H1nf7	Have you ever lived with your mother/father?	0 less than 1yr old 11=11 to 18 yrs.
		H1nm8 H1nf8	How old were you when you last lived with mother/father?	
Family disrupted in early adolescence	Binary	Wave I		
ADOL.DISR	1 = Intact family experienced disruption when adolescent age 11-15 0 = no disruption in early adolescence	H1nm7 H1nf7	Same as above	Same as above
		H1nm8 H1nf8	Same as above	Same as above
		H2nm4 H2nf4	Is she/he still living?	0=No 1=Yes
		H2nm3y H1nf9	In what year did you last live with him/her?	1995/1996
Family never married	Binary	Wave I		
NMAR	1 = Never married 0 = Married	H1nf8 H1nm8	How old were you when you last lived with your mother/father?	Same as above. Cross-tabulated to ensure mother and father never report marriage

Interparental Conflict	Binary	Wave I	How much do you fight or argue with	Likert scale: 1 a lot, 2 some, 3 a little,
	Dummy Variable 1:	PB20	your current (spouse/partner)?	4 not at all.
CONFLICT	For intact families			
	0 = Low (Likert = 3, 4)			
CONFLICT.ADOL.DISR	1 = High (Likert = 1, 2)			
	Dummy Variable 2:			
	For families with marital disruption			
	in early adolescence, 11-15			
	0 = Low (Likert = 3, 4)			
	1 = High (Likert = 1, 2)			
CONFLICT.CHI.DISR	Dummy Variable 3:			
	For families with marital disruption			
	in childhood, <11yrs of age:			
	0 = Low (Likert = 3, 4)			
	1 = High (Likert = 1, 2)			
Closeness	Binary	Wave II		
CLOSE	Dummy Variable 1: All family types	H2wp9	How close do you feel to residential	Likert scale: 1 not close at all,
	For subgroup of intact families –		mother (if biological mother)?	2 not very, 3 somewhat,
	mother			4 quite, 5 extremely.
	For disrupted families - residential		How close do you feel to your residential	
	parent		father (if biological)?	
	0 = low feelings of closeness to	H2wp13		
	biological, residential parent			
	(Likert = 1, 2, 3)			
	1 = high closeness			
	(Likert = 4 or 5)			
CLOSE.NCP	Dummy Variable 2	Wave II		
	For subgroup of disrupted families	H2nm13	How close do you feel to biological	Likert scale: 1 not close at all, 2 not
		H2nf13	(noncustodial -ncp) mother/father?	very, 3 somewhat,
	0 = low closeness to ncp mother			4 quite, 5 extremely.
	or father (Likert = 1, 2, 3)			
	1 = high closeness to ncp			
	mother or father			
	(Likert = 4 or 5)			

Activities ACTV	Binary Dummy Variable 1 For all family types 0 = No activities with biological, residential parent (mother if intact family) 1 = Activities with biological, residential parent (mother if intact family)	Wave II H2wp17k H2wp18k	Which of the following things (listed on this card) have you done with your biological mother/father in the past 4 weeks? K= None of the above.	List includes movies, religious activities, school involvement and daily activities. 0 Yes, none of above 1 One or more of the above
ACTV.NCP	Dummy Variable 2 For subgroup of disrupted families 0 = No activities with ncp 1 = Activities with ncp	H2nm11k H2nf11k	Same question	Same response options
Communication COM	Binary Dummy Variable 1 For all family types 0 = Not talking of personal problems to biological, residential parent 1 = Talking of person problems to biological , residential parent	Wave II H2wp17f H2wp18f	Which of the following things (listed on this card) have your done with your biological mother in the past 4 weeks? F = Talked about personal Problems (if residential parent is biological father)	0 No 1 Yes
COM.NCP	Dummy Variable 2 For subgroup of disrupted families 0 = Not talking of personal problems to noncustodial parent (ncp) 1 = Talking of personal problems to ncp	H2nm11f H2nf11f	Same question	Same response options
Overnight Visits NCP.VISIT	Binary Subgroup of disrupted families, counted through age 16 0 = Not visiting overnight once/month 1 = Visiting overnight once/month or more	Wave II H2nm9 H2nf9	In the last twelve months, how often have you stayed overnight with noncustodial parent?	0 not at all, 1 once or twice, 2 several times, 3 about once /month, 4 about once/week, 5 more than once/week.
Parental Alcohol Use PARENT.ALCOHOL	Binary For intact families, highest drinking level of either parent 0 = Low (3 -5 times/wk or less) Likert 1, 2, 3, 4, 5 1 = High (nearly every day)	Wave I Parent interview PA61	How often do you drink alcohol?	1 never, 2 once/month or less, 3 two or three days/month, 4 once or twice/week, 5 three-five times/wk, 6 nearly daily. Partner: 1 never 2 once/month or

	Likert 6	PB22	During the past 12 months, about how often did your current (spouse/partner) drink alcohol?	less, 3 two or three days/month, 4 once or twice /week, 5 three –five times/week, 6 nearly every day
Religion	Binary			
CH_Rel	Reference group is non-affiliated:No_rel 0 = Non-Catholic 1 = Catholic, Orthodox, or Protestant	Wave 1 H1RE1	What is your religion?	Over twenty denominations and sects listed.
Min_Rel	0 = Non-Jewish 1 = Jewish			
O_Rel	0 = No specific drinking prohibition 1 = Nondrinking strictures (i.e. Mormon, Evangelical Protestant, Jehovah Witnesses, Mormon, Moslem, Nation of Islam,)			
Age yr	12-15	Wave I H1gi1y H1gi1m	What is your birth date (year)?	Numerical years: 12-15
Ethnicity	Euro-American is the reference group;	Wave I H1gi6a	What is your birth date (month)?	1 January to 12 Dec.
H	0 = other 1 = Hispanic American	H1gi4	What is your race? White?	0 Not marked 1 Marked
A	0 = other 1 = African American (other ethnic groups excluded)	H1gi6b	Are you of Hispanic or Latino origin?	0 Not marked 1 Marked
			What is your race? Black or African American?	0 Not marked 1 Marked
Socioeconomic Status	Income: Reference group is 0-\$32,000	Wave I	About how much total income, before taxes did your family receive in 1994?	0- over \$999,000
SES_mid_imp	0 = other 1 = \$33,000-60,000	Pa55	Include your own income, income of everyone else in your household, and income from welfare benefits, dividends, and other sources.	Imputed using ethnicity, mother's education, religion and AFDC benefits
SES_hi_imp	0 = other 1 = over \$60,000			

Hypotheses and Analyses

We are interested in probability of heavy drinking, given family factors, denoted by $\Pr(\text{Heavy Drinking} / \text{Family Factors})$. Then the relative probability (odds) of heavy drinking given family factors is defined as

$$\begin{aligned} \text{Ln[ODDS OF HEAVY DRINKING]} &= \frac{\Pr(\text{Heavy Drinking} = 1 | \text{Family factors})}{\Pr(\text{Heavy Drinking} = 0 | \text{Family factors})} \\ &= \frac{\Pr(\text{Heavy Drinking} = 1 | \text{Family factors})}{1 - \Pr(\text{Heavy Drinking} = 1 | \text{Family factors})} \end{aligned}$$

The natural logarithm of odds of regular drinking is defined as linear Model 1, that is

$$\begin{aligned} \text{Ln[ODDS OF HEAVY DRINKING]} &= \beta_0 + \beta_1 \text{ADOLDISR.} + \beta_2 \text{CHDISR.} + \beta_3 \text{NMAR} + \\ &\quad \beta_4 \text{CONFLICT} + \beta_5 \text{CONFLICT.ADOLDISR} + \beta_6 \text{CONFLICT.CHDISR} \\ &\quad \beta_7 \text{CLOSE} + \beta_8 \text{ACTV} + \beta_9 \text{COM} + \beta_{10} \text{NCP.VISIT} + \beta_{11} \text{CLOSE.NCP} + \\ &\quad \beta_{12} \text{ACTV.NCP} + \beta_{13} \text{COM.NCP} + \beta_{14} \text{PARENT.ALCOHOL} + \\ &\quad \beta_{15} \text{A} + \beta_{16} \text{H} + \beta_{17} \text{SES_mid_imputed} + \beta_{18} \text{SES_hi_imputed} . \end{aligned}$$

The extended model, Model 2, is added to the following to the above equation:

$$\begin{aligned} &\dots + \beta_{19} \text{CH_REL} + \beta_{20} \text{MIN_REL} + \beta_{21} \text{O_REL} \\ &\quad + \beta_{22} \text{ADOL.DISR*H} + \beta_{23} \text{ADOL.DISR*A} + \beta_{24} \text{CLOSE.NCP*H} \\ &\quad + \beta_{25} \text{CLOSE.NCP*A} + \beta_{26} \text{VISIT.NCP*H} + \beta_{27} \text{VISIT.NCP*A} . \end{aligned}$$

It is hypothesized that the exponentiated coefficient for hypotheses that demonstrate a protective function (β) will be less than zero, indicating a negative association with the family factor and heavy drinking. Odds ratio will be less than one.

The hypotheses are delineated with the null hypotheses, alternative hypotheses, and exponentiated coefficients. Each coefficient corresponds to the term utilized in the STATA program. For clarity the abbreviations are in Table 1. They are as follows: marital disruption in childhood, designated by CHIDISR, disruption in adolescence by ADOLDISR, never married families by NMAR, feelings of closeness by CLOSE, activities by ACTV, noncustodial parent by NCP, communication by COM, and parental alcohol use by PARENT.ALCOHOL. (See Table 1). Abbreviations for the ethnic groups are: A for African Americans, H for Hispanic Americans. Euro-Americans form the reference group. The control variables are denoted SES_mid (imputed) and SES_hi (imputed) for family income; the reference group members have incomes from 0 to \$32,000, based on earnings statistics from the 2003 Encyclopedia of Social Work (Dazinger in English, 2003). The interaction terms are conflict and marital disruption of the parents coinciding with early adolescence CONFLICT.ADOLDISR and CONFLICT.CHIDISR for conflict and a disruption in childhood. For the extended model, examining religion and ethnicity, the main effects of religion are No_rel for stating one has no religious affiliation; CH_Rel for Mainline Protestant, Catholic Eastern Orthodox religions, those not having strict rules against drinking alcohol; Min_Rel for the Jewish religion; O_Rel for religions that have strictures prohibiting alcohol use; and a non-response category. The interaction terms are: parents' marital disruption in early adolescence and ethnicity, ADOL.DISR*H AND ADOL.DISR*A; CLOSE.NCP*H and CLOSE.NCP*A for feeling close to the noncustodial parent; and VISIT.NCP*H and VISIT.NCP*A for visitation. Further exploration of relations with the noncustodial parent by ethnic group, Hypotheses XI a and XI b, could not be completed due to the limited number of observations per cell.

- I. Living in an intact family in adolescence is negatively associated with heavy alcohol use in young adulthood compared to living in families with a marital disruption or in a single parent families. (β_1 is the coefficient for CHI.DISR and β_2 is the coefficient for ADOL.DISR and β_3 NMAR is the coefficient for never married households.

$$H_0 = \beta_1 = \beta_2 = \beta_3 = 0$$

$$H_a = \beta_1 > 0 \text{ and } \beta_2 > 0 \text{ and } \beta_3 > 0$$

- II. Adolescents who experience the marital disruption of their parents during early adolescence, ages 11 to 15, are more likely to have heavy alcohol use in young adulthood than adolescents in families with the parents' marital disruption during childhood, younger than age 11.

