ABSENT FATHERS AND CHILD DEVELOPMENT

Emotional and Cognitive Effects at Ages Five to Nine

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Chapter 1. INTRODUCTION AND OVERVIEW OF THE ISSUES

The dramatic increase in the numbers and proportions of children being raised in single parent, typically fatherless, homes is one of the most significant features of contemporary American social life. This increase is closely linked both with the recent sharp rises in the tendency of women to bear and raise children alone outside of a formal marriage and with the continuation of very high divorce and separation rates. These two factors may be found disproportionately among younger adults, with the result that a very high proportion of children who have been born to relatively younger women live in single parent or re-constituted families. This study describes this family transition process for younger American couples. We use a unique data source, the National Longitudinal Survey of Youth (NLSY), to explore the implications of single parenthood for the emotional and intellectual development of children in the younger elementary school ages. Our approach will be more demographic than psychological; our results will suggest the extent to which, on average, different kinds of children--blacks, whites, boys, girls--are overtly affected in the longer run by a variety of family transitions. In contrast to other research that has looked in detail at the short-term psychological and cognitive effects of the immediate transition process, this study will focus on longer term dimensions of the adjustment that children experience when their parents separate. We examine national samples of children for several years following marital or other relationship transitions to answer the question, Are children in families where there has been a parental transition significantly different emotionally or intellectually than children who are still living with both biological parents?

Marriage, Divorce and Parental Presence: An Historical Overview

The traditional American family that encompassed two parents and two or more children now represents only a modest proportion of all family units. This well known fact will not surprise any reasonably aware witness to the American scene. This phenomenon is a reflection of many social, economic and demographic forces, not the least of which are the extraordinary recent increases in marital

dissolution and the tendency of substantial proportions of women to have and raise children not only outside of formal marriage arrangements, but without having the father of the child (or children) present.

The phenomenon of children being raised in fatherless homes is certainly not new. However, its magnitude and articulation in the popular press--where it is often couched within the context of being an aberration of a variety of contemporary norms--has contributed little to our understanding of the issues. While there is no doubt that raising children in a socially and psychologically less privileged environment has negative consequences for mother and children, the extent to which this is indeed true for the contemporary generation of fatherless American children is at least partially open to question.

In an historical context, children being raised in so-called "broken homes" faced a variety of handicaps, not the least of which was social stigma and the presumption that they were somehow different from other children. A child being raised in a fatherless home in the 1950s was, in a statistical sense, an outlier, and in a social-psychological context, often viewed as different. A woman raising children outside of a marital relationship--divorced, separated and particularly never married--often faced difficult economic and social circumstances that partly reflected her essentially non-normative status; she was one of a small minority in a world that had few institutional mechanisms to safeguard her rights and needs.

In contrast, substantial proportions of contemporary American children will live in fatherless families at some time during their childhood. While the economic ramifications for these children remain considerable, the implications for their psychological health may be quite different from those that held for earlier generations of children. The contemporary child who does not have at least several friends living in fatherless homes is unusual. The contemporary younger adult woman typically has among her acquaintances and colleagues one or several women who are raising their children outside the traditional two-parent environment. Thus, large proportions of children and their mothers are now living in family situations that only a few years ago would have been considered decidedly non-normative but now may be viewed as essentially mainstream.

Much of the available academic literature that examines the determinants and consequences--for mother and child--of marital "disruption" is based on intellectual and empirical premises often more attuned

to the family and social structure of prior generations. Thus the implied consequences of fatherless homes are often based on somewhat outdated norms. Clearly, all of the recent overwhelming transitions associated with women's roles at home and in the labor force have dramatically altered how society views women and mothers as well as how women view themselves.

The high rates of divorce are themselves the strongest indicator of how much norms have changed. The major implication of the behaviors being evidenced is that the rational decision-making of many individuals within a contemporary normative and legal context leads many men and women to conclude that the psychological and economic costs of continuing marriage exceed the benefits gained. A detailed discussion of why patterns of divorce are so different from only a few decades ago is beyond the scope of this study, but it is fair to generalize that these patterns are intricately linked with several complex social changes that have swept through our society, largely since the early 1960s. It is impossible to untangle all the causal elements, but certainly central to the transition has been the dramatic increase in female employment, which has resulted in the increased economic independence of women, both inside and out of marriage, and the rising expectations of men and women for increased emotional satisfaction from a marital or non-marital relationship.[1] Paralleling and intricately interwoven with these trends, we have witnessed the emergence of a strong women's liberation movement and gradual liberalizing of divorce laws. All of these factors have contributed to the greater normative acceptability of divorce.[2] We are essentially now living in a social environment which, indeed, was beyond the imagination of mainstream America only a short half century ago.

The other major ingredient contributing to the high contemporary rate of fatherlessness is almost a mirror image of the high divorce and separation rate: the substantial and growing proportion of mostly younger women who are having children either prior to marrying or with no intention of marrying the father of the child. The motivations behind this childbearing are complex, but they do overlap the reasons given for the high divorce rate. They include (although primarily for women past adolescence) a greater ability

[1] For example, Furstenberg and Cherlin, 1991; Mott, 1982; Huber and Spitze, 1983.

[2] Furstenberg and Allison, 1955; Scott-Jones, 1984.

to maintain economic independence, a somewhat greater social acceptability for having children outside of a marriage, and, perhaps, a lesser willingness (by either or both partners) to settle for a relationship which is viewed as not as emotionally satisfying as desired. This explanation of course over-simplifies very complex issues. What has happened over time, however, is that many of these factors have fed on each other, so that the normative acceptability for non-marital childbearing and childraising continues gradually to increase.

None of these observations necessarily imply a continuing increase in the numbers or proportions of fatherless children over time because the numbers of such children are contingent on a variety of factors that are additionally linked with the tendencies of women to want and have children. We can as easily speculate that we may witness an increase in within-union (be it marriage or partnership) childbearing in the years ahead for a number of reasons. There is no compelling evidence that raising children alone represents an optimal state in any sense of the word for large proportions of adults, and nothing in this research will suggest that to be the case. Moreover, the contemporary social and political scene presents little if any evidence that American institutions are rapidly evolving to incorporate an environment where raising a child on one's own is the modal behavior.

Additionally, while the divorce rate is certainly extremely high, we now are seeing some evidence that it may have stabilized in recent years.[3] This stabilization is certainly linked with the recent substantial increases in the age at first marriage, which is partly a reflection of a greater caution which individuals are now taking before entering into what are initially usually seen as permanent relationships. What we also may be witnessing is a gradual narrowing in the male-female "attitude gap," i.e., it is apparent that women in this society internalized notions of equality well ahead of their male counterparts. It is suggested that whereas women have increasingly behaved in manners consistent with notions of gender equality--in terms of employment, education, and carrying out a variety of nontraditional roles, until recently most men have only verbalized their acquiescence to these changes without internalizing them. Indeed, for many men, any inconsistencies between what they verbalized and what they really felt did not become immediately

[3] Furstenberg and Cherlin, 1991; National Center for Health Statistics, 1992; Cherlin, 1992.

apparent or relevant until they entered a relationship with an opposite sex partner. It is likely that this gap in internalized values between men and women has narrowed and will continue to do so in the years ahead. Paralleling this narrowing in values, one can speculate that we may encounter a reduction in within-marriage stress and perhaps concomitant reductions in divorce or other relationship breakdowns.

We have suggested how gradually changing norms have, in a causal context, impacted on as well as changed as a result of marriage and divorce trends. We can speculate equally about the possible impact of changing norms on the well-being of children in the relationships. Because divorce was a relatively rare event thirty years ago, the number of children in one-parent (typically mother-present) homes also was modest. Just as a woman or man who divorced was essentially an "odd person out," so children in these relationships felt and may have been viewed by their peers as somewhat "different" or "unusual," with all that would imply for the child's emotional well-being. One positive aspect of a high marital disruption rate is that the children in such families are no longer viewed by outsiders as somehow different from other children; because of this, at least from the perspective of the child's interactions with friends, teachers or other adults, the emotional fallout for the child is undoubtedly less troublesome than in past decades. This is not to suggest that the within-family stress often associated with a parental separation or divorce does not have implications for the child's socio-emotional development, at least in the shorter run, but rather that the stress associated with the child's integration into the larger society outside the home is probably substantially less.

From a child's perspective, the higher contemporary divorce rate may also have other incidental positive implications for his or her development. First, because divorce is now more of a "mainstream" event, it is reasonable to conjecture that individuals who divorce more closely typify the whole adult population than had been true when divorce was a relatively rare event.[4] As has been frequently suggested, and as we will show, the consequences of divorce for children are as much if not more linked with the characteristics of the actors in the event as with the event per se. Thus, to the extent that the characteristics of those who divorce and those who stay in an intact union are becoming more similar, the

[4] For example, see Furstenberg and Allison, 1985.

expectation is that the consequences of divorce for children should be less than had been true in earlier eras. This speaks to a lesser likelihood, compared with previous decades, of finding significant emotional differences between children living with two parents or one parent. A corollary to this observation is that since it is easier for two unhappy people to separate than had been previously true, everything else being equal (which, of course, is never completely the case), children who had previously suffered through a whole childhood of stress and tension because of incompatible parents are now much more likely to see their parents divorce and, hopefully, find tension reduced.

