

Children's and Adolescents' Use of Mental Health Care Is a Family Matter

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This article discusses the influence of family structure on children's use of mental health services and explores whether a family's dependency on government assistance compensates for the effect of family income on children's use of services. Children in nontraditional families are at greater risk of using mental health services and have more mental health visits. Family participation in government subsidies programs offsets the influence of family income on the use of mental health services.

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About 16% to 22% of children and adolescents have a diagnosable mental or addictive disorder during a year (U.S. Department of Health and Human Services, 1999, 2000). Unfortunately, most children and adolescents with mental health needs do not receive professional treatment (Burns, 1991; Burns et al., 1995; Costello, 1989; Gould, Wunsch-Hitzig, & Dohrenwend, 1980; Leaf et al., 1996; Shaffer et al., 1996; Whitaker et al., 1990; Zwaaswijk, Van der Ende, Verhaak, Bensing, & Verhulst, 2003). Children and adolescents are dependent on their parents or guardians to obtain professional care for them when they need it. Prior studies have found that parental factors can be strong predictors of children's mental services use. Zimmerman (2005) found that the presence of a father in the household reduced the odds of a child receiving treatment, particularly for depression. Parental divorce also increased the odds of receiving treatment for a child. Other demographic factors such as mother-only families have been found to be positively related to children's mental health services use (Brannan, Heflinger, & Foster, 2003). These findings suggest that family structure could be an important predictor of children's and adolescents' use of mental health services. However, Haines, McMunn, Nazroo,

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and Kelly (2002), in a study of children and their parents in England, found that family structure did not predict parents' propensity to seek mental health care for their children.

New Contributions

Understanding the relationship between family structure and children's mental service use is important. Parents initiate mental health care use for their children (Brannan et al., 2003; Bussing, Zima, Gary, & Garvan, 2003). They identify their children's mental health needs and determine whether no care, informal family care, or professional help is warranted. Some families may be better able to provide informal care while others need support from mental health professionals. While past research has focused on the presence of the father or the biological mother, marital status, or the size of the household, this article focuses on how the type of family children and adolescents live in affects their use. Is there a Cinderella effect (Case, Lin, & McLanahan, 1999)? Do children in blended (step) families use more or less mental health services than do children who live with both biological parents? Similarly, how do children who do not live with either parent or who live with only one parent fare compared to children who live with both biological parents? We find evidence that family structure influences children's use of mental health services. Children in nontraditional families are at greater risk of using mental health services and have more mental health visits.

Conceptual Framework

We build on a modified version of Aday and Andersen's (1974) behavioral health model of access to care to explain the impact of family structure on children's use of mental health services. Children's access to care is determined by predisposing factors (demographics, social structure, and parental attitudes and beliefs), enabling factors (family resources and health care resources in the community), and children's health care needs. For instance, prior empirical research has found that children's use of mental health services is associated with children's age, gender, race and ethnicity, physical impairment and illness, and insurance status (Barber, Rosenblatt, & Harris, 1992; Cohen & Hesselbart, 1993; Cuffe, Waller, Cuccaro, Pumariega, & Garrison, 1995; Garralda & Bailey, 1988; Riley et al., 1993; Slade, 2004; Sturm, Ringel, & Andreyeva, 2003; Wu et al., 1999; Zahner & Daskalakis, 1997) and their parent's socioeconomic status, use of psychiatric services, disability status, and perception of needs for these services (Cohen & Hesselbart, 1993; Cunningham & Freiman, 1996; Garralda & Bailey, 1988; Haines et al., 2002; Koot & Verhulst, 1992; Olfson, Marcus, Druss, Pincus, & Weissman, 2003; Ortega, 2003; Verhulst & Van der Ende, 1997).

