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THE EFFECT OF FAMILY STRENGTHS ON YOUTH BEHAVIOR
AN ANALYSIS OF THE NATIONAL SURVEY OF CHILDREN

FINAL REPORT

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INTRODUCTION

While peer, neighborhood, and societal forces are widely acknowledged to affect youth behavior (Hogan and Kitagawa, 1985; Yamaguchi and Kandell, 1987; Crane, 1991; Brewster, Billy and Grady, 1993), family influences remain an important contributor to youth outcomes. Researchers focussing on family characteristics have outlined a series of traits posited to define strong or successful families (Beaver, 1977; Gary, 1983; Epstein, Baldwin, and Bishop, 1983; Hill, 1971; Lewis, 1979; Olson, 1983). However, few studies use multivariate analyses with nationally representative samples to examine the influence of family strengths on youth behavior. This paper summarizes a series of analyses designed to assess whether family strengths predict to positive youth outcomes such as healthy child development, good mental health, fewer behavior problems and positive health behavior.

The National Survey of Children (NSC) is used to assess the influence of family strengths on youth behavior problems. Eleven different measures are created to describe positive and healthy aspects of family life. They include: parent-child communication, appreciation, family activities, clear roles, parent-parent communication, social connectedness, importance of religion and religious training, family adaptability, rules and chores, and strong punishment. Each measure has been used previously to describe well-functioning, or strong families (Krysan, Moore and Zill, 1990; Zill and Rhoads, 1991). This previous work focussed on: 1) assessing the literature on successful families; 2) assessing the psychometric properties of measures from the NSC that could represent characteristics of healthy, well-functioning families, and; 3) assessing

the influence of these strengths on selected youth and family outcomes. The aim of the present study is to explore whether family strengths characteristics are common across different family types, and whether certain characteristics predict to youth outcomes consistently across family type. Five broad research questions are explored:

1) Are specific family strengths characteristics common among different family types?

That is, do certain types of families (i.e., two-parent versus single-parent families) show particular types of family strengths?

2) Is there one underlying conceptual domain of family strengths, or are there several aspects to strong families? That is, do all family strengths characteristics group together as one central construct, or do particular items cluster together to represent various aspects of strong families? Is/are these dimensions consistent for all family types and racial groups?

3) Which family strengths promote positive youth behaviors or limit the appearance/development of negative behaviors? Do family strengths characteristics affect youth behavior consistently across all family types?

4) Is there an interaction between race and family type such that family strengths have a different influence on youth behavior among families from different racial groups?

5) Does the influence of family strengths on youth behavior remain after controlling for other family and socioeconomic characteristics?

Findings suggest that most family strengths characteristics are common across different types of families. In other words, single-parent and two-parent families possess similar family strengths characteristics. In addition, certain types of strengths, such as strong parent-child

communication, consistently promote positive behaviors, while others, such as strong punishment, negatively influence youth behaviors. However, the data also suggest that certain aspects of family life may be unique to certain family types, particularly two-parent families. For example, mothers who are married at wave II interview, see family life as more adaptable and flexible than single mothers. They also report stronger social networks than single mothers.

The data also suggest that not all family strength measures affect youth behavior in the same way across all families, or to the same extent for males or females. Strong punishment appears to promote later delinquency among youth from single-parent families, but is associated with less delinquency among youth from two-parent families. Strong parent-child communication tends to promote positive behaviors among young men, while appreciation fosters positive behaviors for young women.

These results suggest there may be different dimensions of family strengths for different types of families, and that different constructs may have varying influence on youth behaviors. The results also indicate that better measures are needed to reflect the range of dimensions that characterize contemporary American families. Identifying and understanding these dimensions will be important in assessing family strengths and their influence on youth and family outcomes. The following pages describe the study and the findings in more detail.

I. METHODOLOGY, FAMILY STRENGTHS AND YOUTH BEHAVIORS NATIONAL SURVEY OF CHILDREN

Data and Methodology

Data for these analyses are taken from The National Survey of Children (NSC). The NSC includes three waves of data. The initial wave was collected in 1976; Waves II and III were collected in 1981 and 1987 respectively. The NSC is a nationally representative household survey of children who were aged 7-11 and living in the contiguous United States in 1976. A subset of the children was re-interviewed in 1981 when they were between the ages of 11 and 16, and again in 1987, when they were 18-22. The first wave of interviews was designed to broadly assess the social, physical, and psychological characteristics of U.S. children. Of particular importance were the family and neighborhood circumstances in which the children were growing up. Up to two children, between the ages of 7 and 11 in each household, as well as the parent most knowledgeable about them, usually the mother, were interviewed in person. Approximately 2,300 children from 1,747 households were interviewed. Black households were oversampled.

The primary focus of the second wave was to examine the consequences of marital disruption for children's development and well-being. All children who had been living in families that had experienced a marital disruption as of the 1976 interview, or who were living in high conflict families in 1976 were re-interviewed. A sub-sample of children living in two-parent families with low or medium conflict in 1976 was also interviewed. In wave II, data on patterns of parent-child interactions and behavior more relevant to adolescence, such as dating, sexual activity, alcohol, substance abuse, and delinquency were collected.

The aim of wave III was to obtain data on the impact of early pregnancy and parenthood on the lives of teenage parents. Both the youth and one of the youth's parents, usually the mother, were interviewed.

Analyses presented here use data from NSC waves II and III. Children with complete interviews in both waves II and III make up the study sample. The sample is also limited to only whites and blacks, and to cases in which the youth's mother served as the adult parent respondent¹. Baseline family strengths and demographic information, for the purposes of this study, are taken from wave II. Behavior outcomes are measured from data collected in wave III. Data are analyzed using product-moment correlations, factor analysis (principal components analysis), and ordinary least squares regression. Preliminary analyses are conducted separately by family type and race, and then by family type controlling for race. The sample size for several sub-groups is quite modest, however (i.e., N=238 for blacks and N=276 for single-parent families). As a result, multivariate analyses are not stratified by family type or race. Selected analyses are stratified by gender.

Family type is defined as two-parent (two-biological or step-parent) or single-parent² (never married, separated, widowed or divorced). Although studies suggest that two biological parent and step-parent families may have different effects on youth behavior (Astone and McClanahan, 1991; Krein and Beller, 1988), sample size does not allow us to stratify our analyses by these sub-groups. Variables used in this analysis are presented in Tables 1 and 2. Details

¹Fathers as adult respondents make up less than 10% of the adult respondent sample. To limit confounding due to differences in mother/father reports, or to exclude children from single parent families where father reports are not available, we have limited our sample of parents to mothers.

²The sample of single-parent adult respondents includes only mothers who were unmarried at Wave II (1981). Thus, the term "single-parent" families refers to "single-mother" or "mother only" families.

concerning the coding of family strength characteristics and youth behaviors are provided in Appendix A.

Family Strengths

Table 1 describes the eleven family strengths indicators used in these analyses. They are described as some of primary factors contributing to positive family well-being (Krysan, Moore, and Zill, 1990). Four of these measures are based on reports provided by the child respondent.

They include:

- Parent-Child Communication - the extent and quality of communication between parents and children
- Appreciation - the frequency with which parents praise and show physical affection toward the child for accomplishments or good behavior
- Clear Roles - the extent to which parental expectations for the adolescent child are clear and consistent
- Family Activities - the frequency with which parents and adolescent children engage in joint activities

Five are based on reports by the parent (mother) respondent which include:

- Parent-Parent Communication - the extent and quality of communication between mother and husband/partner.
- Family Adaptability/Flexibility - parents' description of family life including whether life is relaxed or easy going, tense or stressful, disorganized and unpredictable, sharing and cooperative.
- Commitment to Marriage and Family - the extent to which the parent (mother) respondent believes that marriage is for life, believes marital fidelity is important, and feels a couple should be intimate friends.
- Social Connectedness - the frequency with which the parent respondent sees relatives and friends, and the number of friends within an hour's drive.
- Religious Training - the extent to which it is important to provide religion and religious training for the child.

Two additional measures, also reported by the child, are included. They represent modes of formal or traditional discipline:

- Rules and Chores - number of different ways in which child was expected to help around the house; different areas in which there were specific rules child had to follow.
- Strong Punishment - the extent to which the adolescent was hit, made fun of, or told that parent did not love him/her; also includes whether child had ever been badly bruised or cut by parents' hitting.

Youth Behaviors

Table 2 presents the five behavior outcomes. They include:

- Behavioral Problems Index - the extent to which child cheats/lies, has a hard time concentrating, has strong temper, is cruel or mean to others, feels worthless.
- Depression - the extent to which youth presents signs of depressed physical or emotional state.
- Teacher Rating of Youth Behavior - measured in wave II; level of youth's personal maturity; includes enthusiasm and interest in school, preparation for classroom work, level of concentration, extent to which youth gets along well with and is liked by other students.
- Delinquency in the past 12 months - how often in past 12 months youth damaged or destroyed property, carried hidden weapon, stolen/tried to steal a motor vehicle or other property worth more than \$50, attacked someone with the intent to hurt or kill, sold drugs, been stopped/questioned by police 3+ times for doing something wrong.
- Frequency of Alcohol/Drug/Tobacco use in the past 12 months - how frequently in the past 12 months youth used alcohol, tobacco, marijuana, coke crack, other drugs.

All family strengths are measured at wave II and are used to predict youth behavior at wave III, except teacher rating of youth behavior which was measured at wave II.

Before describing the findings with respect to the five research questions previously described, descriptions of the sample, family strength characteristics, and behavior outcomes are presented.

II. DEMOGRAPHIC AND FAMILY STRENGTHS CHARACTERISTICS

Demographic Characteristics

Demographic characteristics of the study sample are presented in Table 3. The sample consists of 1,126 children who had valid interviews in both waves II and III. More than three-quarters of the sample are white and approximately 80% lived in a two-parent family at wave II. The sample is equally divided by gender, but 72% were in the pre-teen or teen years (13-17) in 1981, and roughly 63% came from small families (1-3 children).

The distributions of socioeconomic indicators suggest that youths' families represent American families. Slightly more than half of youth came from families with an income greater than \$20,000, and 81% percent had parents who had at least a high school diploma; only 10% had ever been on welfare or public assistance. In addition, more than 80% rated their neighborhood as good, very good, or excellent. Sixty-four percent had never experienced a marital disruption, and 63% percent of youths' mothers had their first child at age 20 or older. Eleven percent of youths' mothers experienced their first birth before or by age 17.

Family Strengths Indicators

Mean scores for the family strengths measures suggest that youth typically describe their relationship with their parent(s) in positive terms (Table 1). Communication between parents and children is high, and parents generally appreciate their children. Youth also feel their parent(s) have consistent and well-defined expectations of them and infrequently use harsh punishment or strong discipline. They are expected to carry out regular chores and responsibilities around the house and participate in joint activities with parent(s).

Mothers also describe their family life in positive terms (Table 1). Mothers generally state they communicate well with their spouse/partner (averaging 9.5 on a 11-point scale). They have a strong commitment to marriage and family, and religion and religious training are important for their children. They also see their family life as adaptive and flexible in the face of stress and adversity, and they have frequent contact with friends and relatives.

The mean scores on the family strengths measures suggest that both youth and adult respondents perceive their families to be well-functioning and sound. These distributions do not show if respondents from single-parent families describe their families in the same way as respondents two-parent families, or whether distributions are different by race.

III. FAMILY STRENGTHS AND YOUTH BEHAVIORS BY FAMILY TYPE, RACE, AND GENDER

Distribution of Family Strengths by Family Type

This investigation of family strengths and youth behaviors begins by assessing the distribution of family strength characteristics by family type (Table 4). There are similarities, but also a few significant differences in the mean distribution of family strengths measures by family type. The absolute value of the differences observed, however, is quite modest in some instances. Among the youth-reported measures, there is a statistically significant difference in the mean scores for the clear roles index by family type. Thus, youth from two-parent families state their parents' expectations of them are more clear and consistent than youth from single-parent families. Aside from the clear roles measure, no other significant differences by family type emerge among the youth-reported measures. That is, youth from married families are no more or less likely to state they communicate better with their parents, or have more or fewer chores to do than youth from single-parent families. They are also no more likely than youth from single-parent families to do things together with their parents, to feel appreciated by their parents, or to receive strong or abusive punishment.

With respect to measures reported by the mother, there are more differences than similarities by family type. Mothers who are married describe their family life, on average, as more adaptable and flexible than single mothers, and have a stronger commitment to marriage and family than single mothers. They report, on average, that religion and religious training are more important for their child than do single mothers, and they have more frequent contact with friends and relatives. One should note that although there are statistically significant differences

in the mean distribution of family strength characteristics, the absolute value of these scores in general is not very large. For example, mothers who are currently married demonstrate a mean score of 16.5 (on a scale of 20) on the commitment to marriage and family index. Single mothers demonstrate a mean score of 15.3. Thus, single mothers also report a strong commitment to marriage and family, even though their score on this scale is significantly lower than that reported by married mothers.

Distribution of Family Strengths by Race

There are both similarities and significant differences as well in the mean distribution of family strengths measures by race (Table 5). White and black youth present similar mean scores on all the youth-based measures except the family activities index. White youth state, on average, that they do more things together with their parent(s) than black youth. Black youth, on average, state they have a greater number of rules and chores than white youth.

Among the adult-reported measures, parent-parent communication, commitment to marriage and family, and social connectedness is greater among white than black families. There are no significant differences in mean scores for the religious training and family adaptability measures. Again, one should note that the absolute value of the significant differences by race in some instances is nominal, and this should be taken into consideration when interpreting these associations.

Distribution of Youth Behaviors by Family Type

Before assessing family strengths and youth behavior, it is important to document the extent to which negative and positive behaviors are prevalent among the youth in the study sample, and the influence of other family or individual characteristics on youth behavior. Mean

distributions of the five youth behavior outcomes by family type, race, and gender are shown in Table 6.

Family type has a significant impact on the likelihood of youth behaviors. Youth from single-parent families (that is, youth who lived with an unmarried mother in 1981) present more behavior problems, more depression, and more delinquent behavior than youth from two-parent families. Youth from two-parent families also have more positive teacher ratings of behavior than youth from single-parent families. Family type is not significantly associated with drug use among youth.

Distribution of Youth Behaviors by Race

Racial differences in means scores on youth behavior measures are also present. Black youth have higher mean scores on the behavioral problems index than white youth. White youth receive higher ratings of behavior from their teachers, and present a greater frequency of alcohol, tobacco and drug use in the past 12 months than black youth. No differences in depression or delinquent behavior by race are evident.

Distribution of Youth Behaviors by Gender

Gender is significantly associated with youth behaviors as well. There are significant gender differences in four of the youth behaviors, with males more likely to present negative behaviors than females. Female youth present somewhat higher scores on the depression scale than males, but have higher mean scores on the teacher rating of behavior, and present fewer delinquent behaviors and less drug use than males.

Conclusions

Distributions of mean scores on family strengths indicators suggest that many family strengths characteristics are common among all families regardless of family structure or race. Youth from both two-parent and single-parent families, white and black families, communicate well with their parent(s), do things together with their parent(s), and rarely receive strong or abusive punishment. Mothers, regardless of their 1981 marital status or race, have a strong commitment to marriage and family and see their family life as adaptable. Highlighting the similarities across families is not meant to minimize the significant differences that were observed, but the differences, in general are modest in magnitude. They indicate that no one type of family, married or single, black or white, is consistently stronger than the other. Rather, certain strengths may be more prevalent than others among different types of families.

Differences in the distribution of behavior outcomes by family type, race, and gender indicate that family type and individual characteristics are associated with youth behavior. Whether these factors have an effect on youth behavior outcomes independent or net of family strengths is the focus of a later section in this report.

The above discussion informs us of the mean level of family strengths within the sample, but the distributions presented can only suggest the presence of individual characteristics within families. They do not give any indication of whether certain characteristics co-exist with one another, or which characteristics are most strongly associated with one another, and which characteristics cluster together for different types of families. We examine these patterns of associations in the next section.

IV. RELATIONSHIPS OF FAMILY STRENGTHS MEASURES TO ONE ANOTHER BIVARIATE ASSOCIATIONS AND PRINCIPAL COMPONENTS ANALYSIS

Bivariate Associations

In order to determine if the eleven family strengths measures group together similarly for different types of families, correlations between all possible pairs of family strengths indicators by family type were calculated. Correlations were then used in the Principal Components Analysis, a procedure that identifies the smallest number of dimensions needed to describe shared variance among all the indicators (DeVellis, 1991). Correlation matrices were generated for the entire sample, for married and single-parent families separately, and for white and black families separately. Tables 7-11 present the correlations between family strengths indicators for each of these groups.

Total Sample

Correlations of family strengths measures for the total sample (Table 7) indicate that most family strengths are both significantly and positively associated with one another, although the size of the coefficients is relatively modest. Only two indicators have substantial correlation coefficients -- parent-child communication and appreciation ($r=.46$) and parent-parent communication and family adaptability ($r=.46$). Relatively high correlations are also observed between the parent-child communication and family activities indices ($r=.39$), and the appreciation and family activities indices ($r=.36$). Parent-child communication and appreciation are also correlated with the clear roles index demonstrating a $r=.24$ and $r=.25$ respectively. Strong punishment is negatively correlated with the majority of the remaining family strengths indicators, except for commitment to marriage and family, social connectedness and religion.

where it demonstrates a positive but very weak association, and rules/chores, where a moderate but significant positive correlation is found.

