AN EXPLORATORY ANALYSIS OF FATHER INVOLVEMENT IN LOW-INCOME FAMILIES

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in Low-Income Families

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Abstract

Using data from the Fragile Families study, this paper explores factors that influence paternal involvement in low-income families. 4873 fathers from the Fragile Families study were classified using CART (Classification and Regression Tree Analysis). CART is a nonparametric technique that allows many different factors to be combined in order to classify homogeneous subgroups within a sample. The CART analysis distinguished between residential and non-residential fathers. In addition, among residential fathers, race emerged as the distinguishing factor. For White men, residential status was the only factor to affect involvement. For African American and Hispanic men however, interactions among several sociodemographic characteristics revealed that both contextual and individual factors affect paternal involvement. Results suggest that an ecological approach is necessary in the investigation of paternal involvement.

An Exploratory Analysis of

Father Involvement in Low-Income Families

American society's increasing concern with the problem of father absence has led to a

series of initiatives and programs designed to better understand paternal involvement. For

instance, in 1994 the National Fatherhood Initiative was launched to confront the problem of

father absence. Other examples include the National Center for Fathers and Families, the Center

on Fathers, Families, and Public Policy, the National Center for Fathering, and the Fatherhood

Project (Marsiglio, Amato, Day, & Lamb, 2000). In 1995, President Clinton issued an executive

order directing federal agencies to support positive father involvement. Clinton's order resulted

in a host of state and nationwide campaigns, organizations dedicated to research about

fatherhood, and multi-disciplinary meetings to examine fatherhood (Marsiglio, et al., 2000). In

1996, the Personal Responsibility and Work Opportunity Reconciliation Act or welfare reform

was enacted. A major part of the welfare reform bill included a requirement to establish

paternity.

The increased societal interest in fatherhood issues is paralleled in psychology. During

the past decade, there has been an increase in scholarship and research focusing on fathers in

general and issues related to fatherhood (Marsiglio, et al., 2000; Marsiglio, Day, & Lamb, 2000).

While expanding our knowledge, the fatherhood literature demonstrates our limited

understanding of, the complexity of, and the diversity of fatherhood (Coley, 2001; Marsiglio, et

al., 2000). Moreover, much of the available research focuses on fathers from intact White

middle-class families (Coley, 2001; Greene & Moore, 2000), and when fathers from non-

traditional or single parent families have been studied, research has focused on the effects of

father absence (Marsiglio, Day, et al., 2000).

Given our knowledge of the negative consequences of single parenthood, the increasing number of single parent homes raises concerns about father involvement and the importance of increasing our knowledge of low-income and non-resident fatherhood becomes evident. For instance, in 1997, 32% of all children born in the U.S. were to unmarried mothers (Coley, 2001), unmarried mothers are less likely to obtain prenatal care (CDC, 1995), and families headed by a single parent are more likely to be poor (Brooks-Gunn, Duncan, & Maritato, 1997). In fact, young children living with unmarried mothers are five times more likely to be poor and ten times more likely to be extremely poor. Fifty percent of mother-only families receive welfare during the course of a year (McLanahan, 1997), and the most consistent correlate of childhood poverty is the absence of a resident father (Cabrera & Peters, 2000). Unfortunately, the rate of fatherless families has doubled in the past 15 years, and the proportion of single parent homes is expected to continue to exceed 50% (Cabrera & Peters, 2000).

Although limited, the research has shown the benefits of increased father involvement, the negative consequences of single parent families, and underscores the need to better understand non-resident, low-income, and minority fathers (Coley, 2001). Moreover, the current direction of research should consider social and contextual factors that may increase and/or hinder paternal involvement. Following a review of relevant literature, the current study explores factors that may contribute to increased father involvement in low-income families.

Fragile Families and Child Well-Being Study (FFCWB)

The FFCWB study is a national study examining the consequences of non-marital childbearing in low-income families (McLanahan, Garfinkel, Brooks-Gunn, & Tienda, 2000). Specifically, the FFCWB study is a longitudinal study designed to increase understanding of non-marital childbearing and examine the consequences of welfare reform and the role of fathers

in unwed families. Fragile families are defined as families consisting of unwed parents and their

children (McLanahan et al.).

Data for the FFCWB study are currently being collected in 20 cities across the United

States. A stratified random sample of all U.S. cities with populations over 200,000 was used to

select cities (Reichman, Teitler, Garfinkel, & McLanahan, 2000). Of the possible 77 U.S. cities

each was scored on three variables: welfare generosity, the strength of the child support system,

and the strength of the local labor market (Reichman, et al. 2000). *Welfare generosity* was

calculated based on the monthly welfare payment for a family of four and the dollar value of the

monthly payment divided by the median monthly rent in the city. Cities were labeled as having

high, moderate, or low benefits. The *strength of the child support system* was determined

according to the paternity establishment rate, the proportion of Aid to Families with Dependent

Children (AFDC) cases with a child support award, and the proportion of AFDC cases with a

payment. Cities were labeled as a having strict, moderate, or lenient child support system. *Local*

labor market conditions were based on the unemployment rate for the city, growth rates, and

rates of population growth. Cities were categorized as having strong, moderate, or weak labor

markets (Reichman, et al. 2000). Classification of cities resulted in 27 possible combinations of

welfare generosity, strength of the child support system, and labor market conditions.

Once scores for each city were calculated, cities were categorized into two groups, those

with only extreme scores (i.e. high welfare benefits, strict child support system, and strong labor

market) and those with at least one middle value (i.e. high welfare benefits, moderate child

support system, and strong labor market) (Reichman et al., 2000). In the final selection, there

were eight cities with extreme scores, eight cities with non-extreme scores (i.e. at least one

middle value), and four additional cities of interest to specific funders. See Appendix A for listing of cities and scoring.

Models of Father Involvement

Three main models have shaped the literature on father involvement. Lamb, Pleck, Charnov, and Levine (1987) suggest a model of paternal involvement based on behavioral ecology. Lamb and his associates conceptualized paternal involvement as consisting of three components: interaction, availability, and responsibility. *Interaction* refers to the father's direct contact with his child through care taking and shared activities. *Availability* refers to the fathers' potential availability for interaction by being present or accessible to the child whether or not direct interaction is occurring. *Responsibility* refers to the father making sure the child is taken care of and arranging resources to be available for the child. Lamb and colleagues also suggested that determinants of paternal involvement include motivation to be involved, perceived parental skill level, support from others (including the mother, relatives, friends, colleagues), and institutional barriers such as the workplace environment. High paternal involvement is likely to occur with fathers that are more motivated to be involved, that have more opportunities to participate in child care, that have approval from others in their lives to be involved, and that have supportive workplace environments that encourage family related activities.

Palkovitz's (1997) model focuses on nontraditional conceptualizations of paternal involvement and attempts to broaden the definition of involvement. Palkovitz (1997) suggests that parents experience involvement with their children within three domains of functioning. The *Cognitive Domain* consists of reasoning, planning activities (i.e. planning a birthday party), evaluating (i.e. worrying about the child's future), and monitoring (i.e. dreaming for the child's future). The *Affective Domain* includes emotions, feelings, and displays of affection such as

hugging the child, kissing the child, or smiling at the child. The *Behavioral Domain* consists of any overt manifestations of involvement such as feeding the child, talking to the child, or playing with the child. Historically, it is within the behavioral domain that paternal involvement has been studied. Palkovitz argues that measuring paternal involvement primarily within the behavioral domain is a result of a narrow conceptualization of involvement.

Palkovitz (1997) extends his model of paternal involvement to examine how the paternal role may differ over a child's lifespan. He contends that categorizing fathers as relatively involved or uninvolved in a global sense does not allow for the full study of paternal involvement. Moreover, one must consider the child's specific needs during different developmental stages and the degrees to which a father may be involved at different times in his child's life. It is also necessary to take into account factors such as social ecology and life circumstances that modify paternal involvement. Moderating factors include temporal fluctuations (i.e. short and long-term involvement), overall context (i.e. the macrosystem, individual strengths and weaknesses, developmental status), specific context (i.e. sole vs. shared childcare responsibility), and individual differences (i.e. parenting style, history and experience, sensitivity) (Palkovitz, 1997).