The Aday and Andersen (1974) model is critical to our understanding of variations in children's mental health service use, but it does not explain the role of family structure. There is strong evidence suggesting that children living in single family households and in stepfamilies are more likely to develop emotional and behavioral problems compared to their peers living in two-parent families (Bramlet & Blumberg, 2007; Dooley, Curtis, Lipmal, & Feeney, 1998; Lefebvre & Merrigen, 1998). McLanahan and Sandefur (1994) have shown that about half of the differences in children's well-being between single- and two-parent families are because of the lower socioeconomic status of the single-parent families. While associated with children's mental health needs, family context plays a critical role in influencing parents' decision in seeking care for their children. When a child has an emotional or behavior problem, parents and guardians can provide informal care (i.e., emotional support) themselves, seek formal care in the mental health care system, or use combinations of informal and formal care to meet their child's needs. Parents and guardians' ability to provide informal care depends in part on the quality of their relationship with the child, that is, the level of trust and ability to communicate. We hypothesize that biological and adoptive parents, because of their "natural" commitment to their children, are more effective providers of informal care than are other relatives and foster parents. Households with two parents are more likely to have one who can effectively provide informal care to the child. Hence, households with two parents are less likely to be reliant on formal care than are households with only one parent or households with no parents. Also, parents' ability to provide informal care may depend on their marital status. Parents in difficult marital relationships (i.e., widowed, divorced, or separated) may be less available to provide emotional support for their children.

Case and Paxson (2001) argued that birth mothers are willing to make larger investments in their children's human capital than are stepmothers. This notion, also known as the "Cinderella effect" in the psychology literature, posits that parents have a naturally stronger commitment to their birth children compared to their stepchildren (Daly & Wilson, 1980, 2005; Tooley, Karakis, Stokes, & Ozanne-Smith, 2006). Economists have found empirical evidence of the Cinderella effect, as genetic parents tend to invest more in their children's nutrition, education, and routine medical and dental care compared to stepparents (Case et al., 1999; Case & Paxson, 2001; Zvoch, 1999). This suggests that stepparents would demand fewer mental health services for their children. However, the Cinderella effect reduces stepparents' effectiveness in providing informal care, thus encouraging blended families to rely more on mental health services for their children. Also, the Cinderella effect is associated with the maltreatment of stepchildren (abuse and neglect), family violence, and lack of nurturing and caring by stepparents (Daly & Wilson, 2005; Tooley et al., 2006). These factors are associated with greater family stress and the lack of parental emotional support (Conger & Elder, 1994; Turner, Wheaton, & Lloyd, 1995). We posit that children in blended families or with

stepparents will use more mental health services than children living with both biological parents because the Cinderella effect increases children's need for mental health services and reduces their stepparents' ability to provide informal care.

Study Data and Method

We examined mental health service utilization of more than 42,000 children and adolescents whose families participated in the Urban Institute's 1997 and 1999 National Survey of American Families (NSAF). The NSAF was a survey of the economic, health, and social characteristics of children, adults younger than 65, and their families. Each year, the study obtained a separate nationally representative household sample of U.S. civilian, noninstitutionalized children ages 6 to 17 years old and adults younger than 65. The survey covered more than 100,000 persons from more than 44,000 households. Data were collected via telephone interviews (random-digit dialing) and from an area household survey of persons without telephones. The respondent for the NSAF was the most knowledgeable adult (MKA). The MKA was chosen based on his or her knowledge of the sampled child's education and health. The MKA was asked questions about himself or herself, the sampled child, and his or her spouse or partner if the spouse or partner also lived in the household. The data were primarily collected from 13 focus states: Alabama, California, Colorado, Florida, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, Texas, Washington, and Wisconsin. In addition, the NSAF sample included respondents from the remaining states to aid in generating nationally representative numbers.

The NSAF contained information regarding health status, health care utilization, participation in government assistance programs, and other socioeconomic factors for children and their parents. It is more important that the NSAF oversampled the populations below 200% of the federal poverty level to obtain better estimates of their sociodemographic characteristics than are available in other national surveys. Interviews were conducted in English and Spanish. The response rates for children in the 1997 and 1999 surveys were 65.4% and 82.0%, respectively. More detailed information on the NSAF is available elsewhere (Judkins, Brick, Broene, Ferraro, & Strickler, 2001; Kenney, Scheuren, & Wang, 1999).