Correlations among measures reported by the same respondent (youth or mother) are consistently greater than correlations among two measures reported by either the youth or the mother. In addition, youth-reported measures are more strongly inter-correlated than mother-reported measures. This same association was reported by Zill and Rhoads (1991). They suggest that the greater correlation may be due to the fact that all the youth measures consistently assess how the youth was treated by his/her parents, whereas the mother-reported indicators measure the mother's interactions with a variety of individuals (i.e., family/friends, religious institutions, etc).

Relationships Among Family Strengths Indicators by Family Type

Two-Parent Families

Correlations among family strengths for two-parent families (Table 8) are virtually identical to those of the total sample. Most indicators demonstrate a positive and significant correlation with one another. Parent-child communication and appreciation also present a substantial and significant correlation ($r=.48$). Parent-parent communication and family adaptability are also strongly correlated ($r=.46$), and similarly high correlations are observed between the parent-child communication and family activities indices ($r=.38$), and the appreciation and family activities indices ($r=.36$). Parent-child communication and appreciation are correlated with the clear roles index. Strong punishment is negatively correlated with most of the other family strengths measures. Youth-based indicators are more strongly correlated with one another than with parent-reported measures and vice versa.

Single-Parent Families

Strong and positive correlations between family strengths measures are also observed for single-parent families, although fewer correlations are statistically significant, and they are more modest in size (Table 9). Two of these coefficients are moderately strong but not significant (i.e., parent-parent communication and commitment, $r=.27$; parent-parent communication and rules/chores, $r=-.30$), suggesting that there may be too few single-parent families to detect a significant association. Of those indicators that do demonstrate significant correlations, parent-child communication, appreciation, and family activities are the most strongly correlated with one another and with other family strengths measures. This pattern was also present among two-parent families. Strong punishment is also negatively correlated with the majority of family strengths measures, except commitment to marriage and family, social connectedness, religious training and rules/chores. However, the coefficients are generally smaller than those observed for two-parent families, and they are not statistically significant.

In addition to the differences just described, there are two primary distinctions between the correlations among family strengths measures for two-parent and single-parent families. First, the parent-parent communication index for single-parent families is not significantly correlated with any other indicators. Since the parent-parent communication index is defined only if a spouse or partner is present, this may be due to limited sample size. Only 30 unmarried mothers had reported having a partner, and therefore, had a score on this index. Interestingly, the size of the coefficients for the parent-parent communication index among single-mother families is comparable to, and in some instances, larger than the coefficients on the same index among two-parent families. This suggests that an association between parent-parent

communication and other family strengths measures does exist within single-parent families, but that the number of single-parent families in which a partner was present may be too small for a significant association to be detected.

Another difference observed between the association of family strengths measures by family type is the limited association of family adaptability with other family strengths indicators. Among single-parent families, only two family strength measures are even moderately correlated with the family adaptability/flexibility scale -- social connectedness and religious training -- ($r=.17$ and $r=.14$ respectively). These two items have extremely small correlations with family adaptability among two-parent families ($r=.06$ and $r=.02$). This may suggest that single and married parents can both adapt and be flexible given difficulties in family life, but that support from family and friends outside the home may be more important for adaptability among single-parents than among married couples.

Relationship of Family Strengths by Race

Statistically significant correlations between family strengths measures (Tables 10 and 11) among white and black families are also observed. Virtually all significant correlations are positive, with the exception of the strong punishment measure as described above. The correlations between youth reported measures are greater than those between mother-reported measures. In general, youth-based measures are more strongly correlated with all other family strength indicators than mother-based items.

Although there are more similarities than differences in the patterns of correlations of family strengths measures with one another for white and black families, a few important differences do emerge. For example, although the parent-parent communication measure is

moderately strongly associated with parent-child communication, appreciation, and family activities (youth-based measures) for both whites and blacks, the size of the coefficients generally is somewhat greater among black families. The coefficients for these measures range from $r=.16$ to $r=.26$ for blacks, and from $r=.11$ to $r=.16$ for whites. This pattern may suggest that when parents communicate well with each other, there is also greater communication with children and a greater frequency of joint activities, particularly among black families.

Another difference observed is that, among white families, the parent-parent communication measure is significantly correlated with all of the mother reported measures, except rules and chores. Among black families, the parent-parent communication measure is highly correlated only with family adaptability/flexibility. The coefficient is not only substantial ($r=.54$), but slightly larger than the coefficient for whites ($r=.44$). Thus, among parent-reported measures for black families, parent-parent communication may be most important for helping the family adapt and modify its roles during difficult times. This association could also be due in part to differences in family type by race, or the presence of a partner among single-parent families.

One final distinction in the correlation matrices of family strengths measures by race is in the pattern of association of social connectedness and religious training with other family strengths. Among whites, social connectedness is most strongly correlated with commitment to marriage and family ($r=.26$), although it also demonstrates a positive, but modest, correlation with religious training ($r=.14$). Among black families, social connectedness is unrelated to commitment to marriage and family, but it is fairly strongly correlated with religious training ($r=.26$) and family activities ($r=.21$). This suggests that, for black families, social networks may

be more linked with religion and religious training compared with white families. Networks may also provide an important mechanism for black families to adapt to the flux of daily family life as seen by the fact that family adaptability is more strongly correlated with social connectedness among black families ($r=.20$) than white families ($r=.08$). These patterns support descriptions of family strengths among black families described by Robert Hill (1971). He reports that strong kinship bonds, adaptability of family roles, and strong religious orientation are characteristics particular to strong black families.

Summary of the Relationships of Family Strengths by Family Type and Race

Three major conclusions can be drawn from the above discussion of family strengths measures. First, the data show that many family strengths characteristics are common to all types of families regardless of family structure or race, and that these measures generally have a positive association with one another. That is, if a family possesses one family strength characteristic they are likely to possess other positive traits as well. Parent-child communication is most strongly associated with other family strength characteristics.

Second, measures reported by the youth are more strongly associated with one another, and measures reported by the mother are more strongly associated with one another. In addition, the correlations among youth-based measures are stronger than correlations among mother-based measures. This may be due to the fact that each set of measures asks the respondent to assess his/her interaction with different sets of individuals or situations. On the one hand, the youth is asked to assess how he/she is treated by his/her parents. On the other hand, the mother is asked to assess her interactions with a variety of individuals (e.g., family/friends, religious institutions, etc). This illustrates the importance for obtaining both

mother and youth reports on the same measures to determine which predicts better to youth outcomes.

Third, a few differences in the presence and associations among family strengths measures emerged by family type and race. For example, social networks are somewhat more important for family adaptability for single-parent families than two-parent families, and more important for adaptability for black than white families. These distinctions should be taken into consideration when describing the variability in strong families, and assessing the impact of family strengths on youth and family outcomes. It also suggests that a common domain of family strengths may not exist for all families. The next step in the analysis is to explore the common underlying dimensions of family strengths within the NSC.

Principal Components Analysis

The goal of this phase of the analysis is to determine: 1) whether there is one underlying dimension of family strengths; 2) if this dimension is apparent for all family types and all races and; 3) whether the present indicators sufficiently represent the dimensions of family strengths, if more than one dimension exists.

To determine whether one single underlying dimension of family strengths exists in the NSC data, principal components analysis was conducted. Psychometricians developing survey and summary indices often employ a technique of factor analysis called Principal Components Analysis to identify the smallest number of dimensions needed to describe the variance shared by all the indicators (DeVellis, 1991). According to Nunnally (1978), the measures of interest should demonstrate the following properties if only one underlying dimension of a particular phenomenon is present.

1) There should be only one factor extracted, or if more than one factor, the first factor should explain a substantial portion of the total variance in the indicators (40% or more):

2) If more than one factor, each subsequent factor should explain less but fairly equal proportions of the remaining variance:

3) All or most of the indicators should have substantial loadings (.30+) on the first factor, and:

4) All or most of the items should have their highest loadings on the first factor.

The results of the principal components analysis for all families with children (Table 12) suggest that family strengths indicators have a good deal of common variance. However, three factors were extracted, indicating that there is more than one underlying domain representing family strengths. Factor I accounts for only 22% of the total variance in family strengths measures, although it does account for more variation than either the second or the third factor. Of the total or common variance explained by all three factors, factor I accounts for nearly half of the variance (47%). The second and third factors each explain fairly equal proportions of variance (13% and 11.7% respectively). Eight of the eleven family strengths indicators (73%) have loadings of .30 or more on the first factor. However, only four of the eleven family strengths measures (36%) have their highest loading on the first factor. This pattern indicates the presence of more than one domain for family strengths in the NSC data.

Factor Patterns

Total Sample

The analysis of the factor patterns begins with youth-based measures. Four family strengths measures, all youth reported, have their highest loading on the first factor. They

include parent-child communication, appreciation, family activities and clear roles, with loadings ranging from .47 to .70. The rules and chores measure, also reported by the youth, have equal loadings on factor I (.36) and factor III (.37). These loadings suggest that factor I may represent a domain that involves interactions with or direct influence on the child -- communication between parent(s) and the child, doing things frequently with the child, demonstrating appreciation for the child and his/her needs, and providing clear and consistent expectations for the child. The child is expected to follow rules and take on a certain amount of responsibility, but strong or harsh punishment is not used to enforce rules or discipline the child. As described, this represents a well-functioning, "authoritative" family (Baumrind, 1967, 1971; Maccoby & Martin, 1983).

Most of the family and parent-related measures have their highest loading on the second factor. Parent-parent communication and family adaptability/flexibility have loadings of .54 and .56 respectively, while commitment to marriage and family, and social connectedness demonstrate loadings of .46 and .42 respectively. Religious training has a positive but smaller loading of .34.

The loadings on factor II indicate a domain that revolves around the parents, their interactions with each other and to outside situations or stressors, as well as the extent to which marriage and family is important. Strong punishment also has a small but positive loading on this factor (.12).

The third factor is represented by measures that are more traditional or rigid in nature. The religious training measure has a loading of .42, and strong punishment a loading of .49. Commitment to marriage and family also has a high loading on factor III, comparable to its loading on factor two (.42). Both parent communication and family adaptability/flexibility have

high, but negative loadings (-.35 and -.40), indicating little communication between parents/partner and less flexibility and adaptability in family life.

In summary, family characteristics labeled as family strengths do occur together, but no one single underlying dimension of strong families can be distinguished with these measures. At least two factors are required to describe the range of attributes that characterize strong families. The first dimension revolves around how parents and children interact, the second around how spouse/partner interact with one another and their external social and family networks. The third dimension represents more traditional or rigid styles of parenting.

Factor Patterns by Family Type

Two-Parent Families

Table 13 presents the factor loadings for two-parent families. Three underlying factors also emerge from the factor analysis for two-parent families. In addition, the grouping of family measures for two-parent families is consistent with those observed for the total sample. Eight of the eleven measures (73%) have loadings on the first factor that are .30 or higher, and four of the eleven measures (36%) have their highest loading on the first factor. Measures with the highest loading on the first factor are youth-reported variables characterizing involvement or interaction with children. Appreciation has the highest loading of .72, followed by parent-child communication and family activities with loadings of .69 and .62 respectively. Clear roles has a loading of .49.

Measures with appreciable loadings on factor II are parent-reported measures representing parent-parent communication (.59), family adaptability/flexibility (.55) and social

connectedness (.40). Commitment to marriage and family also has a substantial loading on the second factor (.40), although it demonstrates a higher loading on the third factor.

The third factor is dominated by measures of traditional discipline and values such as religious training (.61), commitment to marriage and family (.50), and strong punishment with a loading of .43. Family adaptability also has a substantial, but negative loading on factor III (-.41).

Single-Parent Families

The factor loading pattern for single-parent families is quite different from that observed for two-parent families (Table 14). First, four factors emerge rather than three. In addition, the parent-parent communication measure is not included in the principal components analysis since virtually all single-parent families have missing data for this measure.

Consistent with the factor pattern for two-parent families, the youth reported measures demonstrate the highest loadings on the first factor including parent-child communication (.74), appreciation (.71), and family activities (.69). Both clear roles and rules and chores demonstrate substantial, positive loadings on the first factor, .49 and .50 respectively. However, the rules and chores measure has a higher loading on the first factor among single-parent families (.50) than among married families (.35).

The breakdown of factor patterns for factors II, III, and IV among single families is less distinct than married families. For example, among single-parent families, measures with sizeable loadings on the second factor are items representing parent interactions with friends and other family members, as well as items demonstrating family values and traditional discipline. Specifically, religious training has a loading of .59 and strong punishment demonstrates a loading

of .48, while commitment to marriage and social connectedness have loadings of .46 and .49 respectively. Family adaptability is positive and sizable at .39, although it demonstrates its highest loading on factor III (.69). Factor III is dominated by the family adaptability measure, although both rules and chores and strong punishment have large, but negative loadings. This domain indicates a family that can adapt easily to family difficulties, and that has a small number of rules and chores, and strong punishment is not used.

The fourth factor is dominated by the social connectedness measure with a loading of .59. Other measures with high, but negative loadings on factor IV are commitment to marriage and religious training. The strong punishment measure demonstrates a positive loading at .38.

The factor patterns just described suggest that the first domain concerning parent involvement with children is consistent across two-parent as well as single-parent families. Thus, measures of family strengths that assess interaction with children are a common vehicle for explaining variation in families regardless of family type. However, as one might expect, the dimensions describing strong family units that pertain to the parent(s), their interactions with each other, relatives and outside networks, are not consistent across two-parent and single-parent families. The data suggest that, although single-parent families can also be described as strong and well-functioning, more dimensions are needed to describe the variability among them than two-parent families.

Factor Patterns by Race

White Families

The distinctions in factor patterns by race are similar to patterns by family type. Three factors emerge from the principal components analysis among white families (Table 15). Youth-

reported measures dominate the first factor, with parent-child communication and appreciation loading around .70 and family activities loading at .60. Parent-based measures dominate the second factor. All measures show loadings in the .50 to .55 range including parent-parent communication, family adaptability and commitment to marriage and family. Traditional measures of parenting, religious training (.50) and strong punishment (.41) cluster in the third factor. Rules and chores and commitment to marriage demonstrate high loadings on factor III as well (.45 and .44 respectively). Family adaptability has a high, but negative loading on factor III suggesting that family adaptability is low where more traditional modes of parenting are used.

Black Families

The factor patterns for black families (Table 16) are less distinct than those for white families. Four factors are extracted from the analysis for black families. Youth-reported measures still tend to dominate the first factor, with the exception of clear roles which loads high on both factors I (.37) and IV (.43), and has a high but negative loading on factor II (-.41).

Unlike the patterns observed for white families, parent-reported measures load high on several factors. Parent-parent communication demonstrates loadings of .51 and .52 on factors I and II respectively. Social connectedness has its highest loading (.42) on factor III.

The measures of traditional styles of parenting, religious training and strong punishment, which dominated the third factor among white families, also present substantial loadings on factor III among black families (.57 and .65 respectively). The fourth factor, however, is dominated by commitment to marriage (.73).

The factor analyses by race suggest that the domain representing child and parent interactions is quite robust. It consistently appears as the primary factor for families regardless

of family type and race, and the youth-based measures cluster around this domain. However, the variation in loadings around the parent-based measures and measures of traditional discipline by race suggest that different domains are needed to describe the variability in family strengths across white and black families.

Summary of Factor Patterns

The factor analyses indicate that family strengths characteristics classified as family strengths are indeed associated with one another. However, no one single dimension of strong families can be distinguished within the NSC data. At a minimum, two domains or factors are required to describe the range of attributes that characterize strong families. The first domain describes how parent(s) and children interact with one another, and consistently emerges as the most important dimension for understanding the variability in all families, regardless of family type or race. The second domain portrays how spouse/partner interact with one another and their external social and family networks. This domain, however, is less consistent for single-mother or African American families. A third domain, representing traditional parenting styles is also germane to understanding family strength characteristics, but it too is less representative of the variability across families.

Although the results from the factor patterns appear promising, the NSC data do present methodological limitations that should be considered. First, the family strengths items are reported either by the youth or the mother (parent). There are no sets of family strengths measures reported by both the youth and the mother (parent). As a result, the emergence of two primary factors may be due to two different reporting sources rather than to the true presence of distinct conceptual domains.

Second, while family strengths measures are a fair representation of the most important items highlighted in the family strength literature, they hardly represent the full domain of family strengths characteristics. For example, there is no measure for the level of encouragement of individual family members or for the level of cohesiveness of family members. Both of these traits are described in the family strengths literature as important characteristics of strong families (Olson et al. 1982; Swihart, 1988). Exclusion of such items may be particularly important for distinguishing the range of family strength domains between different types of families, such as two-parent and single-parent families, black and white families.