The upshot of these trends in its most simplistic form is that the world of 1993 is very different than the world of 1963--for parents and children. What we will be trying to do in this study is to describe what family structure looks like today for a very important segment of the American population and to suggest what single parenthood, a contemporary phenomenon that affects a large proportion of children, means for the children's emotional and intellectual development. It is likely that many of the prevailing concepts about the meaning of a father's absence for children were conditioned by 1960s notions of appropriate family forms, notions that may no longer be appropriate, given contemporary norms and values.

Father's Absence: Trends and Levels

While most of us think of high divorce levels as essentially a contemporary phenomenon, the reality is that American divorce rates have been on a gradual upswing for over a century.[5] The rate of divorce escalated over the 1960 to 1980 period but has levelled and perhaps even shown a slight decline over the past decade.[6]

Paralleling the divorce trends, we have also witnessed a substantial increase in the proportions of women who have had a non-marital pregnancy and birth. For example, according to the U.S. Census, for all women 15 to 29 years of age, the proportion who conceived their first birth prior to marriage increased from about 33 percent in the 1970-1974 period to 40 percent in 1985-1988; the proportion having their fist

[5] Sweet and Bumpass, 1990.

[6] National Center for Health Statistics, 1992; U.S. Bureau of the Census, 1992.

birth prior to marriage went from 18 to 28 percent. The percentages are much higher for black than for white women and, not surprisingly, they are higher for younger women.[7]

Both of these factors, the increasing divorce rate and an increase in the propensity of women to have a child outside of marriage (which of course is linked with the increasing tendency for women to delay marrying until older ages), have significantly affected the family situation of children. This effect can be illustrated most dramatically with a few additional Census statistics. Between 1970 and 1992 the proportion of children living with two biological parents declined from 85 to 71 percent. The decline was from 90 to 77 percent for white and from 59 to 36 percent for black children.[8]

Let us focus more directly now on younger children between the ages of 6 and 9. Because they are to some extent socio-economically more advantaged than the children we will be examining in this research (who will be aged 5 to 9 but born to somewhat younger mothers), the poignancy of the national maternal statistics are even further enhanced.[9] In 1992, only 71 percent of all children age six to nine in the United States were living with two parents, 78 percent of white and 37 percent of black children. The comparable statistics for our NLSY sample, which will be described more fully in Chapter 3, are 60 percent, 67 percent and 30 percent. The difference between the overall U.S. sample and the NLSY sample reflects the fact that the NLSY children were born to somewhat younger mothers than their national counterparts. The largest proportion of the remainder in both these samples were living with their mother only.

Of those children in the full national cross-section who are living only with their mother, about one-third have mothers who have never been married, about 20 percent of white children and almost 60 percent of black children. Thus, for the full cross-section of American children in the early elementary ages, we find that living in other than a traditional nuclear family unit, while not the dominant family form, is certainly not unusual.

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[7] U.S. Bureau of the Census, 1989.

[8] U.S. Bureau of the Census, 1992.

[9] These statistics are derived from Table 5, U.S. Bureau of the Census, 1992.

A Child's View of Family: An Important Caveat

The concept of fatherhood from a young child's perspective is fairly unambiguous. In contrast, the myriad of possible relationships from the perspective of a parent is far more complex. At one extreme, there may be a short-term relationship that results in a pregnancy and birth. In such cases, as the data from the NLSY show, the linkage between the child and father may range from being non-existent to being fairly extensive, with many fathers maintaining continuing contact with the child even though they may never be in residence with the child. Having a strong link with a nonresident father, as we will show, is not very unusual, particularly among black families.

At the other extreme from having no relationship with a father at all are traditional relationships, where the parents marry prior to the child's appearance and remain married,living together--in our NLSY sample--at least until the 1988 survey point. In between these two extremes, there are a wide range of relationship options that incorporate formal marriages and longer and shorter term nonmarital cohabitation. In all of these circumstances, the biological father of the child may be continuously present, intermittently present or never present. We submit that, from the perspective of a younger child, the critical behavioral dimensions are (1) whether or not the father of the child is present or available, and (2) the quality of the relationship between the child, his or her father and of course, his or her mother. To describe these dimensions and their effects is the thrust of our research: what are the apparent associations between the presence or absence of a child's father and the subsequent development of that child, regardless of the formal or legal linkage between the child's father and mother?

We in no way intend to denigrate the institution of marriage, and we recognize and acknowledge in particular its potential importance for the adults in the relationship. While there indeed may be differences in the characteristics of men in marital as opposed to partnership arrangements, and while these characteristics can affect children, we find that they are indeed measurable--age, education and so on. Our focus is to compare the consequences for children of living with or without a father, <u>not</u> living with or without a man in the home who is the mother's spouse. We feel this study design is a substantial improvement over most research, which has largely been constrained to married samples of parents. As

we have indicated, substantial proportions of younger children are living with mothers who have never been married. As we will describe, a considerable number of children in our sample are living in non-marital arrangements that include other father figures. Particularly for a sample such as ours, which includes many younger and minority family units, limiting analysis to married couples would introduce an important analytical bias of unknown magnitude.

In an empirical context, most research has viewed marriages, even when brief, as substantively of greater social significance than non-formalized relationships, even those which are long-lasting. To some extent, the tendency for many researchers to remain wedded to traditional concepts and methods is linked with data constraints. Most data sources are quite limiting in terms of defining relationship processes over time. Our more detailed paternity data have enabled us to avoid this constraint.

From the perspective of the children in the relationships, these constraints are even more serious and for a number of reasons: first, children, particularly younger children, have well-defined concepts of parenthood but probably much more ephemeral notions of marriage or indeed of adult relationships in general. Thus, as of 1993, a legal concept such as marriage, which may (or may not) have great significance to two adults, may mean little to the younger offspring of these two adults. What probably is very important to the child is how those two adults get along with each other and, even more importantly, how they interact with him or her! In this context, the bulk of the research on the consequences of marital disruption for the well-being of the children may, in a methodological sense, be mis-specified. Because most research has focused on the association between the legal form of the parental relationship and its effect on the children, it typically has failed to concentrate on the more salient relationship between the parent and child.

This focus on the implications of the legal parent-parent linkage rather than the parent-child affinity has also led to neglect of one other increasingly important topic--the implications for a child of never having lived with two parents (typically having lived only with a mother). This neglect derived partly from the fact that many researchers' mind sets have been on issues related to marital transition; in this context, family forms that never involved marriage are not relevant. This issue is far from trivial, because substantial

numbers of relationships that produce and involve children--from very brief to longstanding--never include a marriage vow, and a significant number of these children have never seen, heard or lived with their father. From the child's perspective, a home which never included a father may, for better or worse, be substantively very different from one where a father once resided, albeit briefly.

Moreover, the relevance of post-transition influences for a child's well-being frequently are not considered from the child's own personal perspective. Once again, reflecting focuses on traditional family forms, post-disruption influences on children are usually gauged from the perspective of whether or not the mother re-enters the married state, rather than whether or not the child is encountering preferable or less preferable parent/father figure relationships. As other research has suggested, important differences obtain between children of different races and economic statuses in the patterning of their post-disruption parental contacts. For example, white children are much more likely than black children to "re-enter" (or perhaps enter for the first time) a married family unit because white women are much more likely to marry than are black women. In contrast, as we will show, black children in so-called "disrupted" family units or in family units where a father has never been present are somewhat more likely to have frequent contact with non-resident biological fathers. The first kind of statistic (re-marriage or marriage) fits neatly within our definitions of family forms and is typically recorded in any statistical reporting scheme. The second--frequent visitation by a biological father--is rarely considered in the same manner. It has only limited meaning from the perspective of the usual respondent (in this instance, the mother) and probably has important substantive meaning only to the child. Thus, statistical reports geared towards formal marriage statistics and away from less traditional notions such as partners, consensual unions and/or visitations, can clearly bias analyses that are trying to measure the effects of demographic or social events on different kinds of children. This is not to say that all these family forms and parental/adult-child interactions are equivalent in their relevance for the well-being of children. Rather, our intention is to suggest that some of these family forms are severely neglected. While this neglect may not have been important historically,

it gains increasing importance in contemporary society where substantial numbers of adults are joined in a variety of relationships and where a large number of children are being raised in nontraditional environments.