(Note: β_1 is the coefficient for CHI.DISR and β_2 is the coefficient for ADOL.DISR.)

$$H_o = \beta_1 = \beta_2$$

$$H_a = \beta_1 < \beta_2$$

- II a. Adolescents who experience the parents' marital disruption are more likely to have heavy drinking than adolescents living with a single parent who has never married. (Note: β_3 is the coefficient for NMAR, never married.)

$$H_o = \beta_3 = \beta_1 = \beta_2$$

$$H_a = \beta_1 > \beta_3 \text{ and } \beta_2 > \beta_3$$

- III: Conflict between the parents during the child's early adolescence will increase the likelihood of adolescents progressing to heavy alcohol use in young adulthood for the adolescent whose families are affected by marital disruption in early adolescence, compared to intact families and families experiencing marital disruption in childhood. (Note: β_5 is the coefficient of CONFLICT.ADOLDISR and β_6 is the coefficient of CONFLICT.CHDISR.)

$$H_o = \beta_5 = 0$$

$$H_a = \beta_5 > 0 \text{ and } \beta_5 > \beta_6$$

- IV. Parent-adolescent relationships characterized by a higher degree of closeness during adolescence will decrease the likelihood of heavy alcohol use in young adulthood.

(Note: β_7 is the coefficient of CLOSE and β_8 is the coefficient of ACTV.)

$$H_o = \beta_7 = 0$$

$$H_a = \beta_7 < 0$$

$$H_0 = \beta_8 = 0$$

$$H_a = \beta_8 < 0$$

- V. Good communication between parent and adolescent will have a negative association

with heavy alcohol use in young adulthood. (Note: β_9 is the coefficient of COM.)

$$H_0 = \beta_9 = 0$$

$$H_a = \beta_9 < 0$$

- VI. Among families with a marital disruption, monthly overnight visitation with the noncustodial parent, will result in less likelihood of transition to heavy alcohol use in young adulthood.

(Note: β_{10} is the coefficient of NCP.VISIT.)

$$H_0 = \beta_{10} = 0$$

$$H_a = \beta_{10} < 0$$

- VII. Among disrupted families, feeling close to the noncustodial parent will decrease the likelihood of heavy alcohol use. (Note: β_{11} is the coefficient of CLOSE.NCP and β_{12} is the coefficient of ACTV.NCP.)

$$H_0 = \beta_{11} = 0$$

$$H_a = \beta_{11} < 0$$

$$H_0 = \beta_{12} = 0$$

$$H_a = \beta_{12} < 0$$

- VIII. Good communication with the noncustodial parent will have a negative association with heavy alcohol use in young adulthood among disrupted families.

(Note: β_{32} is the coefficient of COM.NCP.)

$$H_0 = \beta_{32} = 0$$

$$H_a = \beta_{32} < 0$$

- IX. Parental alcohol use during a youth's early adolescence increases the likelihood of heavy alcohol use in young adulthood. (Note: β_{14} is the

coefficient of PARENT.ALCOHOL.)

$$H_0 = \beta_{14} = 0$$

$$H_a = \beta_{14} > 0$$

- X. The likelihood of heavy drinking will be higher in the mainline denominations of Protestantism, Eastern Orthodox, and Catholicism than in Judaism or religions with strict prohibitions against drinking. (Note: β_{19} is the coefficient of CH_rel, the Orthodox, Catholic and mainline Protestant religions, β_{20} is the coefficient of Jewish, the Jewish religion. β_{21} is strict, religions with strict anti-drinking prohibitions. The reference group is having no religious affiliation.

$$H_0 = \beta_{19} = 0$$

$$H_a = \beta_{19} > 0$$

$$H_0 = \beta_{20} = 0$$

$$H_a = \beta_{20} < 0 \text{ and } \beta_{19} > \beta_{20} \text{ and } \beta_{19} > \beta_{21}$$

- XI. The influence of the parents' marital disruption in early adolescence will impact adolescents more in Euro-American and Hispanic American ethnic groups, as demonstrated by higher rates of heavy drinking in those groups than for African Americans. (Note: β_{22} is the coefficient of ADOL.DISR*H and β_{23} is the coefficient of ADOL.DISR*A.)

$$H_0 = \beta_{22} = 0$$

$$H_a = \beta_{22} < 0 \text{ and } \beta_{23} < \beta_{22}$$

- XI a. The protective effect of a close relationship with the noncustodial parent will be smaller for African American youth than youth in the other ethnic groups.

(β_{25} is the coefficient of CLOSE*A and β_{24} is the coefficient of CLOSE*H.)

$$H_0 = \beta_{25} = 0$$

$$H_a = \beta_{25} > 0 \text{ and } \beta_{25} > \beta_{24}$$

- XI b. The protective effect of visiting the noncustodial parent overnight on a monthly basis

for African American youth will be smaller than for youth in the other ethnic groups.

(β_{27} is the coefficient of VISIT*A and β_{26} is the coefficient of VISIT*H.)

$$H_0 = \beta_{27} = 0$$

$$H_a = \beta_{27} > 0 \text{ and } \beta_{27} > \beta_{26}$$

Analytic Methods

The frequency distributions of independent and control variables are described above.

Initial analyses included correlations of the independent variables were completed to determine the extent to which the independent variables were intercorrelated. Multicollinearity was explored for variables measuring relations with parents in the logistical regression analysis using *F* tests. No multicollinearity was found.

The second analysis was the examination of the bivariate association between the outcome variable and the explanatory and control variables. The Pearson chi-square statistic with the appropriate correction was calculated to identify bivariate association between the explanatory variables and the outcome variable. The Rao and Scott correction is the default in the software STATA version 8.2 (with svytab procedure, STATA manual, 2004, Rao & Scott, 1981). This correction takes the complex, multi-stage sampling design of the Add Health data into consideration while calculating the statistics. The standard error will be underestimated unless the survey estimation techniques (svytab and svylogit) are utilized. The data included strata (region) and probability sampling units (PSU), and weights developed by the Add Health research group for Wave III (GSWGT_3). The software of STATA 8.2 is designed to incorporate representative estimates. The bivariate analyses were completed on the subsample for this study.

Logistic regression

The logit model, a type of log-linear modeling for the binary dependent variable, provides the ratio of the probability of an event occurring to the event not occurring. The main effects model to test the influence of the independent variables on the outcome variable of heavy drinking was estimated by the logit model. The logit was transformed by the log of the odds, thereby transforming nonlinear data to approximate normal distribution. The independent variables were interpreted to be protective if the

estimated β was less than zero; a risk factor, if the estimated β was greater than zero. When reported as an odds ratio, the interpretive statement is that it is significantly greater than one (i.e., lower band of confidence interval greater than one) and “compared to the reference group, the group that the coefficient is representing is significantly more likely to engage in heavy drinking.” The transformed 95% confidence intervals, those that result from using the log of the odds, are presented in Tables 5 and 6, with the odds ratios. Logistic models are estimated by full maximum likelihood estimators. To test the significant difference from the null hypothesis, the adjusted Wald statistic was used.

The multivariate model examined the hypotheses on family structure (hypothesis I, hypothesis II and IIa), conflict (hypothesis III), the adolescent's relations with the residential parent (hypotheses IV and V), and his relationship with the noncustodial parent (hypotheses VI, VII, VIII). Two further hypotheses were included in the main effects model: parental alcohol use (hypothesis IX) and religious affiliation (hypothesis X). The relationship factors that were considered protective were: living in an intact family (hypothesis I), living in a never married family (hypothesis II and IIa), having positive relations and communication with the biological residential parent (hypotheses IV and V), visiting (hypothesis VI), having positive relations and communication with the noncustodial parent (hypotheses VII and VIII), and being affiliated with a religion with strictures against drinking or affiliated with Judaism (hypothesis X). The inverse of these family structure and relationship factors are considered to indicate risk, for example, having experienced the parents' marital disruption. Further, hypotheses that examine risk factors were: experiencing conflict in a family that was disrupted during adolescence (hypothesis III), having a parent figure model daily drinking (hypothesis IX), and the interaction of ethnicity and adolescent disruption (hypothesis XI). Due to small frequencies, more specific interaction terms of ethnicity and relations with the noncustodial parent could not be examined (Hypotheses XI a and b).

Bivariate analyses did not indicate that there were significant associations among the independent variables and heavy drinking in emerging adulthood. To examine the hypotheses, all variables were retained in the main effects model and the interactional model.

The results of the bivariate and logit analyses follow.

Chapter Six

Results

The hypotheses that family structure, the experience of the parents' marital disruption, and the relations with the parents, either residential or noncustodial, would influence heavy drinking in young adulthood, were not supported in the bivariate analysis (Tables 5, 6 and 7) or the logistic regression (Tables 8 and 9). Heavy drinking was operationalized as having five or more drinks on an occasion, two or more times in the past two weeks. The direction of the odds ratios was as predicted, but the main effects model did not reach significance ($p = .417$, Table 8).

Model 2, with interaction terms for disruption and ethnicity, was not significant ($p = .358$, Table 9). The lack of significant findings does not confirm the null hypotheses. These results differ from the theoretical concept of the life cycle that posits that early adolescence is a vulnerable period, a time when other family events would exacerbate problems for the adolescent. Living in a family structure other than an intact marriage did not promote heavy drinking at a later stage of development, in contrast to earlier studies (Hops et al., 1996; Johnson et al., 1996). Relations with the biological residential and the noncustodial parent did not have statistically significant influence. Parental drinking did not have a significant relation to heavy drinking. Experiencing interparental conflict was not significant for intact or disrupted families. Affiliation with a religious group that maintains strict rules against alcohol consumption was not significantly more likely to predict lower levels of drinking than affiliation with mainline Christian religions. However, being Jewish was protective against heavy drinking. Exceptions to these generalizations, even when they did not reach significance, are discussed under the subsections on conflict and on the interaction model of disruption and ethnicity. Interpretive statements, practice and policy implications, and discussion of future research are in chapter seven.

Descriptive Analysis

The final sample size was 2,669 males between the ages of 19 and 23 at Wave III (Table 2). A large proportion of the sample was aged 22 to 23 years old (41.4%). Fifty-seven percent engaged in heavy drinking as defined as drinking five or more drinks on an occasion, twice in the past two weeks. Ethnically the sample divided into 19.4% African American, 64.3% Euro-American, and 16.3% Hispanic American. Ten percent of the responses on income were missing. Using STATA 8.2 impute command, I imputed missing data on income, with weights, to achieve the final classification of socioeconomic class: 36.3% ($n = 969$) who had incomes of \$32,000 or less; 43.4%

(n=1158) who had incomes between \$33,000 and \$60,000; and 20.3% (n=542) with incomes over \$60,000. The respondents who had experienced the parents' marital disruption were 27.3% of the sample (n= 744); those who had the disruption in childhood were 16.1% (n=446); and those who had the disruption in adolescence were 11.2% (n=298). Just over six percent were in families whose head of household had never married (n=148). Sixty-six percent of young adults lived in a household that had not experienced a disruption (n=1777). Table 2 provides the summary of the description of the sample.