Amato's (1998) model of paternal involvement takes a more ecological approach suggesting that paternal involvement in based on individual and environmental resources that facilitate father involvement. Building from Coleman's (1988) theory of human, financial, and social capital, Amato's (1998) model of paternal involvement is based on parental resources. Amato divides up parental resources into human, financial, and social capital. Amato posits that children's development is embedded in the quality and quantity of human, social, and financial capital of their parents. This model suggests that parents serve as their children's primary social

networks. Thus, the quantity and quality of parents' resources should have a direct effect on children's development and well-being. *Human Capital* refers to "parents' possession of skills, knowledge, and traits that facilitate achievement in U.S. society" (Amato, 1998, pg. 243). This includes verbal and numeric ability, occupational skills, effective work habits, and knowledge of correct forms of speech and dress. A key indicator of human capital is education. It is assumed that parents with higher educational levels are better able to foster their children's cognitive skills and socioeconomic attainment. *Financial Capital* refers to "income, or goods or experiences purchased with income, that parents provide to their children" (Amato, 1998, pg. 243) including items such as food, shelter, schooling, etc. *Social Capital* refers to family and community relations that benefit children's cognitive and social development.

The concept of social capital provides an ecological foundation for examining paternal involvement in that it highlights the importance of environmental and social factors (such as social networks) that may influence paternal involvement. Social capital is defined as "a variety of different entities with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors (i.e. persons) … within the structure" (Coleman, 1988, p. 98). Although not as tangible as human and financial capital, social capital facilitates productive activity and produces valuable resources (Coleman, 1988). Examples of social capital include social networks (that provide support and reward), access to information channels, and established societal norms and sanctions. Coleman posits, "all social relations and social structures facilitate some form of social capital" … and that "actors establish relations purposefully and continue them when they continue to provide benefits" (p. 105).

Although past research has suggested the importance of context in examining paternal involvement, few studies have taken an ecological approach to the study of paternal

involvement. Moreover, the majority of studies have been based on maternal report and intact White middle class families. Additionally, when nonresident fathers were investigated, the samples typically used consisted of divorced and or separated men, excluding nonresident fathers. The primary measures of father involvement have been child support payments or visitation patterns neglecting other aspects of father involvement. The problems mentioned above reflect a few of the many unresolved issues in the literature on paternal involvement.

Problems with Past Research

Discrepancies and inconsistencies in the literature have made it difficult to draw any definitive conclusions about father involvement, especially the involvement of low-income and non-resident fathers. For instance, historically, researchers have relied on mother report to measure father involvement. The reasons for this are twofold. First, mothers have been considered children's most important socializing agent (Coley, 2000). Second, it has been difficult for researchers to include fathers in research samples, particularly low-income and nonresident fathers (Coley, 2001). A mother-only report however, gives us only one, often discrepant, perspective. For instance, non-resident fathers report more extended stays and more payment of child support than mothers (Seltzer & Brandreth, 1994).

In terms of measurement and definition of father involvement, there are inconsistencies in the literature. For example, paternal involvement has been called involvement, participation, engagement, investment, or child care. Typical measures of paternal involvement include a gross measure of absence or presence, amount of interaction time, visitation patterns, or payment of child support. Coley (2001) argues that past definitions of paternal involvement have been "incomplete and too simplistic". Traditional definitions of paternal involvement do not take into account father's emotional involvement with their children, activities with their children, level of

paternal commitment, or quality of time (rather than quantity) spent with their children (Coley, 2001; Palkovitz, 1997).

The definition of paternal involvement becomes particularly significant when child support payments are used as the primary measure of involvement (and historically has been the main measure of non-resident father involvement). Mincey and Sorensen (1998) found that 67% of fathers who fail to pay child support are themselves poor; it may be that low-income fathers cannot afford to give money to their children. Additionally, for families on welfare there is a $50 stipulation that requires only the first $50 of a child support payment be passed on to the family with the rest used to reimburse the state (Coley, 2001; Greene & Moore, 2000). Green and Moore (2000) suggest that informal child support may be more common and beneficial to families on welfare. In fact, although father involvement for this group is generally low, these fathers do assume more responsibility via informal support (Edin & Lein, 1997; Hardy, Duggan, Masnyk, & Pearson, 1989; Rangarajan & Gleason, 1998), suggesting that low-income fathers contribute more than is officially reported (Greene & Moore, 2000).

Another problem with past research is the sample characteristics. Samples used to study non-resident father involvement typically consist of divorced men from White middle class backgrounds. There is a dearth of research examining non-resident, low-income, and minority fathers. Low-income, non-resident, and minority men may view fatherhood differently than their counterparts. For instance, in communities where non-marital births are high, fathers may understand fathering responsibility differently and have better coping mechanisms or models in place to deal with non-resident fatherhood (Coley, 2001).

Palkovitz (1997) suggests the problems with past research have led to six common misconceptions about father involvement. Although most of the literature implies that more

involvement is indeed better, this is most likely a result of deficit models that have only

examined the effects of father absence. It is important to look at quality of involvement rather

than the quantity of involvement. Another misconception involves proximity, which suggests

that a father must be physically present. Such research fails to take into account the amount of

time a father spends thinking about his family or planning activities for his children and family.

A third misconception is the assumption that involvement can always be observed or counted.

The fourth misconception is that involvement levels are static; ignoring changes in levels of

involvement over long and short periods of time. That is, it does not tell us how involvement

may increase or decrease with the child's age, it may be that as men get more comfortable with

their role as fathers, they become more involved (Palkovitz, 1997). The fifth misconception is

that involvement should look the same regardless of culture or social class. The final

misconception is that women are more involved with their children than men. Palkovitz's

argument here is that we simply do not know enough about father involvement to assume that

women are in fact more involved than men.

Consequences of Father Absence and Benefits of Father Involvement

The negative consequences of father absence and benefits of father involvement have

been well documented. For example, boys with nonresident fathers are twice as likely to be

incarcerated (Cabrera & Peters, 2000) and girls are more likely to become unwed teenage

mothers' (McLanahan, 1997). McLanahan (1997) found that children raised by never married

mothers do worse than children raised by both biological parents', they receive less parental

supervision, and have less social capital. In terms of educational attainment, children with absent

fathers are less likely to graduate from high school and have lower rates of college attendance

(McLanahan, 1997). In terms of behavioral problems, children with absent fathers have more

school behavior problems, engage in more fighting, and are more hyperactive (McLanahan, 1997). Cabrera, Tamis-LeMonda, Bradely, Hofferth, and Lamb (2000) identified five key ways that paternal absence may influence children:

> 1) Without a father there is no co-parent, 2) economic loss frequently accompanies single motherhood and economic disadvantage is a reliable correlate of poorer educational and psychological performance, 3) social isolation and continuing (though diminished) social disapproval of single or divorced mothers and children may lead to emotional distress and less adaptive functioning, 4) the perceived, and often actual, abandonment by a parent may cause psychological distress in children, and 5) conflict between parents can have deleterious effects on children's socioemotional well-being and behavior. (p. 128).

In terms of the benefits of non-resident father involvement, there are discrepancies in the research regarding the association between frequency of non-resident father-child contact and child well-being. For instance, children with involved fathers show more cognitive competence, more internal locus of control, and less gender role stereotyping (Pleck, 1997). Some studies have found no association between father-child contact and children's cognitive test scores, academic achievement, behavior ratings, scholastic competence, and self worth while other studies have found negative effects of father-child contact on children's outcomes (Green & Moore, 2000). Given the inconsistency in methodology and of measures historically used to measure fatherhood and father involvement, the inconsistencies found in the literature are not surprising.

Furstenburg and Harris (1993) suggest it is the quality of involvement and level of attachment between the father and child that affects child outcomes. Additionally, payment of child support has been positively associated with cognitive development, academic achievement,

fewer school related problems, and less general behavior problems (Green & Moore, 2000). Not surprisingly, the benefits of child support are greater when agreement is reached cooperatively between parents rather than through court procedures (Green & Moore, 2000).