Father-Absence and Child Development: An Overview

This study has two primary objectives. First, we will describe the marital family transition processes from the perspective of the children in our sample and specify what family factors appear to be associated with these transitions. Second, we will examine and analyze linkages between various paternal absence configurations and subsequent child emotional and cognitive well-being. Components of well-being are measured by several well-established scales, the Peabody Individual Achievement Tests (PIAT) in mathematics and reading and a well-regarded Behavior Problems assessment, that are described in some detail in subsequent chapters as well as in the Appendices. In the following pages, we will synthesize what recent and ongoing scholarly research has, to date, concluded about expected connections between a father's presence or absence and children's intellectual or emotional development. Our objective here is not to provide a comprehensive and detailed literature review on the topics: a number of excellent such reviews are already available to interested readers.[10] What we will try to do is to describe the current state of knowledge: On what issues is there some consensus? On what issues is there considerable ambiguity or indeed distinct disagreement?; and, finally, Are there important analytical issues that are conspicuous for their lack of prior, empirical consideration? As we will show, the areas of consensus are limited, and much of the ambiguity surrounding these important topics reflects major differences in methodological and disciplinary orientation, sample selection and even historical perspective. From our perspective, there are only limited reasons to anticipate similarity of results between much of the research that was carried out in the 1960s and early 1970s and research that has focused on the children of the 1980s. We have speculated that there may well be substantial differences in the responses of children to

[10] See, for example, Demo (1992); Hetherington et al. (1989); Demo and Acock (1988); and Cherlin (1992).

a father's absence in recent years compared with earlier periods, and these differences may reflect fundamental changes in the way divorce and paternal absence are being viewed in contemporary America.

As we have briefly noted, this study will be more demographic than psychological. That is, the nature and quality of the available data permit one to clarify in a temporal context apparent associations between various manifestations of paternal absence and subsequent child development. Specifically, what we can do is examine the associations between a father's leaving (or never having been present); and (1) how a child performs on reading and mathematics assessments or (2) how the child's behavior is viewed by his or her mother at a subsequent point in time. Typically, this point in time is several years past the paternal leaving point, so we are measuring the potential cognitive or emotional consequences of a father's absence several years after the event. Ours is not a study of immediate consequences.

Because we have information about household structure, the presence of other father figures and paternal visitation, we are able to consider the extent to which paternal absence effects may be modified by a variety of father or father-substitute arrangements. Most importantly, we have comprehensive socio-economic, demographic and other behavioral inputs for the family and, in particular, the mother of the child. These data,collected contemporaneously, span not only the child's whole lifetime but indeed are available for periods preceding the child's birth. Thus we are able to partially sort out the extent to which prior maternal and family conditions may perhaps be the root cause of children's cognitive or emotional well-being. Specifically, more than is usually possible, we are able to explore the extent to which apparent differences between children living with and without their fathers may really be linked with maternal or family traits that were already in evidence prior to the parent's separation. Do overt differences in father-absent and father-present children really reflect the fact that their parents were different from each other prior to the fathers leaving rather than being linked with the disruption process itself? Additionally, we are able to clarify the extent to which father absence effects are directly associated with family attributes and behaviors that can be altered by a father's leaving the home--factors such as the family's income and the mother's pattern of employment. What our research cannot do very well is tease out the immediate purely attitudinal and psychological precursors and consequences of a divorce or parental separation although

some of our social, economic and psychological proxies permit one to make reasonable conjectures. Our general research orientation has been presented here so that the reader can consider the theoretical overview that follows within a specific context. More detailed methodological statements will be presented at appropriate places in the text.

Our general philosophical orientation may be synthesized as follows: when we think of fatherless homes and what they may mean for children, we are thinking essentially of two different avenues of research. First, What is it about the characteristics of those homes, past and present, that can uniquely alter children--in comparison with homes where two parents are present? This question essentially encompasses two notions; first the permanent, longer lasting, historic traits that may go together with having a household in which a father is absent. Second the notion of change--the relief, trauma, or disruption associated with a father's leaving the home. Typically one thinks of families becoming poorer and perhaps, at least temporarily, of experiencing higher levels of stress. Both these questions, those more associated with defining the kinds of families which are likely to lose the father as well as those intimately linked with a father's leaving, can easily be viewed as having important consequences for the child's cognitive and emotional state.

The second avenue of research concerns particular fathers in particular situations. After taking account of all the ways that homes with and without fathers differ from each other, we are still left with the question, What is it about a particular father's being gone that can alter a child's cognitive and emotional perspective? This question is more difficult , and its answer certainly will vary from father to father and child to child. This is the kind of question which can be more easily addressed with comprehensive individual-level psychological data. Within the context of our research, we cannot really directly measure this effect. All we can do is see what is left over, what we have not explained after taking all the other factors that we can measure into account.

We need to be very clear about what we are measuring, what we are saying, and what we are really explaining. The reason for carrying out comprehensive multivariate analyses and controlling for as many factors as we can is simply to help us understand the process associated with a father's leaving and

how it may impact on children. Generally, on average, it leaves us with a slightly better grasp of how closely the consequences of a father's absence are linked with the environment the child has lived in and perhaps how much of an effect we can directly attribute to the absence of a unique individual--that child's father. However, the total consequences for the child of a father-absent environment is the effect we find when we have not controlled for anything! This is the real world in which the child lives, and the behavioral or cognitive "effects" we find are the real effects which can, in a holistic sense, be attributed to the child's entire "father- absent" environment.

This is an absolutely fundamental point which needs to be kept in mind throughout. The first, most simplistic tabular and multivariate analyses are in reality defining the magnitude of the "problem." All of the remaining, more complex analyses are searching for explanations which we hope in at least some instances can help suggest ways to alleviate child problems.

Summary of Other Findings

It has been suggested by various researchers that the scarcity of definitive generalizable results across the father's absence literature reflects a variety of factors. First of all, given the wide range of outcomes that others have explored, there is no strong theoretical rationale for anticipating uniformity of results.[11] For example, there certainly are reasons for anticipating why the emotional linkages with paternal absence would not be expected in all instances to coincide with cognitive outcomes. Similarly, as we have suggested, it would be surprising to find similar child emotional effects immediately following a paternal separation and several years after that separation. Thus the results of any research must be evaluated within these psychometric and temporal dimensions. We do not mean to criticize any particular research. Rather, we mean to point out that there is no particular reason to expect uniformity of results across these dimensions.

[11] See, for example, the discussion in Demo, 1988; Furstenberg and Cherlin, 1991; Shinn, 1978; and Marino and McCowan, 1976.

Several reasons for not expecting uniformity of results relates to the constrained samples used by many other researchers. First, many studies are restricted to very small convenience samples selected on the basis of ready availability. Typically, data have been collected as of one point in time with little retrospective information available for appropriately ordering temporal events or controlling for spurious linkages. Small convenience samples can often provide important insights and help clarify important questions although, typically, statistically significant effects are hard to attain. The limited availability of appropriate controls, however, for behaviors and characteristics that could be independently linked with both paternal absence and child outcomes are more serious flaws that seriously limit the meaningfulness of statements about the parental separation process.

Additionally, the fact that much prior research has been limited to cross-sectional data limits the ability of researchers to clarify variations in the patterning of the father's absence from the home. As importantly, data limitations, sample sizes and modes of data collection have prevented most research from differentiating between the many potential substitute or surrogate father arrangements in which a child may find him or herself. While the evidence is very erratic, as we will suggest, the possibility exists that the child living alone with a mother and no significant male contact may be in an emotional and cognitive environment considerably different from the child living in a home which includes a new male father figure, be he a new spouse, a partner of the mother, or some other adult male. In turn, the implications of this new status may differ significantly from those associated with continuing contact with an absent father.

Much previous research suffers, moreover, from inadequately considering variations that may be associated with social class, race or gender. In particular, research that considers black and white children separately is extremely limited, and this is a major constraint. As we have described and will detail further in chapters 3 and 4, black and white children live not only in very different environments but have very different family histories. White family structure has changed dramatically in recent decades, but there is convincing evidence that black family structure, particularly the prevalence of father-absent and female

headed homes, has a long history.[12] The physical environment and neighborhood context in which black and white children live also varies considerably. Thus it should be anticipated that the responses of black and white children to the absence of a father would be different.

Finally, not much of the available research has been gender-specific, even though there are important rationales for anticipating different responses by boys and girls to a father's absence. Appropriate evaluation of gender distinctions is limited by the reality that over 90 percent of children in single-parent households live with their mother. Thus, when evaluating "cross-gender" effects (i.e., children of one gender living with a parent of the opposite gender) most research can only examine boys and girls living with a mother only, but not boys and girls living with a father.[13] This is indeed a significant constraint of our study as well. From a policy perspective, it can be argued that this is not yet a major issue since almost all single-parent households include a mother. It is likely, however, that this will become a more cogent issue in the near future as one manifestation of the gradual societal movement towards gender equality is an increase in single-parent families headed by men.

Family Environment versus Father Leaving: What Matters?

While there are exceptions, the typical divorce or father-leaving process is fraught with tension and stressful for all family members--father, mother and children.[14] While father-leaving is often thought of as a discrete event, in reality this is not so. The father's final leaving may have been preceded by a pattern of residential instability and, more often than not, the father's leaving is a culmination of a gradual deterioration in the relationship between the parents, a process frequently accompanied by acrimony, increasing tension and in not a few instances by physical violence. While parents may make an effort to mask their disagreements from the child, the likelihood is that the child has at least some awareness of the

[12] See Morgan et. al., 1993 for an outstanding recent analysis of this issue with data from the turn of the century.