Table 2: Characteristics of the Sample

Variables		Frequency	%
Total		2,669	100
Dependent Variable: Heavy Drinking			
No		1,134	42.5
Yes		1,535	57.5
Age at Wave I	Wave III		
12	19	340	12.7
13	20	541	20.3
14	21	682	25.6
15	22-23	1,106	41.4
Ethnicity			
Euro-American		1,717	64.3
African American		517	19.4
Hispanic American		435	16.3
Socioeconomic Status (Income) †			
0 - \$32,000		969	36.3
\$33,000 - 60,000		1158	43.4
Over \$60,000		542	20.3
Family Structure			
Never Married		148	5.6
Disrupted at Childhood		446	16.7
Disrupted at Adolescence		298	11.2
Intact		1,777	65.6
Conflict in all Family Types			
Low		1423	53.3
High		646	24.2
No Partner, missing		600	22.5
Closeness to Residential Parent			
High		2,389	89.5
Low		280	10.5

Activities with Residential Parent		
Some	2,548	95.5
None	121	4.5
Communication with Residential Parent		
High	792	29.7
Low	1,890	70.3
Residential Parent Drinking (Daily)		
Yes	194	7.3
No	2,475	92.7
Religion		
No religion	306	11.5
Mainline Christian (without strictures against drinking)	2,047	76.7
Jewish	23	0.9
Religions with strictures against drinking	162	6.1
Non-response/refused	131	4.9
† 10.3% were imputed		

The variables that describe the adolescent's relations with the residential, biological parent are: feelings of closeness, participation in activities, and communication (Table 2). Most adolescents participated in some activities with their residential parent, usually, the mother, in the past month (97.4%). The majority rated their feeling close to the parent as quite close or extremely close (89.5%). At the same time, the percentage of adolescents who discussed personal problems with the parent was less than one third (29%).

Relations with the noncustodial parent, based on the subgroup of adolescents with a living noncustodial parent, show a similar pattern (Table 3). The response category with the highest percent of adolescents reporting was participation in activities with the noncustodial parent (24.3%, n=181). The variables of visiting overnight (19.9%, n=148) and communication (19.0%, n=141) have similar frequencies. Feeling close to one's noncustodial parent is lower (14.9%, n=111). Table 3 summarizes the frequencies of relationship factors with the noncustodial parent.

Table 3: Select Characteristics of Youth in Disrupted Families

Variables	Frequency	%
Total*	744	100
Dependent Variable: Heavy Drinking		
No	314	39.9
Yes	430	60.1
Family Structure		
Disrupted at Childhood	446	59.9
Disrupted at Adolescence	298	40.1
Conflict		
Low	267	35.9
High	119	16.0
No partner, missing	358	48.1
Visits Overnight, once/month		
Yes	148	19.9
No	596	80.1
Closeness to Noncustodial Parent		
High	111	14.9
Low	633	85.1
Activities with Noncustodial Parent		
Some	447	60.1
None	297	39.9
Communication with Noncustodial Parent		
High	141	19.0
Low	603	81.1

* Youth who experienced the parents' marital disruption, either in childhood or adolescence.

I examined the variables of family structure subdivided by ethnicity: twenty-seven percent of Euro-Americans experienced the parents' marital disruption, compared with 34% of African Americans and 32% of Hispanic Americans (See Table 4). Among adolescents with a family disruption, having had an overnight visit with the noncustodial parent, 23.3% (n=114) of Euro-American reported overnight visits once a month or more; 11.4% (n=18) of Hispanic Americans; and 16.5% (n=28) of African Americans. The indicator of overnight visits had high

numbers of Euro-Americans reporting that type of visit. In the other ethnic groups, a larger percent had participated in joint activities: 43.6% for Hispanics and 54.1% for African Americans. Sixty-two percent of Euro-Americans reported some activities. Thus, the indicator of participation in activities, rather than overnight visits, reflected ongoing contact with the noncustodial parent.

Table 4: Ethnic Composition of Sample

	% (frequency)		
	African American	Euro-American	Hispanic
Total n=2669	19.4 (517)	64.3 (1717)	16.3 (435)
Rate of Heavy Drinking	62.3	59.1	59.7
Families with Marital Disruption (n=744)			
Disrupted at any time	33.9 (174)	26.6 (454)	31.5 (116)
In Childhood	63.1 (110)	59.3 (265)	55.5 (71)
In Adolescence	36.9 (64)	40.7 (189)	44.5 (45)
Conflict - all families			
High conflict	15.5 (95)	26.5 (446)	25.2 (105)
Low conflict	84.5 (422)	73.5 (1271)	74.8 (330)
Visits with Noncustodial Parent (NCP)			
Overnight, once /month or more	16.5 (n=28)	23.3 (n=102)	11.4 (n=18)
Overnight, less than once/month	83.5 (146)	76.7 (352)	88.7 (98)
Closeness to NCP			
High	17.6 (26)	15.2 (70)	12.6 (15)
Low	82.4 (148)	84.8 (384)	87.4 (101)
Activities with NCP			
Some	54.1 (100)	62.0 (288)	43.6 (59)
None	45.9 (74)	38.0 (166)	56.4 (57)
Communication with NCP			
High	20.3 (32)	16.5 (87)	11.6 (22)
Low	79.7 (142)	83.5 (367)	88.4 (94)
Parental Drinking			
Daily	5.6 (8)	5.7 (30)	4.2 (6)
Less than daily	94.4 (166)	94.3 (424)	95.8 (110)

† 10.3% were imputed

Experiencing interparental conflict at high level was present for 24.2% of the adolescents (Table 2). This variable had a number of legitimate non-responders, primarily those respondents who did not live with a partner (22.5% of the total sample). Of those with a disruption, 47.3% reported having no partner. Based on the strength of the empirical literature on the influence of conflict in the context of divorce, it was decided to retain the item.

The percentage of parents who reported drinking on a daily basis was small, 7.3%.

Under the classification of religion, the largest group was comprised of mainline Protestant, Catholic, and Eastern Orthodox religions (76.7%). Second to that group were those who stated that they did not have a religious affiliation (11.5%). Membership in a religion that has strict rules against drinking alcohol reached 6.1%. Members of the Jewish faith were a small percentage (.9%). The final group constituted those with a non-response to the question, including those who did not know their religion or refused to respond (4.9%).

Hypotheses

- I. Living in an intact family in adolescence is negatively associated with heavy alcohol use in young adulthood compared to living in families with a marital disruption or in a single parent families.
- II. Adolescents who experience the marital disruption of their parents during early adolescence, ages 11 to 15, are more likely to have heavy alcohol use in young adulthood than adolescents in families with the parents' marital disruption during childhood, younger than age 11.
 - II a. Adolescents who experience the parents' marital disruption are more likely to have heavy drinking than adolescents living with a single parent who has never married.
- III. Conflict between the parents during the child's early adolescence will increase the likelihood of adolescents progressing to heavy alcohol use in young adulthood for the adolescent whose families are affected by marital disruption in early adolescence, compared to intact families and families experiencing marital disruption in childhood.
- IV. Parent-adolescent relationships characterized by a higher degree of closeness during adolescence will decrease the likelihood of heavy alcohol

use in young adulthood.

- V. Good communication between parent and adolescent will have a negative association with heavy alcohol use in young adulthood.
- VI. Among families with a marital disruption, monthly overnight visitation with the noncustodial parent, will result in less likelihood of transition to heavy alcohol use in young adulthood.
- VII. Among disrupted families, feeling close to the noncustodial parent will decrease the likelihood of heavy alcohol use.
- VIII. Good communication with the noncustodial parent will have a negative association with heavy alcohol use in young adulthood among disrupted families.
- IX. Parental alcohol use during a youth's early adolescence increases the likelihood of heavy alcohol use in young adulthood.
- I. The likelihood of heavy drinking will be higher in the mainline denominations of Protestantism, Eastern Orthodox, and Catholicism than in Judaism or religions with strict prohibitions against drinking.
- II. The influence of the parents' marital disruption in early adolescence will impact adolescents more in Euro-American and Hispanic American ethnic groups, as demonstrated by higher rates of heavy drinking in those groups than for African Americans.
- XI a. The protective effect of a close relationship with the noncustodial parent will be smaller for African American youth than youth in the other ethnic groups.
- XI b. The protective effect of visiting overnight on a monthly basis for African American youth will be smaller than for youth in the other ethnic groups.

Bivariate Analysis

The bivariate analysis was completed using the tabulation command option in STATA 8.2 for surveys (svytab). Bivariate analyses of the independent variables and the outcome variable of heavy drinking are in Tables

4, 5 and 6, Bivariate Predictors of Heavy Drinking. The prevalence of heavy drinking was 57.5% (n=1535) in emerging adulthood. Age was marginally significant for heavy drinking at Wave III ($p=.083$), but heavy drinking did not increase in a consistent manner. Having had a disruption did not reach significance in the bivariate analyses ($p=.695$) when all family structures are compared (Hypotheses I). Drinking based upon the time of disruption did not reach significance in the bivariate associations ($p=.574$). Living in a home with a parent who has never married was not significantly associated with heavy drinking (Table 5).

Interparental conflict, examined at Wave I, for either having experienced a disruption in childhood ($p=.213$) or disruption in adolescence ($p=.232$) did not result in a bivariate association with heavy drinking in young adulthood (Table 6).

Relations with the biological, residential parent, of whom 93.2% were the biological mother, were measured by feelings of closeness, activities, and communication with the parent. Communication was a relationship factor that focused on the degree of intimacy as evidenced by discussing personal problems with the parent. The behavioral indicator of sharing time and activities together was included to present a different component of the construct of relations: whether the youth had participated in a series of 11 activities in the past four weeks. It should be noted that the majority of the adolescents rated feeling close to the residential parent as either quite close or extremely close (89.5%). In contrast, only 29% reported speaking with their parents about personal problems.

Tests of association of relations with the noncustodial parent were on the subgroup of adolescents who had had a disruption and a living noncustodial parent. Bivariate analysis was completed for visiting overnight once per month or more, strong feelings of closeness, having participated in activities or not, and communication about personal problems. The bivariate analysis of having overnight visits was significant at the .10 level ($p=.097$) with heavy drinking (see Table 6). The other predictors of relationship characteristics with the noncustodial parent were not significant in the bivariate analysis.

The percentage of Euro-Americans who were drinking heavily in young adulthood is 62%; African Americans, 59%; and Hispanic Americans, 60% (see Table 4). When the drinking category was divided by both ethnicity and having had a disruption, drinking levels by ethnicity did not reach significance ($p=.135$) (see Table 7). Seventy-one percent of the Hispanic males with a disrupted family were classified in the heavy drinking category,

compared to 58% of African American youth and 58.5 of Euro-American youth in disrupted families. This finding is explored further using the logistic regression.

The indicator for parents' drinking on a nearly daily basis proved non-significant with the young adult's pattern of drinking heavily. This measure combined either parent's drinking, using the higher measure. There was no measure for the pattern of drinking of the noncustodial parent.