Increased father involvement has positive impacts on parental well-being as well. For instance, mothers' who feel their children's father is involved tend to view their interactions with their children more positively (Amato, 1998). Jackson (1999) found that mothers who are satisfied with the amount of time fathers spend with their children report fewer child behavioral problems. Pleck (1997) suggests that more involved fathers may experience long-term occupational mobility and higher levels of functioning. In a review of the literature, Coley (2001) notes that for non-custodial African American fathers, "fathering plays an integral role in many men's sense of self" …. and that "becoming a parent had been a life-changing experience, leading them to cut down on illegal and dangerous behaviors and giving them a reason to live" (p. 746).

Factors Associated with Nonresident Father Involvement

Previous studies have established that fathers who maintain contact with their children are more likely to pay child support and vice versa (King, 1994; Rangarajan & Gleason, 1998). In fact, the important factor associated with contact is the provision of support rather than the amount of support (Seltzer, Schaeffer, & Charing, 1989). Compared to divorced fathers, never married nonresident fathers are less likely to visit or pay child support (Furstenburg & Harris, 1993) and their involvement levels decline over time (Lerman, 1993). Factors that increase the likelihood of father involvement include residential proximity (Lerman, 1993), positive mother-father relations, involvement of the father's family, father's financial resources, father's work experience, and father and mother's education (Green & Moore, 2000). Factors associated with

less father involvement include geographic mobility, a new spouse or partner, mother-father conflict, and insufficient financial resources (Furstenburg & Harris, 1993; Rangarajan & Gleason, 1998).

Father Involvement and Contextual Factors

In his ecological theory of human development, Brofenbrenner (1979) notes the importance of analyzing individuals within their environment. Individuals develop within a specific context and to understand the individual's development, one must examine his/her environment as well. Moreover, the interaction between individuals and their environments is bi-directional. Levels of analysis include the individual level, the microsystem (including the home, school, neighborhood, or workplace), the mesosystem, (including the interrelations among two or more settings such as family and work for an adult or school and home for a child), the exosystem (including educational system, parents' place of work, or parents' network of friends), and the macrosystem (including, public policy or societal belief systems) (Brofenbrenner, 1979).

In addition, parenting research highlights the importance of examining context when investigating paternal involvement. Aber, Gephart, Brooks-Gunn, and Connell (1997) state that neighborhood level concentrations of social and economic disadvantage may adversely affect the development of families. Testa, Stone, Krogh, and Neckerman (1989) found that there were low rates of marriage in lower income cities, especially in African American communities. Given the knowledge that single parent homes are at the highest risk for experiencing poverty, the trend of decreased marriage rates in lower income communities becomes particularly relevant.

In terms of familial support, Lamb and his associates (1987) note that high paternal involvement is more likely to occur if others in the father's life (i.e. relatives, friends) approve of this behavior. Greene and Moore (2002) found that the involvement of the father's family

increased the likelihood of nonresident father involvement. Coley (2001) states that paternal grandmothers play an important role in encouraging young unmarried fathers to accept responsibility for their children. Thus in examining non-resident paternal involvement, it is important to understand context and the level of support fathers have from their communities and families.

Summary

Past research highlights the complexity of fatherhood and the need to increase the understanding of father involvement, particularly low-income and non-resident fathers. Moreover, an ecological approach that considers contextual factors when examining father involvement should be utilized. The current study describes low-income non-resident fathers and explores factors that may influence their involvement with their families. The aim of the current study is twofold. First, this sample of low-income fathers is described. Second, those factors associated with low-income father involvement are explored.

Method

Participants

Participants in this study consist of 4873 fathers from the Fragile Families study. The mean age of participants at baseline was 27.65 years (*SD*=7.8) with a range from 14 to 80 years. Twenty-two percent of the sample was married and the majority of the sample was African American (47%). The median household income was $30,000. Thirty-four percent of the sample had less than a high school education, 32% reported earning a high school degree, and 34% reported having some formal education beyond high school. Demographics are presented in Table 1.

Insert Table 1 about here

Procedure

Within each city, participants were recruited from up to five hospitals to obtain a representative sample of 250 non-marital births and 75 marital births. All participants were new parents (having their first or second child) and were selected based on welfare status and/or eligibility to receive public aid. Mothers and the majority of fathers were interviewed in the hospital within 24 hours after giving birth. Those fathers not interviewed in the hospital were interviewed shortly after the mother had given birth. Data collection began in 1999, three years after the implementation of the Personal Responsibility and Reconciliation Act.

Planned Analyses

Due to the nature of survey data and the majority of the variables in this study being categorical, Classification and Regression Tree (CART) analysis was utilized. CART uses a decision tree to display how data may be classified (Steinberg & Colla, 1997) and allows for many different factors to be combined in order to classify subgroups of a sample (Steadman, et al., 2000). CART is a form of binary recursive partitioning (Steinberg & Colla, 1997) that splits the sample into binary sub-samples (represented by nodes) then repeats the partitioning process (Lewis, 2000; Yohannes & Webb1999) until the most homogeneous sub-sample is created (represented as *terminal nodes*). Terminal nodes indicate that the sub-sample cannot be further divided and each sub-sample is characterized by a unique combination of predictor variables.

Trees are created through a three-step process: recursive partitioning, pruning, and cross-validation. Recursive partitioning allows for the best predictor variables to be selected. Pruning creates a sequence of smaller trees and cross validation selects the optimal tree from the sequence of smaller trees created during the pruning process (Nelson, Bloch, Longstreth, & Shi,

1998). Specifically, cross-validation is a re-sampling technique that provides an unbiased

estimate of the misclassification rates and identifies the tree that minimizes the misclassification

rate (Nelson et al., 1998). In the final analysis, CART also identifies surrogate and competitor

variables. Surrogate variables mimic the selected splitting variable in that they split the parent

node into descendant nodes that are similar in size and composition (Steinberg & Colla, 1997).

Competitor variables are selected based on their ability to split the node into the most

homogeneous group but may create different groups than the parent node.

There are several advantages to using CART. First, CART does not make distributional

assumptions; therefore "no variable is assumed to follow any kind of statistical assumption"

(Yohannes & Hoddinott, 1999, p. 9). A second advantage is that CART can handle data that are

highly skewed or multi-modal (Lewis, 2000). In addition, CART can handle missing data.

Participants with missing predictor variables are not dropped from the analysis; rather CART

utilizes surrogate variables. A final benefit of CART is that predictor variables can be both

categorical and continuous.

For the current study, 26 independent variables, 22 categorical and 4 continuous, are

used. Whether or not the father visited the mother in the hospital after giving birth is used as the

dependent variable. Father visit functions as a proxy for father involvement. Table 2 describes

each variable used in the analysis.

Insert Table 2 about here

Measures

A questionnaire was administered to each father shortly after the birth of his child. The

baseline interview included questions on prenatal care, the mother-father relationship, attitudes

towards marriage and fatherhood, parents' health, social and familial support, and demographic

information (i.e. education, income, race, age, etc.).

Several scales were created to examine different personal and contextual aspects of

fatherhood including; *Attitudes Towards Fatherhood*, *Importance of Fathering Activities*,

Neighborhood Quality, and *Familial Support*. *Attitudes towards fatherhood* are measured by a

set of three statements rated on a 4-point scale from strongly disagree to strongly agree: 1) Being

a father and raising a child is one of the most fulfilling experiences, 2) I want people to know

that I have a new child, and 3) Losing a chance to be a part of my child's life would be one of the

worst things that could happen to me. Scores could range from 3 to 12, with a higher score

indicating a more positive attitude towards fatherhood.

Importance of father activities was measured by participants ratings of 6 statements: 1)

How important is it for a father to provide regular financial support? 2) How important is it for a

father to teach his child about life? 3) How important is it for a father to provide direct care such

as feeding? 4) How important is it for a father to show love and affection? 5) How important is it

for a father to provide protection? 6) How important is it for a father to serve as an authority

figure and provide discipline? Participant's response was rated on a 3-point scale: Not Important

(0), Somewhat Important (1), and Very Important (2). Scores could range from 0 to 12 with a

higher score indicating fathering activities are more important.