[13] Furstenburg, Frank J, 1988; Zill, 1988; Cherlin, 1992, p 85.

[14] For example, Hetherington et al, 1989; Demo and Acock, 1988.

parental conflict. The sensitivity of the children to this essentially unsatisfactory psychological environment will probably be closely linked with their maturity; older children may be more overtly aware of the parental crisis but better able to deal with it. Younger children may be less aware but perhaps more likely to show lasting emotional effects.

The ability of the two parents to cope with this family crisis is probably related to their personal social and psychological attributes--as indeed is the likelihood that they will find themselves in this emotional crisis. The personal characteristics that may be associated with arriving at a family crisis situation may, however, be somewhat different from those linked with how the crisis is handled and how it is resolved. All these are parental characteristics that can affect the child's behavior to a varying and unknown extent, quite independent of whether the father stays or leaves. If not resolving the question, much research has at least concerned itself with this distinction: but the question of how to distinguish propensities for marital crisis from crisis management skills is probably not completely resolvable.

From the child's perspective, much of the available research revolves around attempts to clarify the question of whether the home environment or the father's absence per se are more essential--or more generally, what is the relative importance of these two obviously interrelated components. "Home environment" is a broad term encompassing many components, including parental attributes and behaviors prior to the separation event (which may or may not be predictive of the disruption); physical and psychological attributes and behaviors accompanying a family transition; and of course, economic, social and psychological factors linked with the consequences of the event. Intimately linked with all of these are personal attributes of the father himself, which may be causally linked with all the above factors or which may be unique attributes having to do only with the nature of the relationship between the father and child. Clearly, disentangling all of these linkages represents a methodological nightmare and probably is impossible.

Emotional Consequences

While it is hard to generalize with confidence, it appears to us that the preponderance of evidence from the methodologically more sophisticated research suggests that the environment and disruption process characteristics have more lasting emotional consequences for the child than does the absenting of the father per se. It has been suggested by many that child adjustment is more easily facilitated if parent conflict before and after the separation event is limited.[15] It has been frequently stated (and we paraphrase here) that children living in a "happier" father-absent environment (e.g., less conflict, preferable parent-child interaction) are emotionally better off than living in a conflict-ridden two parent household.[16] In general, positive parent-child relationships can help overcome the trauma associated with the father's leaving.[17]

Related to this general idea is the notion that prior parental attributes, sometimes readily observable, sometimes not, are important predictors of a child's emotional and perhaps cognitive adjustment.[18] To the extent that these priors are also predictors of the disruption itself, not controlling for these factors limits one's ability to clarify the actual process which may lead to a child's advantage or disadvantage.

Short Term Effects

Unquestionably, in the period immediately following a father's leaving, many children have significant emotional adjustment problems.[19] These may involve acting out behaviors--e.g., being overly

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[15] There is a large literature which arrives at this general conclusion, including but not limited to Furstenberg and Seltzer, 1986; Stolberg et al, 1987; Hess and Camera, 1979; Hetherington et. al., 1982; Rosen, 1979; and Porter and O'Leary, 1980. See the Demo and Acock, 1988 and Demo, 1992 reviews for a more extensive listing of supporting evidence.

[16] Furstenberg and Seltzer, 1986; Hess and Camera, 1979; Stolberg et al, 1987; Rutter, 1971.

[17] For example, Peterson and Zill, 1986.

[18] For example, Stolberg et al, 1987; Zill, 1988; and Furstenberg and Allison, 1985.

[19] For example, Hetherington, 1989; Hess and Camera, 1979; Guidubaldi and Perry, 1985; and Kinard and Reinherz, 1986.

aggressive or non-compliant.[20] Children may be less social in school, have fewer friends, and be involved in fewer shared activities with others.[21] More generally, they will frequently tend to be antisocial in their behavior.[22] In the short run, perhaps for as long as two years, the home environment can be stressful, and boys in particular may act out a variety of interpersonal behaviors, both in and outside of the home.[23] [24] Boys are generally more aggressive in their disruption-linked behaviors and frequently follow non-compliant behavior paths.[25] The greater behavioral difficulty expressed by boys may be associated with a stronger father-son bonding prior to the disruption, a bonding that has now been interrupted. There is also some suggestion that mother-son acrimony increases following a divorce. [26]

The above is not meant to suggest that girls do not have shorter-term adjustment problems. There is, however, evidence that their adjustment is quicker[27] and that their behavioral manifestations may be less visible; girls may internalize their dissatisfaction to a greater extent. However, they do show stress, display visible conduct disorders, and evidence their dissatisfaction in various ways.[28] The somewhat lesser level of behavior problems by girls undoubtedly is linked with their closer ties with their mother and perhaps, their lesser bonding with their now-absent father. Additionally, for the most part, the available

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[20] For example, Bray, 1988; Demo and Acock, 1988 review.

[21] For example, Guidubaldi and Perry, 1985; Santrock, 1975.

[22] For example, Santrock, 1975; Dornbusch et al, 1985; Peterson and Zill, 1986.

[23] There is a large literature suggesting more severe overt consequences for boys (e.g., Hetherington et. al, 1985; Rutter, 1980; Hetherington, 1987; and Emery et al, 1985, to mention a few.)

[24] For example, Hetherington, 1985; Hetherington et al, 1982; and Guidubaldi and Perry, 1985.

[25] For example, Hetherington et al, 1985, 1982; Furstenberg and Allison, 1985.

[26] Hetherington et al, 1985.

[27] For example, Wallerstein et al, 1988; Hetherington, 1972.

[28] For example, Hetherington et al, 1985; Garbarino and Schellenbach, 1984; and Furstenberg and Allison, 1985.

research suggests that the emotional consequences for children, both boys and girls, at least in the shorter run, are greater if the father leaves the home when the child is young.[29]

In the shorter run, what one may conclude is that boys face greater adjustment problems than girls and that they exhibit more overt antisocial behaviors for a somewhat longer time. This lingering effect may be associated in various ways with the fact that they are now living only with an opposite-gender parent.[30]

Longer Term and "Latency" Effects

The issue of the permanency of effects associated with paternal absence is complex; it has been little researched and there is no clear consensus. Most research or review articles that have addressed this topic conclude that there is only limited evidence of longer term cognitive or emotional consequences associated with a father leaving the home. It is suggested by many that adverse emotional effects are indeed tempered by time,[31] although the adjustment process is certainly linked with a variety of factors including, but not limited to, the age and gender of the child, his or her temperament and, importantly, the quality of the home environment.[32] Indeed, it is fair to conclude that research documenting either long-term continuing emotional consequences or emotional effects reappearing after a number of years is limited. This relative void may reflect reality, but it may also be linked with the scarcity of research that has examined longer term consequences. This tentative generalization, however, must be tempered by the knowledge that some research has indeed found longer term emotional consequences. Some studies have suggested that emotional recovery can indeed take some time.[33] A number of research efforts have found emotional effects appearing once again in adolescence,[34] in some instances specifically in evidence

[29] See synthesis of results in Hetherington, 1989; and Demo, 1988.

[30] For example, Zill, 1988; Santrock and Warshok, 1979.

[31] For example, Demo and Acock, 1988; Kinard and Reinherz, 1986; and Rutter, 1971.

[32] Hetherington, 1989.

[33] For example, Hetherington, 1987, and Wallerstein and Kelly, 1976.

[34] Summarized in Hetherington et al, 1989; see also Peterson and Zill, 1986.

among young women.[35] Wallerstein et al (1988) found negative consequences most prevalent for young women in adolescence if the father left the home in later childhood. This is an important finding, since without considering the age at father leaving, it is difficult to determine whether latent effects noted in the adolescent really are linked with adolescence per se, or may really reflect the likelihood that the fathers of many of those children left the home when the child was very young. Finally, a small number of studies find some evidence of long-term depression effects[36] on other dimensions of adult adjustment[37] for adults whose fathers left when they were young. While parental characteristics mediated some of this effect, the authors concluded that some independent effect of a father's leaving during childhood remained for these adult men and women.

In the interest of brevity, we have not detailed the samples or methodologies of these studies. Their methodological protocols vary. In our opinion, the evidence about long-term emotional consequences of much earlier parental separation is far from conclusive, and more definitive results must await future research results. What we can conclude in general from the literature focusing on emotional consequences is that short-term consequences are prevalent and that they are certainly linked with the parenting-absence process and perhaps with earlier observed traits. The essential nature and magnitude of the consequences is linked with the child's gender and probably with his or her age at the leave-taking. The extensiveness of longer term consequences is certainly ambiguous. These are all areas where our research can provide some useful clarification, subject to our sample constraints.