Heavy drinking was compared in the different religious groupings. The five groups were: no religious affiliation; mainline religions of Catholicism, Eastern Orthodoxy, and Protestant sects; Judaism; religious denominations that have strict rules against drinking; and having no response on the religious question. The religions that have strictures against drinking were not significantly associated with less heavy drinking. There was no significance for those with no religious affiliation, membership in Judaism, mainline Christian groups or non-response category.

Table 5 provides a summary of the bivariate associations.

Table 5: Bivariate Predictors of Heavy Drinking

Variables		Rate of Heavy Drinking, %	p-value
N = 2669			
Total		59.6	
Age at Wave I	Wave III		
12	19	61.5	.083
13	20	57.7	
14	21	64.0	
15	22-23	56.5	
Ethnicity			
Euro-American		62.3	.682
African American		59.1	
Hispanic American		59.7	
Socioeconomic Status (Income) †			
0 - \$32,000		60.9	.677
\$33,000 – 60,000		59.0	
Over \$60,000		58.3	
Family Structure			
Never Married		64.6	.695
Disrupted at Childhood		59.2	
Disrupted at Adolescence		61.3	
Intact		59.0	
Conflict in all Family Types			
High		60.3	.740
Low		59.4	

Closeness to Residential Parent		
High	59.0	.183
Low	64.2	
Activities with Residential Parent		
Some	59.2	.213
None	67.7	
Communication with Residential Parent		
High	56.9	.141
Low	60.7	
Residential Parental Drinking (Daily)		
Yes	58.0	.730
No	59.7	
Religion		
No religion	65.0	.172
Mainline Christian (without strictures against drinking)	59.0	
Jewish	34.6	
Religions with strictures against drinking	60.3	
Non-response/refused	60.1	

† Imputed missing values for 10.3% of sample.

Table 6 details the bivariate associations of relations with the noncustodial parent for the adolescents who have experienced the parents' marital disruption.

Table 6: Bivariate Predictors of Heavy Drinking among Disrupted Families

Variables	Rate of Heavy Drinking, %	p-value
Total * n=744	60.3	
Ethnicity		
Euro-American	58.9	.135
African American	58.3	
Hispanic American	71.2	
Time of Disruption		
Disruption in Childhood	58.4	.574
Disruption in Adolescence	41.6	
Conflict		
High Conflict and Disruption in Childhood	69.1	.213
Low Conflict and Disruption in Childhood	59.1	
High Conflict and Disruption in Adolescence	50.6	.232
Low Conflict and Disruption in Adolescence	60.9	

Overnight Visits with Noncustodial Parent (NCP)		
Once /month or more	52.1	.097
Less than once/month	62.2	
Closeness to NCP		
High	60.0	.974
Low	60.2	
Activities with NCP		
Some	59.5	.770
None	61.0	
Communication with NCP		
High	61.5	.794
Low	59.9	

* Youth who experienced the parents' marital disruption, either in childhood or adolescence.

The results of the bivariate analysis of heavy drinking in the subgroup of disrupted families were non-significant. Only overnight visiting with the noncustodial parent reached marginal significance at the .10 level. No significant associations with the occurrence of conflict and the time of marital separation were found. The following table (Table 7) provides the results of the ethnic comparison of bivariate predictors of heavy drinking among the families who experienced a disruption. Experiencing the parents' disruption was not significant with heavy drinking.

Table 7: Bivariate Predictors of Heavy Drinking among Disrupted Families by Ethnic Group

Variables	Rate of Heavy Drinking, %			p-values
Total *				
n=744		60.1		
	African American	Euro-American	Hispanic	
Disrupted Families	58.9	58.3	71.2	.135

* Youth who experienced the parents' marital disruption, either in childhood or adolescence.

Logistic Regression Analysis

The results of the logistic regressions (Tables 8 and 9) were parallel to those of the bivariate analysis. I will summarize the differences first. Visits with the noncustodial parent had reached significant results at .10 in the bivariate analysis but not the logistic regressions. Two variables did not reach significance in the bivariate analyses, but did in the logistic regressions: religion and the interaction term, ethnicity and disruption. Specifically, being

Jewish was a protective factor in the logistic regressions; the interaction term of being Hispanic and having experienced a disruption was a risk factor for heavy drinking. Conflict and the time of disruption were not significant in either analysis.

Details of the logistic regression models are presented by hypothesis, with related hypotheses grouped together.

Model 1:

$$\begin{aligned} \text{Ln[ODDS OF HEAVY DRINKING]} = & \beta_0 + \beta_1 \text{ADOL.DISR} + \beta_2 \text{CH.DISR} \\ & + \beta_3 \text{NMAR} + \beta_4 \text{CONFLICT} + \beta_5 \text{CONFLICT.ADOLDISR} + \beta_6 \text{CONFLICT.CHDISR} + \beta_7 \text{CLOSE} + \\ & \beta_8 \text{ACTV} + \beta_9 \text{COM} + \beta_{10} \text{NCP.VISIT} + \beta_{11} \text{CLOSE.NCP} + \beta_{12} \text{ACTV.NCP} + \beta_{13} \text{COM.NCP} + \beta_{14} \\ & \text{PARENT.ALCOHOL} + \beta_{15} \text{A} + \beta_{16} \text{H} + \beta_{17} \text{SES_mid_imputed} + \beta_{18} \text{SES_hi_imputed}. \end{aligned}$$

The main effects model examined disruption during adolescence and childhood, living in a never married household, experiencing interparental conflict, daily drinking by one or both parents, relations with the biological parent and relations with the noncustodial parent.

The extended model, extended to include religion and the interaction of disruption by ethnicity, added the following to the above equation:

Model 2:

$$+ \beta_{19} \text{CH_REL} + \beta_{20} \text{MIN_REL} + \beta_{21} \text{O_REL} + \beta_{22} \text{DISR} * \text{H} + \beta_{23} \text{DISR} * \text{A}.$$

As stated, hypotheses on feelings of closeness with the noncustodial parent and overnight visits could not be completed due to small numbers in some cells. The definitions of the abbreviations are given in the Appendix B.

Analysis

- I. Living in an intact family in adolescence is negatively associated with heavy alcohol use in young adulthood compared to living in families with a marital disruption or in single parent families.
- II. Adolescents who experience the marital disruption of their parents during early adolescence, ages 11 to 15, are more likely to have heavy alcohol use in young adulthood than

adolescents in families with the parents' marital disruption during childhood, younger than age 11.

- II a. Adolescents who experience the parents' marital disruption are more likely to have heavy drinking than adolescents living with a single parent who has never married.

The focus of this research was whether different family structures influence heavy drinking in young adulthood (Hypotheses I and IIa). The question of whether there is a time period during which the child is more vulnerable to the family's disruption was expressed in hypothesis II, and in subsequent hypotheses related to family processes.

The main effects logit was not significant ($p=.417$). (See Table 8.) The reference group was having an intact family. Neither living in a disrupted family nor living in a household with a never married parent demonstrated significant influences. The odds ratios were approximately one, for those who experienced a disruption, and 1.25 for those living in a never married household. The odds ratio of having had a disruption in adolescence (1.31 [.87-1.95] $p=.189$) was greater than the odds ratio for living in a never married household (1.25 [.73-2.16] $p=.413$), consistent with the Hypotheses IIa. The results were not significant and there was little difference in the odds ratio of the two variables.

The variable that reached significance was being Jewish (.32 [.13-.81] $p=.017$), a negative association.

Table 8 presents the results of the logit for the main effects model.

Table 8: Multivariate Predictors of Heavy Drinking in Young Adulthood

Variables	Odds Ratio	95% Conf. Interval	p-value
N =2669			
Family Structure			
Disrupted (either in childhood or adolescence)	1.00	.70-1.43	.986
Never Married	1.25	.73-2.16	.413
Intact	---	---	---
Disrupted in Childhood	---	---	---
Disrupted in Adolescence	1.31	.87-1.95	.189
Conflict (All Families)			
High	1.05	.82-1.35	.673
Low	---	---	---

Conflict*Adolescent Disruption			
High	.57	.27-1.20	.138
Low	---	---	---
Conflict*Childhood Disruption			
High	1.56	.72-3.37	.256
Low	---	---	---
Relations with Residential Parent			
Closeness - High	.85	.61-1.18	.320
Low	---	---	---
Joint activities- High	.78	.41-1.49	.448
Low	---	---	---
Communication High	.85	.68-1.07	.169
Low	---	---	---
Relations with Noncustodial Parent			
Overnight visits	.71	.43-1.17	.174
At least once/month			
Less than once/month	---	---	---
Closeness - High	.88	.47-1.65	.695
Low	---	---	---
Joint activities - High	.92	.61-1.37	.664
Low	---	---	---
Communication - High	1.31	.76-2.26	.322
Low	---	---	---
Parental Drinking			
Daily drinking	.91	.60-1.39	.676
Less than daily	---	---	---
Religion			
No religious affiliation	---	---	---
Mainline Christian (without strictures)	.86	.68-1.09	.206
Jewish	.32*	.13-.81	.017
Religions with strict rules against drinking	.89	.54-1.46	.642
Demographic variables			
Euro-American	---	---	---
African American	1.04	.77-1.41	.806
Hispanic American	.99	.67-1.44	.939
Socioeconomic Status (Income) †			
SES 0 - \$32,000	---	---	---

SES \$33,000- 60,000	.96	.75-1.24	.761
SES income over \$60,000	.95	.71-1.26	.718

* p<0.05; † 10.3% were imputed

- III: Conflict between the parents during the child's early adolescence will increase the likelihood of adolescents progressing to heavy alcohol use in young adulthood for the adolescent whose families are affected by marital disruption in early adolescence, compared to intact families and families experiencing marital disruption in childhood.

In the main effects logit the factor with the highest odds ratio was having conflict and having experienced the marital disruption in childhood (1.56 [.72-3.37] p=.256). The odds ratio indicates that those with both conflict and a childhood disruption were 50% more likely to have a heavy drinking pattern than those without conflict. This finding did not reach significance. What prompted further investigation though, was that adolescents reporting high interparental conflict and an adolescent disruption, were shown to be half as likely to drink heavily (.57 [.27 -1.20] p=.138). An adjusted Wald test did not demonstrate that there was a significant difference between having experienced interparental conflict and a disruption in childhood and having both in adolescence (p=.157). Since interparental conflict was measured at Wave I, this trend may indicate a difference in coping dependent upon the time of the disruption, albeit not significant. An alternative interpretation is that some youth were experiencing a second marital disruption, due to the operationalization of *childhood disruption* based on the first disruption. The difference in the odds ratio merit further investigation.

Relations with the Biological, Residential Parent

- IV. Parent-adolescent relationships characterized by a higher degree of closeness during adolescence will decrease the likelihood of heavy alcohol use in young adulthood.
- V. Good communication between parent and adolescent will have a negative association with heavy alcohol use in young adulthood.

The results of the relations with the biological residential parent were negative with heavy drinking, in the predicted direction, and each one was non-significant. Feeling close, participating in joint activities, and communicating on personal problems served a protective function with heavy drinking. The odds ratios were in a similar range, from .77[.41-1.49], $p=.448$) for participating in activities (.77[.41-1.49], $p=.448$), and .85 for communication (.85[.68-1.07], $p=.169$). (See Table 8.)