Neighborhood quality was measured from four questions: 1) Do you live in public

housing? 2) Is the government helping you pay for your rent? These questions are coded 1 = no

and 0 = yes. 3) Is the home you live in owned or rented? (Coded 1 = owned, 0 = rented) 4) How

safe is the neighborhood you live? (Scored on a 4-point scale with 3 = Very Safe, 2 = Safe, 1 =

Unsafe, 0 = Very Unsafe). Scores could range from 0 to 6 with a higher score indicating better neighborhood quality.

Family support as a proxy for social capital, was constructed from 4 questions: 1) If you needed it, could you count on loan from family of $200 in the next year? 2) If necessary, could you count on your family for a place to live in the next year? 3) Did you receive financial support from anyone in your family during the pregnancy? 4) Did you receive a place to live from anyone in your family during the pregnancy? Participants answered yes (1) or no (0). Scores could range from 0 to 4 with a higher score indicating more familial support.

Depressive Symptoms. The depressive symptom interview was designed in accordance with the depression interview of the Ecological Catchment Area Study (Robins & Regier, 1991). The interview in the present study measured the number of days in the last week respondents' experienced twelve depressive feelings (i.e. Feel bothered by things that don't usually bother you?, Have trouble keeping your mind on what you were doing?). The original responses, scored on an eight-point scale, were recoded into a four-point scale. The recoded response choices were: 0 days = 0 'No Symptoms', 1-2 days = 1 'Low Endorsement', 3-5 days = 2 'Moderate Endorsement', and 6-7 days = 3 'High Endorsement'.

<div align="center">Results</div>

In order to identify those variables that distinguish between involved and uninvolved fathers, classification and regression tree analysis was utilized. Twenty-six independent variables were used in the analysis, 22 categorical and 4 continuous. Whether or not the father visited the hospital after the mother had given birth is the dependent variable. Father visit functions as a proxy for father involvement.

The optimal tree that was created from the CART analysis contains 13 parent nodes and

14 terminal nodes. The main predictors (that is the primary splitters) are displayed in figure 1.

See Appendix B for table of surrogate and competitor variables.

Insert Figure 1 about here

Parent Nodes

Parent nodes (i.e. the main splitters) consist of the variables Relationship status, Alcohol

use in the past 3 months, Race, Education, Cigarette use in the past 3 months, Perceived level of

cultural attachment, Earn group, Labor market conditions (of city participant lives in), Perceived

health status, and Perceived level of father involvement of the participants' biological father.

Figure 2 displays the optimal tree with the classification breakdown. Ellipses represent parent

nodes and boxes represent terminal nodes. Table 3 displays the classification and characteristics

for each terminal node.

Insert Figure 2 and Table 3 about here

Prediction Success and Misclassification

The classification accuracy on this sample was 84% for predicting uninvolved fathers and

73% for predicting involved fathers. The cross-validation accuracy was similar with 83%

correctly classified as uninvolved and 73% classified as involved. Cross-validation tells us how

accurately the tree would predict if applied to a new data set.

Variable Importance

In addition to identifying main predictor variables, CART identifies important variables

that were not selected as main splitters. Variables are scored based on the improvement each

variable makes as a surrogate to the primary splitting variable. This allows for identification of

variables that are important but whose significance is masked or hidden by other variables during the tree building process (Yohannes & Hoddinott, 1999). Variables not included in the optimal classification tree but identified as important include family support, drug use, neighborhood quality, fatherhood attitudes, fathering activities, age, other children, satisfaction with life, cultural participation, and immigrant status (See Table 4).

Insert Table 4 about here

Discussion

The goal of this exploratory study was to examine factors that influence father involvement in low-income families and identify characteristics of fathers in low-income families. Consistent with past research (Amato, 1998), the results do suggest that context as well as individual characteristics should be considered when examining father involvement. Overall, the majority of these fathers were classified as involved.

Two interesting trends, which are aligned with past research supports the role that residential status and race play in supporting father involvement (Amato, 1998; Cabrera, et al., 2000; Coley, 2001; Green & Moore, 2000). First, the initial split distinguished between married and cohabitating men and men with no relationship, an on/off relationship, or romantic relationship. Thus, resident and non-resident fathers were distinguished. The second split revealed differences between minority and non-minority fathers. Interestingly, once residential status was accounted for (that is, for married and cohabitating fathers), 98% White men and men who identified themselves as other were likely to be involved. For African American and Hispanic men however, contextual factors and individual characteristics emerged as important predictors of father involvement.

Non-residential Fathers

Herzog, Goldberg, Michaels, and Lamb (1985) found that first time parents who feel better about their marital relationships are better able to meet the challenges of parenthood (as cited in Cabrera, et al., 2000). Given past findings, it is not surprising that one of the main predictors of father involvement in the current study was the status of the mother-father relationship. For non-residential fathers, the initial split distinguished between men with no relationship, men in an on/off relationship, and men in a romantic relationship. Amato (1998) suggests that the parental relationship is a key resource for children and an indicator of social capital. Thus, men with less social capital as indicated by the mother-father relationship may be less able to be involved. Not surprisingly, 67% of men in the current study who had no relationship with the mother of their child were less likely to be involved.

Additional research (Furstenburg & Harris, 1993; Green & Moore, 2000) suggests that a positive mother father relationship increases the likelihood father involvement with nonresidential fathers. This could account for the differences found for men who are in romantic relationships and men in on/off relationships. Once alcohol use was considered, the CART analysis distinguished between men in romantic relationships and men in on/off relationship, with men who reported a stable romantic relationship with the mother of their child having higher rates of involvement. Given the nature of the outcome variable (whether or not the father visited the mother in hospital), it could be that the men in an unstable relationship or with no relationship felt their involvement was not welcome.

Residential Fathers

Past research suggests that race (or the socioeconomic factors associated with minority status) may account for differences found in father involvement (Amato, 1998; Coley, 2001;

Green & Moore, 2000). Consistent with past research once residential status (that is the father was living in the house or not) was accounted for, race emerged as the most important discriminating factor in predicting father involvement. In the sub-group of married and cohabitating fathers, White men and men who identified themselves as other were separated out and 98% of them were classified as involved. For African American and Hispanic fathers, an interesting combination of individual characteristics and contextual factors became important predictors in distinguishing between involved and uninvolved fathers. Individual characteristics included alcohol use, cigarette use, perceived level of cultural attachment, perceived health status, and perceived involvement level of the participants' biological father. Contextual factors included education level, household income, and labor market conditions of the participants' city.

Another finding consistent with past research was the barrier that substance use pose for father involvement (Amato). The first individual characteristic to emerge was alcohol use (either used or did not use in the past three moths). For Black and Hispanic men, who were married or cohabitating with the mother of their child, and had not used alcohol in the past three months, 92% were likely to be involved. For men who had used alcohol, 74% were likely to be involved. Because CART did not differentiate between rates of drinking, we cannot know if drinking was a problem for any of these fathers and thus interfered with their daily functioning. If however the father indicated he had used alcohol, education then became the next variable to distinguish between involved and uninvolved fathers.

In Amato's (1998) model of paternal involvement, education is a key indicator of human capital. Amato suggests that men with higher levels of human capital are more able to positively contribute to their children's lives. In a study examining the effects of fathers human, financial,

and social capital on children's well being, Amato found that human capital (as indicated by years of education) directly increased children's educational attainment and indirectly influenced social and psychological outcomes. Results of the current study reflect the importance of human capital. One hundred percent of the men with a college degree or higher were classified as involved. Thus, all Black and Hispanic men who were married or cohabitating, had used alcohol in the past three months, and had a college degree or higher, were involved. Coley (2001) notes that low-income, nonresident, and minority fathers are more likely to be involved with their children if they are employed and educated. In addition, men with more years of education are more likely to be employed (Amato, 1998) and therefore may be in a better position to fulfill the traditional role of breadwinner (Coley, 2001; Green & Moore, 2000), feel better about themselves, resulting on more willingness to be involved with their families. On a similar note, employment increases rates of marriage among minority and low-income men and contributes to marital longevity (Bowman, 1993; Coley, 1991; Testa, et al., 1989).