Cognitive Consequences

The theoretical frameworks developed as well as the empirical work that examined the linkages between father's absence and a child's cognitive development are somewhat less developed than the parallel work that links paternal absence with psychological or socio-emotional outcomes. A significant

[35] Wallerstein et al, 1988; Hetherington, 1972.

[36] Amato, 1991.

[37] Acock and Kiecolt, 1989.

portion of the theoretical premises in the father absence-cognition area are at least partially based on the father-absence-socio-emotional literature.

Essentially, two primary reasons are suggested in the literature for anticipating negative cognitive consequences following a father's absence. First, there may be less direct cognitive transference from parent to child--either because parents in father-absent (or father-absent to be) families have less cognitive information to transfer, these parents are less interested in transferring knowledge to their children, or because the disruption process reduces the ability of parents assisting their children. Second, a child's cognitive functioning may be inhibited because of the stress associated with the traumas of a marital transition. Various research projects have tested in different ways these essentially complementary hypotheses. Even more than is true in the emotional sphere, research results tend to be inconsistent. In many respects, testing the underlying premises behind the father's absence-cognitive well-being linkages is more complex because many of the hypothesized associations may not be directly linked with the father-absenting process per se.

A significant body of research finds little association between paternal absence from the home and how a child fares intellectually or cognitively.[38] A contrasting literature suggests that child cognitive deficits can be directly associated with a father's absence, at least in some instances.[39] The diffuseness of the research makes it difficult to arrive at any generalizations. A number of studies have concluded that there is indeed a reduction in cognitive functioning in children with absent fathers, a reduction that can be directly linked with the above average levels of stress and conflict in those homes.[40] A review by Shinn, 1978 concluded that financial hardship, high anxiety and low levels of parent-child interaction (in father-absent homes) all contributed to poor child cognitive performance (a synthesis of results from about 30 studies). Other research has concluded that children in "disrupted" households, who themselves tend to be

[38] Pleck, 1985; Rexroat et. al, 1987; Baydar, 1988; and Hawkins and Eggebeen, 1991.

[39] For example, Demo and Acock, 1988; Biller, 1982; Radin, 1981; and Santrock, 1982.

[40] For example, Kinard and Reinherz, 1986; Radin, 1981; Hess and Camera, 1979; and Blanchard and Biller, 1971.

disruptive, at least in the short run, also tend to become stereotyped in the classroom, and that can affect their likelihood of succeeding in school.[41] Of course, as the proportion of children who live in single parent-families increases, this may be less of an issue if there is indeed a longer term reduction in child stress associated with family transitions.

Several reasons have been suggested to explain why a child in a fatherless home may be at a cognitive disadvantage. The parents in father-absent families may on average have less education and thus be in less of a position to help their children directly with school-related tasks.[42] This is of course a directly testable proposition and is essentially a spurious linkage. Reflecting lesser income levels, father-absent family units may be less able to provide adequate educational resources for their children.[43] This shortage may be associated with a poorer within-home intellectual environment as well as a reduced ability to enhance the child's outside cognitive development by accessing better cognitive materials, tutors, childcare arrangements, schools, and so on.

Aside from the direct income and education linked possibilities, other hypotheses suggesting cognitive deficits directly reflect the fact that in father-absent homes, a mother's ability to provide individual assistance to children is considerably reduced. A marital disruption alters routines, work schedules and time commitments.[44] The time available to each child becomes more limited, and it is possible that on average, the quality of that time may be reduced.

Gender Distinctions

Many of the direct cognitive transference arguments are gender-selective. For example, it is suggested that because fathers are more likely to transfer knowledge to sons, their absence from the home

[41] For example, Guidubaldi and Perry, 1985; and Hess and Camera, 1979.

[42] For example, Mott, 1992; Furstenberg and Allison, 1985.

[43] For example, Biller, 1981 and Demo, 1988.

[44] See for example, Furstenberg and Nord, 1985 and discussion in Shinn, 1978.

will thus selectively hurt the development of boys.[45] In addition, if fathers have a comparative advantage with regard to certain kinds of skills (e.g., mathematics) or if certain skills (such as mathematics) are viewed by boys as being masculine in nature,[46] one could hypothesize that boys may suffer a comparative disadvantage compared with girls when a father is absent. These potential psychological effects, where they may appear, are certainly sensitive to a variety of factors such as the child's age, and perhaps most importantly, how the mother copes with the child's sex-role development.[47]

The theoretical arguments on the gender issue as it relates to cognition are fairly complex and, not surprisingly, the results are disparate. Indeed, there are findings to support almost all hypotheses! Some research suggests that, generally, boys suffer some cognitive disadvantage,[48] a small literature suggests selective disadvantage (e.g., in mathematics),[49] and a larger literature suggests no significant systematic gender differences.[50] Some studies suggest selective cognitive advantages for boys when the father is gone.[51] At the risk of overgeneralizing, we find that the cognitive literature relating to gender differentials is limited and far from conclusive, but it suggests that a father's absence is associated with some disadvantages for boys compared with girls.

Race Distinctions

The literature that examines the consequences of a father's absence for either the emotional or intellectual well-being of black children is extraordinarily limited.[52] This scarcity is due at least partly to

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[45] Landy et al, 1969.

[46] See Biller, 1982 for a synthesis.

[47] See Shepherd-Look, 1982 for a discussion of these issues.

[48] For example, Radin, 1981; Santrock, 1972; Blanchard and Biller, 1971.

[49] For example, Werner and Smith, 1982; Lessing et. al, 1970; Carlsmith, 1964.

[50] Hess and Camera, 1979; Shinn, 1978; Kinard and Reinherz, 1986.

[51] Herzog and Sudia, 1973.

[52] Demo and Acock, 1988 found only a limited body of research to review when exploring the issue of father's absence effects among black children.

the fact that most research in this area has used convenience samples of children readily available for study, samples that typically have included white middle-class (or in some instances lower SES) children. Indeed, the sample used in the research we will be reporting on is one of the few large samples to include a sufficient number of black children to permit reliable statistical analysis. Additionally, because such a large proportion of black children have never lived within a formal marriage arrangement, and because so much of the available research has tended to focus on the consequences of marital disruption, black children may have been neglected in academic research. The limited studies that have considered black children have found little cognitive distinction between black children who live and do not live with their father.[53]

Father Substitutes and Surrogates

When a father leaves the home, from the perspective of a child, a number of situations can develop. First, the child may continue to see his or her father quite often. This visitation is probably more likely to happen when the parental relationship ends without excessive acrimony, and thus the relationship between father and mother is at least cordial and in all likelihood close between father and child. Thus when evaluating the significance of continuing frequent contact between the father and child, we should be sensitive to the likelihood that relations may have ended on a relatively positive note, with all that may imply for the child's subsequent emotional and intellectual development.[54]

Another possibility is that a new man may enter the child's home. This man, who may or may not be a substitute for filling the fatherhood role, may be a new spouse or partner of the child's mother. He may also, although less typically, be another relative or friend of the mother. In contrast with continuing contact with an absent father, who in all likelihood is maintaining contact primarily because of his feelings for the child, other new men may be present, at least initially, because of their emotional linkage with the

[53] For example, Shinn, 1978; Hunt and Hunt, 1975; 1977.

[54] An important corollary to this is evidence suggesting that fathers who continue to contribute economically to the maternal family unit are also more likely to continue visiting with the child (Seltzer et al, 1989).

mother. Thus, for a while at least, the emotional linkage between a child and a visiting father in contrast with a new man can be quite different, with fundamentally different implications for the emotional well-being of the child. On the other hand, except in atypical situations, the child is likely to have a more intensive and more continuing contact with a resident new man than with an absent biological father. Additionally, a new man may bring with him his own children or extended family, and that may have positive or negative implications for the child. Thus, any "new man effect" may really be the net effects of any and all new family members accompanying that man.

Of course, the child may continue to live in a household that includes the mother and no other significant male father figure. The implications of this situation are also unclear because the relative emotional advantage or disadvantage to the child compared with the other statuses obviously depends on whether other situations are inherently positive or negative.

It should be apparent that the various father and father figure environments are not interchangeable from the perspective of the child. They are contingent on the characteristics of the different actors and the different situations. Available research suggests that the emotional and cognitive value of the child's situation may also vary depending on specific characteristics of the child, including gender and perhaps other traits. The questions highlighted above about the possible associations between the gender of the child and a father's absence from the home also apply to some extent when we consider the possible gender-specific effects of a new father figure.

Father Visitation Effects

Visitation, however frequent, with an absent father is in all likelihood conceptually different from the situation where a new man is residing in the home. First, it typically involves only intermittent contact, not the continuing contact implied by residence in the home. Thus, the visiting father (or more likely, the child visiting the father) may not under normal circumstances be involved in the child's day-to-day routine--helping with school work, eating meals together, or regular involvement with routine activities of the child.

While resident fathers, in at least some instances, are not intensively involved with the child, they nonetheless more often than not represent a continuing presence.