Mental Health Service Use

Two variables were utilized to measure mental health services use during the preceding 12 months. First, a dichotomous variable was created to indicate whether the child had received any mental health care. Second, the MKA was asked how many times the child received mental health services from a medical doctor, mental health counselor, or therapist. The following question was asked about children who were

3 years old or older: "During the past 3 months, how many times has your child received mental health services, including mental health services received from a doctor, mental health counselor, or therapist?"

Children's Health Status

A child's mental health status was based on a six-item scale of selected items from the National Health Interview Survey, based on the Child Behavior Checklist (CBCL; Achenbach, 1991). The CBCL is a standardized questionnaire of parent-rated child behavior during the previous 6 months. This questionnaire asks all parents for the past 6 months how often the child "did not get along with other children, could not concentrate or pay attention for too long, and was unhappy, sad, or depressed." In addition, this scale measures emotional and behavioral problems (internalizing and externalizing symptoms) for two distinct age groups. Parents of children aged 6 to 11 years old are asked how often "the child felt worthless or inferior, was nervous, high-strung, or tense, and acted too young for his or her age." Similarly, for children aged from 12 to 17 years old, the MKA is asked whether "the child had trouble sleeping, lied or cheated, and did poorly at schoolwork." The CBCL scale ranges from 6 to 18; higher scores reflect better mental health status. Scores of 12 or less indicate poor mental health status. Reliability and validity for both scales are moderately high for both age groups (Cronbach's $\alpha = .73$ for 6- to 11-year-olds, $.75$ for 12- to 17-year-olds, and correlations with the Conners Syndrome Scales and Quay-Peterson Syndrome Scales for 6- to 11-year-olds ranged from $.59$ to $.88$; Achenbach, 1991).

Child disability was determined by the presence of an ongoing or chronic health condition that limited the child's ability to participate in routine physical education and learning activities at school.

Health Insurance Coverage

Respondents were asked about health coverage for the past 12 months from the time the NSAF was administered. The MKA was asked if the spouse or partner or the focal child was covered by a certain type of insurance. In addition, the NSAF interviewer asked the respondent a verification question to confirm effective coverage. Separate questions were asked about the State Children's Health Insurance Program and state programs. We categorized MKAs and the focal child in three groups: privately insured, publicly insured, and uninsured.

Other Child Characteristics

Characteristics of children also included age and gender. Age was measured in years; the range was 6 to 17. Because there were no young children in our sample,

we subtracted 6 from each child's age. Also, age squared was included in the analysis to allow the effect of age to change across age groups.

Family Structure Variables

Children's living arrangement was classified into four categories: children living with no parents, children living with a single parent, children living with a blended (step) family, and children living with two biological or adoptive parents. We also controlled for the number of persons living in the household. The MKA's marital status was classified into four categories: presently married, divorced (or separated), widowed, single, and never married.

Dependence on Public Assistance

The household was designated as having received a government subsidy if the respondent reported that the household received Aid to Families with Dependent Children, general assistance, emergency assistance, food stamps, or welfare vouchers.

Other Factors

The MKA's health status was measured using current mental health status, self-reported health status, change in health status from 1 year ago, and disability status. The MKA had negative mental health status if he or she had a score of 67 or less on a five-item mental health scale (Mental Health Inventory-5 [MHI-5]). The MHI-5 was constructed using five items that best predicted the summary score for the 38-item MHI (McCabe, Thomas, Brazier, & Coleman, 1996). Poor or fair health status was based on the MKA's response to the general health status question. Worse or same health status was based on the MKA's response to whether he or she was in the "same" or "worse" health than the previous year. Disability was defined as an ongoing or chronic physical, mental, or other health condition that limited the MKA's ability to work. A dichotomous variable for those who did not respond to this question regarding disability status was created. The MKA's race was designated as White, African American, or Other (e.g., American Indian, Aleutian, Eskimo, Asian, Pacific Islander). Hispanic origin was separately measured. We also controlled for region: Northeast, South, Midwest, and West. The MKA's educational attainment was classified in five categories: less than high school, some high school, high school graduate, some college, and 4 or more years of post-high school education.