Past research has revealed that becoming a father is often a life-changing event that increases healthy behaviors and lifestyles (Coley, 2001). Results of the current study suggest similar trends. Once education was accounted for, cigarette use emerged as the next distinguishing factor in the CART analysis. Interestingly, men who smoked two or more packs a day were categorized with men who did not smoke while men who smoked one pack per day or less than one pack per day were grouped together. This split could indicate that men who fall into the extremes of this variable (that is, completely abstain or heavy smoker) have similar sociodemographic characteristics. It could be that men who are heavier smokers feel more stress in their lives. Not surprisingly, men who smoked less were more likely to be involved with a

94% involvement rate. For men who did not smoke or smoked two or more packs a day, cultural attachment was the next distinguishing variable to emerge.

Ford, Harris, and Turner (1991) suggest that the traditional nuclear family consisting of two parents and their children is not the norm for African Americans and that many African Americans are more likely than Caucasians to live in three generational homes. Ford and colleagues further contend that because of contextual factors the extended family is necessary to the survival of African Americans and must be included in the investigation of African American family life. Thus it is not surprising that in the current study, 99% of men who felt high levels of cultural attachment were likely to be involved. Given that these men are African American or Hispanic, it could be that as a member of a minority culture, they are more likely to feel attached to their culture. In addition, it could be that certain cultural norms are utilized to foster their level of involvement with their families. For instance, Sullivan (1989) found that low-income Hispanic fathers were more likely to pursue marriage or cohabitation upon finding out that their partner was pregnant. Coley (2001) suggests that Hispanic men feel greater pressure to marry the mother of their child and participate less in direct childcare. Fathers who felt a low or medium level of cultural attachment were then split on household income.

Coley (2001) notes that it may be possible that men who are unemployed are less likely to be involved with their children. The reasons for this are two-fold. First, unemployed men may feel shame because they are unable to support their children and so they "remove themselves from their children lives" (Coley, p. 747). It may also be that the mother hinders access to the child because he is unable to pay support. In the current study however, men living in low-income households were just as likely to be involved as men living in high-income households. Interestingly, the extremes were categorized together with men in households from 0 to $10,000

and men with household incomes greater than $35,000 creating a sub-group. Ninety-eight percent of fathers with household incomes less than $10,000 or greater than $35,000 were likely to be involved. This finding could be explained from several different perspectives. It could be that for men living in extreme poverty feel that because they are unable to contribute financially, they are more likely to be involved in other aspects of parenting. Men in households with incomes of $35,000 and higher could feel more able to be involved because they are able to fulfill the traditional role of breadwinner (Coley, 2001; Green & Moore, 2002) and thus feel better about themselves (Roy, 1999).

Consistent with past research, labor market conditions emerged as the next distinguishing factor in determining paternal involvement for men in households with incomes from $10,000 to $35,000 (Amato, 1998; Bowman, 1993; Coley, 1991). Labor market conditions reflect employment rates thus it may be that there are more jobs available in cities with strong labor market conditions. As noted above, employment has been correlated with higher levels of father involvement thus it is not surprising that fathers living in cities with strong labor markets are more likely to be involved. In the current study, 87% of fathers living in cities with strong labor market conditions were classified as involved. Perceived health status emerged as the discriminating factor for men living in cities with weak or average labor market conditions. Interestingly, 100% of the men who felt their health was poor, fair, or good were classified as involved. For men who felt their health was excellent or very good, perceived level of father involvement of the participants' biological father emerged as the final distinguishing variable in the CART analysis.

Cabrera and colleagues (2000) note that few fathers feel they learned to parent from their own fathers but men who are more involved with their children typically have fathers who were

involved in raising them. In the current study however, 100% of the men who did not know their biological father or felt their biological father was not at all involved with their upbringing were classified as involved while only 49% of the men who felt their own father was very or somewhat involved were classified as involved. It could be that men who felt their own fathers were uninvolved wanted to provide a different experience for their own children or that men who felt their fathers were very involved in their upbringing had a different notion of what father involvement entailed.

Several limitations of these findings should be noted. First, the outcome variable, father visit, may not be the most reliable proxy for father involvement. In addition, because these data were collected within 24 hours of the mother giving birth or shortly thereafter, many of these fathers, feeling the elation of having a new baby, could have skewed views of fatherhood. That is, because they had not yet experienced the exhaustion that typically accompanies have a newborn, they only had positive views of fathering. If the data were collected a few months after birth, we may have found different results. However, the sociodemographic characteristics of these men and the contextual factors associated with father involvement for the minority men in this sample correspond with past research examining influences on father involvement.

In conclusion, this study suggests that it is important to examine ecological factors, especially when investigating minority fathers. Moreover, it begins to describe an understudied group of men, namely low-income, minority fathers. In addition, these data encourage exploration of ecological factors that may hinder father involvement. It appears important when considering programs and policies to increase father involvement in low-income families, contextual factors must be considered. For instance, garnishing wages (which may not be feasible for unemployed or underemployed fathers) or encouraging fathers to establish paternity

may not be enough to increase positive father involvement. The distinction between residential

and nonresidential fathers and minority and majority fathers suggest that efforts to increase

paternal involvement must be specific and sensitive to the fathers relationship with the mother of

his child and culture. Finally, the findings of the current study suggest that father involvement

must be broadly defined and examined from an ecological perspective.

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Appendix A

Cities selected by policy and labor market conditions.

	Labor Market			Child Support Enforcement			Welfare Generosity/ Benefits		
	Strong	Average	Weak	Strict	Moderate	Lenient	High	Moderate	Low
Austin, TX	**					**			**
Baltimore, MD		**			**			**	
Boston, MA	**			**			**		
Chicago, IL		**				**		**	
Corpus Christie, TX			**			**			**
Detroit, MI			**	**			**		
Indianapolis, IN	**			**					**
Jacksonville, FL	**				**			**	
Milwaukee, WI	**			**			**		
Nashville, TN		**			**				**
Newark, NJ			**	**				**	
New York, NY			**			**	**		
Norfolk, VA	**			**				**	
Oakland, CA		**				**	**		
Philadelphia, PA		**		**				**	
Pittsburgh, PA		**		**			**		
Richmond, VA			**	**					**
San Antonio, TX		**				**			**
San Jose, CA	**					**	**		
Toledo, OH			**	**			**		

** Bolded cities identify extreme cities. Extreme cities are those with only extreme scores (i.e. high welfare benefits, strict child support, and strong labor market conditions).

Appendix B

Parent node variables, surrogates, and competitors

Parent Node Variable	Surrogates	Split*	Competitors	Split*
1. Relationship Status	*Race*	Black	*Race*	Black
	Age Group	Less than 20	*Education*	Less than high school or High school
	Attitudes towards Fatherhood	5.5	*Attitudes towards Fatherhood*	6.5
	Drug Use	Several times a month to Nearly every day	*Alcohol Use*	Never Several times per week
			Depressive Symptoms	No symptoms or Moderate endorsement of symptoms or High endorsement of symptoms
2. Relationship Status	-----	-----	*Alcohol Use*	Never Several times per week
	-----	-----	*Attitudes towards Fatherhood*	6.5
	-----	-----	*Drug Use*	Never or Several times a month to Nearly every day
	-----	-----	*Education*	Less than high school or High school
	-----	-----	*Depressive Symptoms*	No symptoms or High endorsement of symptoms

*Indicates where the spilt would have occurred had this variable been used.