The emotional value of a biological father, be he in residence or a frequent visitor, is of course also linked with the nature and quality of the mother-father relationship. Thus, a resident father in a stressful home environment may have a negative effect on the child's emotions; in contrast, a father no longer resident but in frequent contact with the child, along with a home environment where the stress level has been reduced, may well be preferable for the child.

An important additional consideration has to do with the quality of the relationship between the father and child. If the child holds resentment against the father because of his leaving, visitation may involve father-child stress, although it probably is fair to assume that the longer the visitation is continued past the marital disruption point, the more positive the relationship should become. This interaction, of course, can be enhanced over time by an improved relationship between the father and his ex-partner, the child's mother. Methodologically, this improvement carries implications for our research, where most of the children are several years past the point where their father left the home. It has been documented, however, that as time passes, the extensiveness of visitation declines.[55] For this reason, it is reasonable to presume that the average NLSY father who is visiting his child as of 1988 probably has a reasonably good relationship with his child and perhaps with the child's mother. In any event, it should be kept in mind that fathers who frequently visit with their children are in all likelihood not a random cross-section; they probably are the subset who wish to maintain closer ties with their children. Indeed, some literature strongly supports the notion that fathers who continue to visit do not represent a random cross-section. They are above average in education; they tend to live nearby (a not surprising finding!); and perhaps more importantly, they are more likely than other fathers to contribute child support and to wish to play a continuing role in the child's life.[56]

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[55] For example, Seltzer and Bianchi, 1988.

[56] For example, Seltzer and Bianchi, 1988; Seltzer et al, 1989; and Seltzer, 1991.

One other issue of some importance has to do with the possible psychological complementarity between visiting fathers and the presence of new men in the home. The evidence on this situation is mixed. Some studies suggest little overlap;[57] (i.e., fathers tend to visit frequently only if there is no new man in the home) and other research suggests that this is not the case[58] and indeed, overlap causes no major problems for the new family.[59]

The research that has considered the consequences of a father's visit for the well-being of the child has more often than not suggested either benign effects or has found positive psychological payoffs for the child.[60] Indeed, positive effects for the child are found even after the mother has remarried, when there may be potential conflicts between two father figures.[61] Continuing visitation in these instances does not appear to interfere with the child-stepfather relationship.[62] A lack of tension when the child's environment includes both a father and stepfather should not be surprising. It is reasonable to speculate that a father is probably more likely to continue maintaining close ties with the child when he knows that doing so is emotionally easy and where conflict with the mother and stepfather is not substantial.

New Men and Remarriage; Consequences for the Child

Generalizing from the available research about the possible consequences for a child of a new man entering the home (or the mother and child entering the new man's home!) is difficult if not impossible. This difficulty arises because the possible effects on the child are contingent on such a wide range of factors, including but not limited to, the nature of the relationship between "new" and "old" fathers, between

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[57] Seltzer and Bianchi, 1988.

[58] Ahrons, 1979.

[59] Furstenberg and Nord, 1985.

[60] For example, Hetherington, 1987; Hetherington et. al., 1982; Wallerstein and Kelly, 1981; and Hess and Camera, 1979.

[61] Zill, 1988; Hetherington et al, 1985; Hetherington et al, 1982.

[62] Furstenberg, 1988; Hetherington, 1987.

the child and new stepbrothers and sisters and perhaps most importantly, the quality of the relationship between the child and his or her new stepfather. Additionally, some evidence suggests that the child's adjustment may vary considerably depending on age, maturational stage and gender.

Many researchers have suggested a strong potential for negative effects on a child from the mother's new marriage or relationship. The child may resent any tendency by the new father to maintain discipline or control.[63] A new man in the home may be viewed by the child as a threat to his or her relationship with mother.[64] This may be particularly true for young girls, who may have a very close relationship with their mother that they do not wish to jeopardize.[65] It has been suggested that the appearance of a new man in the home may result in the re-emergence of problem behaviors in girls and an intensification of problems for boys.[66] Additionally, problems may be aggravated in reconstituted families because of competition and conflict between children being brought into the relationship by the two partners.[67] Also, while the evidence is not entirely conclusive, there is a suggestion that older children suffer more in a new man environment.[68] Finally, all of these effects may ultimately be compounded if this new relationship shows signs of strain; there is evidence that remarriages are less likely to succeed than are first marriages,[69] perhaps reflecting the possibility that once-divorced individuals are less likely to be willing to maintain an unsatisfactory relationship.

On the positive side, there is evidence that the presence of a new man reduces children's antisocial behavior[70] and that, in particular, pre-adolescent boys may gain substantially from having a new father

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[63] For example, Bray, 1988; Hetherington et al, 1982; Nunn et al, 1983.

[64] Bray, 1988; Hetherington et al, 1982; Furstenberg and Cherlin, 1991.

[65] Bray, 1988; Hetherington et al, 1985; Hetherington, 1987.

[66] Bray, 1988; Hetherington et al, 1985.

[67] For example, Hetherington, 1987; Hobart, 1987.

[68] Furstenberg and Cherlin, 1991.

[69] Furstenberg and Cherlin, 1991.

[70] See synthesis in Demo and Acock, 1988.

figure.[71] There is evidence from some research that children in some situations can benefit cognitively[72] and emotionally[73] from the presence of a new man. However the evidence, at best, is mixed.

It has been suggested by some that from a child's perspective, he or she is better off with step-parents in a positive environment than with two biological parents in a less satisfactory environment.[74] It has also been found that, on average, children in step families appear more similar emotionally to children living in single parent households than to children living with both parents.[75] It is apparent that there is only limited consensus regarding the relative well-being of children in reconstituted families. We will carefully consider this issue for the children in our sample.

Implications For This Research

The literature overview we have synthesized suggests that there are only limited generalizations that are useful for anticipating how a child will develop when the father is absent from the home. It is apparent that emotional consequences may or may not parallel cognitive consequences and that father-absence effects may be contingent on the maturity of the child as well as on gender and perhaps race. Additionally, it is uncertain how much all these factors may be contingent on the child's new environment following the father-leaving event.

Our ability to evaluate why a child may or may not be detrimentally affected by a father's leaving is dependent on our ability to understand the process. Indeed, if effects are found, why are they there? Is it because the average child of an absent father is coming out of a socio-economic or psychological environment which is substantially different from that of his or her counterpart whose father is present? Are there prior maternal or paternal psychological, economic or social characteristics that have parallel but

[71] Hetherington et al, 1985.

[72] Sweet and Bumpass, 1990.

[73] Rutter, 1991.

[74] National Commission on Children, 1991.

[75] Zill, 1988.

independent effects on the likelihood of the parents separating and on the child's emotional and/or cognitive development? When all is said and done, are any observable child effects just a reflection of short-term transitional stress or longer term antecedents--or consequences? Finally, if effects are prevalent, are they likely to be long-lasting or will they quickly erode as the traumas associated with the transition itself fade into the past?

There are many questions that this study cannot address, but we can carefully explore a number of these issues for an important group: a national cross-section of children in the early elementary ages who have been born to women below the age of twenty-five. For this group, we will describe the complexity of the process associated with a father absenting himself from the home, and we will look at black and white children separately. At present, our knowledge of black family processes is very limited.

Following this descriptive process, we will clarify the extent to which children whose fathers are present or absent come from disparate socio-economic and, to some extent, psychological backgrounds. This analysis will be followed by a demographic clarification of the emotional and cognitive consequences of a father's absence for the children: without controlling for any prior conditions, we will ask, How extensive are the overt father-absence "effects?" To the extent that effects are found, we will ask, How much of the effect can be attributed to maternal and family factors which were already in evidence prior to the father's leaving--in fact even prior to the child's birth? Finally, after considering family attributes and behaviors such as family income or maternal employment that can be directly linked with the transition process itself, be they determinants or consequences, we will ask, Are there any remaining emotional or cognitive consequences? As we suggested earlier, adding these various controls can provide important insights into the dynamics of the process; they tell us the kinds of factors that appear to be meaningfully linked in an explanatory context with paternal leaving and child outcomes. In the final analysis, the total effect of father's absence on children is the effect evidenced before we control for any factors. Thus, for an important population subgroup, we intend to clarify the potential magnitude of the emotional and cognitive effects of a father's absence on average, and several years past the event. Additionally, we can clarify

whether there are any overt distinctions that can be associated with new father "forms"--continuing contact with a biological father as well as the presence of new men in the home.

While our outcomes are not all-encompassing, they do measure important dimensions of socio-emotional behavior as reported by the mother as well as the child's basic mathematics and reading competence. Thus, the outcomes we consider are broader in scope than most other research effects.

The depth of understanding that can result from this study cannot match that of intensive psychological studies. However, the breadth of our research in terms of evaluating the consequences of a wide range of family environments on a national population group, considering essential questions such as the relative importance of pre-disruption factors, far exceeds that of many other studies.

Overview of the Volume

This volume uses data for over 1700 children who are between the ages of five and nine to examine the process and consequences of father-leaving or father never having been present from the childrens' perspective. Chapter 2 defines the sample and clarifies precisely the similarities and differences between this sample of children and a fully nationally representative sample of five through nine year-olds.