Third, the number of single-parent families (n=276) and black families (n=238) in this sample is relatively small, compared to two-parent families (n=888) and white families (n=847). While these numbers would not preclude analyses stratified by family type or race, they may limit the ability to observe any consistent factor patterns in family strengths for these subgroups.

Fourth, one could question how well each component measures the intended family strength characteristics described. For example, the family adaptability measure only asks parents to note if their home life is chaotic, stressful, organized, etc. Such a measure does not provide any indication of the family's style or mode of adaptation. Are they able to quickly adapt to crises? Do they have a wide range of adapting skills or resources? What are the methods for negotiating, and what are the role relationships and rules in the family that allow them to adapt to difficult life situations? All have been described as important in assessing a family's ability to handle a range of different life situations (Olson et al. 1989). Unfortunately, such items are not included in the NSC.

V. RELATIONSHIPS OF FAMILY STRENGTHS MEASURES TO YOUTH BEHAVIOR

The next task is to explore the association of family strengths with youth behaviors. To begin this phase of the analysis, family strengths indicators are correlated with the five different youth outcomes -- Youth Behavior Problems, Depression, Teacher Rating of Behavior, Delinquency, and Drug/Alcohol Use. Four of the five behaviors -- behavior problems, depression, delinquency and drug use-- are taken from wave III of the NSC when the youth are between 17 and 22 years of age (1987). The measure indicating the teacher rating of behavior is taken from wave II (1981), as no teacher data were obtained in 1987. All family strengths indicators are taken from wave II, when the youth were between 10 and 16 years of age. Thus, with the exception of the teacher rating of behavior, the correlations provide evidence for the association of family strengths and youth behavior over time (6 years), rather than concurrent associations.

Family Strengths Measures

The eleven family strengths indicators, described previously, are the primary independent variables predicting youth behavior outcomes. Four of these items are reported by the youth, Parent-Parent Communication, Appreciation, Clear Roles, and Family Activities. Five of the indicators -- Parent-Parent Communication, Commitment to Marriage and Family, Social Connectedness, Religious Training, and Family Adaptability-- are reported by the youth's mother. The remaining two indicators -- Rules and Chores and Strong Punishment -- serve as measures of parental discipline: both are based on youth reports.

Youth Behavior Outcomes

The five measures of child well-being, as described above, represent measures of behavior problems as assessed by the mother, the youth's report of his/her level of depression, frequency of delinquent behavior in the past 12 months, negative health behaviors such as frequency of alcohol, tobacco, and drug use in the past 12 months, and the youth's classroom behavior reported by teacher.

Details concerning the construction of each measure (family strength and youth behavior) are presented in Appendix A

Bivariate Associations

Total Sample

In general, family strengths indicators correlate significantly with the selected youth behavior outcomes, indicating that youth from strong families present, in general, more positive behaviors as young adults (Table 17). For example, youth who communicate well with their parent(s), who are appreciated, who participate in joint activities, and who have consistent and clear roles and expectations, have more positive behaviors as young adults than youth who are from families that do not possess these characteristics. On the other hand, youth from families where strong punishment is used present fewer positive behaviors overall. They demonstrate greater behavioral problems, lower ratings on school behavior, and a greater frequency of delinquent behavior.

Despite the general association of family strengths with favorable youth behaviors, virtually all of the coefficients between family strengths and youth outcomes are modest. The magnitude of the statistically significant coefficients range from $-.06$ to $.20$, with the majority

falling between .10 and .15. Youth reported measures that describe parent-child interactions are most predictive of the selected youth outcomes, with parent-child communication the most predictive. Youth who communicate well with their parents as children have fewer behavioral problems as young adults ($r=-.15$), less depression ($r=-.10$), higher ratings on school behavior ($r=.20$), less delinquent behavior ($r=-.12$) and less drug use ($r=-.17$). Measures reported by the mother are less predictive of youth outcomes. Parent-parent communication has no significant influence on youth outcomes, and social connectedness appears to reduce behavioral problems in young adult life, but only modestly ($r=-.07$). Family adaptability and religious training are the only two parent-based measures to demonstrate significant and somewhat sizeable associations with youth outcomes. Youth from families described as adaptable and flexible have lower scores on the behavior problems index ($r=-.18$), and youth from families where religion and religious training are deemed to be important have better school behavior ($r=.13$) and less drug use ($r=-.14$).

Bivariate Associations by Family Type

Family strengths indicators are significantly correlated with behavior outcomes for youth from both two-parent as well as single-parent families (Table 18). Thus, youth from strong families, regardless of their mother's marital status, are more likely to present positive behaviors in young adulthood. Youth-based measures are the most predictive of youth outcomes among both two-parent and single-parent families, and parent-based measures are the least predictive of youth outcomes.

These similarities, however, do not reflect the distinct influence of particular family strengths characteristics on specific youth outcomes by family type. For example, youth-based

measures are slightly more predictive of the teacher's rating of the youth's maturity and school behavior for youth from two-parent families, than for youth from single-parent families. Parent-child communication and clear roles have somewhat higher coefficients with the behavioral problems index among youth from single-parent families ($r=-.18$ and $r=-.17$ respectively) than for youth among two-parent families ($r=-.12$ and $r=-.11$ respectively).

Parent-child communication is slightly more predictive of delinquency among youth from single-parent families ($r=-.19$) than two-parent families ($r=-.11$), although it is somewhat more strongly associated with drug use for youth from two-parent families ($r=-.19$) than single-parent families ($r=-.11$).

Youth from families described as adaptive, regardless of family type, have lower scores on the behavioral problems index ($r=-.17$ and $r=-.19$ respectively). Religious training is significantly associated with less drug use among youth from two-parent families, and has no significant influence on drug use among youth from single-parent families.

Strong punishment is most strongly associated with negative behaviors among youth from single-parent families. The coefficients for each outcome are slightly larger among single-parent than two-parent families. However, its negative influence is not consistent for all outcomes. In fact, it has opposite effects on delinquency across family type. Strong punishment appears to reduce the level of delinquent behavior of youth from two-parent families ($r=-.15$), but it is associated with greater delinquency for youth from single-parent families ($r=.27$).

Bivariate Associations by Race

Patterns similar to those described in the analyses by family type emerged in correlations by race (Table 19). Many of the family strengths measures are strongly and positively correlated

with youth outcomes for both white and black families. Youth-reported measures are generally more predictive of youth outcomes than parent-based measures irrespective of race, and strong discipline is associated with negative outcomes for black and white youth. However, some family strength characteristics are more predictive of certain behaviors for black youth, while others are more predictive of certain behaviors among white youth.

Parent-child communication, although strongly associated with all youth outcomes irrespective of race, has divergent effects on particular youth problems by race. For instance, strong parent-child communication is significantly associated with lower scores on the behavioral problems index for black youth ($r=-.27$), but has a much smaller correlation with behavioral problems for white youth ($r=-.07$). The clear roles, religious training and family adaptability measures also illustrate such racial disparities in the association of family strengths and youth outcomes. Clear and consistent roles are associated with fewer behavior problems for blacks ($r=-.24$). The respective coefficient for white youth is $-.12$. Religious training and family adaptability are moderately associated with fewer behavior problems for black youth ($r=-.18$ and $r=-.26$ respectively), but more weakly associated with behavior problems among white youth ($r=-.08$ and $r=-.16$). Also family adaptability is associated with less drug use for black youth ($r=-.22$), but has no substantial association with drug use for white youth ($r=0.05$). On the other hand, parent-child communication and appreciation appear to reduce the use of drugs among white youth, but have no significant association with drug use among black youth.

Interaction of Family Type and Race

The bivariate analyses by family type and race indicate that the influence of family strengths on youth outcomes is fairly consistent across families regardless of marital status or

race. The differences by race and family type that were observed were few in number and generally isolated to specific outcomes and specific family traits. However, the bivariate analyses only identify individual effects of family type or race on youth behavior. It remains unclear as to whether there is an interaction effect between race and family type. That is, it has yet to determine if the influence of family strengths on youth behavior is unique for youth from a particular race and family situation.

To determine the presence of an interaction effect, correlations of family strengths and youth outcomes for each combination of family type and race category are presented (see Tables 20 and 21)³. Of particular interest is whether the bivariate associations initially observed are different across youth from a particular subgroup (i.e., are parent-based measures more predictive of outcomes among white youth from two-parent families than youth-based items). It is also important to learn whether certain family strengths have a unique effect on outcomes(s) for youth from a particular subgroup (i.e., parent-child communication increases drug use for white youth from single-parent families, but decreases drug use for all other youth regardless of family type).

Tables 20 and 21 present the correlations of family strengths with youth behavior across family type controlling for race. It appears that the broad patterns described in previous bivariate analyses are quite robust. That is, youth-based measures remain generally more predictive of outcomes than mother-based items. Family strength measures are, in general,

³Note: Sample sizes for blacks relative to whites (N=238 and N=888 respectively), and single-parent families relative to two-parent families (N=276 and N=847 respectively) are quite modest. Thus, combining race and family type categories results small cell sizes; our ability to observe statistically significant results is therefore limited. We highlight the patterns that emerge rather than focusing on statistically significant differences.

associated with positive outcomes, except for strong punishment which seems to have a negative influence on behavior overall.

The patterns that emerged across family type or race appear to remain consistent as well, even after controlling for respective race or family type characteristics. For example, initial bivariate associations showed that strong communication between the mother and the youth respondent was associated with lower scores on the behavior problems index, especially among black youth. After controlling for family type, the correlation coefficients for parent-child communication and the behavior problems index remained larger for black youth than white youth. The respective coefficients for black youth from two-parent and single-parent families were $-.31$ and $-.26$. Coefficients for white youth from two-parent and single-parent families were $-.07$ and $-.10$ respectively.

Only youth-based family strengths indicators were generally associated with higher (more positive) teacher ratings of youth behavior. However, the coefficients were larger among white youth and among youth from two-parent families. The correlations by family type controlling for race suggest the effect of youth-based measures on teacher ratings is consistently strong particularly among youth from two-parent families. The coefficients among white youth from two-parent families ranged from $.14$ to $.24$. Coefficients among white youth from single-mother families were somewhat smaller ($r=.06$ to $r=.17$). The coefficients for black youth, regardless of family type, were more comparable in size to the coefficients for white youth from two-parent families.

One final note concerning the correlation matrices by family type and race should be made. The initial bivariate associations showed parent-child communication to be associated

with less delinquent behavior regardless of race or family type. Parent-parent communication had a negative, but relatively negligible effect on delinquency, irrespective of race. [It was moderately associated with less delinquency among youth from single-parent families ($r=-.25$), but the coefficient was not significant due to the small number of single mothers who had a partner present]. The correlations by family type controlling for race further highlight the protective effect of communication, either parent/child or parent/parent communication. While both measures reduce the level of delinquent behavior among all youth, the effect although modest, is strongest for black youth living in a single-parent home. Parent-child communication is moderately, but significantly associated with less delinquency for black youth from single-parent families ($r=-.27$, $p \leq 0.01$). Its effect on white youth from single-parent families and black youth from two-parent families is relatively limited ($r=-.11$ and $r=-.04$) and not statistically significant. Its effect on delinquency among white youth from two-parent families is significant but also small ($r=-.12$, $p \leq 0.012$). In contrast, its effect on delinquency among black youth from single-mother families, is particularly strong ($r=-.86$) and significant. Parent-parent communication among black youth from single-parent families was strongly associated with other youth outcomes as well. This suggests that communication between the youth's mother and her partner may be particularly protective for black youth in single-parent families. It should also be noted that, as this variable is posed only to mothers who had a partner present, correlations are based on an extremely small number of cases (less than 10 for black families). All associations should be interpreted with caution.

The above discussion shows that there is no clear pattern of interaction effects on behavior due to race and family type. The broad patterns of association observed in the initial

stages of the analysis remain across family type after controlling for race. However, some measures are especially protective of certain behaviors for particular subgroups.

Bivariate Associations by Gender

Before conducting multivariate analyses, it is important to assess the influence of family strengths on behavior by gender. The descriptive analyses suggested that gender may have an independent influence on the presence of particular behaviors. Given the protective influence of family strengths overall, it should be determined whether family strengths have the same effect on behavior for both male and female youth.

Overall patterns in the association of family strengths with youth behaviors for both males and females are consistent with correlations previously described (Tables 22 and 23). A few differences by gender are worth noting, however. For example, strong punishment is negatively associated with all outcomes except drug use for male and female youth, but it is more strongly correlated with behavioral problems for young men ($r=.22$). The coefficient for female youth is .11.

Parent-child communication is also strongly associated with positive behaviors for both male and female youth, but it appears to be somewhat more predictive of positive outcomes for boys than girls, with the exception of the behavioral problems index. The parent-child communication measure is significantly, but moderately associated with less depression ($r=-.12$), better school behavior ($r=.22$), less delinquency and drug use ($r=-.15$ and $r=.18$) among males. It is also negatively associated with fewer behavioral problems for young men, although the coefficient is quite modest ($r=-.08$). Its association with behavioral problems among females, however, is stronger ($r=-.22$).

Appreciation, on the other hand, appears to be somewhat more predictive of favorable behaviors among young women than young men. Among female youth, appreciation is significantly associated with a lower score on the behavioral problems index ($r=-.17$), with a higher teacher rating of school behavior ($r=.15$) and less drug use ($r=-.10$). Appreciation is associated only with teacher rating of behavior among young males ($r=.17$).

While other differences in the associations of family strengths and behavior problems by gender are observed, the patterns are less clear and consistent. For example, commitment to marriage and family is significantly associated with less drug use among females ($r=-.18$), but has no influence on drug use among males. It is, however, strongly associated with higher teacher ratings of behavior and a lower score on the behavioral problems index among male youth. No association between these respective measures emerged among female youth.

Summary of Bivariate Associations

In general, family strengths are associated with favorable youth behaviors. Positive parental interactions with children, such as strong parent-child communication, joint activities, and clear and consistent expectations, are all associated with better behavior outcomes in young adulthood. Strong or abusive punishment, on the other hand, is consistently associated with poorer behavior outcomes in young adult life. However, the magnitude of the statistically significant coefficients are modest ranging from $-.06$ to $.20$, with the majority falling between $.10$ and $.15$.

Youth-reported family strengths measures are most predictive of youth behavior outcomes compared with mother-reported family strengths. However, this association was anticipated given previous discussions on the differences in mother-based and youth-based items.

Finally, consistent associations between family strengths and youth outcomes were observed across all family types and racial groups. Although a few significantly distinct patterns by family type and race did emerge, as well as selective influence of family strengths by gender of the child, no clear pattern of interactions between family type and race was observed. The data suggest that family strengths generally promote positive behaviors consistently for most families, although a few isolated disparities may exist. Nonetheless, not all family strengths are equally effective at promoting positive behaviors. Indeed, several family strengths items only rarely emerge as significant predictors, in particular, social connectedness which has only one coefficient greater than 0.15. Measures of family activities, religious training, and rules and chores also quite consistently have extremely small effects on behavior problems among youth in their late teens and early twenties. Moreover, we do not know whether the influence of family strengths will remain after controlling for other family and demographic characteristics.

Multivariate Associations

While the results from the bivariate analyses indicate the family strengths are associated with youth behavior outcomes, it is not clear if whether family strengths characteristics will continue to influence youth behavior after controlling for other important background factors such as family income or parental education. Such characteristics may be related to the presence or absence of family strengths and might serve to independently or concurrently influence youth behavior. To control for background factors, ordinary least square regression models are run for each of the five behavioral outcomes. Each behavior outcome is predicted from a linear combination of family strength measures and demographic/background

characteristics, all measured in 1981. The background and demographic characteristics included in each model are listed below:

- Family type
- Race
- Gender of youth respondent
- Age of youth respondent
- Family income
- Welfare status in 1981
- Parent(s) education (Level of education of the most educated parent)
- Number of Children in the Family
- Neighborhood quality (as reported by the mother/child)
- History of marital disruption
- Mother's age at first birth

Results from the bivariate and factor analyses provide the specific rationale for the types of final multivariate models presented. First, we have chosen to assess the effects of family strengths measures as three separate blocks of items -- youth-based measures, parent-based measures, traditional discipline -- to parallel the factor patterns described in early sections of this report. Each model assesses the influence of each respective block of independent family strengths variables. Youth-based measures are added first (Model 1) as they constitute the first factor and explain the greatest amount of variability among the family strength measures. Model 2 tests the additional influence of mother-reported measures, excluding religion/religious training, which is included in the third block. The third block of items, tested in Model 3, represent

traditional discipline and modes of parenting -- strong discipline, religious training and rules and chores. The rules/chores measure is included in the third block of family strengths measures rather than the first block (youth-based measures) because we believe it is more representative of traditional or strict styles of parenting rather than interactions with the child respondent. Rules/chores also had equally high loadings on factors I and III and could appropriately be included in the third block of independent variables. Background characteristics are added as the final set of predictors in Model 4. The effect of background/demographic characteristics are added to the model last in order to capture best the relative contribution of each block of family strengths before and after controlling for other family characteristics.