Parent node variables, surrogates, and competitors

Parent Node Variable	Surrogates	Split*	Competitors	Split*
3. Alcohol Use	-----	-----	*Race*	Black or Hispanic or Other
	-----	-----	*Drug Use*	Never or Several times a month to Nearly every day
	-----	-----	*Other Children*	Yes
	-----	-----	*Health Status*	Poor or Excellent
	-----	-----	*Attitudes towards Fatherhood*	7.5
4. Relationship Status	*Attitudes towards Fatherhood*	8.5	*Familial Support*	2.5
	Other Children	Yes	*Other Children*	Yes
	Familial Support	2.5	*Age Group*	30 years and older
	Health Status	Poor or Fair or Good	*Attitudes towards Fatherhood*	8.5
	Drug Use	Less than once per month to Nearly every day	*Drug Use*	Never or Several times a month to Nearly every day
5. Race	*Education*	Less than high school or High school or Some college	*Education*	Less than high school or High school or Some college
	Neighborhood Quality	5.5	*Income Group*	0 to $20,000
	-----	-----	*Relationship Status*	Cohabitating
	-----	-----	*Alcohol Use*	Never
	-----	-----	*Age Group*	Less than 20 or 20 to 24 years

*Indicates where the spilt would have occurred had this variable been used.

Parent node variables, surrogates, and competitors

Parent Node Variable	Surrogates	Split*	Competitors	Split*
6. Alcohol Use	-----	-----	*Income Group*	0 to $20,000
	-----	-----	*Education*	Less than high school or High school
	-----	-----	*Attitudes towards Fatherhood*	6.5
	-----	-----	*Born on the U.S.*	Yes
	-----	-----	*Race*	Black
7. Education	-----	-----	*Cigarette Use*	Less than a pack to a pack a day
	-----	-----	*Attitudes towards Fatherhood*	6.5
	-----	-----	*Cultural Attachment*	Low or medium
	-----	-----	*Age Group*	Less than 20 years or 20 to 24 years
	-----	-----	*Familial Support*	.5
8. Cigarette Use	*Drug Use*	Less than once per month to Nearly every day	*Attitudes towards Fatherhood*	6.5
	Alcohol Use	Several times per week or Nearly every day	*Cultural Attachment*	Low or Medium
	Born in the U.S.	Yes	*Familial Support*	.5
	Neighborhood Quality	2.5	*Depressive Symptoms*	No symptoms or Moderate endorsement of symptoms to High endorsement of symptoms
	Are you satisfied with life?	No	*Health Status*	Good to Excellent

*Indicates where the spilt would have occurred had this variable been used.

Parent node variables, surrogates, and competitors

Parent Node Variable	Surrogates	Split*	Competitors	Split*
9. Cultural Attachment	*Cultural Participation*	Low or Medium	*Labor market conditions*	Strong
	Drug Use	Never to Several times per week	*Attitudes towards Fatherhood*	6.5
	-----	-----	*Education*	Less than high School
	-----	-----	*Depressive Symptoms*	No symptoms to Moderate endorsement of symptoms
	-----	-----	*Income Group*	$5000 to $35,000
10. Income Group	*Neighborhood Quality*	5.5	*Attitudes towards Fatherhood*	6.5
	Education	Less than high school or High School	*Labor market conditions*	Strong
	Drug Use	Never or Less than once per month or Nearly every day	*Depressive Symptoms*	No symptoms to Moderate endorsement of symptoms
	Involvement of biological father	Not at all involved to Very Involved	*Child support enforcement laws*	Lenient or Strict
	Fathering activities	9.5	*Education*	Less than high school
11. Labor Market Conditions	*Attitudes towards Fatherhood*	5.5	*Depressive Symptoms*	No symptoms to Moderate endorsement of symptoms to
	Familial Support	.5	*Child support enforcement laws*	Lenient or Strict
	Cultural Participation.	High	*Attitudes towards Fatherhood*	6.5
	Fathering activities	10.5	*Drug Use*	Never or Less than once per month
	Drug Use	Never or Nearly every day	*Alcohol Use*	Less than once per month or Several times per week

*Indicates where the spilt would have occurred had this variable been used.

Parent node variables, surrogates, and competitors

Parent Node Variable	Surrogates	Split*	Competitors	Split*
12. Health Status	*Alcohol Use*	Less than once per month or Several times per week	*Involvement of biological father*	Somewhat to Very Involved
	Fathering activities	8.5	*Other Children*	No
	Drug Use	Never or Less than once per month or Several times per week to Nearly every day	*Fathering activities*	11.5
	-----	-----	*Feel like you're being pushed around in life?*	No
	-----	-----	*Alcohol Use*	Less than once per month to Several times per month
13. Involvement of biological father	*Familial Support*	1.5	*Other Children*	No
	Drug Use	Never or Less than once per month or Several times per week	*Alcohol Use*	Less than once per month to Several times per month
	Neighborhood Quality	.5	*Fathering activities*	11.5
	-----	-----	*Familial Support*	1.5
	-----	-----	*Feel like you're being pushed around in life?*	No

*Indicates where the spilt would have occurred had this variable been used.

Table 1

Demographic Characteristics of Fathers

	N=4873	Percent	Mean (SD)
Age			
Less than 20	318	8.4%	M=27.6 (*SD*=7.8)
20 to 24	1158	30.5%	
25 to 29	934	24.6%	
30 and older	1386	36.5%	
Total	3796	---	
Missing	1102	22.5%	
Education			
Less than H.S.	1280	33.5%	
High School	1239	32.4%	
Some College	880	23%	
College +	423	11.1%	
Total	3822	---	
Missing	1076	22%	
Income			
Less than 5,000	47	1.3%	Median=$30,000
5,000-9,999	322	9.2%	
10,000-19,999	742	21.1%	
20,000-34,999	935	26.6%	
35,000 and over	1472	41.8%	
Total	3518	---	
Missing	1380	28.2%	
Ethnicity			
White	768	20.3%	
Black	1783	47.1%	
Hispanic	1062	28%	
Other	174	4.6%	
Total	3787	100	
Missing	1111		
Relationship Status			
Married	1076	28.3%	
Cohabitating	1658	43.6%	
Steady/Romantic	602	15.8%	
On/Off	395	10.4%	
No relationship	72	1.9%	
Total	3803	22.4%	
Missing	1095		

Table 2
Variables included in CART analysis

Variable	Description	Coding	Frequency/Mean
Father visit Hospital	Did father visit mother in the hospital after the baby was born?		
		Yes=1	3937
		No=0	936
Relationship Status	Which of these best describes your relationship with the baby's mother?		
		Married=4	1076
		Cohabitating=3	1658
		Romantic/Not living together=2	602
		On/Off or just friends=1	395
		No relationship=0	72
Ethnicity	Which of the following best describes your race?		
		White=1	768
		African American=2	1783
		Hispanic=3	1062
		Other=4	174
Education	What is the highest grade you have completed?		
		Less than H.S.=0	1280
		High School=1	1239
		Some College=2	880
		College +=3	423
Age Group			
		Less than 20=1	318
		20-24 years=2	1158
		25-29 years=3	934
		30 or older=4	1386

Table 2 continued

Variables included in CART analysis

Variable	Description	Coding	Frequency/Mean
Income	****Total Household Income**		
		0- $5000=0	47
		$5000-$10,000=1	322
		$10,000-$20,000=2	742
		$20,000-$35,000=3	935
		$35,000 and higher=4	1472
Born in the U.S.?			
		Yes=1	3076
		No=0	746
Do you have other biological children?			
		Yes=1	2207
		No=0	1604
Cultural Attachment	What is your level of cultural attachment?		
		Low=1	1054
		Medium=2	1683
		High=3	1018
Cultural Participation	How often do you participate in cultural activities?		
		Low=1	1271
		Medium=2	1650
		High=3	855
Familial Support	Continuous		
		SCALE 0-4	*M*=2.2 (*SD*=.92)
Neighborhood Quality	Continuous		
		SCALE 0-6	*M*= 4.3 (*SD*=1.1)
Grew up with both parents?	At the age of 15 were you living with both parents?		
		Yes=1	1782
		No=0	2023