Estimation Strategy

Based on our conceptual framework, we posit that use of mental health services is determined by family structure in addition to the usual predisposing and enabling

health need identified by Aday and Andersen (1974). The dependent variables are any mental health visit and number of mental health visits. Logistic regression models were used to predict whether a child had any mental health visits. For those children with at least one visit, we used negative binomial regression models to predict the number of visits during the year. The independent variables were family structure, family dependency on government subsidies, and family socioeconomic status; MKA's mental and general health status, age, gender, and race; children's mental health status, disability status, age, gender, and insurance status; and geographic location. We report the odds ratios from the logistic regressions and incidence rate ratios from the negative binomial regressions. For our family structure variables, we used two biological or adoptive parents as the reference group. For example, we interpret the incidence rate ratios as the relative incidence rate of a mental health visit for a child living with one parent compared to a child living with two biological or adoptive parents given that the child has had a mental health visit.

Study Results

Of children and adolescents, 8% had a mental health visit (see Table 1). Among those who had a mental health visit, the average child had 10.57 visits during a year. Most children (59%) lived with both biological or adoptive parents, 29% lived with a single parent, 8% lived in a blended family, and 4% lived with neither parent or in foster care. Most MKAs (69%) were married, while 13% were never married, 11% were divorced, 5% were separated, and 2% were widowed. The average family income was \$38,600, and 15% of families participated in one of the government income subsidies programs. Most children (87%) had good or excellent physical health status. Only 8% had a negative mental health score, and only 10% had a disability that limited their activities. With regard to the MKA's health status, 18% had a negative health status, 13% had fair or poor physical health status, 11% had a disability, and 7% had a decline in health status during the past year.

Family structure affected children's use of mental health services (Table 2). Compared to children who lived with two biological or adoptive parents, children in other families were more likely to have a mental health visit; and among children receiving care, they had more mental health visits. Specifically, children in blended families were 2.16 times more likely to have a mental health visit, children in single-parent families were 2.07 times more likely to have a mental health visit, and children in foster families were 3.11 times more likely to have a mental health visit. Once services were initiated, children living with a single parent or no parents had higher rates of mental health visits. Their rates of use were 48% to 71% higher than children living with both parents. Children whose parents were widowed, divorced, and separated were 39%, 37%, and 34% more likely to have a mental health visits, respectively, compared to children whose parents were married. Once services were

Table 1
Weighted Descriptive Statistics for 1997 and 1999

Variable Name	Mean (SD)
Any mental health visits	0.08
# of mental health visits (among those with at least one)	10.57 (20.31)
Family structure	
# of people in the family	4.19 (1.34)
Child lives with 2 biological or adoptive parents	0.59
Child lives with no parent	0.04
Child lives with single parent	0.29
Child lives with blended family	0.08
Married	0.69
Widowed	0.02
Divorced	0.11
Separated	0.05
Never married	0.13
Parent health status	
Positive mental health status	0.82
Negative mental health status	0.18
Same or better health status compared to past year	0.93
Worse health status compared to past year	0.07
Good physical health status	0.87
Poor physical health status	0.13
No disability	0.76
Disability	0.11
Missing data for disability	0.13
Socioeconomic status	
Total income divided by 10,000	3.86 (2.48)
Parents received govt. subsidies	0.15
Private insurance	0.71
Public insurance	0.17
Uninsured	0.12
High school graduate	0.32
College graduate or more	0.25
Has some college education	0.26
Education is up to 12th grade	0.13
Education is up to 8th grade	0.04
Parent demographic characteristics	
Male	0.19
Female	0.81
Age	38.77 (8.25)
White	0.68
Hispanic	0.13
African American	0.15
Other race	0.04