Second, despite the interesting results from the factor analyses, factors scores are not entered as independent variables into the final regression models. As one of the purposes of this study is to explore how to describe better strong families for different types of family situations and populations, such an approach could obscure the important descriptive information that could be yielded by simply assessing the relative impact of individual or groups of family strength items.

Third, as no clear pattern of interaction effects between race and family type were observed among the bivariate associations, no interaction terms are included in any of the final regression models.

In reviewing the final regression models, we note the percent of total variance in the outcome, as well as the size of the each coefficient, to assess the importance of the family strengths characteristics in predicting the behavior outcome. The change in the total variance and the size of the coefficient in the final model (Model 4) provide an indication of any

independent effect of family strengths measures after the influence of demographic and background characteristics have been assessed. Tables 24 through 28 present the results of the regression analyses for each behavioral outcome.

Behavioral Problems Index (BPI)

In Table 24, we consider the influence of family strengths and background factors on the Behavioral Problems Index (BPI). Regression coefficients indicate that very few of the family strengths measures are related to scores on the BPI even before controlling for background characteristics. Youth-based measures, included in model 1, explain 3% of the total variance in behavioral problem scores, with parent-child communication and clear roles both having significant, but modest negative effects on BPI scores ($\beta = -.10$).

Mother-based measures (model 2) are no more predictive of scores on the BPI than youth-based items: roughly 3.6% of total variance is explained by mother-reported measures. The influence of family adaptability, however, is more prominent relative to the other mother-based or youth-based items. Youth who grew up in highly adaptive families present lower scores on the BPI in young adulthood than their counterparts ($\beta = -.19$). In contrast, parental communication has a small, but significant positive association with scores on the BPI ($\beta = .09$).

In model 3, we observe the influence of traditional discipline measures on behavioral problems. The coefficients suggest a mixed pattern of association with scores on the BPI. Religious training appears to have a minimal, but negative influence on the BPI ($\beta = -.08$), while strong punishment demonstrates a slightly larger, positive effect on subsequent behavior problems ($\beta = .13$). Rules and chores has a positive but non-significant influence on BPI scores. The influence of parental communication on the BPI is still positive, but modest in model 3, and

the association with parent-child communication is small and negative. The effect of family adaptability observed in model 2 remains in model 3.

After controlling for background characteristics, we find family adaptability to be the only family strength measure to have a relatively sizeable and significant effect on BPI scores. Although the size of the coefficient is modest ($\beta = -.18$), it remains consistent across all of our regression models. Strong punishment still demonstrates a significant, positive influence on BPI scores in model 4, although the coefficient is slightly smaller than that observed in the third model. Interestingly, parent-child communication and clear roles no longer demonstrate a significant ($p \leq 0.05$) effect on the BPI after controlling for background characteristics. Parent-parent communication demonstrates a modest, significant effect ($\beta = .12$).

Background factors, although reducing the variability in BPI scores, have relatively little influence on the BPI. Exposure to a poor neighborhood, having parents who have not completed high school, and living in a single-parent family are all associated with a higher number of behavioral problems. Experiencing a marital disruption or having a mother who experienced first birth before age 20 is not predictive of behavioral problems.

Depression

Neither family strengths nor background characteristics provide any sizeable explanation for depression (Table 25). This is not surprising given the modest association of family strengths with depression in the bivariate analyses. Among the youth-based measures, strong parent-child communication is most predictive of depression in young adulthood ($\beta = -.13$), indicating that youth who communicate well with their parent(s) in early life are less likely to show signs of depression in young adult life. Also, youth who perceive consistent and clear expectations from

their parent(s) as children show fewer signs of depression. In contrast, none of the mother-based items yields a significant effect on depression. In fact, less than 1% of the total variance in the depression index is explained by the mother-reported family strengths measures.

Traditional discipline measures also present very little explanation for depression in young adult life. Approximately 1.2% of variance is explained by the measures of traditional discipline, most of which is due to the positive effect of the strong punishment measure. Indeed, no items representing traditional styles, except for strong punishment, are significantly associated with depression. Thus, youth who experienced strong or abusive punishment as children are more likely to exhibit signs of depression as young adults.

Background factors contribute roughly 2% to the variance in depression as indicated in model 4, but family size is the only background factor that shows a statistically significant influence on depression. Youth who come from families with four or more children demonstrate higher levels of depression in young adult life than youth from smaller families. The size of the influence is still rather small, however ($\beta = .08$).

Family strengths measures that were significant in models 1-3 maintain their influence after controlling for background factors, although the strength of the association diminishes slightly. (For example, strong parent-child communication demonstrates a coefficient of -.13 in model 1, but drops to -.11 by model 4. The coefficient for strong punishment is .10 in model 3, but yields a coefficient of .09 after controlling for background characteristics.) On the whole, however, less than 7% of the total variance in the depression index is explained by all the independent variables in model 4.

Teacher Rating of Youth Behavior

Results in Table 26 indicate that strong parent-child communication, clear roles, and appreciation are all associated with more positive teacher ratings of the youth's personal maturity and behavior. Frequency of joint parental-child activities, however, is not predictive of teacher ratings of behavior. Meanwhile, parent-based measures have no significant influence on teacher ratings. Less than .05% of the total variance in teacher ratings is explained by mother-based items. Parent-child communication, appreciation and clear roles remain influential in the presence of mother-based measures (Model 2).

Traditional discipline shows opposite effects on teacher ratings of behavior (Model 3). Strong punishment is associated with lower teacher ratings ($\beta = -.10$), but religious training is associated with higher teacher ratings ($\beta = .10$). An additional 2% of the variance in teacher ratings is explained by adding the traditional discipline measures to the model, but youth-based measures still influence teacher ratings even after controlling for mother-based items. Parent-child communication has the strongest impact on teacher ratings relative to other family strength measures.

Adding background characteristics enhances our understanding of the variance in teacher ratings, as seen by the increase in explained variance in Model 4 (18.5%). In fact, background factors explain nearly 1.8 times as much of the variance as all family strengths measures combined. Gender, race, and age at which youth's mother experienced her first birth are all predictive of teacher ratings. Male youth are more likely to receive poorer ratings of behavior from their teachers than girls ($\beta = -.17$), and blacks are more likely to receive lower ratings than

whites. Youth whose mother's experienced their first birth before age 20 have lower teacher ratings than youth whose mothers delayed having their first child to at least age 20.

The strength of background factors reduces some of the influence of family strengths on teacher ratings. Religious training and strong discipline no longer demonstrate a significant impact on teacher ratings in the presence of background factors. However, parent-child communication and clear roles still have a significant but modest influence on teacher ratings after controlling for background characteristics.

Note that the influence of the independent variables on teacher ratings is much stronger, in general, than either the behavioral problems index or depression. However, one should remember this variable is measured at wave II along with the family strengths characteristics. Thus, the effect of family strengths on teacher ratings is concurrent and not longitudinal.

Delinquent Behavior

The models of delinquent behavior (Table 27) show only modest effects due to family strengths or background factors. Strong parent-child communication predicts to fewer delinquent behaviors in young adult life ($\beta = -.12$), and its impact remains significant after adding traditional discipline measures and background factors, though the size of the coefficient is more modest. Mothers' favorable attitudes toward marriage and family life are also associated with fewer delinquent behaviors. Youth whose mother reports a strong commitment to marriage and family have fewer deviant behaviors than youth whose mother's do not have an equally strong devotion to marriage and family life. On the other hand, strong or abusive punishment is predictive of a greater frequency of delinquent behavior in young adult life. Youth who receive strong

punishment as children have higher frequency of delinquent behavior than youth who do not receive abusive punishment ($\beta=.15$).

Background and demographic factors generally contribute little to the likelihood of delinquent behavior (Model 4). In fact, gender is the only significant predictor of delinquency, with males more likely to demonstrate delinquent behavior as young adults than females ($\beta=.16$). Strong punishment continues to demonstrate a positive impact on delinquent behavior, even after controlling for background and demographic characteristics. The effects due to parental communication and commitment to marriage/family continue to be modest, and the influence of parent-child communication is somewhat weaker in the presence of control variables.

Drug Use

The final regression model, predicting alcohol, tobacco and drug use in young adulthood, is presented in Table 28. The impact of family strengths on drug use appears to be slightly stronger than the influence observed in the earlier regression models. Parent-child communication and religious training are most predictive of a lower frequency of drug use. The size of the coefficient for parent-child communication is $-.20$ when only youth-based measures are in the model. It remains stable in the presence of mother-reported measures and traditional discipline, but diminishes slightly after controlling for background characteristics ($\beta=-.19$). Commitment to marriage and family also minimize drug use in young adulthood, but their influence, after taking background factors into account, is somewhat more modest than parent-child communication ($\beta=-.11$). Religious training also has negative impact on drug use ($\beta=-.13$). No other family strengths measures predict to drug use after controlling for background characteristics.

Among background and demographic characteristics, race is the single most predictor of drug use in young adulthood ($\beta = -.23$). Within the NSC data, white youth report greater use of drugs, alcohol, and tobacco within the past 12 months than black youth. Reasons for the racial disparities in reported drug use have been posited by Zill and colleagues (1991) who also used the NSC data. They suggest that black youth may be more likely to under-report substance use than white youth, in light of the racial disparities in crime and substance abuse. However, at least one qualitative study suggests that selling drugs may at least be more important for young adulthood among black youth than actually using drugs. In assessing how black youth perceive and manage the transition to adulthood, Peak (1993) documents that black youth find selling drugs is more important in the transition to adulthood than using drugs. Involvement with drug trade brings financial capital and power among peers and the surrounding community. As a result, the higher rates of crime and violence among black youth surrounding drugs may have more to do with drug trade than drug use per se.

However, at least one national data source shows comparable overall drug use rates by race and slightly higher rates among blacks than whites in recent cocaine and marijuana use. Data from the 1988 Household Survey on Drug Abuse show that a greater proportion of whites (23% of males and 19% of females) 18 to 25 have ever used cocaine compared with blacks (13% of males and 8% of females). However, the percentage of black males 18-25 who used cocaine with the past month was slightly higher than the proportion of white males who used cocaine in the past month (6.8% versus 5.5% respectively). Current marijuana use was also slightly higher among black males 18-25 (22%) than white males 18-25 (20%).

While one cannot dismiss racial differences in under-reporting of drug use based on evidence from a single, nationally based data source, one may explore other possibilities for such disparities, particularly within the NSC data. For example, there is, in general, less reporting on the drug use questions, relative to all other outcome measures in the NSC data (Appendix B). Youth respondents in the NSC may be less likely in general to report information, or report accurate information, about sensitive questions such as drug use. In the NSC data, 43% percent of all youth have some missing data on the summary drug use item compared with 25% on the delinquency measure, 6% on the behavioral problems index, and less than 1% on the depression scale. Close to 25% of respondents have missing data on the teacher rating scale. However, this scale is created from teachers of only 80% of the youth respondents in wave II. Taking this into consideration, the level of missing data is only around 5%. Crosstabulations of reporting status on drug use by race (Appendix B) indicate there are no significant racial disparities in the proportion with missing data on the summary drug use item. Forty-three percent of whites and 44% of blacks have missing data on the summary drug use item. The proportion of youth with missing data on the individual drug use questions which make up the summary item, also presented in Appendix B, ranged from 2.5% for the question on frequency of alcohol use, to 73% on the question pertaining to frequency of use of other drug use. Significant differences by race in the proportion with missing data are observed among the questions on cocaine use and use of other drugs, with whites more likely than blacks to have missing data.

VI. CONCLUSIONS AND DISCUSSION

While family strengths measures demonstrate bivariate associations with selected behavior problems, few family strengths measures present a consistent or strong influence on youth outcomes net of background characteristics. Table 29 provides a summary of the results across all regression analyses for all behavior outcomes. A "0" indicates that no significant association, net of background characteristics, was observed, while a "-" indicates that family strengths has a negative influence on child outcomes (i.e., an increase in family strengths is associated with poorer behavior outcomes); a "+" indicates a positive influence on behavior (i.e., an increase in family strengths is association with fewer negative behaviors). Statistical significance is at the $p \leq 0.05$ level. Parent-child communication is the only family strength characteristic that demonstrates a significant influence on all youth outcomes, net of background factors, followed by parent-parent communication and strong punishment. Both parent-parent communication and strong punishment significantly predicted to three of the five behavior outcomes. However, one should note the strength of the coefficients in each case is quite modest. Thus, while significant, the independent effect of family strengths is small in the presence of background factors. Indeed, the most striking pattern demonstrated in Table 29 is the consistency with which family strengths measures have no independent effect on youth behavior, net of background characteristics. Appreciation, family activities, social connectedness, and rules and chores do not predict to any of the five behaviors after controlling for demographic characteristics. Family adaptability predicts only to lower scores on the behavioral problems index, and religious training predicts to less drug use.

Among those variables that did predict to youth behavior, they generally explain a fairly small amount of variation in the distribution of the outcome variables. Full regression models for teacher ratings of behavior and drug use presented the highest amount of explained variance. However, the total amount of variance explained by both was only around 20%, with background characteristics explaining the greatest proportion of this variability.

The limited effect of family strengths on youth outcomes should not be interpreted as a pessimistic view that family traits contribute little to youth behaviors. The bivariate associations, factor analyses, along with prior research suggest that families play an important role in child and adolescent development. It may be, however, that while family strengths are associated with youth behavior, they are not the only or most important factors contributing to youth outcomes. The strength of their influence may be modest in the presence of other family or related characteristics.¹

It may also be that the family strengths measures included in our models may be too limited in their ability to predict youth behavior. A stronger or a wider range of measures may have predicted youth behavior better or more consistently. The factor analyses show that family strengths measures do not capture a sizeable portion of the characteristics representing strong families. This was especially true for single-parent families and black families. A composite family strength measure may have also improved our ability to predict youth outcomes, independent of background characteristics. Admittedly, individual family measures are not an appropriate way to represent a "strong family"; they merely represent a particular trait or

¹ Peer influence on youth behavior has also been documented to be strong. Several researchers report, for example, that the single best predictor of drug use among youth is the association with other adolescents who use drugs (Ginsberg, 1978; Kaplan, Martin and Robbins, 1984; Bahr, Hawks and Wang, 1993). The regression models do not control for the influence of peers or peer pressure on any of the youth outcomes.

characteristic of a family unit. The focus of this analysis was not to define or develop a composite family strengths index, but rather to highlight ways to differentiate strong families for different types of families and racial groups. This approach was selected in order to investigate the influence of family type on the prevalence of certain family strength characteristics, which is an important first step in the development of a composite family strengths measure.

Despite these limitations, this work does suggest that family strengths is a promising and positive paradigm through which to assess family functioning and youth well-being. However, in order to better understand the dynamics between family strengths and youth behavior, researchers have many things to learn. First, we need to capture the variability of family strengths across different types of families. In particular, we need to learn more about how parental behaviors, as distinct from parental resources, make a contribution to a strong family unit, and how this contribution is different for different types of families. We also need to explore how families are strengthened by other factors, such as connections with the larger community or by support from other family members or friends. We need to further refine existing items and develop different ways to operationalize family strengths concepts across a wider variety of family types.

Second, we should concentrate more on the process through which strong families function rather than merely documenting the existence of family characteristics. For example, noting that communication is high does not indicate the range of communication skills or techniques for communicating. Understanding this process may be an important link in capturing the disparities across families, and identifying specifically what it is about the variety of dimensions of family strengths that contribute to the development and well-being of children.

Third, collecting family strengths and process information from more than one family member on the same sets of items will also be important. While adolescents are a better source than their parents for obtaining data on personal information such as drug use, delinquent behavior, and sexual activity, little is known about which family member is the best or most appropriate source for information about family processes, and whether the information that is provided could be useful enough for assessing impacts on youth outcomes. The data from this study show that child-based measures were more predictive of youth outcomes than mother-reported items. However, as there were no sets of family strengths measures reported by both the youth and the mother, the relative importance of each in predicting youth outcomes could not be assessed. We can only suspect that the type of information collected and the accuracy of that information would vary depending upon who the family respondent happens to be. This suggests that the ability of researchers to assess the influence of family processes on child outcomes can vary depending on the make up of the respondents in their sample. Thus, identification of a respondent at the family or household level becomes not just a methodological consideration for large survey data, but a substantive one as well.

Finally, we need to explore new ways of collecting culturally relevant information to develop new measures for national surveys on families. While the family strengths measures showed consistent associations with behavior, it was clear they were less predictive of behavior among youth from single-parent families, and in selected instances, less predictive of behavior among African American youth. As the number of ethnic minorities increases, and as youth increasingly spend much of their key development years in a single-parent family, understanding the diversity across family situations and racial/ethnic groups will be essential. To do so will

enhance our ability to learn more about positive outcomes among youth and what facilitates and maintains a positive transition to young adulthood. It will provide a solid base from which to develop new policies and programs for youth and their families.

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Table 1: Description of Selected Family Strengths Measures¹
National Sample of Families with Children 10-17, 1981.