Table 2 continued

Variables included in CART analysis

Variable	Description	Coding	Frequency/Mean
Biological father?	How involved on raising you was your biological father?		
		Never know my biological father=0	259
		Not at all involved=1	895
		Somewhat Involved=2	1084
		Very Involved=3	1570
Father Figure	Was there another man in your life that was like a father to you when you were growing up?		
		Yes=1	1509
		No=0	2303
Fathering Activities	Continuous		
		Scale 0-12	*M*= 11 (*SD*=.79)
Fatherhood Attitude	Continuous		
		SCALE 3-12	*M*= 8.2 (*SD*=1.3)
Welfare Generosity of the State			
		Low Generosity=0	1213
		Moderate Generosity=1	1020
		High Generosity=2	1597
Labor Market Conditions			
		Weak Market=0	1368
		Average Market=1	1153
		Strong Market=2	1309
Child Support Enforcement Laws			
		Lenient =0	1553
		Moderate =1	428
		Strict =2	1849
Satisfied with life?	Are you satisfied with life?		
		Yes=1	2850
		No=0	963

Table 2 continued

Variables included in CART analysis

Variable	Description	Coding	Frequency/Mean
Feel like you're being pushed around?	Do you feel like you're being pushed around in life?		
		Yes=0	564
		No=1	3247
Alcohol Consumption	In the past 3 months, about how often did you drink?		
		Nearly Every Day=4	143
		Several times per week=3	464
		Several times per month=2	1020
		Less than once per month=1	1031
		Never=0	1164
Drug Use	In the past 3 months, about how often did you take an illegal drug?		
		Nearly Every Day=4	84
		Several times per week=3	91
		Several times per month=2	122
		Less than once per month=1	231
		Never=0	3291
Cigarettes per day	In the past 3 months, how many cigarettes did you smoke?		
		2 or more packs per day=3	62
		1 pack per day=2	364
		Less than 1 pack per day=1	1067
		None=0	2327

Table 2 continued

Variables included in CART analysis

Variable	Description	Coding	Frequency/Mean
Health	How would you classify your health?		
		Excellent=4	1314
		Very Good=3	1433
		Good=2	785
		Fair=1	267
		Poor=0	24
Depressive Symptoms			
		No Symptoms=0	616
		Low Endorsement=1	1594
		Moderate Endorsement=2	939
		High Endorsement=3	333

Table 3

Terminal node characteristics and classification

Terminal Node (Node Classification)	Splitters	Characteristics	Classification	Probability*
1 (N=72) *(Uninvolved)*	Relationship Status	No relationship	67% Uninvolved	89%
			33% Involved	11%
2 (N=343) *(Uninvolved)*	Relationship Status	On/Off relationship	27% Uninvolved	61%
	Alcohol Use	No alcohol use in past 3 months	73% Involved	39%
3 (N=281) *(Uninvolved)*	Relationship Status	On/Off relationship	25% Uninvolved	58%
	Alcohol Use	Used alcohol in the past 3 months.	75% Involved	42%
4 (N=386) *(Involved)*	Relationship Status	Romantic relationship	12% Uninvolved	36%
	Alcohol Use	Used alcohol in the past 3 months	88% Involved	64%
5 (N=574) *(Involved)*	Relationship Status	Married or Cohabitating	8% Uninvolved	26%
	Race	Black or Hispanic	92% Involved	74%
	Alcohol Use	No alcohol use in past 3 months		
6 (N=536) *(Involved)*	Relationship Status	Married or Cohabitating	6% Uninvolved	20%
	Race	Black or Hispanic	94% Involved	80%
	Alcohol Use	Used alcohol in past 3 months		
	Education	Less than high school or High School or Some college		
	Cigarette Use	None or Less than a pack/ day		

*Probability of cases within each class at a specific node.

Table 3 continued

Terminal node characteristics and classification

Terminal Node *(Node Classification)*	Splitters	Characteristics	Classification	Probability*
7 (N=85) *(Involved)*	Relationship Status	Married or Cohabitating	13% Uninvolved	38.5%
	Race	Black or Hispanic		
	Alcohol Use	Used alcohol in past 3 months		
	Education	Less than high school or High School or Some college		
	Cigarette Use	None or 2 + packs/day	87% Involved	61.5%
	Cultural Attachment	Low or Medium		
	Income Group	$10,000 – $35,000		
	City labor market conditions	Strong		
8 (N=1142) *(Uninvolved)*	Relationship Status	Married or Cohabitating	51% Uninvolved	81%
	Race	Black or Hispanic		
	Alcohol Use	Used alcohol in past 3 months		
	Education	Less than high school or High School or Some college		
	Cigarette Use	None or 2 + packs/day		
	Cultural Attachment	Low or Medium	49% Involved	19%
	Income Group	$10,000 – $35,000		
	City labor market conditions	Weak or Average		
	Health Status	Very good or Excellent		
	Involvement level of biological father	Somewhat Involved or Very Involved		

*Probability of cases within each class at a specific node.

Table 3 continued

Terminal node characteristics and classification

Terminal Node *(Node Classification)*	Splitters	Characteristics	Classification	Probability*
9 (N=33) *(Involved)*	Relationship Status	Married or Cohabitating	100% Involved	100%
	Race	Black or Hispanic		
	Alcohol Use	Used alcohol in past 3 months		
	Education	Less than high school or High School or Some college		
	Cigarette Use	None or 2 + packs/day		
	Cultural Attachment	Low or Medium		
	Income Group	$10,000 – $35,000		
	City labor market conditions	Weak or Average		
	Health Status	Very good or Excellent		
	Involvement level of biological father	Never knew my biological father or Not at all involved		
10 (N=71) *(Involved)*	Relationship Status	Married or Cohabitating	100% Involved	100%
	Race	Black or Hispanic		
	Alcohol Use	Used alcohol in past 3 months		
	Education	Less than high school or High School or Some college		
	Cigarette Use	None or 2 + packs/day		
	Cultural Attachment	Low or Medium		
	Income Group	$10,000 – $35,000		
	City labor market conditions	Weak or Average		
	Health Status	Poor or Fair or Good		

*Probability of cases within each class at a specific node.

Table 3 continued *Terminal node characteristics and classification*

Terminal Node (Node Classification)	Splitters	Characteristics	Classification	Probability*
11 (N=200) *(Involved)*	Relationship Status	Married or Cohabitating	2% Uninvolved	8%
	Race	Black or Hispanic	98% Involved	92%
	Alcohol Use	Used alcohol in past 3 months		
	Education	Less than high school or High School or Some college		
	Cigarette Use	None or 2 + packs/day		
	Cultural Attachment	Low or Medium		
	Income Group	0-$10,000 or $35,000 & higher		
12 (N=248) *(Involved)*	Relationship Status	Married or Cohabitating	.8% Uninvolved	3%
	Race	Black or Hispanic		
	Alcohol Use	Used alcohol in past 3 months		
	Education	Less than high school or High School or Some college	99.2% Involved	97%
	Cigarette Use	None or 2 + packs/day		
	Cultural Attachment	High		
13 (N=65) *(Involved)*	Relationship Status	Married or Cohabitating	100% Involved	100%
	Race	Black or Hispanic		
	Alcohol Use	Used alcohol in past 3 months		
	Education	College or higher		
14 (N=837) *(Involved)*	Relationship Status	Married or Cohabitating	1% Uninvolved	5%
	Race	White or Other	99% Involved	95%

*Probability of cases within each class at a specific node.

Table 4

Variable Importance

Variable	Relative Importance*
Relationship Status	100
Race	47.32
Health	36.95
Education	31.45
Biological Father	25.21
Family Support	**19.81**
Cultural Attachment	17.9
Drug Use	**17.23**
Alcohol Use	14.43
Labor Market Conditions	11.77
Income Group	10.95
Neighborhood Quality	**9.75**
Fatherhood Attitudes	**9.47**
Cigarette use	5.22
Fathering Activities	**3.12**
Age	**2.06**
Other Children	**1.43**
Satisfaction with Life	**1.29**
Cultural Participation	**.546**
Immigrant Status	**.212**
Welfare Generosity	**0**
Feel Pushed around in Life	**0**
Depressive Symptoms	**0**
Family Origin	**0**
Father Figure	**0**
Child Support Enforcement	**0**

*Score based on improvement made as a surrogate to the primary splitting variable.
**Bolded variables indicate those variables not selected as main splitters.