(continued)

Table 1 (continued)

Variable Name	Mean (<i>SD</i>)
Child demographic characteristics	
Male	0.51
Female	0.49
Age	5.47 (3.55)
Child health status	
Positive mental health status	0.92
Negative mental health status	0.08
No disability	0.90
Disability	0.10
Geographic location and time	
Northeast	0.23
South	0.27
Midwest	0.29
West	0.21
Year 1997	0.47
Year 1999	0.53

initiated, children living with a divorced, separated, or never married parent had lower rates of mental health visits. Their rates of use were 19% to 23% lower than the rates for children living with married parents.

Children whose family participated in government subsidies programs were more likely to use mental health services (Table 3). Children in families receiving government subsidies were 14% more likely to have a mental health visits and had a 13% higher rate of subsequent visits. Compared to children with private insurance coverage, children with public insurance coverage were 21% more likely to have had a mental health visit and had a 26% higher rate of subsequent visits. Children who were uninsured were 37% less likely to have mental health visits compared to privately insured children. The MKA's educational attainment was positively related to whether children had a mental health visit, and children of college-educated MKAs had higher rates of subsequent mental health visits. The MKA's demographic characteristics were associated with children's use of mental health services (Table 3). Children whose MKA was female were 16% more likely to have a mental health visit. Compared to Whites, children of Hispanic, African American, and Other MKAs were 40%, 47%, and 27% less likely to have a mental health visit, respectively. Children of Hispanic and African American MKAs had lower rates of subsequent mental health visits (14% and 28%, respectively) compared to children of White MKAs.

Table 2
Estimated Effects of Family Structure on Children's Use
of Mental Health (MH) Services

Independent Variable: Family Structure	Any MH Visits Logit		# of MH Visits Negative Binomial	
	Odds Ratio	SE	Incidence Rate Ratio	SE
Families with 3 children	0.98	0.07	1.06	0.07
Families with 4 children	0.92	0.07	1.11	0.07
Families with 5 or more children	0.88	0.07	1.13	0.08
Child lives with no parent	3.11**	0.33	1.48**	0.13
Child lives with single parent	2.07**	0.23	1.71**	0.16
Child lives with blended family	2.16**	0.14	1.06	0.06
Widowed	1.39**	0.23	1.18	0.16
Divorced	1.37**	0.16	0.78**	0.08
Separated	1.34*	0.15	0.77**	0.07
Never married	1.02	0.12	0.81*	0.08
Number of observations	40,680		3,439	

Note: These estimates are from logistic and negative binomial regression models. The dependent variables are any mental health visit and number of mental health visits. The independent variables include family structure, parents' health status, socioeconomic status, parents' demographic characteristics, children's mental health status, overall health, age, gender, and region.

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

Discussion

Family structure appears to be an important predictor of children's use of mental health services. A reasonable explanation is that family stress from family circumstances increased children's demand for mental health services. In other words, the stressors that produced these family circumstances also may have increased children's need for mental health care. This story is consistent with other research on family structure. Over time, more children are living in blended, single-parent, or foster families than in traditional nuclear families where all children share the same biological or adoptive parents. Changes in the family structure have been linked to higher rates of child poverty and higher incidence of other social problems including school dropout, alcohol or drug use, adolescent pregnancy and childbearing, and juvenile delinquency (Lehman, 1996; McLanahan & Sandefur, 1994). Future research should explore why children in blended families, children in single-parent homes, and children who did not live with their parents were at greater risk of using mental health services and particularly why those in single-parent families used more services once care was initiated. Similarly, why did children whose parents

Table 3
Estimated Effects of Socioeconomic Status and Most
Knowledgeable Adult’s Demographic Characteristics on Children’s
Use of Mental Health (MH) Services