FAMILY STRENGTHS	RANGE	# OF ITEMS	MEAN (N)	DESCRIPTION
<i>As Reported by Adolescent</i>				
Parent-Child Communication (COMMO)	0 to 12	5	7.2 (1105)	Measures the quality and amount of communication between parent(s) and child. How frequently parents talk over important decisions with child, amount of say child has in making up household rules.
Appreciation (APPRECN)	0 to 8	8	6.1 (1105)	Amount of praise and physical affection adolescent receives from parents for accomplishments or positive behavior. How often parent tells child that (s)he is pleased with child, how often hug or kiss child.
Clear Roles (ROLES3)	0 to 10	5	6.8 (1102)	The extent to which parents' expectations are well-defined, consistent, and understood by the youth (e.g., Does parent make rules that are clear?; Does parent change expectations of you from day to day?)
Family Activities (ACTIVITIES)	0 to 7	7	3.1 (1105)	The frequency of joint parent-child activities in the past month. (i.e., going to the movies, doing school work).
Rules and Chores (RULES)	0 to 8	8	5.4 (1104)	Measures the number of rules and chores child is expected to perform regularly. (i.e., clean their room, do the dishes, watch television).
Strong Punishment (ABUSER)	0 to 12	8	1.4 (1106)	Measures the extent to which parent(s) uses strong or abusive punishment toward the child. (e.g. extent to which parent makes fun of child, threatens to slap or spank child).
<i>As Reported by Parents</i>				
Parent-Parent Communication (PCOMMO2)	0 to 11	4	9.5 (873)	Scope and quality of communication between spouse/partner: How often spouse partner share problems, laugh together, calmly discuss things.
Commitment to Marriage & Family (PCOMMIT)	0 to 20	5	16.2 (1122)	Parents' beliefs about longevity of marriage, importance of marital fidelity, intimacy, love and honesty within marital relationship.
Social Connectedness (PCONNECT)	0 to 15	5	9.0 (1113)	Frequency of parents' contact with friends and relatives; # of close friends within an hour's drive; frequency of contact with close friends.
Religious Training (RLTRNTO2)	0 to 10	4	7.8 (1119)	Importance of religious training and attendance of religious services.
Family Adaptability/Flexibility (FAMADAPT)	0 to 7	7	5.3 (1122)	Parents' description of whether family life is relaxed or easy going, orderly and organized, complex or simple tense or stressful, close and intimate disorganized and unpredictable, sharing and cooperative.

¹Weighted means, unweighted Ns.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 2: Description of Selected Youth Behavior Problems¹
National Sample of Families with Children 10-17, 1981 & 1987

BEHAVIORAL PROBLEMS	RANGE	# OF ITEMS	MEAN (N)	DESCRIPTION
Behavioral Problems Index (BHVPRB87)	0 to 17	17	3.4 (1056)	Youth's behavior problems scale; Includes the extent to which child cheats/lies, has a hard time concentrating, has strong temper, is cruel or mean to others, feels worthless (Parent reported).
Depression (RDEPRESD)	0 to 16	16	2.2 (1124)	Measures the extent to which youth presents signs of depressed physical or emotional state (Youth reported)
Teacher Rating of Personal Maturity ² (TCHRAT2)	20 to 100	16	78.0 (859)	Level of personal maturity; Includes enthusiasm and interest in school, preparation for classroom work, level of concentration, extent to which youth fought/teased/bullied other students, extent to which youth is liked/disliked by other students (Teacher reported).
Delinquent Behavior in Past 12 months (DELINQ2)	0 to 23	11	2.4 (1097)	Measures how often in past 12 months youth: damaged or destroyed property, carried hidden weapon, stolen or tried to steal a motor vehicle, stolen something worth more than \$50, attacked someone with the intent to hurt or kill, sold drugs, been stopped/questioned by police 3+ times for doing something wrong (Youth reported).
Use of Alcohol, Tobacco, Drugs in Past 12 months (DRUGUSE1)	0 to 25	5	7.0 (644)	How frequently in the past 12 months youth used alcohol, tobacco, marijuana, coke crack, other drugs (Youth Reported).

¹Weighted means, unweighted Ns.

²Obtained from teachers of 80% of youth, following administration of the Wave 2 parent and child surveys.

Table 3: Demographic Characteristics of the Study Sample¹
National Sample of Families with Children 10-17, 1981

Demographic Characteristics	N	%
<i>Race</i>		
White	888	85.0
Black	238	15.0
Total	1126	100.0
<i>Family Type</i>		
Married	847	79.0
Single ²	276	21.0
Total	1123	100.0
<i>Gender</i>		
Male	553	50.1
Female	573	49.9
Total	1126	100.0
<i>Age</i>		
10-12	329	28.0
13-15	624	55.1
16-17	154	16.9
Total	1107	100.0
<i>Total Number of Children</i>		
Only child	70	6.1
2	339	31.1
3	302	26.6
4+	415	36.2
Total	1126	100.0

¹Weighted Percentages, unweighted N's

²Includes never married, separated, widowed, and divorced families.

Table 3 (Cont'd): Demographic Characteristics of the Study Sample
National Sample of Families with Children 10-17, 1981

Demographic Characteristics	N	%
<i>Family Income</i>		
≤ \$10k	219	18.6
\$10.1k-\$15k	144	14.8
\$15.1k-\$20k	165	13.4
\$20.1k-\$25k	168	16.7
\$25.1k-\$35k	253	24.1
>\$35k	162	12.4
Total	1111	100.0
<i>Received Welfare/Public Assistance</i>		
Yes	142	10.8
No	981	89.2
Total	1123	100.0
<i>Neighborhood Rating</i>		
Excellent	404	36.5
Very Good/Good	552	50.0
Fair/Poor	166	13.5
Total	1122	100.0
<i>Parental Education</i>		
< 12 years	216	19.2
12 years	495	45.0
13-15	206	17.3
16+	209	18.5
Total	1126	100.0
<i>Age at First Birth Youth's Mother</i>		
≤ 17	155	11.4
18-19	255	24.1
20-24	510	49.1
25+	178	15.4
Total	1098	100.0
<i>Ever Experienced Disruption¹</i>		
Yes	426	36.5
No	694	63.5
Total	1120	100.0

¹Defined as disruption through marriage, or subsequent marriage if currently single parent (out-of-wedlock birth).

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 4: Mean Distribution of Family Strengths Measures by Family Type¹
National Sample of Families with Children 10-17, 1981

Family Strengths Indicators	Family Type		t-statistic
	Two-Parent	Single-Parent	
<i>As Reported by Youth</i>			
Parent-Child Communication	7.2	7.1	0.80
Appreciation	6.0	6.2	-1.20
Family Activities	3.2	3.0	1.27
Clear Roles	7.0	6.4	3.86***
<i>As Reported by Parent</i>			
Parent-Parent Communication ²	9.5	9.3	0.41
Commitment to Marriage and Family	16.5	15.3	5.44***
Social Connectedness	9.4	7.5	8.96***
Religious Training	8.0	7.0	5.65***
Family Adaptability/Flexibility	5.4	5.1	2.00*
<i>Traditional Discipline</i>			
Rules and Chores	5.4	5.6	-1.42
Strong Punishment	1.4	1.4	0.22

Key: *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$, $\cdot p \leq 0.10$.

¹Mean distributions are weighted.

²Created only if spouse/partner present (Single families N=32; Married families N=1,003).

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 5:

Mean Distribution of Family Strengths Measures by Race¹
National Sample of Families with Children 10-17, 1981

Family Strengths Indicators	Race		
	White	Black	t-statistic
<i>As Reported by Youth</i>			
Parent-Child Communication	7.3	6.9	1.86 ⁺
Appreciation	6.1	5.8	1.70 ⁺
Family Activities	3.2	2.8	2.89 ^{**}
Clear Roles	6.9	6.7	1.13
<i>As Reported by Parent</i>			
Parent-Parent Communication ²	9.6	8.4	5.26 ^{***}
Commitment to Marriage & Family	16.4	15.3	4.49 ^{***}
Social Connectedness	9.2	7.9	5.22 ^{***}
Religious Training	7.8	8.0	-1.09
Family Adaptability/Flexibility	5.3	5.4	-0.67
<i>Traditional Discipline</i>			
Rules and Chores	5.4	5.9	-4.55 ^{***}
Strong Punishment	1.4	1.4	-0.50

Key: *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$, + $p \leq 0.10$.

¹Mean distributions are weighted.

²Created only if spouse/partner present (Whites N=876; Blacks N=159).

Table 6: Mean Distribution of Youth Behavior Problems by Family Type, Race and Gender¹
National Sample of Families with Children 10-17, 1987

Family Type			
Youth Behavior	Two-Parent	Single-Parent	t-statistic
Behavior Problems Index	3.0	4.6	-5.94***
Depression	2.1	2.8	-2.71**
Teacher Rating of Behavior ²	78.7	75.3	3.19***
Delinquent Behavior - Past 12 months	2.3	2.8	-2.19*
Alcohol/Drug/Tobacco Use - Past 12 months	7.1	6.4	1.58
Race			
Youth Behavior	White	Black	t-statistic
Behavior Problems	3.2	4.4	-3.58***
Depression	2.2	2.6	-1.33
Teacher Rating of Behavior ²	78.4	74.6	2.84**
Delinquent Behavior - Past 12 months	2.4	2.6	-0.87
Alcohol/Drug/Tobacco Use - Past 12 months	7.4	4.4	5.85***
Gender			
Youth Behavior	Male	Female	t-statistic
Behavior Problems	3.5	3.2	-1.51
Depression	2.0	2.5	2.22*
Teacher Rating of Behavior ²	76.2	79.7	4.00***
Delinquent Behavior - Past 12 months	2.9	2.0	-5.14***
Alcohol/Drug/Tobacco Use - Past 12 months	7.7	6.2	-4.08***

Key: ***p < 0.001, **p < 0.01, *p < 0.05, °p < 0.10.

¹Mean distributions are weighted.

²Measured at Wave II (1981).

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 7: Correlations Between Family Strength Indicators. All Families with Children 10-17
National Survey of Children - Wave II (1981)

CORRELATION COEFFICIENTS											
Family Strengths Indicators	P-C Comm	Apprec.	Family Activ.	Clear Roles	P-P Comm	Commit	Soc. Connect	Relig	Fam Adapt	Rules/Chores	Strong Punish
Parent-Child Communication	1.0										
Appreciation	.46***	1.0									
Family Activities	.37***	.36***	1.0								
Clear Roles	.23***	.25***	.13***	1.0							
Parent-Parent Communication	.14***	.19***	.14***	.11***	1.0						
Commitment to Marriage & Family	.02	.06	.06 ⁺	.02	.11***	1.0					
Social Connectedness	.04	.05	.12***	.06 ⁺	.14***	.13***	1.0				
Religious Training	.04	.06 ⁺	.07 ⁺	.03	.02	.24***	.14***	1.0			
Family Adaptability/ Flexibility	.09**	.10***	.10***	.10***	.44***	.04	.09**	.01	1.0		
Rules and Chores	.23***	.22***	.21***	.12***	.04	-.02	.02	.12***	-.007	1.0	
Strong Punishment	-.19***	-.21***	-.07 ⁺	-.14***	-.13***	.04	.02	.03	-.08**	-.008	1.0

Key: *** p < 0.001, ** p < 0.01, * p < 0.05, + p < 0.10.

Note: Correlation Matrix based on varying number of cases. Case size ranged from 1090 to 1122 for all indicators except P-P Communication (defined only if spouse or partner present) which ranged from 855 to 873.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 8: Correlations Between Family Strength Indicators. Two-Parent Families with Children 10-17
National Survey of Children - Wave II (1981)

CORRELATION COEFFICIENTS											
Family Strengths Indicators	P-C Comm	Apprec.	Family Activ.	Clear Roles	P-P Comm	Commit	Soc. Connect	Relig	Fam Adapt	Rules/Chores	Strong Punish
Parent-Child Communication	1.0										
Appreciation	.48***	1.0									
Family Activities	.37***	.38***	1.0								
Clear Roles	.23***	.25***	.13***	1.0							
Parent-Parent Communication	.14***	.19***	.14***	.11**	1.0						
Commitment to Marriage & Family	.04	.10**	.07*	.03	.10***	1.0					
Social Connectedness	.02	.03	.08*	.02	.15***	.09**	1.0				
Religious Training	.05	.10**	.06	.03	.02	.24***	.11***	1.0			
Family Adaptability/Flexibility	.12***	.11**	.14***	.13***	.44***	.05	.05	-.04	1.0		
Rules and Chores	.20***	.22***	.21***	.12***	.04	.03	.02	.13***	.004	1.0	
Strong Punishment	-.19***	-.22***	-.08*	-.14***	-.13***	.06	-.001	.008	-.11**	-.02	1.0

Key: *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$, . $p \leq 0.10$.

Note: Correlation Matrix based on varying number of cases. Case size ranged from 822 to 846.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 9: Correlations Between Family Strength Indicators. Single-Parent Families with Children 10-17
National Survey of Children - Wave II (1981)

CORRELATION COEFFICIENTS											
Family Strengths Indicators	P-C Comm	Apprec.	Family Activ.	Clear Roles	P-P Comm	Commit	Soc. Connect	Relig	Fam Adapt	Rules/ Chores	Strong Punish
Parent-Child Communication	1.0										
Appreciation	.40***	1.0									
Family Activities	.41***	.31***	1.0								
Clear Roles	.24***	.25***	.13***	1.0							
Parent-Parent Communication	.31	.32	.000	.10	1.0						
Commitment to Marriage & Family	-.04	-.01	.01	-.07	.29	1.0					
Social Connectedness	.05	.17**	.22***	.06	.08	.07	1.0				
Religious Training	.01	-.002	.09	-.01	-.12	.18**	.09	1.0			
Family Adaptability/ Flexibility	-.02	.10	-.02	.02	.13	.002	.19**	.12*	1.0		
Rules and Chores	.24***	.22***	.21***	.14*	-.25	-.05	.11*	.14*	-.03	1.0	
Strong Punishment	-.20***	-.17**	-.07	-.16**	-.24	-.002	.06	.10	-.01	.03	1.0

Key: *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$, . $p \leq 0.10$.

Note: Correlation Matrix based on varying number of cases. Case size ranged from 268 to 276 for all indicators except P-P Communication (defined only if spouse or partner present) which ranged from 25 to 27.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 10: Correlations Between Family Strength Indicators. White Families with Children 10-17
National Survey of Children - Wave II (1981)

CORRELATION COEFFICIENTS											
Family Strengths Indicators	P-C Comm	Apprec.	Family Activ.	Clear Roles	P-P Comm	Commit	Soc. Connect	Relig	Fam Adapt	Rules/Chores	Strong Punish
Parent-Child Communication	1.0										
Appreciation	.46**	1.0									
Family Activities	.36***	.34***	1.0								
Clear Roles	.20***	.12***	.12***	1.0							
Parent-Parent Communication	.10**	.16***	.11**	.12***	1.0						
Commitment to Marriage & Family	.02	.03	.02	.03	.12***	1.0					
Social Connectedness	.01	.001	.07*	.05	.13***	.10**	1.0				
Religious Training	.03	.06*	.04	.02	.05	.26***	.15***	1.0			
Family Adaptability/Flexibility	.07*	.07*	.07*	.10***	.42***	.06*	.06*	-.05	1.0		
Rules and Chores	.20***	.21***	.19***	.11***	.04	.03	.03	.11***	-.02	1.0	
Strong Punishment	-.21***	-.23***	-.06*	-.12***	-.10**	.06*	.02	.01	-.05	-.0003	1.0

Key: *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$, + $p \leq 0.10$.

Note: Correlation Matrix based on varying number of cases. Case size ranged from 869 to 887 for all indicators except P-P Communication (defined only if spouse or partner present) which ranged from 744 to 757.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 12: Principal Components Analysis of Family Strengths Indicators. (Pairwise)
 All Families with Children 10-17
 National Survey of Children - Wave II (1981).

Family Strengths Indicators	Factor Loadings (Unrotated)			Factor Loadings (Rotated) ¹		
	I	II	III	I	II	III
<i>Reported by Youth</i>						
Parent-Child Communication	.69	-.34	.02	.76	.09	-.05
Appreciation	.70	-.28	.00	.74	.14	-.02
Family Activities	.62	-.19	.21	.66	.03	.18
Clear Roles	.47	-.09	-.12	.44	.23	-.05
<i>Reported by Parent</i>						
Parent-Parent Communication	.48	.54	-.35	.11	.78	.18
Commitment to Marriage and Family	.17	.46	.42	-.01	.09	.63
Social Connectedness	.23	.42	.30	.05	.16	.54
Religious Training	.24	.34	.55	.13	.05	.67
Family Adaptability/Flexibility	.39	.56	.40	.01	.78	.14
<i>Traditional Discipline</i>						
Rules and Chores	.36	-.29	.37	.51	-.26	.18
Strong Punishment	-.35	.12	.49	-.28	-.40	.36
Percent of Variance Factor Accounts for	21.5	13.0	11.7	21.5	13.0	11.7

¹ Varimax Rotation

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 13: Principal Components Analysis of Family Strengths Indicators. (Pairwise)
 Two-Parent Families with Children 10-17
 National Survey of Children - Wave II (1981).