In Chapter 3, we detail descriptively the process of father leaving during the first several years of life for these children. In addition to highlighting racial distinctions, we quantify the extent to which overall levels of father's absence mask a considerable movement by fathers into and out of the home. Many of these homes are in considerable flux; additionally, we will highlight the extent to which many children apparently never had their father in residence. We will then describe the extent to which fathers are replaced by new father figures, be they spouses or partners; additionally we will describe the patterning of visitation by absent fathers. Placing all these components together, we will present a profile of father-father figure contact for 1988, our outcome year.

In chapter 4, we will quantify both through tabular and multivariate analysis the extent to which the different family forms have different characteristics. In particular, we will clarify the magnitude of differences in pre-family transition, indeed pre-birth maternal and family traits for father-present and-absent family units.

One objective here is to clarify the extent to which factors that will be shown to be linked with child emotional and cognitive well-being are also independently linked with the probability of a father leaving the home. In this chapter, we also draw on the longitudinal dimensions of the data set to explore descriptively the extent to which family income, maternal employment and grandparental presence are intimately linked with the process of paternal transition itself. We do this by following the children's family units over the years from birth to 1988, clarifying separately for black and white children how a father's leaving can result in dramatic transitions in the family's socio-economic well-being over time. Income and maternal and grandparental presence trends are highlighted because of their acknowledged potential importance for the well-being of the family unit and the children in it.

In chapter 5, using tabular and multivariate approaches, we clarify the associations between a variety of paternal presence-absence configurations and the child's socio-emotional well-being, using individual items, subscores and the overall score from a recognized behavior problems scale. We clarify the extent to which variations in a child's behavior can be directly linked to his or her father's presence or absence. Additionally, we explore the extent to which the presence of a new man in the home, continuing frequent visitation with an absent father, or having no significant adult male contact leave a child emotionally disadvantaged in comparison with living with both biological parents. We also directly test a variety of hypotheses relating to the relative advantage and disadvantage of the various paternal configurations, and we look at how these effects may vary by the race or gender of the child. A corollary to this research is to explore whether children who have presumably never lived with their father differ at all from children whose father had been present but had left. One hypothesis in this regard is that children who have never had to encounter a stressful father-leaving situation might be better off emotionally than those whose father had been present but had left.

In all instances, we seek to clarify, to the extent the data permit, how much any father-absence effects may be reasonably attributed to maternal and family traits and behaviors that were clearly prevalent prior to the father-leaving event. This investigation should provide important insights about the extent to which behavioral problems observed in fatherless children may really be reflecting differences in prior

parental characteristics, and presumably the prior quality of home environments, between father-present and absent children.

In chapter 6, we develop an analysis parallel to that described in chapter 5 with the objective of clarifying cognitive consequences of a father's absence. We examine children's abilities in mathematics and reading as measured by their scores on the well established and nationally normed Peabody Individual Achievement Tests. We also explore the extent to which any evidenced cognitive effects may be linked with emotional behavior, at a point typically several years past a father-leaving event; we look for evidence that cognitive deficits in father-absent children may be linked with remaining behavioral problems.

In chapter 7, we will use information about the extensiveness of parent-child contact within the home, the cognitive content of the home environment, and a variety of questions relating to parental supervision to explore ways in which the quality of the home environment varies between homes where the father is present or absent. This information is drawn from the HOME scale, developed by Caldwell and Bradley,[76] which is described extensively in Appendix 3. In addition to describing variations in the quality of the home environment, this chapter explores the extent to which the quality of a home environment can mediate father-absence consequences; given a father's absence, can we observe ways in which quality dimensions of the home can alter a child's emotional or cognitive status? Finally, in chapter 8, we synthesize several of the major results and suggest their implications for the well-being of American children.

[76] Bradley et. al., 1988; Bradley, 1985; Bradley and Caldwell, 1984.

Chapter 2. THE RESEARCH SAMPLE

The observations about children considered in this study are drawn directly from personal interviews with the children themselves and with their mothers, who are respondents in the National Longitudinal Survey of Youth (NLSY). The NLSY is one of five longitudinal surveys which has been funded by the U.S. Department of Labor which have followed nationally representative age/sex cohorts of Americans since 1966.[1]

The respondents in the NLSY cohort considered here were age 14 to 21 years when they were first interviewed in 1979. Personal interviews have been completed with them annually. The sample originally included 12,686 respondents approximately evenly divided among men and women. It has included an over-representation of black, Hispanic and economically disadvantaged white respondents to permit statistically reliable racial, ethnic and socio-economic comparisons. The original sample also included about 1200 respondents who were in military service, but this particular subsample was deleted after the 1984 survey round.

The focus of this research is on a subset of the children who have been born to the female respondents who, as noted, were 14 to 21 in 1979. Of the original 5,828 civilian women interviewed in 1979, fully 5,299 or about 91 percent were still being interviewed in 1988, the outcome year for this study.[2] By then these women were 23 to 31 years of age, and over sixty percent of them were mothers. These 3,336 mothers had borne 6,540 children. Appropriate population weights are available which translate these

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[1] These surveys are administered at The Ohio State University Center for Human Resource Research, with primary funding from the Bureau of Labor Statistics, U.S. Department of Labor. The child assessment data utilized in this research were collected with the financial assistance of the National Institute of Child Health and Human Development of the National Institutes of Health. Data from all the cohorts is made available to the public at cost. Detailed descriptions of all the NLS cohorts and ordering information for the NLS data are available from the NLS Public Users Office, Center for Human Resource Research, The Ohio State University.

[2] Mott and Quinlan, 1992.

cases into a sample of children who may be defined as all children born to a nationally representative sample of women who were 23 to 30 years of age on January 1, 1988. We will look closely at a subsample of this group who were between the ages of five and nine in 1988. The rationale for choosing this subsample follows.

A vast array of socio-economic, demographic and attitudinal information has been collected for the respondents and their families on an ongoing basis, minimizing the need for extensive recall. Most of the information collected in any given survey round has focused on very recent attributes and behaviors that have occurred since the preceding interview. This information includes but is not limited to the following topics: employment, training, educational experiences, basic demographics including marriage, fertility and current household structure, health status and geographic mobility. Additionally, on a periodic basis, the NLSY interviewers have collected information on attitudes and expectations about family and career, self-esteem and a variety of related personal and family behaviors and characteristics, including substance abuse.[3]

Who Are The Study Children?

The primary objective of this research is to examine the process or dynamics of family transitions associated with a father absenting himself (or being always absent) from the mother and child's home. For this reason, our analyses will focus on children who are a number of years past their birth and for whom we can build up a life-long comprehensive socio-economic and demographic profile, from birth to the study outcome year of 1988. For these reasons, several sampling constraints are imposed. First, all the children in this particular study have been born since 1979, the first survey year. In this way, we are assured of having high quality family and maternal information for the whole life of the child. Imposing this limitation is particularly important for our study of the patterning of a father's presence or absence over time because

[3] See the 1992 National Longitudinal Surveys Handbook (Center for Human Resource Research, 1992) for a detailed description of the NLSY sample and data collection.

high quality household information, including data regarding the presence or absence of a father, is only available for the survey years.

Moving from the birth point to the 1988 outcome year, additional age constraints must be imposed. The primary child outcome measures of interest, the Peabody Inventory (PIAT) battery, are only available for children age five and over. Thus our two essential constraints limit the cases in our study sample to children who (1) were born since 1979; and (2) were at least five years of age in 1988. While these constraints are limiting, as will be shown, they nonetheless leave us with an important nationally representative sample of mothers and children who typify an important segment of American women and their children.

The mothers in this sample are, compared to the whole population, relatively young, and their children fully represent children born to younger mothers. Table 2.1 synthesizes several characteristics for this sample. As of 1988, all of the children are between the ages of five and nine. Thus, the primary focus of this research will be to examine associations between family structure and child cognitive and socio-emotional well-being during the early primary school ages. Virtually all of the children will be either in kindergarten or grades one through four.

Of greater interest are the characteristics of the mothers. All the mothers are between the ages of 23 and 31 in 1988; given the age constraints for the children, this means that the mothers were predominately between the ages of 19 and 24 when the children were born. While a significant percentage of the mothers, particularly mothers of children living without their father, were 18 years and younger, by far the largest percentage (over 85 percent) of births occurred at mainstream child-bearing ages. This is somewhat more true for the white families and as noted, for children living with two parents. About one in five of single-parent children were born to women below the age of 19, compared with less than one in ten for father-present children.