Independent Variable	Any MH Visits Logit		# of MH Visits Negative Binomial	
	Odds Ratio	SE	Incidence Rate Ratio	SE
Socioeconomic status				
Total income divided by 10,000	1.03**	0.01	1.01	0.01
Parent received govt. subsidies	1.14*	0.07	1.12	0.06
Public insurance	1.21**	0.08	1.25**	0.06
Uninsured	0.63**	0.05	0.96	0.07
College graduate or more	1.44**	0.08	1.14*	0.06
Has some college education	1.32**	0.07	1.22**	0.06
Education is up to 12th grade	1.02	0.07	1.06	0.06
Education is up to 8th grade	0.71**	0.09	1.19	0.14
Parent demographic characteristics				
Female	1.16**	0.06	1.10	0.05
Age 30 to 39	0.97	0.05	0.94	0.05
Age 40 to 49	1.02	0.06	1.02	0.05
Age 50 to 59	0.93	0.09	1.06	0.09
Age 60 or older	0.85	0.13	0.95	0.13
Hispanic	0.60**	0.05	0.86*	0.06
African American	0.53**	0.04	0.72**	0.04
Other race	0.73**	0.08	1.08	0.11
Number of observations	40,680		3,439	

Note: These estimates are from logistic and negative binomial regression models. The dependent variables are any mental health visit and number of mental health visits. The independent variables include family structure, parents’ health status, socioeconomic status, parents’ demographic characteristics, children’s mental health status, overall health, age, gender, and region.

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

were widowed, divorced, or separated have a higher propensity to use mental health services but use fewer services once care had been initiated?

Some mental health services may be substituting for parental support and counseling. The results for children in blended families are particularly interesting because they imply that stepparents may not be able to provide the same level of counseling and support as the child’s biological or adoptive parents. A plausible explanation is that stepparents do not invest as much time in their children’s well-being (Case et al., 1999). Stepparents may not be willing to fully accept parental support and counseling roles, or they may not be as effective in performing these

roles; thus, these families resort to counselors, therapists, and mental health specialists when their children have emotional and/or psychological problems. In blended families, there may be a rivalry within the household, which may lead to increased use of mental health services (Wilson & Daly, 1997). Adults may not be willing to equally invest in their biological children and their stepchildren (i.e., their spouse's children). Hence, children in blended families do not receive the benefit of full investment from both parents. These results are consistent with those of earlier research on the relationship between family structure and household resource allocation. Earlier research has demonstrated that living with their biological mothers has a positive impact on children's use of health care services, educational attainment, and nutritional intake (Beller & Chung, 1992; Case et al., 1999; Case & Paxson, 2000).

Children's enrollment in public insurance plans and the family's participation in government subsidy programs significantly increased the odds of using a mental health service and the number of mental health visits during the year. Public insurance coverage reduces financial barriers to care and increases demand for mental health services (Wells, Manning, & Benjamin, 1987). A possible explanation for the impact of the family's participation in government subsidy programs is that parents who are willing to enroll in subsidies program are also more willing to seek help from outside agencies for other family problems. Another explanation is that participation in government subsidy programs may be a further indication of family stress, a determinant of mental health need. A third explanation is that the family's participation in government subsidy programs may be an indication of underreported Medicaid enrollment. Underreporting of Medicaid enrollment is a common problem in population surveys.

The main limitation of this study is its reliance on survey responses from the MKA in the household, which is subject to recall bias. The MKA may have been unaware of the potential health problems and health services use of their children or spouse or partner. Studies have shown that parents tend to underreport children's emotional and behavioral problems, especially for internalizing conditions for girls (Sourander, Helstela, & Helenius, 1999; Verhulst & Van der Ende, 1992). This problem may be further aggravated by family structure. However, this measurement error especially for independent variables tends to bias results toward the null hypothesis. Future research should explore these issues in a population for which administrative data can be used to verify mental health service use and clinical data can be used to verify health status. In addition, our study is a cross-sectional study, and therefore we are unable to make causal inferences about the relationships among family structure, public assistance, and children's use of mental health services. Future analyses should consider using a longitudinal framework; however, this may prove difficult and costly because the key independent variables are changes in family structure and enrollment in public assistance programs.

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