Relations with the Noncustodial Parent

The following hypotheses examined the involvement of the noncustodial parent.

- VI. Among families with a marital disruption, monthly overnight visitation with the noncustodial parent, will result in less likelihood of transition to heavy alcohol use in young adulthood.
- VII. Among disrupted families, feeling close to the noncustodial parent will decrease the likelihood of heavy alcohol use
- VIII. Good communication with the noncustodial parent will have a negative association with heavy alcohol use in young adulthood among disrupted families.

The variables for relations with the noncustodial parent were the same as for the biological residential parent, with the inclusion of having overnight visits on a monthly basis. None of the variables reached significance. Of this set of variables, visiting the parent had the lowest odds of heavy drinking at 29% likelihood (.70 [.43 -1.17] $p=.174$), and communication had the highest odds ratio (1.31 [.76-2.26] $p=.322$), indicating a 31% likelihood of drinking. Communication was positively associated with heavy drinking, though not significant. Given the lack of significance, no weight can be placed on the outcome that talking about personal problems is a risk factor. Feelings of closeness and participating in activities approached one, indicating no difference in the outcome of heavy drinking. The outcome on visiting in the logistic regression differs from the results of the bivariate ($p=.097$).

Parental Drinking

- IX. Parental alcohol use during a youth's early adolescence increases the likelihood of heavy alcohol use in young adulthood.

Parent alcohol use did not reach significance, although in other samples with different operationalization it has demonstrated significance (Hops et al., 1996; Hoffmann and Su, 1998; and White et al., 2000). The odds ratio was (.91[.60-1.39], $p=.676$), showing similar odds of heavy drinking as adolescents who did not observe parental drinking. The operationalization of parental drinking was a frequency measure of drinking nearly every day, and without a quantity measure, it may not be sufficiently sensitive to be predictive.

The extended model included terms for religious affiliation and ethnic differences. The logit was not significant ($p=.358$). Two variables, being Jewish and the interaction of Hispanic ethnic group membership and experiencing a parental disruption, reached significance.

Religion

- X. The likelihood of heavy drinking will be higher in the mainline denominations of Protestantism, Eastern Orthodoxy, and Catholicism than in Judaism or religions with strict prohibitions against drinking.

The reference group for the religion variables was having no religious affiliation. The results demonstrated that being Jewish means having 68% less likelihood of heavy drinking compared to those who have no affiliation. The outcome reached significance (.32 [.13-.81] $p=.017$). No other religious group had lower drinking likelihoods. A comparison using the adjusted Wald test of the mainline Christian religions (.86 [.68-1.09] $p=.206$) and the religions with strict alcohol consumption rules (.89 [.54-1.46] $p=.642$) resulted in no significant difference between the two religious groups (F stat, $p=.878$). The interpretation is that the strict religions did not provide a protective function regarding heavy drinking that was significantly different from the mainline religions. The odds ratios of the Christian group and the strict religions were similar. The results of the logit supported earlier findings that being Jewish is protective for drinking alcohol. However, caution must be used in regard to this finding because in this sample the number of Jews was quite small ($n=23$).

The Interaction Model: Ethnicity and Marital Disruption

- XI. The influence of the parents' marital disruption in early adolescence will impact adolescents more in Euro-American and Hispanic American ethnic groups, as demonstrated by higher rates of heavy drinking in those groups

than for African Americans.

In the bivariate analysis, the interactions terms concerning relations with the noncustodial parent did not reach significance. It has been noted that Euro-Americans had a larger percent of overnight visits, and Hispanic Americans had more joint activities, thereby indicating different relational patterns in different ethnic groups. While the number of adolescents participating in activities was higher in the minority group populations, they were not sufficiently large to include the interaction terms for visitation and feelings of closeness in the logistic regression analyses. Therefore the hypotheses XI a and XI b in the proposal could not be tested.

The interaction of the influence of adolescent disruption by the ethnicity of the youth did not reach significance. However, when the time of disruption was combined to form an interaction term of disruption at any time, one ethnic group, the Hispanics, demonstrated a higher likelihood of drinking compared to the reference group, Euro-Americans (2.06 [1.09-3.89] $p=.026$). This means that an Hispanic male who experienced a disruption had more than two times the likelihood of participating in heavy drinking than an Euro-American male who did not experience a disruption. The variable, ethnicity by itself, or the variable of having had a disruption by itself, does not predict heavy drinking, but the interaction of ethnicity and a disruption predicts heavy drinking for Hispanics. An adjusted Wald test was completed to discern if Hispanics differ significantly in the pattern of heavy drinking with African Americans with the same experience of a disruption at any time. The Wald test indicated that Hispanics were significantly different in their drinking patterns from African Americans ($p=.028$). This comparison means that for the subsample of adolescents who had experienced the parents' disruption, the Euro-Americans and the African Americans were drinking at similar rates in young adulthood. The Hispanics were drinking at a higher level. Table 9 presents the results of Model 2 with the interaction terms of disruption by ethnicity.

Table 9: Multivariate Predictors of Heavy Drinking, with Interaction of Disruption with Ethnicity

Variables	Odds Ratio	95% Conf. Interval	p- values
N=2669			
Family Structure			
Reference group – Non-disrupted	---	---	---
Disrupted, either time period	.97	.67-1.40	.864
Disruption*African American	.84	.47-1.49	.542
Disruption*Hispanic	2.06*	1.09-3.89	.026
Ethnicity			
Euro-American	---	---	---
African American	1.14	.80-1.62	.457
Hispanic American	.81	.54-1.21	.296
Conflict			
High (all family types)	1.05	.82-1.35	.687
Low	---	---	---
Conflict and Adolescent Disruption			
High	.66	.30-1.42	.281
Low	---	---	---
Conflict and Childhood Disruption			
High	1.40	.67-2.94	.367
Low	---	---	---
Relations with Residential Parent			
Closeness - High	.85	.61-1.19	.340
Low	---	---	---
Joint Activities- High	.78	.40-1.52	.465
Low	---	---	---
Communication High	.85	.68-1.07	.162
Low	---	---	---
Relations with Noncustodial Parent			
Overnight visits, once/ month	.74	.45-1.21	.229
Less than once/month	---	---	---
Closeness - High	.94	.50-1.77	.858
Low	---	---	---
Joint Activities- High	.97	.67-1.42	.888
Low	---	---	---

Communication-	High	1.34	.78-2.29	.285
	Low	---	---	---
Parental Drinking		.91	.60-1.39	.668
	Daily	.92	.60-1.40	.680
	Less than daily	---	---	---
Religion				
	No Religious Affiliation	---	---	---
	Mainline Christian (without strictures)	.85	.67-1.07	.161
	Jewish	.31*	.12-.80	.015
	Religions with strict rules against drinking	.88	.53-1.45	.616
Socioeconomic Status (Income) †				
	0 - \$32,000	---	---	---
	\$33,000 - 60,000	.96	.74-1.24	.754
	Over \$60,000	.93	.70-1.24	.620

* $p < 0.05$; † 10.3% were imputed.

Socioeconomic Status

The demographic indicator of income, categorized into three groups, did not reach significance.

Summary

The bivariate associations did not reach significant levels of association, except at a marginal level for visiting the noncustodial parent ($p = .097$). In the logit models, family structure variables were in the predicted directions, with the exception of the experience of a marital disruption at any time. The results of the variables of interparental conflict, co-incident with a disruption at adolescence and at childhood, on heavy drinking, contrasted with each other. Not only was the conflict and disruption in adolescence among the smallest odds ratio (.57), the direction indicated a protective influence on drinking behavior. The term for conflict and a disruption in childhood was the highest odds ratio (1.56) and indicated a risk factor. These differing findings, although they did not reach significance, have been discussed briefly, but the integration with past research is presented in the next chapter.

The results of variables for relations with parents and relations with the noncustodial parent were both protective and risk factors. Protective factors were: (a) with the residential parent, feeling of

closeness, joint activities, and communication; and (b) with the noncustodial parent, feeling of closeness, joint activities, and visiting.

Parental drinking was negative with heavy drinking. The hypothesis that those in religions with strict rules against drinking alcohol would have less likelihood of heavy drinking was not supported. Being Jewish had a significant, protective outcome, but this result needs further investigation due to the small size of the subgroup. There was an interaction effect for ethnicity and having experienced a disruption at any time period. Hispanic youth who experienced a disruption were more than twice as likely to engage in heavy drinking as the reference group of European Americans. Further, Hispanics were significantly more likely to exhibit heavy drinking than African Americans. A more complete discussion of the results and the limitations of the study will be discussed in chapter seven.

Chapter Seven

Discussion

This prospective study examined the effect of the parents' marital disruption in early adolescence, and its influence on heavy drinking in young adulthood. The social control theory of Hirschi (1969) has been utilized to test factors related to attachment to family, with particular interest in variables related to the relationship to the noncustodial parent. The main findings are:

1. The marital disruption of the parents during early adolescence did not have a long-term influence on drinking at a high level.
2. Relations with either the biological residential, or noncustodial parent did not predict heavy drinking in young adulthood.
3. Conflict between the parents in early adolescence did not influence heavy drinking later at significant levels. Conflict coincident with the parents' disruption during adolescence demonstrated a protective but non-significant influence, associated with lower levels of drinking.
4. For Hispanic youth, the experience of the parents' marital disruption had a significant impact on heavy drinking in young adulthood, in comparison to Euro-Americans and African Americans.

Two other hypotheses were not supported: the influence of parental drinking and being affiliated with a religion that has strict rules against drinking alcohol. However, being Jewish was protective against heavy drinking.

The tenets of social control theory were not supported for the outcome variable of heavy drinking. Hirschi (1969) examined the association of delinquent behavior, including drinking, and the adolescent's attachment to the parents, the wider community, and beliefs in moral order. Attachment to the parents and placing a value on their opinions were found to decrease delinquent acts. The importance of relations with the parents has been recognized by other family theorists (Baumrind, 1991a; Brook et al., 1990). In addition to early child-parent attachment, researchers in the field of adolescent behavior have determined that bonding is maintained through adolescence (Baer, 2002; Bauman, Carver, & Gleiter, 2001; and Brook et al., 1990).

Life cycle theory conceptualizes the interdependent relationship between the maturing child and the life stages through which the family progresses. When the developmental stage coincides with a major event in the family, stress is expected to have an impact on the growing child. It was hypothesized that the coincidence of early adolescence, a transitional period, and the marital disruption would have a long-term influence on drinking behavior. The results did not support the prediction from life cycle theory that early adolescence would be a vulnerable period. The empirical literature is equivocal on the influence of the timing of a parents' divorce on the well-being of children (Amato, 1993; Emery and Forehand, 1990).

The current research question examined whether having experienced the parents' marital disruption differentiated a subgroup within single parent families, and if those with marital disruption experienced an increased risk of drinking at higher levels at a later time period. In a major demographic study on adolescent substance use, Johnson et al. (1996) determined that not living in an intact family resulted in greater risk of alcohol use and other substances by one and a half times. In the current study neither the bivariate associations nor the logit models determined significant differences in living in a never married household. It appears that not living in an intact family may not have long term effects on drinking. These results are in agreement with Flewelling and Bauman (1990), who also determined that the family disruption does not have long term effects on drinking patterns into young adulthood.