Family Strengths Indicators	Factor Loadings (Unrotated)			Factor Loadings (Rotated) ¹		
	I	II	III	I	II	III
<i>Reported by Youth</i>						
Parent-Child Communication	.69	-.33	.0004	.76	.10	-.05
Appreciation	.72	-.28	.04	.76	.13	.02
Family Activities	.62	-.21	.15	.66	.06	.13
Clear Roles	.49	-.11	-.14	.46	.24	-.07
<i>Reported by Parent</i>						
Parent-Parent Communication	.49	.59	-.27	.10	.77	.23
Commitment to Marriage and Family	.19	.40	.50	.03	.05	.66
Social Connectedness	.16	.40	.30	-.02	.15	.50
Religious Training	.23	.29	.61	.13	-.07	.70
Family Adaptability/Flexibility	.42	.55	-.41	.04	.80	.08
<i>Traditional Discipline</i>						
Rules and Chores	.35	-.29	.35	.49	-.24	.18
Strong Punishment	-.37	.04	.43	-.28	-.40	.28
Percent of Variance Factor Accounts for	21.9	12.6	11.7	21.9	12.6	11.7

¹ Varimax Rotation

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 14: Principal Components Analysis of Family Strengths Indicators. (Pairwise)
 Single Families with Children 10-17
 National Survey of Children - Wave II (1981).

Family Strengths Indicators	Factor Loadings (Unrotated)				Factor Loadings (Rotated) ¹			
	I	II	III	IV	I	II	III	IV
<i>Reported by Youth</i>								
Parent-Child Communication	.74	-.19	-.06	-.09	.69	-.34	-.02	-.02
Appreciation	.71	-.09	.09	.02	.62	-.33	.17	-.02
Family Activities	.69	.09	-.17	.12	.71	-.01	.15	-.0002
Clear Roles	.42	-.28	.22	.03	.29	-.43	.11	.16
<i>Reported by Parent</i>								
Parent-Parent Communication	--	--	--	--	--	--	--	--
Commitment to Marriage and Family	.0001	.46	.17	-.46	.08	-.03	.09	.66
Social Connectedness	.32	.49	.16	.59	.28	.30	.73	-.08
Religious Training	.18	.59	-.08	-.51	.18	.12	.01	.78
Family Adaptability/Flexibility	.13	.39	.69	.12	-.12	-.23	.73	.24
<i>Traditional Discipline</i>								
Rules and Chores	.50	.15	-.50	-.10	.65	.21	-.19	.17
Strong Punishment	-.28	.48	-.47	.38	-.03	.82	.08	-.02
Percent of Variance Factor Accounts for	21.9	13.4	11.0	10.2	21.9	13.4	11.0	10.2

¹ Varimax Rotation

Table 15: Principal Components Analysis of Family Strengths Indicators. (Pairwise)
 White Families with Children 10-17
 National Survey of Children - Wave II (1981).

Family Strengths Indicators	Factor Loadings (Unrotated)			Factor Loadings (Rotated) ¹		
	I	II	III	I	II	III
<i>Reported by Youth</i>						
Parent-Child Communication	.71	-.29	.02	.77	.08	-.06
Appreciation	.70	-.32	.07	.75	.13	-.06
Family Activities	.60	-.18	.21	.65	.01	.12
Clear Roles	.49	-.02	-.12	.42	.28	-.01
<i>Reported by Parent</i>						
Parent-Parent Communication	.46	.55	-.36	.10	.77	.22
Commitment to Marriage and Family	.15	.51	.44	.004	.05	.69
Social Connectedness	.14	.44	.22	-.16	.16	.49
Religious Training	.23	.43	.50	.12	-.01	.69
Family Adaptability/Flexibility	.37	.50	-.49	.01	.79	.09
<i>Traditional Discipline</i>						
Rules and Chores	.35	-.19	.45	.49	-.27	.24
Strong Punishment	-.39	.15	.41	-.32	-.37	.32
Percent of Variance Factor Accounts for	20.9	13.4	11.8	20.9	13.4	11.8

¹ Varimax Rotation

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 16: Principal Components Analysis of Family Strengths Indicators. (Pairwise)
 Black Families with Children 10-17
 National Survey of Children - Wave II (1981).

Family Strengths Indicators	Factor Loadings (Unrotated)				Factor Loadings (Rotated) ¹			
	I	II	III	IV	I	II	III	IV
<i>Reported by Youth</i>								
Parent-Child Communication	.67	-.35	-.07	-.08	.69	-.35	-.07	-.08
Appreciation	.70	-.24	-.01	.11	.69	-.24	-.01	.11
Family Activities	.67	-.18	.15	-.12	.67	-.18	-.15	-.12
Clear Roles	.37	-.41	-.09	.43	.37	-.41	-.09	.43
<i>Reported by Parent</i>								
Parent-Parent Communication	.51	.52	-.45	-.19	.51	.52	-.45	-.18
Commitment to Marriage and Family	.11	.27	.26	.73	.11	.27	.26	.73
Social Connectedness	.39	.36	.42	-.17	.39	.36	.42	-.17
Religious Training	.38	.25	.57	.23	.38	.25	.57	.22
Family Adaptability/Flexibility	.46	.64	-.34	.03	.46	.64	-.34	.03
<i>Traditional Discipline</i>								
Rules and Chores	.53	-.25	.15	-.35	.53	-.25	.15	-.35
Strong Punishment	-.19	.15	.65	-.33	-.19	.15	.65	-.33
Percent of Variance Factor Accounts for	23.8	12.8	12.3	9.9	23.8	12.8	12.3	9.9

¹ Varimax Rotation

Table 17: Correlations of Family Strengths Indicators with Youth Behavior Problems
 All Families with Children 10-17
 National Survey of Children - Waves II & III (1981 & 1987)

Youth Behavior Problems					
Family Strengths Indicators (Wave II)	Behavior Problems Index	Depression	Teacher Rating of Behavior ¹	Delinquency in past 12 months	Alcohol, Drug use past 12 months
<i>Reported by Youth</i>					
Parent-Child Communication	-.13***	-.14***	.20***	-.12***	-.17***
Appreciation	-.09**	-.04	-.17***	-.06 ⁺	-.09 ⁺
Family Activities	-.04	-.07 ⁺	.14***	-.04	-.01
Clear Roles	-.14***	-.11***	.15***	-.05	-.04
<i>Reported by Parent</i>					
Parent-Parent Communication	-.04	.02	.02	.03	.03
Commitment to Marriage and Family	-.09**	.02	.04	-.06 ⁺	-.10 ⁺
Social Connectedness	-.07 ⁺	-.02	.03	-.01	.03
Religious Training	-.09**	.02	.11***	.005	-.14***
Family Adaptability/Flexibility	-.18***	-.05	.09 ⁺	-.01	.003
<i>Traditional Discipline</i>					
Rules and Chores	.02	.03	.04	-.05	-.15***
Strong Punishment	.19***	.15***	-.16***	.18***	-.0002

¹ Measured at Wave II

Key: *** $p \leq 0.001$, ** $p \leq 0.01$, ⁺ $p \leq 0.05$, + $p \leq 0.10$.

Note: Correlation matrix based on varying number of cases. Case size ranged from 629 to 1121 for all indicators except P-P Communication (defined only if spouse or partner present) which ranged from 498 to 872.

Table 18: Correlations of Family Strengths Indicators with Youth Behavior Problems
Two-Parent and Single-Parent Families with Children 10-17
National Survey of Children - Waves II & III (1981-1987).

Family Strengths Indicators (Wave II)	Youth Behavior Problems									
	Behavior Problems Index		Depression		Teacher Rating of Behavior ¹		Delinquency in Past 12 months		Alcohol/Drug/Tobacco Use in past 12 months	
	Two-Parent	Single-Parent	Two-Parent	Single-Parent	Two-Parent	Single-Parent	Two-Parent	Single-Parent	Two-Parent	Single-Parent
<i>Reported by Youth</i>										
Parent-Child Communication	-.12***	-.18**	-.13***	-.20***	.23***	.13 ⁺	-.11**	-.19**	-.19***	-.11
Appreciation	-.09 ⁺	-.14 ⁺	-.05	-.03	.21***	.10	-.06 ⁺	-.08	-.11 ⁺	-.03
Family Activities	-.03	-.06	-.04	-.15 ⁺	.13***	.14 ⁺	-.01	.03	-.03	.03
Clear Roles	-.11**	-.17**	-.10**	-.14 ⁺	.15***	.11 ⁺	-.05	-.06	-.05	-.05
<i>Reported by Parent</i>										
Parent-Parent Communication	-.04	-.27	.02	-.05	.03	-.02	.04	-.25	.02	.07
Commitment to Marriage & Family	-.02	-.16**	.03	.05	.07 ⁺	-.10	-.06 ⁺	-.04	-.13**	-.05
Social Connectedness	-.06 ⁺	.04	-.02	.04	-.01	.02	-.03	.12 ⁺	.003	.05
Religious Training	-.06 ⁺	-.11 ⁺	.04	.01	.08 ⁺	.13 ⁺	-.02	.10	-.18***	-.09
Family Adaptability/Flexibility	-.17***	-.19***	-.05	-.03	.07 ⁺	.12 ⁺	.01	-.04	.02	-.04
<i>Traditional Discipline</i>										
Rules and Chores	-.01	.06	.02	.04	.03	.12 ⁺	-.10**	.06	-.13**	-.19 ⁺
Strong Punishment	.15***	.29***	.13***	.23***	-.13***	-.23***	-.15***	.27***	-.06	.15 ⁺

¹ Measured at Wave II

Key: ***p ≤ 0.001, **p ≤ 0.01, *p ≤ 0.05, ⁺p ≤ 0.10.

Note: Correlation matrix based on varying number of cases. For Two-Parent Families case sized ranged from 471 to 845. For Single-Parent Families case size ranged from 159 to 276, except for P-P Communication (defined only if spouse or partner present) which ranged from 18 to 27.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 19: Correlations of Family Strengths Indicators with Youth Behavior Problems
 White and Black Families with Children 10-17
 National Survey of Children - Waves II & III (1981-1987).

Family Strengths Indicators (Wave II)	Youth Behavior Problems									
	Behavior Problems Index		Depression		Teacher Rating of Behavior ¹		Delinquency in Past 12 months		Alcohol/Drug/Tobacco Use in Past 12 Months	
	White	Black	White	Black	White	Black	White	Black	White	Black
<i>Reported by Youth</i>										
Parent-Child Communication	-.07*	-.27***	-.13***	-.16*	.22***	.12	-.11**	-.14*	-.21***	-.08
Appreciation	-.05	-.17*	-.02	-.06	.17***	.17*	-.06*	-.05	-.13**	-.003
Family Activities	-.02	-.04	-.06*	-.08	.14***	.06	.002	-.004	-.06	.02
Clear Roles	-.11***	-.19***	-.10**	-.14*	.14***	.20*	-.02	-.15*	-.06	-.07
<i>Reported by Parent</i>										
Parent-Parent Communication	-.05	.10	.03	.05	.03	-.14	.06*	-.05	.005	-.11
Commitment to Marriage and Family	-.07*	-.09	.05	-.02	.02	.05	-.05	-.08	-.14**	-.13
Social Connectedness	-.02	-.12*	-.01	-.02	.03	-.10	-.02	.05	-.03	-.04
Religious Training	-.08*	-.18**	.05	-.10	.13***	.03	.0002	.01	-.15***	-.06
Family Adaptability/Flexibility	-.16***	-.26***	-.04	-.07	.09*	.08	.01	-.06	.05	-.22**
<i>Traditional Discipline</i>										
Rules and Chores	.02	-.03	.03	.003	.06	.06	-.09**	.07	-.14**	-.01
Strong Discipline	.18***	.18**	.14***	.16*	-.13***	-.26***	.17***	.21**	-.03	.19*

¹Measured at Wave II.

Key: *** $p < 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$, + $p \leq 0.10$.

Note: Correlation matrix based on varying number of cases. For whites, case size ranged from 299 to 885 for all indicators except P-P Communication (defined only if spouse or partner present) which ranged from 428 to 756. For blacks, case size ranged from 130 to 235 for all indicators. Case sizes for P-P Communication ranged from 70 to 116.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 20: Correlations of Family Strengths Indicators with Youth Behavior Problems
Two-Parent Families with Children 10-17 by Race
National Survey of Children - Waves II & III (1981-1987).

Youth Behavior Problems										
Family Strengths Indicators (Wave II)	Behavior Problems Index		Depression		Teacher Rating of Behavior		Delinquency Past 12 months		Alcohol, Drugs, Tobacco Past 12 months	
<i>Two-Parent Families by Race</i>										
	White	Black	White	Black	White	Black	White	Black	White	Black
<i>Reported by Youth</i>										
Parent-Child Communication	-.07*	-.31***	-.11**	-.22*	.24***	.09	-.12**	-.04	-.23**	-.10
Appreciation	-.06	-.18*	-.03	.14	.20***	.22*	-.06	-.06	-.14**	-.07
Family Activities	-.02	.01	-.04	-.04	.14***	.02	-.01	-.01	-.06	-.09
Clear Roles	-.09*	-.21*	-.09*	-.10	.14***	.26*	-.04	-.15	-.06	-.08
<i>Reported by Parent</i>										
Parent-Parent Communication	-.05	.11	.03	.06	.04	.18	.06	-.02	-.01	-.17
Commitment to Marriage & Family	-.01	-.04	.05	-.05	.04*	.14	-.05	-.08	-.15**	-.21*
Social Connectedness	-.03	-.13	-.005	-.05	.004	-.30*	-.03	-.002	-.03	.01
Religious Training	-.06	-.12	.06	-.10	.10*	.01	-.01	-.05	-.18***	-.08
Family Adaptability/Flexibility	-.16***	-.22*	-.04	-.07	.08*	-.02	.01	-.04	.03	-.18
<i>Traditional Discipline</i>										
Rules and Chores	-.02	.02	.02	-.03	.06	-.05	-.11**	.01	-.12*	-.10
Strong Punishment	.15***	.06	.12***	.09	-.12**	-.11	.16***	.10	-.05	.14

Key: *** $p < 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$, + $p \leq 0.10$.

Note: Correlation matrix based on varying number of cases. For two-parent white families, case size ranged from 409 to 738 for all indicators. For two-parent black families, case size ranged from 61 to 107.

Table 21: Correlations of Family Strengths Indicators with Youth Behavior Problems
 Single-Parent Families with Children 10-17 by Race
 National Survey of Children - Waves II & III (1981-1987).

Youth Behavior Problems										
Family Strengths Indicators (Wave II)	Behavior Problems Index		Depression		Teacher Rating of Behavior		Delinquency Past 12 months		Alcohol, Drugs, Tobacco Past 12 months	
<i>Single Families by Race</i>										
	White	Black	White	Black	White	Black	White	Black	White	Black
<i>Reported by Youth</i>										
Parent-Child Communication	-.10	-.26**	-.23**	-.16*	.09	.19*	-.11	-.27**	-.15	.08
Appreciation	-.11	-.17*	-.01	-.04	.08	.15	-.07	-.08	-.05	.03
Family Activities	-.05	-.08	-.16*	-.12	.17**	.15	.08	-.02	-.11	.08
Clear Roles	-.14	-.19*	-.09	-.20*	.06	.20*	.07	-.18*	-.01	-.05
<i>Reported by Parent</i>										
Parent-Parent Communication	-.17	-.44	-.11	.08	-.22	.50	.14	-.86*	.42	-.50
Commitment to Marriage & Family	-.19*	-.12	.10	.01	-.15*	-.01	-.02	-.06	-.07	-.05
Social Connectedness	-.19*	-.11	.05	.06	-.04	.10	.14	.11	.06	-.06
Religious Training	-.03	-.22*	.06	-.11	.15*	.07	.11	.07	-.01	-.04
Family Adaptability/Flexibility	-.10	-.30***	.005	-.07	.07	.13	.01	-.08	.17	-.26*
<i>Traditional Discipline</i>										
Rules and Chores	-.19*	-.07	.05	.01	.10	.13	.02	.09	-.23*	.03
Strong Punishment	.30***	.28**	.22**	.23*	-.13	-.38***	.23**	.31***	.05	.27*

Key: *** p < 0.001, ** p ≤ 0.01, * p ≤ 0.05, · p ≤ 0.10.

Note: Correlation matrix based on varying number of cases. For white families, case size ranged from 90 to 148 for all indicators except P-P Communication (defined only if spouse or partner present) which ranged from 11 to 18. For black families, case size ranged from 68 to 128 for all indicators. Case size for P-P Communication ranged from 7 to 9.

Source: Child Trends, Inc. Tabulations from Waves II and II of the National Survey of Children (1981 and 1987).