Figure Captions

Figure 1. Breakdown of parent nodes and descending terminal nodes of classification tree.

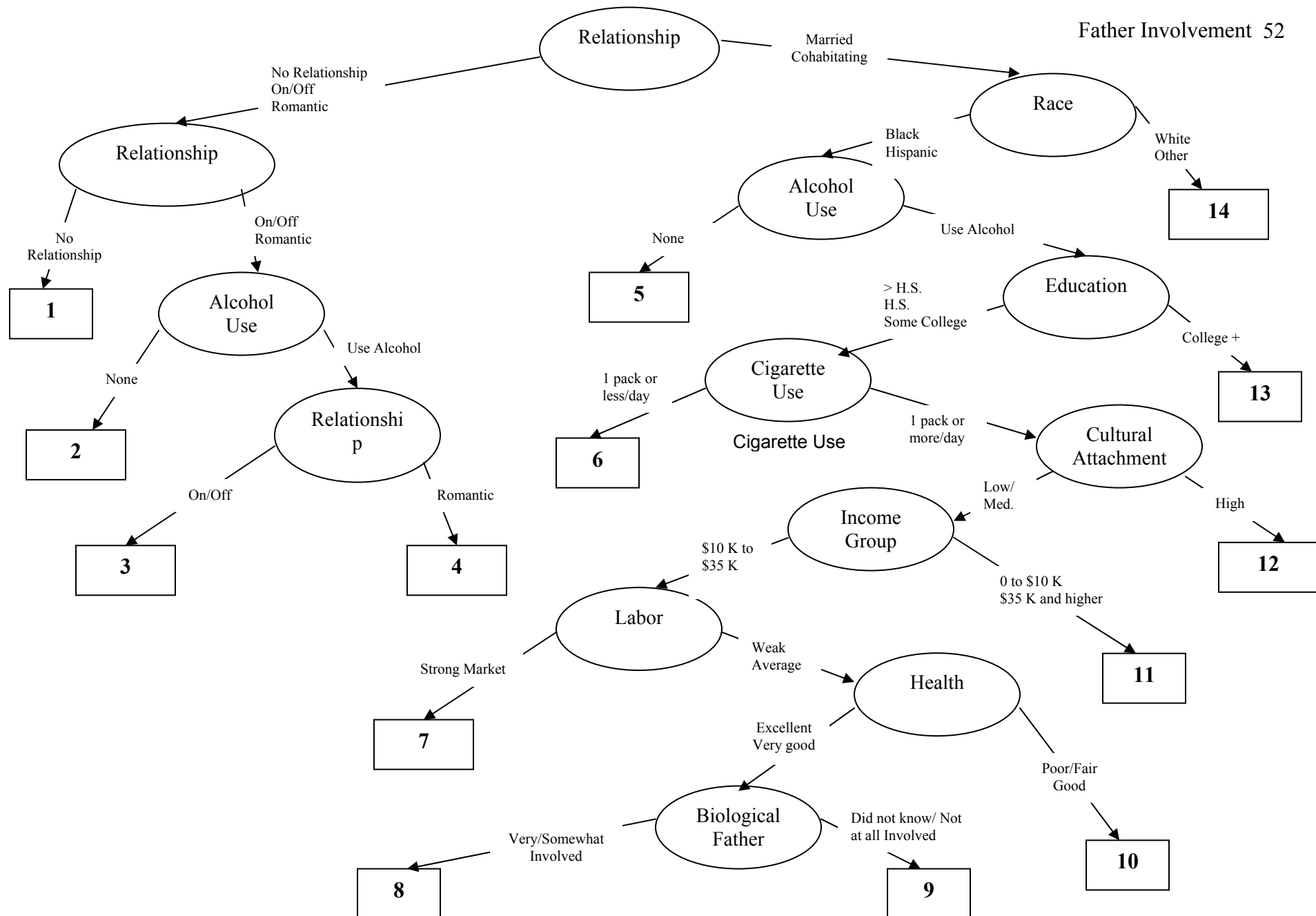*Figure 2*. Terminal node classification.

Figure 1. Main predictors and descending terminal nodes of classification tree.
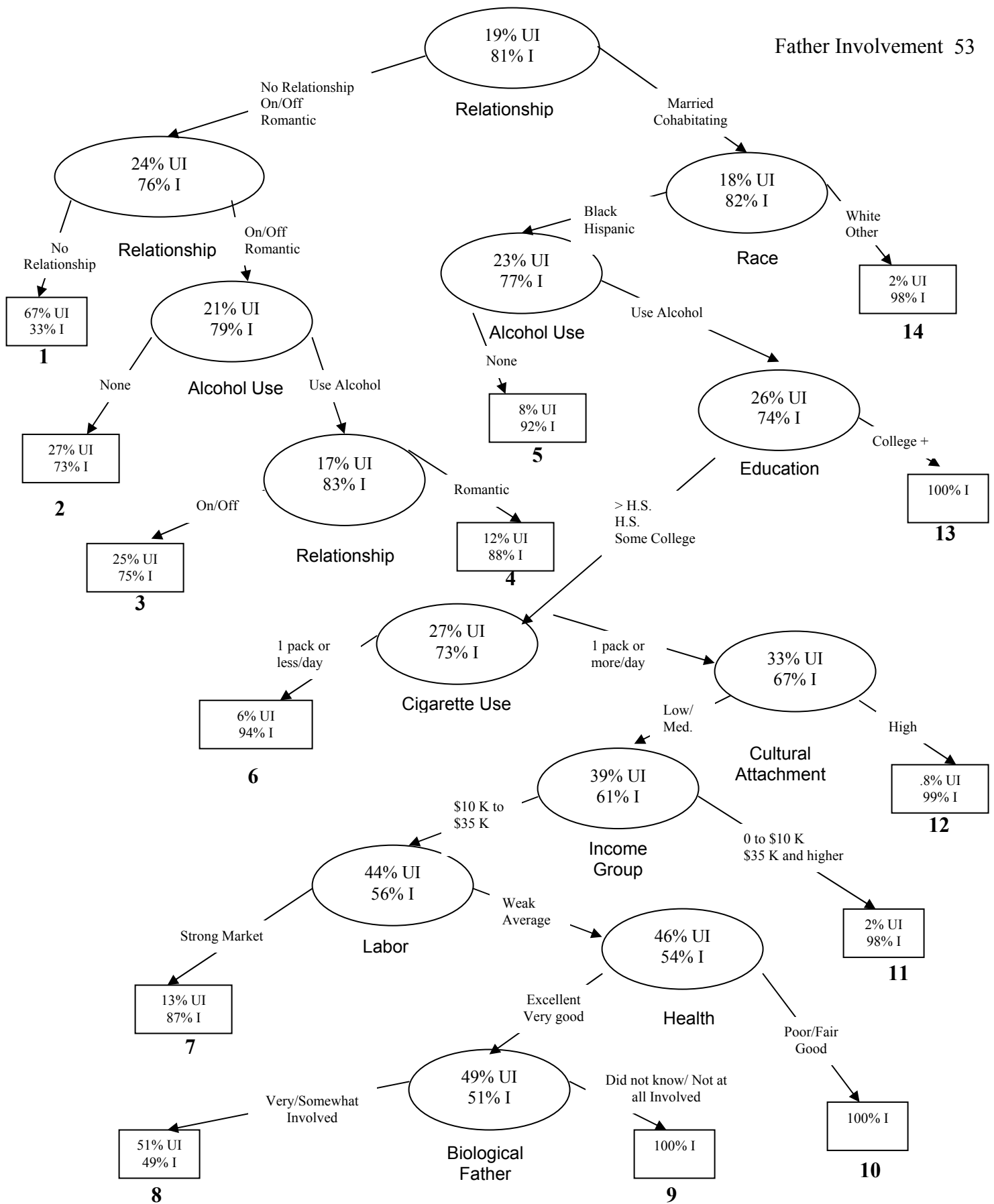
Figure 2. Classification of Uninvolvement (UI) and Involvement (I) at each node. Ellipses represent parent nodes and boxes represent terminal nodes (1 – 14).