The literature on the influence of conflict on child adjustment consistently concludes that it is conflict in the marriage that leads to poorer outcomes (Amato & Rezac, 1994; Cherlin, 1991; Demo & Acock, 1988; Forehand et al., 1994; Hawkins et al., 1992; Simons et al., 1996). Past research has differentiated that conflict within the intact family and conflict in divorced families has different meanings and outcomes (Buehler et al., 1994). Further, perception of the conflict has a mediating effect on the adolescent's well-being in married families only (Buehler et al., 1994).

In the current study, when conflict was present in the context of a disruption in adolescence, the likelihood of heavy drinking was reduced. This non-significant finding differed from the effect of conflict and a childhood disruption on heavy drinking. While these results were not significant, the question of the impact of conflict depending upon different time periods of the family separation adds to the literature on the differential influence of the timing of divorce. Amato et al. (1995) determined that youth who experienced high levels of conflict, followed by the parents' separation, exhibited better adjustment in

adulthood than those who experienced low conflict. It may be that in a conflicted family environment, followed by the parents' separation in adolescence, the separation provides a relief to the adolescent and results in better outcomes in emerging adulthood.

Wallerstein (1983, 2000) described stages of acceptance of the parents' divorce. In her conceptualization, the adolescent needs to progress through each stage to mature in a healthy manner. The finding that adolescents who experience conflict and subsequent disruption have less negative drinking patterns may reflect the process referred to as "forgiving the parent," which culminates in working through the anger towards the parents in late adolescence (Wallerstein, 1983, 2000). It is possible that the results of some studies that a disruption in adolescence has better outcomes actually represent the contribution of interaction of conflict and adolescent disruption.

The variables that measured the relationship with the biological, residential parent and the noncustodial parent were drawn from social control theory (Hirschi, 1969). Hirschi (1969) described the bonding to parents as a foundation to bonding to societal institutions, and thus a protective factor against delinquent behavior. Bonding consists of feelings of closeness, positive identification with and regard for the parent, and communication on intimate issues. The current study did not find the dimensions of closeness, joint activities, or communication significant.

Research on the parental influence on alcohol outcomes has been stronger for the initiation of alcohol (Barnes et al., 2000; Flewelling & Bauman, 1990; Kandel & Andrews, 1987; White et al., 2000). Further distinction between parental support and parental control has been studied in the development of family socialization theory, by Barnes and colleagues (1997; 2000). Parental support, defined as maternal nurturance, attachment, acceptance, love and cohesion, and parental control functions, defined as discipline and monitoring of behavior, bear similarity to other theorists' conceptualization of parenting, including Baumrind (1991a) and Brook et al. (1990), and utilize the foundation of attachment theory and social control theory. In the Barnes et al. (2000) study on alcohol use and parent support and parental control, parent support served a mediating function on alcohol initiation, but had an indirect effect on more frequent alcohol use. The Barnes et al. (2000) study was longitudinal and examined the alcohol outcome in young adulthood, two design features that parallel the current study. The current study did not utilize a parent control measure, a difference that may account for the difference in outcomes. Other differences between

the two studies are the operationalization of the outcome variable of heavy alcohol use compared to a low level of alcohol misuse reported in the Barnes et al.(2000) study, and different methodologies.

Past research has examined another causal factor in alcohol use: the diminished parenting of the custodial parent immediately following the separation (Brambring et al., 1989; Hetherington et al., 1982; Simons et al., 1999). Hetherington et al. (1982) documented reduced parenting and listed symptoms indicative of depression in the noncustodial parent also. In the current study, the measure of relations with the residential and noncustodial parent coincided with an adolescent disruption for part of the sample. Even within this subgroup, the current study did not find adverse drinking outcomes as a long-term consequence of the experience of separation, loss of one parent, or diminished parenting.

A specific construct of parenting in the current study was communication. Hirschi (1969) stated that having intimate communication increased the boy's attachment to the parents. The results here indicated that communication about personal problems with one's residential parent was negatively associated with heavy drinking in young adulthood. Communication with the noncustodial parent, however, had a positive relationship with heavy drinking, representing a risk factor. Neither communication variable reached significant. The research of Youniss and Smollar (1985) showed that less than 50% of the time male adolescents elected to discuss personal problems with their fathers. In the Kafka and London (1991) study only 10% of the adolescents reported communication with their fathers. Since the current sample is predominantly noncustodial fathers (91%), the lack of significance in communication with the noncustodial parent supports earlier findings of limited communication in the father-son relationship.

A few studies have concluded that communication is associated with increased levels of drinking (Griffin et al., 2000; Jordan & Lewis 2005). One interpretation for the association between communication and drinking is that it follows, rather than precedes, substance use (Griffin et al., 2000). This interpretation could be extended to suggest that the positive direction of the communication factor represents increased involvement of the noncustodial parent after alcohol use has begun. Others interpret non-significant findings on the measure of communication as an indication that when measuring communication between father and son, the instruments are either incorrectly based on a female pattern of communication (Brotherson, Yamamoto & Acock, 2003), or inadequately measure the meta-communication that transpires while engaging in physical activities (Jordan & Lewis, 2005). In reference

to construct validity, Jordan and Lewis (2005) concluded in their study of the paternal influence that the construct of communication with the nonresidential father needs further development.

A third interpretation supports the premise proposed by Barnes et al. (1997), that as males transition to young adulthood, they are initiated into a culture of heavy drinking. The conclusions of the current study do not lend or withhold support for any of these interpretations as they were not tested specifically.

Researchers have demonstrated that the constructs for closeness to mother and closeness to father are distinct and have independent contributions to substance use and externalizing behavior (Dorius et al., 2004; Simons & Chao, 1996). A focal research question was whether there are independent contributions deriving from a positive relation with the noncustodial parent. Can social control theory be extended to the relationship with the noncustodial parent? Approximately 40% of noncustodial fathers do not continue visiting three years post-divorce (Maccoby et al., 1993; Spruijt, deGoede & Vanderveck, 2004). In the current study, approximately 20% of the adolescents visited overnight on a monthly basis. This frequency did not show a significant relation to heavy drinking in young adulthood. Further, the deterrent presence of a close bond between adolescent and parent, postulated by Hirschi (1969), did not meet significance in the case of the noncustodial parent. Somewhat different results are reported by King (2006) in a comparison of relations with stepfathers and noncustodial fathers. King (2006) learned that the male adolescents at greatest risk for externalizing behaviors were those who reported no closeness to either father. She did not find any ethnic differences.

One explanation of the lack of impact of a close relationship derives from developmental theory. In early adolescence maturational factors, which are difficult to isolate from family factors, may account for the decreased influence. Shulman and Klein (1993) learned that it is characteristic of the father to distance himself from the adolescent. They interpret this behavior to be a facilitating behavior that models caring and encouragement of individuation. From this theoretical approach, limited communication, closeness, and activities may not be reason for concern.

Ethnicity and Family Disruption

Hispanic youth, who had experienced the parents' marital disruption, demonstrated a higher likelihood of heavy drinking compared to African Americans and the reference group, Euro-Americans. Hispanic males had more than two times the likelihood of heavy drinking than Euro-American males.

Furthermore, the interaction model demonstrated that Hispanic youth who lived in an intact family had a non-significant, but slightly lower likelihood of heavy drinking. These findings contrast with other research that classifies Euro-Americans and Hispanic Americans together because of similar drinking patterns (Johnson et al., 1996).

To examine what other risk factors may influence the drinking outcome for Hispanics, I completed a post hoc bivariate analyses. Hispanics were not more likely to have experienced a disruption in childhood, a risk factor that had demonstrated a higher likelihood of heavy drinking, but not a significantly higher likelihood. Additionally, the post hoc bivariate analysis on ethnicity and conflict among disrupted families did not result in any significant differences among the ethnic groups.

Therefore, the results have delineated a subgroup of youth affected negatively by their parents' marital disruption that has not been identified previously: Hispanic males. Research has focused on how assimilation processes affect drinking patterns and, separately, family structure. In a sociological analysis of changing marriage patterns, Wildsmith (2004) compared general assimilation theory and segmented assimilation theory. In segmented assimilation theory, processes are similar to assimilation theory, but there are multiple reference groups to which one could assimilate, and multiple trajectories of assimilation. For individuals living in highly segregated ethnic areas, for whom the economic opportunity structure is limited, the assimilation may be to other marginalized groups, and farther from the cultural mainstream. Wildsmith learned that there is a pattern for third generation Mexican Americans to achieve less education than second generation Mexican Americans, and to become single mothers in greater numbers than the preceding generation. Based on these indicators, she concluded that this group of Mexican Americans was assimilating to poorer, minority populations. Education and upward social mobility are linked to family structure patterns. Whether downward social mobility would explain the higher drinking rate for the Hispanic youth experiencing a disruption needs to be explored. In addition, in the current study, subgroups of Hispanic were not specified based on region of origin, community characteristics, or generational background. Further consideration of these factors may prove productive in learning what contributes to the higher drinking levels when a disruption occurs.

The need remains to clarify the role of the noncustodial parent, father or mother, when there has been a marital disruption, and the role of the noncustodial parent in the Hispanic and African American

communities. Qualitative studies can enrich our understanding of how the adolescent perceives his relationship with the noncustodial parent.

Parents' daily alcohol use did not predict a significant impact on the likelihood of heavy drinking in adulthood. In the literature, findings are mixed about the effects of a parent's drinking on adolescent drinking. Some studies learned that parental drinking is predictive of drinking (Hoffman & Su, 1998; Hops et al., 1996; Kandel & Andrews, 1987; and White et al., 2000). The study by White et al. (2000) demonstrated that the mother's drinking was critical in predicting drinking trajectories into the late 20s. Research by Barnes et al. (1997) did not demonstrate significance for adolescent heavy drinking. Barnes et al. (2000) learned that the relationship of parent alcohol use and drinking in young adulthood was an indirect effect through parental support and parental monitoring.

However, it can be argued that the parental measure of nearly daily drinking in the current study did not indicate problematic drinking, and would not be expected to be a factor in predicting heavy drinking for the adolescents.

The hypothesis concerning religious affiliation was not supported: those affiliated with religions with strict rules against alcohol consumption were not less likely to drink heavily in their 20s. Being Jewish proved to be a protective factor to prevent drinking at heavy levels, although the number of Jews in the study limits the strength of the finding. The finding is consistent with prior research (Engs et al., 1990).

To summarize the theoretical issues, it appears social control theory does not maintain predictive power as youth enter young adulthood for the outcome of heavy drinking. Long-term effects of positive relations with either the residential or noncustodial parent were not present in the current study. More research is needed to learn if this is characteristic of the stage of development, if other behavior is more influenced by the parental relationship, or if theories of diminished parenting following a disruption need to be modified. The changing relationship between father and son, noted in the positive association of communication with the noncustodial parent on heavy alcohol use, may reflect a normative distancing by the father (Shulman & Klein, 1993), or alternatively, assimilation into an adult male drinking culture (Barnes et al., 1997).

Recommendations for Future Research

The research presented here is one of the few studies that examine the effect of the parents' separation and divorce using a nationally representative study. It augments other studies of divorce and adolescent substance use with a sample representative of the three major ethnic groups. This prospective study adds the long-term effects of the parental separation on heavy drinking patterns to previous studies related to adolescent alcohol use. The investigation of the differential impact on the different ethnic groups demonstrated that Hispanic males, who experience the parents' marital disruption, are significantly more affected than Euro-American or African American young adult males, when the outcome measure is heavy drinking.