Table 22: Correlations of Family Strengths Indicators with Youth Behavior Problems
 Female Youth Respondents 10-17
 National Survey of Children - Waves II & III (1981-1987)

Family Strengths Indicators (Wave II)	Youth Behavior Problems				
	Behavioral Problems Index	Depression	Teacher Rating of Behavior	Delinquency in past 12 months	Alcohol/drug/tobacco Use in past 12 months
<i>Reported by Youth</i>					
Parent-Child Communication	-.21***	-.12**	.20***	-.07 ⁺	-.15**
Appreciation	-.17***	-.07	.18***	-.09 ⁺	-.11 ⁺
Family Activities	-.05	-.06	.12**	-.03	-.03
Clear roles	-.18***	-.14***	.18***	-.07	-.09 ⁺
<i>Reported by Parent</i>					
Parent-Parent Communication	-.04	.03	.02	-.03	.001
Commitment to Marriage & Family	-.04	.02	-.04	-.09 ⁺	-.18***
Social Connectedness	-.10 ⁺	-.06	.08 ⁺	-.08 ⁺	-.03
Religious Training	-.04	.02	.10 ⁺	.05	-.12 ⁺
Family Adaptability/ Flexibility	-.21***	-.06	.08 ⁺	-.04	-.02
<i>Traditional Discipline</i>					
Rules and Chores	.02	.02	-.02	-.02	-.14**
Strong Punishment	.13**	.15***	-.18***	.19***	.07

Key: *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$, + $p \leq 0.10$.

Note: Correlation matrix based on varying number of cases. Case size ranged from 327 to 571 for all indicators except P-P communication (defined only if spouse or partner present) which ranged from 257 to 445.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 23: Correlations of Family Strengths Indicators with Youth Behavior Problems
 Male Youth Respondents 10-17
 National Survey of Children - Waves II & III (1981-1987)

Family Strengths Indicators (Wave II)	Youth Behavior Problems				
	Behavioral Problems Index	Depression	Teacher Rating of Behavior	Delinquency in past 12 months	Alcohol/drug/tobacco Use in past 12 months
<i>Reported by Youth</i>					
Parent-Child Communication	-.05	-.18***	.20***	-.15***	-.17**
Appreciation	-.01	-.005	.17***	-.04	-.08
Family Activities	-.04	-.09*	.16***	.005	.0002
Clear roles	-.10*	-.07*	.14***	-.06	.006
<i>Reported by Parent</i>					
Parent-Parent Communication	-.04	.01	.05	.09*	.04
Commitment to Marriage & Family	-.14***	.03	.12*	-.04	-.04
Social Connectedness	-.05	.02	-.01	.04	.10*
Religious Training	-.13**	.03	.12*	-.02	-.16**
Family Adaptability/ Flexibility	-.15***	-.03	.10*	.01	.02
<i>Traditional Discipline</i>					
Rules and Chores	.05	.02	.04	-.02	-.12*
Strong Punishment	.25***	.15***	-.14**	.18***	-.08

Key: *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$, + $p \leq 0.10$.

Note: Correlation matrix based on varying number of cases. Case size ranged from 302 to 549 for all indicators except P-P communication (defined only if spouse or partner present) which ranged from 241 to 427.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 24: Standardized OLS Coefficients for Models Predicting to Scores on the Behavioral Problems Index in Wave III, (1987) of the National Survey of Children All Youth 10-17 in 1981

<i>Covariates</i>	<i>Standardized Coefficients</i>			
	Model 1	Model 2	Model 3	Model 4
Family Strengths Indicators				
Parent-Child Communication	-.10'	-.09'	-.09'	-.07 ⁺
Appreciation	-.04	-.05	-.02	-.01
Family Activities	.05	.06	.05	.05
Clear Roles	-.10 ^{**}	-.08'	-.07'	-.06 ⁺
Parent-Parent Communication		.09'	.10'	.12 ^{**}
Commitment to Marriage & Family		-.01	.0001	-.001
Social Connectedness		-.06	-.05	-.02
Religious Training			-.08'	-.05
Family Adaptability/Flexibility		-.19 ^{***}	-.18 ^{***}	-.18 ^{***}
Rules and Chores			.03	.03
Strong Punishment			.13 ^{***}	.10 ^{**}
Background Characteristics				
Family Type - single				.08'
Race - black				.06
Gender - male				.04
Family Income <=\$15k				.03
Received AFDC				.07 ⁺
Family Size 4+ kids				-.06 ⁺
Parent's Ed < 12				.09'
Fair/Poor Neighborhood				.10 ^{**}
Disrupted at 1981				-.02
Mom's AFB <=19				.01
Youth's Age in 1981 14+				-.06 ⁺
R ²	.029	.059	.081	.147
N	771	771	771	771

Key: *** p ≤ 0.001, ** p ≤ 0.01, * p ≤ 0.05, + p ≤ 0.10.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 25: Standardized OLS Coefficients for Models Predicting to Depression in Wave III, (1987) of the National Survey of Children All Youth 10-17 in 1981

Covariates	Standardized Coefficients			
	Model 1	Model 2	Model 3	Model 4
Family Strengths Indicators				
Parent-Child Communication	-.13**	-.13**	-.12**	-.11'
Appreciation	.02	.01	.02	.02
Family Activities	.02	.02	.01	.02
Clear Roles	-.08'	-.08'	-.07'	-.07+
Parent-Parent Communication		.06	.07+	.08'
Commitment to Marriage & Family		.02	-.002	-.0003
Social Connectedness		-.04	-.04	-.03
Religious Training			.06	.05
Family Adaptability/Flexibility		-.05	-.04	-.04
Rules and Chores			.04	.02
Strong Punishment			.10**	.09**
Background Characteristics				
Family Type - single				-.07+
Race - black				.01
Gender - male				-.05
Family Income <=\$15k				.01
Received AFDC				.03
Family Size 4+ kids				.08'
Parent's Ed < 12				.02
Fair/Poor Neighborhood				.04
Disrupted at 1981				.04
Mom's AFB <=19				-.01
Youth's Age in 1981 14+				-.06+
R ²	.023	.027	.043	.064
N	815	815	815	815

Key: *** p ≤ 0.001, ** p ≤ 0.01, ' p ≤ 0.05, + p ≤ 0.10.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 26: Standardized OLS Coefficients for Models Predicting Teacher Rating of Youth Behavior in Wave II, (1981) of the National Survey of Children All Youth 10-17 in 1981

Covariates	Standardized Coefficients			
	Model 1	Model 2	Model 3	Model 4
Family Strengths Indicators				
Parent-Child Communication	.14**	.14**	.13**	.12**
Appreciation	.11'	.11'	.09'	.07
Family Activities	.03	.03	.04	.04
Clear Roles	.11**	.10**	.10**	.11**
Parent-Parent Communication		-.04	-.05	-.07*
Commitment to Marriage & Family		.05	.03	.04
Social Connectedness		-.02	-.02	-.03
Religious Training			.10**	.07*
Family Adaptability/Flexibility		.03	.03	.07*
Rules and Chores			-.02	-.02
Strong Punishment			-.10**	-.07*
Background Characteristics				
Family Type - single				.01
Race - black				-.11'
Gender - male				-.17***
Family Income <=\$15k				-.04
Received AFDC				-.01
Family Size 4+ kids				.02
Parent's Ed < 12				-.06
Fair/Poor Neighborhood				.01
Disrupted at 1981				-.07*
Mom's AFB <=19				-.15***
Youth's Age in 1981 14+				.01
R ²	.075	.079	.099	.185
N	632	632	632	632

Key: *** p ≤ 0.001. ** p ≤ 0.01. ' p ≤ 0.05, * p ≤ 0.10.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 27: Standardized OLS Coefficients for Models Predicting Delinquent Behavior in Wave III, (1987) of the National Survey of Children All Youth 10-17 in 1981

<i>Covariates</i>	<i>Standardized Coefficients</i>			
	Model 1	Model 2	Model 3	Model 4
Family Strengths Indicators				
Parent-Child Communication	-.12**	-.12**	-.10'	-.08'
Appreciation	-.02	-.02	.02	.005
Family Activities	.04	.04	.05	.03
Clear Roles	-.02	-.02	-.01	-.01
Parent-Parent Communication		.07+	.08'	.08'
Commitment to Marriage & Family		-.08'	-.09'	-.09'
Social Connectedness		-.03	-.04	-.02
Religious Training			.02	.03
Family Adaptability/Flexibility		-.01	-.003	.004
Rules and Chores			-.09'	-.05
Strong Punishment			.15***	.14***
Background Characteristics				
Family Type - single				.02
Race - black				.004
Gender - male				.16***
Family Income <=\$15k				-.01
Received AFDC				.02
Family Size 4+ kids				.02
Parent's Ed < 12				-.04
Fair/Poor Neighborhood				.05
Disrupted at 1981				.05
Mom's AFB <=19				-.01
Youth's Age in 1981 14+				-.04
R ²	.016	.026	.053	.084
N	794	794	794	794

Key: *** p ≤ 0.001, ** p ≤ 0.01, ' p ≤ 0.05, + p ≤ 0.10.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 28: Standardized OLS Coefficients for Models Predicting Alcohol, Tobacco, and Drug Use in Wave III, (1987) of the National Survey of Children All Youth 10-17 in 1981

<i>Covariates</i>	<i>Standardized Coefficients</i>			
	Model 1	Model 2	Model 3	Model 4
Family Strengths Indicators				
Parent-Child Communication	-.20***	-.20***	-.21***	-.19***
Appreciation	-.002	.005	.02	.003
Family Activities	.03	.03	.05	.03
Clear Roles	-.02	-.02	-.02	-.02
Parent-Parent Communication		.08	.07	.02
Commitment to Marriage & Family		-.15**	-.10'	-.11'
Social Connectedness		.002	.01	.02
Religious Training			-.14**	-.13**
Family Adaptability/Flexibility		-.01	-.04	.003
Rules and Chores			-.09'	-.05
Strong Punishment			-.09+	-.04
Background Characteristics				
Family Type - single				.07
Race - black				-.23***
Gender - male				.07
Family Income <=\$15k				-.04
Received AFDC				.005
Family Size 4+ kids				.05
Parent's Ed < 12				-.08
Fair/Poor Neighborhood				.05
Disrupted at 1981				.07
Mom's AFB <=19				-.07
Youth's Age in 1981 14+				.09'
R ²	.037	.063	.100	.199
N	462	462	462	462

Key: *** p ≤ 0.001, ** p ≤ 0.01, ' p ≤ 0.05, + p ≤ 0.10.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Table 29: Summary of Results of Multiple Regression Analyses:
 Family Strengths, Background Characteristics and Youth Behavior
 National Survey of Children Wave III, (1987)

Direction of Association					
Independent Variable	Behavior Problems	Depression	Teacher Rating of Behavior	Delinquency	Drug Use
Parent-Child Communication	+	+	+	+	+
Appreciation	0	0	0	0	0
Family Activities	0	0	0	0	0
Clear Roles	+	+	+	0	0
Parent-Parent Communication	-	-	0	-	0
Commitment to Marriage & Family	0	0	0	+	+
Social Connectedness	0	0	0	0	0
Religious Training	0	0	+	0	+
Family Adaptability	+	0	0	0	0
Rules & Chores	0	0	0	0	0
Strong Punishment	-	-	0	-	0
Single Parent Family	-	+	0	0	0
Race - Black	0	0	-	0	+
Gender - male	0	0	-	-	0
Fam Income <=\$15k	0	0	0	0	0
ADFC	-	0	0	0	0
Family Size 4+	+	-	0	0	0
Parent's Education < 12 yrs	-	0	0	0	0
Fair/Poor Neighborhood	-	0	0	0	0
Marital Disruption	0	0	0	0	0
Mothers AFB <=19	0	0	-	0	0
Age 14+	-	-	0	0	-

Key: "0" = no statistically significant association; "+" = positive influence (i.e., an increase in family strengths is associated with less negative child outcomes); "-" = negative influence (i.e., an increase in family strengths is associated with more negative child outcomes); significance is at the $p \leq 0.05$ level.
 AFB=Age at first birth

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Appendix A: Documentation of Created Family Strengths Measures
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Parent-Child Communication (COMMO)

Scale from 0 to 12 measuring the amount of communication existing between the child and parents (youth report).

Scale consists of five (5) items. The numbers to the right of each response item in the points column indicate how many points are allotted for each respective answer. If more than one of the following variables is missing or 'No answer', COMMO is missing (99). Otherwise each response adds the number of the points listed in the points column.

Var Label	Question	Response	Points
V1461	How frequently do you talk to your parents about the [TV] programs you watch?	Often Sometimes Hardly Ever Never	3 2 1 0
V1646	How much say do you have in making up these rules?	A lot Some A little No say at all	3 2 1 0
Does your parent/do your parents often, sometimes, or hardly ever:			
V1648	Talk over important decisions with you?	Often Sometimes Hardly Ever	2 1 0
V1649	Listen to your side of an argument?	Often Sometimes Hardly Ever	2 1 0
V1673	When you're troubled or unhappy, who are you most likely to talk to about your feelings?	At least 1 parent or parent's spouse /partner mentioned No parent mentioned	1 0

Appendix A (Cont'd): Documentation of Created Family Strengths Measures
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Appreciation (APPRECN)

Scale from 0 to 8 measuring the amount of appreciation the parent(s) show(s) the child (youth report).

Scale consists of eight (8) items with subscores ranging from 0 to 4 for each parent the youth mentioned (mother, father, outside parent).

If youth provides three valid subscores - the two highest are added together to get the final total score.

If youth provides two valid subscores - scores are added.

If youth provides one valid subscore - score is doubled.

For each subscore, if more than one of the respective variables is missing or 'No answer', then that subscore is missing (9). If there are no valid subscores, APPRECN is missing (9).

The number in the points column indicate how many points are added to the appropriate subscale for each response.

Var Label	Question	Response	Points
When you've done something especially good, how often does your (mother/father/outside parent):			
V1546, V1574, V1746	Tell you that (s)he's please?	Often Sometimes Never	1 0 0
V1547, V1575, V1747	Kiss you or hug you?	Often Sometimes Never	1 1 0
For each, tell me if it sounds very much, somewhat like, or not at all like your (mother/father/outside parent):			
V1570, V1627, V1765	(S)he lets you know (s)he appreciates what you try to accomplish?	Very much like Somewhat like Not at all like	1 0 0
V1571, V1628, V1766	(S)he loves you and is interested in you?	Very much like Somewhat like Not at all like	1 0 0

Appendix A (Cont'd): Documentation of Created Family Strengths Measures
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Commitment to Marriage (PCOMMIT)

Scale from 0 to 20 measuring how committed the parent respondent feels towards the institution of marriage (parent reported). Parents are included regardless of current marital status.

Scale consists of 5 items. If more than one the respective variables is missing or 'No answer', PCOMMIT is missing (99). Otherwise, the number in the points column indicate how many points are added for each response.

Var Label	Question	Response	Points
Here are some statements about marriage and family life today. As I read each, tell me whether you: strongly agree, mostly agree, mostly disagree, or strongly disagree with each.			
V507	People should not get married unless they are deeply in love.	Strongly agree Mostly agree Depends/don't know Mostly disagree Strongly disagree	4 3 2 1 0
V509	In a good marriage, a couple should not have any secrets from each other.	Strongly agree Mostly agree Depends/don't know Mostly disagree Strongly disagree	4 3 2 1 0
V514	A person's spouse should be his or her most intimate friend.	Strongly agree Mostly agree Depends/don't know Mostly disagree Strongly disagree	4 3 2 1 0
V520	Unless a couple is prepared to stay together for life, they should not get married.	Strongly agree Mostly agree Depends/don't know Mostly disagree Strongly disagree	4 3 2 1 0
V519	As long as it is secret, a sexual affair would not harm a good marriage.	Strongly agree Mostly agree Depends/don't know Mostly disagree Strongly disagree	0 1 2 3 4

Appendix A (Cont'd): Documentation of Created Family Strengths Measures
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Social Connectedness (PCONNECT)

Scale from 0 to 15 measuring how socially connected the parent respondent is to friends and relatives (parent reported).

Scale consists of 5 items. The frequency of contact is measured for three categories of relatives: 1) parents, 2) other relatives, and 3) parents of spouse/partner, other relatives of spouse/partner, or parents of former spouse (whichever of the three had the highest score). If the parent respondent had no living relatives (parent, other relatives or relatives of former spouse), the score for the corresponding variable was zero.

If either questions concerning the respondent's friends, or more than one of the three selected (of five possible) questions concerning relatives is missing, or 'No answer', PCONNECT is missing (99). Otherwise, the number in the points column indicate how many points are added for each response.

Var Label	Question	Response	Points
V646, V654	Do you see (your parent(s)/any of your other relatives):	At least once or twice/wk Once or twice/month Occasionally during the week Hardly ever/never/inapp	3 2 1 0
V662, V670, V716	Do you see (either of your spouse/partner's parents/ any of his/her other relatives/ either of your former spouse's parents):	At least once or twice/wk Once or twice/month Occasionally during the week Hardly ever/never/inapp	3 2 1 0
V457	How many close friends do you have within intimate friend.	Zero One to four Five to ten Eleven or more	0 1 2 3
V459	Unless a couple is prepared to stay together for life, they should not get married.	Almost every day Once or twice/week Once or twice/month Less often	3 2 1 0

Appendix A (Cont'd): Documentation of Created Family Strengths Measures
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Religious Training (RLTRNT02)

Scale from 0 to 10 measuring how important it is to parent(s) for child to receive religious training and exposure. (parent reported).