The current study is one of the few of parental alcohol use that focused on separation and divorce and its influence on drinking. The measures for the parent alcohol use were high as were the drinking measures for the young adults. Given these factors, it is significant that the parental drinking did not result in an increased risk of drinking for the young adults.

A major purpose of the study was to determine if the active involvement of the noncustodial parent would serve a protective function. Neither relationship factors nor visitation could be analyzed independently for each ethnic group due to small cell sizes for the variables. Thus, this study could not achieve one objective: to increase our understanding of the role of the noncustodial parent for African American and Hispanic youth. Ethnic similarities and differences, in addition to subgroups of the Hispanic community and the African American community, represent a research gap. Is the finding of increased risk for Hispanic youth in disrupted families indicative of a cohort pattern or does it follow the segmented assimilation theory as presented by Wildsmith (2004)? There is continued need to study the influence of the noncustodial parent on drinking behaviors. Gender issues such as father-son communication styles and adult male patterns of heavy drinking need more research.

Through examination of interparental conflict and a childhood disruption, we learned that this interaction term was associated with higher likelihood of heavy drinking, although not significant. This result, which differs with the factor of conflict and disruption in adolescence, may be an artifact of how childhood disruption was operationalized. However, the finding indicates that more research is needed on

how conflict influences children's later development, and whether the timing of the disruption in the context of interpersonal conflict determines differential outcomes.

Limitations of the Study

Although efforts were made to minimize limitations in the study, there are some important limitations to be detailed. With long-term research there are threats to internal validity based on the lack of control for other causal factors over an extended time period (Amato, 2006). The third wave of the Add Health data occurred six years after Wave II, an extended time interval.

Heavy alcohol use may not be a behavior that is affected by the parents' marital disruption. Other indicators of well-being may be more influential. The measure of heavy drinking in young adulthood, the early 20s, means that we are measuring drinking patterns at the period of the heaviest drinking for adult males. The pervasiveness of heavy drinking would suggest that there are many predictors and subgroups at risk.

The dependent variable for drinking behavior in young adulthood is a self-report measure. However, the reliability is strengthened by the abbreviated time frame, "in the past two weeks." Self-report is considered reliable (Grant et al., 1997; Oetting, Edwards & Beauvais, 1985). The Add Health data can be described as slightly more rural and with over-sampling of middle class African Americans. The potential for bias in the results has been evaluated and determined not significant by the Add Health methodologists (personal communication, Chantala, Kalsbeek & Ancrada, July 2004). Sampling weights and survey estimation techniques were used to account for the multi-stage, sampling design.

The impact of the disruption may affect drinking during a time period more proximate to the disruption, within two or three years of the disruption, not measured in this study. Another limitation is that for some adolescents there has been more than one separation from a biological parent. The operationalization of childhood disruption used the first marital disruption to determine the appropriate category. Therefore it is possible that those categorized as childhood separation had experienced multiple transitions, not just the original disruption. In addition, it has been determined in prior research that there is a high degree of mobility in this sample (Brown, 2000).

Given that few variables were found to be significant, there could be a misspecification error. The literature review indicated that parenting behaviors need to be divided into support and parental control behaviors (Barnes et al., 2000). Parental monitoring has demonstrated an influence on initiation of alcohol use (Rodgers-Farmer, 2000; Dorius et al., 2004; and Flewelling & Bauman, 1990). Peer approval and relations have been strong predictors in other studies (Barnes et al, 1997; Griffin et al., 2000; Kandel & Andrews, 1987). Other improvements in measuring variables include: a global measure of conflict among all family members, rather than in the parental dyad; a quantity and frequency measure for the parents' alcohol use; and a scale using various types of involvement with the noncustodial parent.

Small cell size precluded investigation of interaction terms studying ethnicity with relations with the noncustodial parent. The finding of significant risk for Hispanic males who have experienced disruption needs to be examined further. More research is needed to establish the theoretical dynamic that explains this finding.

Clinical implications

The findings of family structure, conflict, relations with the residential parent, and noncustodial parent involvement, did not reach a significant level. We cannot state that the disruption process is not stressful. Social work practitioners need to continue to develop educational programs to assist the custodial parent, the noncustodial parent, and the adolescents who are experiencing the disruption. Of primary importance is education concerning the negative effects of continued conflict between the partners. Psycho-educational programs that are targeted to the Hispanic population represent a special, challenging need. If the reason for heightened drinking in this population, when there has been a marital disruption, is due to cultural assimilation to a more disadvantaged group, a sensitive, culturally relevant intervention is recommended.

There is not evidence that efforts to promote the involvement of the noncustodial parents, usually the father, are not protective. Psycho-educational and support groups could be enacted. Objectives of the education include understanding that it is the common experience of the custodial parent to underperform during the initial disrupted period, that there is a need for

boundaries between parent and adolescent, and if there has been conflict, that adolescent outcomes may improve.

This research cannot say definitively that detaching from the noncustodial parent is a risk factor for drinking behavior. Future research will need to utilize more extensive items, and qualitative research, to learn more about the noncustodial parent-adolescent relationship.

Policy Implications

The results of this research indicate that having experienced the parents' marital disruption, either as children or adolescents, does not impact heavy drinking patterns. The federal government has a long history of policy decisions that affect marriage and divorce (Brotherson & Duncan, 2004). Under the current administration of President G. W. Bush, there is renewed interest in developing programs that encourage the commitment to marriage, maintenance of marriage, and prevention of its dissolution. Beginning in 2005, Congress approved \$150 million annual expenditure to states to promote marriage. Some states have community programs that develop mandatory programs on relationships and marriage in the high schools and provide marital counseling in the pre-divorce period. Their objectives are to encourage individuals to consider seriously the influence of divorce on both children and adults. The Administration of Children and Families, U. S. Department of Health and Human Services, in a comparison of healthy marriages and unhealthy marriages, lists reduced alcohol and drug abuse among behaviors that are positive outcomes of intact healthy marriages (on-line serial, acf.hhs.gov). The results of the current prospective study based on male youth in a nationally representative sample indicate that living in a married household is not significantly different than living in other types of households. When the outcome measure is heavy drinking, measured in young adulthood, a causal connection between family disruption and alcohol use has not been demonstrated. Conflict within a marriage had two different effects depending upon the time of disruption, although it did not reach significance. If there is further support for the finding of less alcohol use for those experiencing their parents conflicted marriage and a disruption in adolescence, a balanced approach to the well-being of children and positive outcomes resulting from a divorce should be implemented. It is necessary to postpone recommendations on marriage maintenance programs as

they relate to the promotion or deterrence of heavy alcohol use until sufficient time has elapsed for objective evaluation of these programs.

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APPENDICES

Table A.1

Synopsis of Review of Empirical Studies on Family Structure

Study	Sample Characteristics	Independent Variables	Dependent Variables	Significant Results
Bloch, Crockett & Vicary, (1991)	n=463 6th, 7th, 8th grades Rural South No ethnic statement	Not living with 2 biological parents Worse family relations parental participation church attendance Deviancy	Drunkenness	Single parenthood significant for drunkenness Worse family relations sig. for drunkenness Negative association with being female, good grades, & frequent church attendance Lower deviancy rates associated with lower drunkenness
Epstein, Botvin, Gilbert, Diaz, Tray & Schenke (1995)	n=757 7th grade convenience sample African American 50% Hispanic American 36% Euro-American 4% New York City	Age family structure: single/intact Parental support Peer attitudes and norms Intrapersonal factors	Drinking once/mo., past month Drunkenness, Intention to drink	Single parent families related to drinking in the past month. Age significant with drinking. Low parental support (communication) associated with experimental and current use, & intent to drink. Peer use and attitudes related to experimental and current use, & drunkenness

Flewelling & Bauman (1990)	n=1637 Ages 12-14 Probability sample Southeast	Structure: Intact, pre-disrupted	Initiation of alcohol and drugs	Single parent families significant for initiating alcohol & marijuana. Structure significant for substance use Recent marital disruption not significant for substance use in mid-adolescence
Griffin, Botvin, Scheier, Diaz & Miller (2000)	n=228 6th grade low income Minority sample	Single parent, two-parent households Parent-child communication Monitoring & parent involvement	Substance use, aggression, and delinquency	Single parent homes significant associated with alcohol & substance use Communication positive with delinquency Parental monitoring decreased substance use for males, not females. Mother-only and mother-relative households protective Age significant with increased alcohol use Low income associated with less alcohol use
Johnson, Hoffmann & Gerstein (1996)	n=22,000 12-17 National Household Survey on Drug Abuse, 1991- 1993	Family structure: Intact, mother- only, father-only, & 7 other family structures	Substance use, past year substance dependence Need for substance use treatment	Family structure significant: intact families associated with less alcohol use Adolescents in father-only families at high risk Mother-only and mother-relative households protective among non-intact families Age significant with alcohol use Low income adolescents & African-Americans use alcohol less

Sun (2001)	10,088 National Education Longitudinal Study, waves 1&2 10th & 12th grades National representative sample Male subsample on marijuana use	Pre-disrupted families; Intact families Communication Parental relations	Alcohol & Marijuana frequency, past 12 mo. Well-being measures Grades	No differences for adolescents in intact and pre-disrupted families on substance use, Time 1 (cross-sectional). Parent-parent relations poorer in predisrupted families, proved strongly significant with later drug problems for males Parent-child communication negatively related to marijuana use.
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Table A.2

Review of Empirical Studies on Parental Conflict

Study	Sample Characteristics	Independent Variables	Dependent Variables	Significant Results
Bloch, Crockett & Vicary (1991)	n=463 6th,7th, 8th grades Rural Southern U.S. No ethnic statement	Not living with 2 biological parents Family relations Parental participation Church attendance, grades, deviancy, self-image	Frequency of drunkenness	Worse family relations significant for drunkenness Single parenthood significant for drunkenness
Bray, Adams, Getz & Baer (2001)	n=3,418 6th, 7th, 8th Southwest African-American 22% Euro-American 40% Mexican-American 37%	Family conflict & cohesion Individuation	Quantity and frequency of alcohol use	Conflict increased alcohol use in all ethnic groups Family cohesion and healthy inter-generational individuation associated with less increase in drinking Emotional detachment associated with increased drinking Ethnicity significant with rate of increase in alcohol use
Forehand, Wierson, McCombs, Brody & Fauber (1989)	n=142 11-15 No ethnic statement Recruited, paid respondents	Family structure: divorced/intact Adolescent's perception of parental conflict Mother's parenting skill Teachers rated adolescent behavior	Externalizing behavior Internalizing behavior	Conflict had direct effect for divorced families on externalizing behavior but indirect in intact families Conflict had direct effect in intact families on internalizing problems, direct and indirect effects in divorced families

Simons, Lin, Gordon, Conger & Lorenz (1999)	n=534 x=14 Euro-American Midwest	Family structure Parental conflict Mother's and father's parenting Parent's depression, Anti- social personality disorder	Externalizing behavior, including alcohol use Adolescent depression	Divorce is associated with externalizing behavior, including alcohol use Conflict increased girls' externalizing behavior Mother's parenting associated with girls' externalizing behavior. Parent's depression and parenting related to boys' externalizing behavior Noncustodial father's involvement related to conduct disorders in boys
Sun (2001)	n=10,088 NELS 10th, 12th grades National representative sample	Disrupted families, intact families Communication Interparental relations	Alcohol frequency, past 12 mo. Marijuana frequency, past 12 mo.	Interparental relations poorer in pre- disrupted families, significant with later drug problems for males. No differences in intact & pre-disrupted families on substance use, Time 1. Communication negatively related to marijuana use.