Scale consists of 2 items, asked both at Waves I and II.

If any one question is missing, or 'No answer', RLTRNO2 is missing (99). Otherwise, the number in the points column indicate how many points are added for each response.

Var Label	Question	Response	Points
??	In the past year, about how often (Has/have) the child(ren) attended religious services, including Sunday School or other religious classes?	About once/wk (more freq)	3
		At least once/month	2
		A few times/year	1
		Never	0
???	Aside from attending religious services, how important is it to you to provide religious training for your child(ren)?	Very important	2
		Fairly important	1
		Not very important	0

Appendix A (Cont'd): Documentation of Created Family Strengths Measures
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Parent-to-Parent Communication (PCOMMO2)

Scale from 0 to 11 measuring the amount and scope of communication between the two parents, or parent/partner in the child's household (parent report).

Scale consists of 4 items, and is defined only when the parent respondent has a spouse or partner.

If more than one the respective variables is missing or 'No answer', PCOMMO2 is missing (99). The number in the points column indicate how many points are added for each response.

Var Label	Question	Response	Points
About how often do you and your spouse/partner:			
V524	Calmly discuss something?	Almost every day Once or twice/week Once or twice/month Less often	3 2 1 0
V525	Laugh together?	Almost every day Once or twice/week Once or twice/month Less often	3 2 1 0
V526	Tell each other about troubles after a bad day?	Almost every day Once or twice/week Once or twice/month Less often	3 2 1 0
V642	In the past few months, would you describe your family life as close and intimate?	Yes Don't Know No	2 1 0

Appendix A (Cont'd): Documentation of Created Family Strengths Measures
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Family Adaptability (FAMADAPT)

Scale from 0 to 7 measuring whether family life is adaptable to stress or change (parent reported).

Scale consists of 7 items. If three or more questions are missing, or 'No answer', FAMADAPT is missing (9). Scale is coded in the direction of '0' equals poor family adaptability. The number in the points column indicate how many points are added for each response.

Var Label	Question	Response	Points
	In the past few months, would you describe your family as:		
V638	Relaxed and easy-going?	Yes No	1 0
V639	Well-organized and orderly?	Yes No	1 0
V642	Close?	Yes No	1 0
V644	Sharing and cooperative?	Yes No	1 0
V640	Complicated and complex?	Yes No	0 1
V641	Tense and stressful?	Yes No	0 1
V643	Disorganized and unpredictable?	Yes No	0 1

Appendix A (Cont'd): Documentation of Created Family Strengths Measures and Youth Behavior Outcomes
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Rules and Chores (RULES)

Scale from 0 to 8 measuring the number of rules and chores the parents have for the child (youth report). Based only on responses to the questions regarding parents in the child's home, not the 'outside parent(s)'.

Scale consists of 8 items. If more than two variables are missing, or 'No answer', RULES is missing (9). The number in the points column indicate how many points are added for each response.

Var Label	Question	Response	Points
	In your home, are you regularly expected to help out with:		
V1638	Straightening your room?	Yes No	1 0
V1639	Keeping the rest of the house clean?	Yes No	1 0
V1640	Doing the dishes?	Yes No	1 0
V1641	Cooking?	Yes No	1 0
	Are there any rules about:		
V1642	Watching television?	Yes No	1 0
V1643	Keeping your parent(s) informed about where you are?	Yes No	1 0
V1644	Doing homework?	Yes No	1 0
V1645	Dating and going to parties with boys and girls?	Yes No	1 0

Appendix A (Cont'd): Documentation of Created Family Strengths Measures
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Strong Punishment (ABUSER)

Scale from 0 to 7 measuring the amount of abusive treatment the child experiences from the parents (youth report). Values of 7 thru 12 are collapsed into a value of 7 because of the small number of cases with scores above 7. Scale consists of 5 items. Subscores from 0 to 6 are calculated for each parent mentioned ('mother', 'father', 'outside parent').

If there are three valid subscores - two highest are added together for final score.

If there are two valid subscores - both are added together.

If there is only one valid subscore - score is doubled.

For each subscore, if more than one variable is missing out of the first four questions, that subscore is missing). If there are no valid subscores, ABUSER is missing (99). The number(s) in the points column indicate how many points are added for each response.

Var Label	Question	Response	Points
	When you've done something wrong, does (s)he [(parent(s)]:		
V1552, V1609, V1752	Make fun of you?	Often Sometimes Never	1 1 0
V1553, V1610, V1753	Threaten to spank or slap you?	Often Sometimes Never	1 0 0
V1555, V1612, V1757	Act as if (s)he doesn't love you?	Often Sometimes Never	1 1 0
V1557, V1614, V1757	Actually spank or slap you?	Often Sometimes Never	2 1 0
V1558, V1615, V1758	Were you ever badly bruised or cut by her(him) spanking or slapping you?	Yes No	1 0

Note: Last question asked about a parent only if youth answered that particular parent spansks or slaps 'often' or sometimes. Otherwise, last question coded as missing.

Appendix A (Cont'd): Documentation of Created Family Strengths Measures and Youth Behavior Outcomes
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Clear Roles (ROLES3)

Scale from 0 to 10 measuring the clarity and consistency of parent expectations for the child (youth report).

Scale consists of five (5) items with subscores ranging from 0 to 4 for each parent in the household the youth mentioned (if available), or for the parent in the household and the outside parent.

If the youth lives in a single parent family and information from an outside parent is not available, subscore is doubled. In all cases, the variable regarding family life (V1816) is added to the subscore.

For each subscore, if more than one of the respective variables is missing or 'No answer', then that subscore is missing (9). If more than one of the subscores is missing, ROLES3 is missing (9).

The number in the points column indicate how many points are added to the appropriate subscale for each response.

Var Label	Question	Response	Points
I am going to read statements about parents. For each tell me if it sounds very much like, somewhat like, or not at all like your (mother/father/outside parent).			
V1565, V1622, V1760	(S)he makes rules for you that are clear and consistent?	Very much like Somewhat like Not at all like	2 1 0
V1572, V1629, V1767	What (s)he expects from you changes from day to day?	Very much like Somewhat like Not at all like	0 1 2
V1816	In the past few months, would you describe your family life as well-organized and orderly?	Yes No Don't Know	2 0 1

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Behavior Problems Index (BHVPRB87)

Scale from 0 to 17 measuring a range of youth behavior problems (parent report).

Scale consists of 17 items. If six or more of variables are missing, 'don't know' or 'No answer', BHVPRB87 is missing (99). Otherwise, for each response of 'Often true, or 'Somewhat true', a score of one is assigned. A response of 'Not true at all' is assigned a '0'.

Var Label	Question
	Tell me whether each statement has been often true, sometimes true, or not true of (YOUTH) during the past four weeks.
P870831	Feels or complains that no one loves (him/her)?
P870832	Cheats or tells lies.
P870833	Is too fearful or anxious.
P870834	Has difficulty concentrating, cannot pay attention for long.
P870835	Is easily confused, seems to be in a fog.
P870836	Bullies, or is cruel or mean to others.
P870837	Does not seem to feel sorry after (he/she) does something wrong.
P870838	Is impulsive, or acts without thinking.
P870839	Feels worthless or inferior.
P870840	Is not liked by others of the same age.
P870841	Has a lot of difficulty getting (his/her) mind off certain thoughts, has obsessions.
P870842	Is restless or overly active, cannot sit still.
P870843	Has a very strong temper and loses it easily.
P870844	Is unhappy, sad, or depressed.
P870845	Is withdrawn, does not get involved with others.
P870846	Feels others are out to get (him/her).
P870847	Hangs around with kids who get into trouble.

Appendix A (Cont'd): Documentation of Created Family Strengths Measures
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Depression (RDEPRESD)

Scale from 0 to 16 measuring youth's depressed state and behavior (youth report).

Scale consists of 16 items. If six or more of variables are missing, 'don't know' or 'No answer', RDEPRESD is missing (99). Otherwise, for each response of 'Often', or 'Most of the time', a score of '1' is assigned. All other responses ('sometimes' or 'never') assigned a '0'.

Var Label	Question
	After I read each statement, please tell me whether you felt that way most of the time, often, sometimes, or never <u>during the past four weeks...</u>
Y872657	I felt sad.
Y872658	I was bothered by things that don't usually bother me.
Y872659	I did not feel like eating; my appetite was poor.
Y872660	I felt that I could not shake off the blues, even with help from family or friends.
Y872661	I had trouble keeping my mind on what I was doing.
Y872662	And, during the past four weeks, I felt depressed.
Y872663	I felt that everything I did was an effort.
Y872664	I felt fearful.
Y872665	My sleep was restless.
Y872666	I talked less than usual.
Y872667	I felt lonely.
Y872668	I could not get going.
Y872669	I had days when I was nervous, tense, or on edge.
Y872670	I had days when I felt angry, frustrated, or bitter.
Y872671	I often felt like punching someone out.
Y872672	I often felt that nobody really cared about me.

Appendix A (Cont'd): Documentation of Created Family Strengths Measures
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Teacher Rating of Personal Maturity (TCHRAT2)

Scale from 20 to 100 indicating the child's level of maturity based on child's behavioral and emotional patterns at school (teacher report - 1981)¹.

Scale consists of 16 items broken into two sub-scales. If one to four of the variables in either scale is missing, the average subscore of the remaining variables is added to the total score for each. If five (5) or more of variables are missing, or 'No answer', TCHRAT2 is missing (99). Otherwise, the numbers in the points column represent the points added to the scale for each respective answer.

Var Label	Question	Response	Points
For each of the following statements, please indicated by circling the number under the appropriate heading how much like that this student was in 1980-1981.			
V3247	Very enthusiastic, interested in a lot of different things.	Not at all	0
V3249	Was usually well-prepared for classroom work and tests.	A little	1
V3250	Completed classroom assignments on time.	Somewhat	2
V3251	Did neat, careful work.	Pretty much	3
V3252	Persisted in the face of difficult tasks.	Very much	4
V3261	Was polite, helpful, considerate of others.	Exactly like	5
V3262	Was friendly, took the initiative with other students.		
V3248	Couldn't concentrate; couldn't pay attention for long.	Not at all	5
V3253	Fought too much, teased, picked on, or bullied other students.	A little	4
V3254	Often unhappy, sad, or depressed.	Somewhat	3
V3255	Rather high strung, tense, and nervous	Pretty much	2
V3256	Cheated, told lies; was deceitful.	Very much	1
V3257	Had a very strong temper, lost it easily.	Exactly like	0
V3258	Was very restless; fidgeted all the time; couldn't sit still.		
V3259	Kept to himself/herself; tended to withdraw.		
V3260	Was not well liked by other students.		

¹Obtained from the teachers of 80% of the youth, following the administration of the Wave 2 parent and child surveys.

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Delinquent Behavior (DELINQ2)

Scale from 0 to 33 indicating the frequency of delinquent behavior in the past 12 months (youth report).

Scale consists of 11 items. Responses to all items are flipped so that 'Not at all' = 0 and 12+ times = 3. If five (5) or more of variables are missing, or 'No answer', DELINQ2 is missing (99). Otherwise, the numbers in the points column represent the points added to the scale for each respective answer.

Var Label	Question	Response	Points
	How often did you do this in the past 12 months?		
Y872747	Purposely damaged or destroyed property belonging to someone else?	12+ times	3
Y872749	Gotten so rowdy, unruly or loud as to bother other people?	3-11 times	2
Y872751	Carried a hidden weapon other than an ordinary pocket knife?	1-2 times	1
Y872753	Stolen or tried to steal a <u>motor vehicle</u> such as a car or motorcycle?	Not at all	0
Y872755	Stolen or tried to steal something else worth more than \$50?		
Y872757	Avoided paying taxes by not reporting money you earned to the government?		
Y872759	Purposely set fire to a building, a car, or other property or tried to do so?		
Y872761	Attacked someone with the idea of seriously hurting or killing him or her?		
Y872763	Gotten paid for having sexual relations with someone?		
	Please tell me whether you felt that way most of the time, often, sometimes, or never during the past four weeks:		
Y872670	I had days when I felt angry, frustrated, or bitter.	Never	3
Y872671	I often felt like punching someone out.	Often	2
		Sometimes	1
		Never	0

Appendix A (Cont'd): Documentation of Created Family Strengths Measures
and Youth Behavior Outcomes
National Survey of Children, 1981 (Wave II)

Alcohol/Tobacco/Drug Use (DRUGUSE1)

Scale from 0 to 25 measuring the frequency of use of alcohol, tobacco, marijuana, crack, and other drugs in the past 12 months (youth report).

Scale consists of 5 items. Responses to all items are flipped so that 'Never tried' = 0 and daily use = 5. If three (3) or more of variables are missing, or 'No answer', DRUGUSE1 is missing (99). Otherwise, the numbers in the points column represent the points added to the scale for each respective answer.

Var Label	Question	Response	Points
	How often did you use.....the past 12 months?		
Y872711	Alcohol	Daily	5
Y872715	Marijuana	Once/week	4
Y872719	Crack Cocaine	Once/month	3
Y872723	Other drugs	Less than Once/month	2
Y872727	Tobacco	Has Ever used, but no use in past 12 months	1
		Never used	0

Appendix A (Cont'd): Documentation of Created Family Strengths Measures
and Youth Behavior Outcomes
National Survey of Children, 1981 (Wave II)

Family Activities (ACTIVITY)

Scale from 0 to 7 measuring the number of different activities the child has done with the parent in the past month (youth report).

Scale consists of 7 pairs of items. The first of each pair refers to the parent(s) in the youth's home; the second refers to the youth's 'outside parent(s)'. For each pair, one point is added for a response of yes to either or both questions. For example, V1631 and V1716 are both yes, 1 point is added; if one is no and the other yes, 1 point is added. If one is no and the other missing, no points are added. If responses from both parents are missing, the item is missing (99).

If more than two of the pairs of items are missing, ACTIVITY is missing (99).
The number in the points column indicate how many points are added for each response.

Var Label	Question	Response	Points
Within the last month, had you and your parent(s):			
V1631, V1716	Gone to the movies together?	Yes No	1 0
V1632, V1717	Gone out to dinner?	Yes No	1 0
V1633, V1718	Gone shopping to get something for you--such as clothes, books, records, or games?	Yes No	1 0
V1634, V1719	Taken a trip together, like to a museum or sports event?	Yes No	1 0
Within the last week, have you and your parent(s):			
V1635, V1720	Done thing together, such as built or made things, cook or sew together?	Yes No	1 0
V1636, V1721	Worked on school work together?	Yes No	1 0
V1637, V1722	Played a game or sport(s) activity?	Yes No	1 0

Appendix B:

Distribution of Valid and Missing Data on Drug Use Items by Race
 All Families with Children 10-17
 National Survey of Children, Wave II (1987)

<i>Frequency of Alcohol, Tobacco, Drug Use in past 12 months*</i>						
Race	Missing Data		Valid Data		Total	
	N	%	N	%	N	%
White	378	42.6	510	57.4	888	78.9
Black	104	43.7	134	56.3	238	21.1
Total	482	42.8	644	57.2	1126	100.0
<i>Alcohol Use in past 12 months*</i>						
	Missing Data		Valid Data		Total	
	N	%	N	%	N	%
White	18	2.0	879	98.0	888	78.9
Black	10	4.2	238	95.8	228	21.1
Total	28	2.5	1098	97.5	1126	100.0
<i>Tobacco Use in past 12 months*</i>						
	Missing Data		Valid Data		Total	
	N	%	N	%	N	%
White	260	29.3	628	70.7	888	78.9
Black	83	34.9	155	65.1	228	21.1
Total	343	30.5	783	69.5	1126	100.0
<i>Marijuana Use in past 12 months*</i>						
	Missing Data		Valid Data		Total	
	N	%	N	%	N	%
White	320	36.0	568	64.0	888	78.9
Black	71	29.8	167	70.2	228	21.1
Total	391	34.7	735	65.3	1126	100.0

Key: ***p ≤ 0.001, **p ≤ 0.01, *p ≤ 0.05, +p ≤ 0.10.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).

Appendix B (Cont'd): Distribution of Valid and Missing Data on Drug Use Items by Race
 All Families with Children 10-17
 National Survey of Children, Wave II (1987)

<i>Cocaine Use in past 12 months***</i>						
Race	Missing Data		Valid Data		Total	
	N	%	N	%	N	%
White	629	70.8	259	29.2	888	78.9
Black	141	59.2	97	40.8	238	21.1
Total	770	68.4	356	31.6	1126	100.0
<i>Other Drug Use in past 12 months**</i>						
	Missing Data		Valid Data		Total	
	N	%	N	%	N	%
White	670	75.5	218	24.5	888	78.9
Black	155	65.1	83	34.9	228	21.1
Total	825	73.3	301	26.7	1126	100.0

Key: *** $p \leq 0.001$, ** $p \leq 0.01$, * $p \leq 0.05$, + $p \leq 0.10$.

Source: Child Trends, Inc. Tabulations from Waves II and III of the National Survey of Children (1981 and 1987).