Table A.3

Review of Empirical Study	Studies on closeness and Sample Characteristics	Substance Use Independent Variables	Dependent Variables	Significant Results
Barnes, Farrell & Dintcheff (1997)	n=658 13-16 Randomly Selected Mid-Atlantic state African Americans over-sampled	Single parent, intact families Parental support Parent's alcohol use Peer's drinking and peer-oriented	Frequency of heavy drinking	Family structure not significant. Age and male sex significant with heavy drinking. Mediators between parental drinking and adolescent problem drinking: support & parent's monitoring. Mother's & father's heavy drinking n.s.
Barnes, Reifman, Farrell & Dintcheff (2000)	n=506 14-22 Random 29% African-American 71% Euro-American	Parental support Parent's alcohol use Parental monitoring	Alcohol misuse index: initiation of alcohol misuse and progression	Support has indirect effects on progression of alcohol misuse. Monitoring mediates support and initiation and progression of misuse. Parent's alcohol use indirect effect
Dorius, Bahr, Hoffmann, Harmon (2004)	n=4,987 7-12 grades Multi-stage probability sample 5.3% from alternative h. s. Western U. S Euro-American 88%	Closeness to mother Closeness to father Parental support Monitoring & "getting caught" Peer use of cigarettes, alcohol, marijuana & other drugs	Marijuana use in the past month	Family variables had marginal support High closeness with father moderated association between marijuana use and peer substance use . "Being caught" had strongest significance in direct model

Hoffmann & Su (1998)	n=777 10-16 Non-random, recruited from health, mental health & drug treatment	Family cohesion Parent-child strain Stressful life events Peer substance use Parent's substance use disorder, DSM- IIIR	Frequency of alcohol use Frequency of drunkenness Marijuana and other drug use , past year	Drug use leads to lower family attachment but not significant in non-recursive model in final model Parent's substance use disorder had direct effects on adolescent drug use, Time 1; indirect, Time 2
Kandel & Andrews (1987)	n=676 15-16 Stratified random sample Mid-Atlantic state	Feelings of closeness Communication Peer alcohol and marijuana use Parental alcohol use	Ever used hard liquor & frequency of drinking Ever used, frequency of using marijuana	Parents' modeling influences initiation of marijuana use Parent alcohol use significant with frequency of alcohol use & marijuana use. Parental influence indirect through peer selection following initiation
White, Johnson & Buyske (2000)	n=232 15, Time 1 Random sample Euro-American 89% Mid-Atlantic state	Warmth and hostility Parent's substance use	Quantity and frequency of alcohol and cigarette use	Four trajectories of alcohol use: low users, late moderate users, persistent moderate users, & persistent heavy drinkers. Parental warmth shows trend to less alcohol use; hostility not predictive Mother's and father's alcohol use predictive of adolescent drinking trajectories

Table A.4 Review of Empirical Studies on Parent-Adolescent Communication

Study	Sample Characteristics	Independent Variables	Dependent Variables	Statistical Method	Significant Results
Epstein, Botvin, Gilbert, Diaz, Tray & Schinke 1995	n=757 7 th grade Convenience Sample African American 50% Euro-American 36% Low income	Age, family structure: single/intact Communication Peer attitudes and norms Intrapersonal factors	Drinking once/mo., past month Quantity and frequency of drinking Drunkenness Intention to drink	Cross-sectional Logistic regression	Age and single parent families associated with drinking in the past month Infrequent communication (low support) associated with experimental, current and intent to drink Peer use and peer attitudes related to experimental, current drinking and drunkenness
Griffin, Botvin, Scheier, Diaz & Miller 2000	n=228 6 th grade Minority sample Low income	Single parent/two parent households Parent-child communication Monitoring and parent involvement	Substance use, aggression Delinquency	Cross-sectional Hierarchical regression	Single parent homes significant with alcohol and substance use Communication positively related to delinquency Monitoring decreased substance use for males, not females
Jordan & Lewis 2005	n=1027 National Longitudinal Study on Adolescent Health Stratified cluster sample	Communication Paternal relationship quality	Having ever drank alcohol, two or three times	Logistic regression	Activities with fathers, not significant with alcohol use Communication increased drinking Trend indicated protective value of adolescent-father relationship is lowest when father is absent

	longitudinal				
Kafka & London 1991	n=146; 37 in qualitative Convenience sample Urban & suburban	Openness of communica- tion Father's communica- tion Communica- tion with peers	Quantity & frequency of substance use	Cross-sectional Qualitative analysis	Open communication related to less substance use Limited communication with fathers Adolescents do not respond to peer pressure to use substances
Sun 2001	N=10,088 10 th , 12 th grades, NELS Nationally representative sample	Intact and pre- disrupted families Interpersonal relations Communica- tion	Frequency of alcohol & marijuana use in the past 12 months Well-being Grades	Cross-sectional longitudinal	Parent-child communication negatively related to marijuana use, Non-significant with alcohol use Pre-disrupted environment related to less well-being, lower grades Poorer parent relations results in marijuana use

Table A.5

Parental Substance Use

Study	Sample Characteristics	Independent Variables	Dependent Variables	Significant Results
Barnes, Farrell & Dintcheff (1997)	n=658 13-16 Randomly selected Mid-Atlantic state	Single parent, intact families Parental support Parent's alcohol use Peer's drinking and peer-oriented	Frequency of heavy drinking	Family structure not significant Age and male sex significant with heavy drinking Mediators between parental drinking and adolescent problem drinking: support & parents' monitoring. Mother's & father's heavy drinking not significant with adolescent heavy drinking
Barnes, Reifman, Farrell & Dintcheff (2000)	n=506 14-22 Randomly selected 29% African-American 71% Euro-American	Parental support Parent's alcohol use Parental monitoring	Alcohol misuse index: initiation of alcohol misuse and progression	Support has indirect effects on progression of alcohol misuse Monitoring mediates support and initiation and progression of misuse Parent's alcohol use indirect effect

Hoffmann & Su (1998)	n=777 10-16 Non-random, recruited from health, mental health & drug treatment Euro-American 85%	Family cohesion Parent-child strain Stressful life events Parent's substance use disorder, DSM-III-R Peer substance use	Frequency of alcohol use Frequency of drunkenness, marijuana and other drug use, past year	Drug use leads to lower family attachment but not significant in non-recursive model Parent's substance use disorder had direct effects on adolescent drug use, Time 1; indirect, Time 2
Hops, Duncan, Duncan & Stoolmiller (1996)	n=517 11-19 Non-random, recruited Northwest Euro-American 92%	Family structure: single/intact Frequency of mother's drinking and marijuana use Frequency of father's drinking and marijuana use	Frequency of alcohol use in past 12 months, 6 months, past month Frequency of marijuana use, in past 12 months, 6 months, past month	Greater alcohol and marijuana use in single parent families Mother's and father's substance use significant predictor of adolescent alcohol and marijuana use

Table A.5

Parental	Substance Use	(Continued)		
Study	Sample Characteristics	Independent Variables	Dependent Variables	Significant Results
Kandel & Andrews (1987)	n=676 15-16 Stratified, random sample Mid-Atlantic state	Feelings of closeness Communication Peer alcohol & marijuana use Parental alcohol Use	Ever used hard liquor & frequency of drinking Ever use, frequency of marijuana	Parents' modeling influences initiation of marijuana use Parental alcohol use significant with frequency of alcohol & marijuana use. Parental influence indirect through peer selection following initiation
Pandina & Johnson (1989)	n=1,308 Random sample Euro-American 90% Mid-Atlantic state	Parents with family history of alcoholism; high drinking; stress, not drinking; no drinking nor stress factors	Quantity and frequency of drinking Onset of intoxication, frequency of intoxication	Young adults with family history and parents with heavy drinking drink more frequently to intoxication no differences in adolescence Family history and parents with stress & mental illness are risks for progression to drug problems
White, Johnson & Buyske 2000	n=232 15, Time 1 Random Euro-American 89% Mid-Atlantic state	Warmth & hostility Parents' Substance Use	Quantity & frequency of alcohol and cigarette use	Four trajectories: low alcohol users, Late moderate users, persistent moderate & heavy drinkers. Parents' hostility not predictive Parents' alcohol use predictive of drinking trajectories

Appendix B

The natural logarithm of odds of heavy drinking is defined as a linear model, that is

$$\begin{aligned} \text{Ln[ODDS OF HEAVY DRINKING]} = & \beta_0 + \beta_1 \text{ CHI.DISR.} + \beta_2 \text{ ADOL.DISR.} + \beta_3 \text{ NMAR} + \\ & \beta_4 \text{ CONFLICT} + \beta_5 \text{ CONFLICT.CH.DISR} + \beta_6 \text{ CONFLICT.ADOL.DISR} \\ & \beta_7 \text{ CLOSE} + \beta_8 \text{ ACTV} + \beta_9 \text{ COM} + \beta_{10} \text{ NCP.VISIT} + \beta_{11} \text{ CLOSE.NCP} + \beta_{12} \text{ ACTV.NCP} + \\ & \beta_{13} \text{ COM.NCP} + \beta_{14} \text{ PARENT.ALCOHOL} + \beta_{15} \text{ CH_rel} + \beta_{16} \text{ MIN_rel} + \beta_{17} \text{ O_rel} \\ & + \beta_{18} \text{ A} + \beta_{19} \text{ H} + \beta_{20} \text{ HS} + \beta_{21} \text{ COLL} + \beta_{22} \text{ ADOL.DISR*H} + \beta_{23} \text{ ADOL.DISR*A.} \end{aligned}$$

The abbreviations are: marital disruption in childhood, designated by CHI.DISR, disruption in adolescence by ADOL.DISR, never married families by NMAR, feelings of closeness by CLOSE, activities by ACTV, noncustodial parent by NCP, communication by COM, and parental alcohol use by PARENT.ALCOHOL. (See Table 1.) Abbreviations for the ethnic groups are: A for African Americans, H for Hispanic Americans. Euro-Americans form the reference group. The control variables are denoted by SES_mid and SES_hi for middle income category (\$33,000 - \$60,000) and higher income category (over \$60,000). The reference group is having an income of \$32,000 or less. The interaction terms are conflict and marital disruption of the parents coinciding with early adolescence. For religion and ethnicity, the abbreviations are CH_REL for Catholic, Orthodox, and Mainline Protestant religions, MIN_rel for the Jewish religion, and O_rel for religions that have strictures prohibiting alcohol use. The reference group is having no religious affiliation. The interactions are: parents' marital disruption in early adolescence (ADOL.DISR) and ethnicity (ADOL.DISR.H, Hispanic, and ADOL.DISR.A, African American.)

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