Paralleling this relatively youthful pattern of childbearing, it is also clear that we are considering a sample of children whose mothers are relatively less educated than we would find if we looked at a full cross-section of women and children. About 30 percent of all the mothers in our sample had not completed

TABLE 2.1

Characteristics of the Child Sample

(Weighted Estimates)

	Percent Distribution														
	Child Age in 1988					Age of Mother at Birth				Age of Mother in 1988				Maternal Education	
	5	6	7	8	9	18 and Under	19-21	22-24	25 and Over	23-25	26-27	28-29	30-31	% H.S. Dropout	Median Years Completed
TOTAL	25.0	24.6	21.3	19.6	9.6	13.4	38.8	38.7	9.1	17.5	23.0	31.2	28.4	30.1	12.4
Father Present	25.7	24.7	20.9	21.2	7.5	8.2	35.0	45.6	11.2	11.1	21.0	33.3	34.7	24.3	12.5
Father Absent	24.0	24.5	21.9	17.2	12.5	20.8	44.4	28.8	6.1	26.6	25.7	28.4	19.4	38.4	12.3
BLACK	24.0	24.5	20.7	20.3	10.5	19.8	44.6	30.3	5.4	25.6	27.9	26.9	19.6	31.8	12.4
Father Present	19.1	23.7	24.7	19.9	12.6	13.1	46.6	34.4	6.0	14.4	28.9	28.5	27.7	22.7	12.5
Father Absent	26.0	24.9	19.1	20.5	9.6	22.5	43.7	28.6	5.2	30.0	27.6	26.2	16.2	35.5	12.3
WHITE	25.3	24.6	21.5	19.4	9.3	11.9	37.5	40.7	10.0	15.5	21.8	32.3	30.5	29.7	12.4
Father Present	26.4	24.8	20.5	21.4	7.0	7.7	33.7	46.8	11.8	10.7	20.2	33.8	35.4	24.4	12.5
Father Absent	23.1	24.3	23.3	15.5	13.9	19.9	44.7	28.9	6.5	24.8	24.8	29.4	21.0	39.8	12.2

high school by 1988--24 percent for the mothers where the child's father is present compared with 38 percent for their counterparts in father-absent homes. Overall, it is estimated that currently about 87 percent of American women will ultimately complete high school.[4] This 87 percent statistic of course includes a full cross-section of women, including those who delay childbearing and those who never have children. Indeed, mothers of NLSY children who were born between 1984 and 1988, and who were several years older on average when their children were born (about 25.6 compared with 21.8 for the mothers in our sample) have a graduation rate of 82 percent, not very different from that of all women.

Despite these constraints that produce a sample of children whose mothers are younger and less educated than mothers of a full cross-section of children between the ages five and nine might be, our observations about their deficits in experience with fathers and their resulting development will provide insights into the structure and function of families in the United States. This study looks closely at the effects of father-absence on an important nationally representative sample of mothers and children. The effects of father-absence as measured for these children in 1988 will unfold stories and patterns of experience that should be of great interest to those concerned with child and family health and well-being.

[4] U.S. Bureau of the Census, 1988.

Chapter 3. FATHER'S PRESENCE AND ABSENCE: LEVELS AND PROCESS

From the perspective of children, contemporary family structure is highly complex. Although most children still live with both their biological parents, this circumstance is far from universal. As we will show, large proportions of children live in other than two-parent households at some point in their childhood. We will examine the family structure of these children over time and clearly document its instability from year to year. Additionally, we will see that children who are not living with both biological parents may nonetheless be in an environment where they have substantial contact with a male father figure: many "fatherless" children may have a new man in the home, who may be either a spouse or partner of their mother. Others may have a father figure in the home who is not a spouse/partner of the mother, and they may also have continuing contact with a father figure who lives nearby--a grandfather, another biological relative, or a close friend of the mother who is not resident in the child's house but is frequently in contact with the child. Finally, a large proportion of children continue to have substantial contact with a biological father who no longer lives in the home but close enough to maintain substantial and significant contact with the child. These fathering patterns can of course change over time: typically, for example, as the number of years that a father has been absent increases, the likelihood of his having substantial contact with the child declines. From the child's own psychological perspective, each of the possibilities for father-child relations is probably different. A major objective of this study is to consider--to the extent the data permit--the influence of these various fathering patterns on the development of the child.

Evaluating racial differences in child outcomes which may reflect normative variations in family structure is also a major objective of this study. As we will see, while the two-parent household is far from universal among white families it clearly remains the dominant family form. This pattern does not hold among African-American families, where only a modest proportion of children born to relatively younger mothers are living with both biological parents.[1] To some extent compensation may take place, but it is

[1] Frank L. Mott, 1990; U.S. Bureau of the Census, 1992.

perhaps fair to conclude that black children are typically in family environments which are quite different from those of white children. Family compositions are different and, in all likelihood, normative expectations about optimal forms may also be different. Thus from the black child's perspective, it would not be surprising to find different psychological responses to paternal absence than would be experienced by the average white child.

As we know, all families are dynamic institutions. Individuals, including parents, can come and go. Without considering the process of family change, one may severely misinterpret the environment in which children live. In this chapter, we will use the longitudinal strengths of the NLSY data set to explore not only cross-sectional variations and patterns in the family structures of these children. We will also consider the extent to which cross-sectional examinations may in important respects be limiting.

Paternal Presence and Absence In the Early Years of Life

Substantial proportions of the children in our sample either already have their father absent from the home as of the birth point or else witness their father leaving early in life. Such father absence is particularly widespread among children who were born to very young or to black mothers. Recall that while our overall sample disproportionately includes younger mothers, these family units are far from representing population "outliers." By 1983, when the youngest of the children in our sample were born, it is estimated that this cohort of women, who were all born between 1958 and 1965, have completed between 25 to 30 percent of their childbearing. Thus, in most respects, they fully represent relatively younger childbearing for a contemporary cohort of American women who were 23 to 30 in 1988 and as of 1993, are 28 to 35 years old. As may be seen in Table 3.1, even as of the birth point, about 22 percent of the fathers of these children are not living in the child's home, 11 percent for the "non-black" (hereafter termed "white")[2] children and fully 65 percent for the black children. Thus a significant proportion of these children never have a father in residence, and a substantial majority of the black children have an absent father at the

[2] For ease of presentation, the non-black or "white" group encompasses all children whose mother does not call herself black; this includes Asian-Americans, native Americans and all other racial/ethnic groups not calling themselves black.

TABLE 3.1

Transitions in Father Presence-Absence During the First Few Years of Life by Race
(Children Born 1979 - 1983; Transitions Between Survey Points)
(Weighted Estimates)

	Total	Black	White
PERCENT PRESENT AT BIRTH	78.4	35.0	88.9
Left Birth - Survey 1	-1.8	-1.2	-1.9
Entered Birth - Survey 1	+0.1	+0.3	+0.0
PERCENT PRESENT SURVEY 1	76.7	34.1	87.0
Left Survey 1 - Survey 2	-4.7	-6.7	-4.2
Entered Survey 1 - Survey 2	+2.8	+6.1	+2.1
PERCENT PRESENT SURVEY 2	74.8	33.5	84.8
Left Survey 2 - Survey 3	-6.5	-3.8	-7.2
Entered Survey 2 - Survey 3	+2.6	+4.8	+2.0
PERCENT PRESENT SURVEY 3	70.8	34.5	79.6
Left Survey 3 - Survey 4	-3.8	-5.5	-3.4
Entered Survey 3 - Survey 4	+2.6	+5.2	+2.0
PERCENT PRESENT SURVEY 4	69.7	34.3	78.2
Left Survey 4 - Survey 5	-4.8	-4.6	-4.8
Entered Survey 4 - Survey 5	+1.8	+3.9	+1.3
PERCENT PRESENT SURVEY 5	66.7	33.7	74.7
SAMPLE	1714	527	1029

NOTE: The "Birth Point" references the actual birth month. All the other points reference father status at subsequent survey points.

point where they begin life. Table 3.2 shows how closely linked this circumstance is with the age of the mother at the birth event. For children born to the youngest mothers--those under 18 years of age--about half have an absent father from the time of birth; this proportion declines to about 13 percent for children born to 23 to 25 year-old women. Similar patterns hold for black and white children although, for every age, the proportion of fatherless homes is much higher for black children.

Table 3.2 also shows how paternal absence at birth does not necessarily imply continuing father absence. Recall that the mothers of the children are personally interviewed on an annual basis. It is for these survey points that we have the most comprehensive family structure information and are able to clarify for virtually all children whether or not their father is present. The survey points, on average, are one year apart, and the birth point precedes the first survey point by an average of half a year. For black children born to the youngest mothers, the proportion of biological fathers who are absent declines over the first few years of life. Indeed, for births to women at all of the adolescent ages, the proportion of fathers who are absent is substantially lower at the fifth survey point (four and one-half years after birth, on average) after birth than at the birth. Thus the extremely high father-absence rate around the birth for young black families is somewhat ameliorated over the following few years by the gradual entrance or return of some fathers to the home, perhaps partially reflecting a gradual movement by these young families into their own homes that coincides with their psychological maturation, school completion and greater economic viability.

In contrast, father-absence rates among whites increase steadily in the years following birth. For children born when their mothers are 14 to 17 years old, the proportion of fathers who are absent increases from about 32 percent at birth to 38 percent at the fifth survey point. For all the white children, regardless of the mother's age at birth, we witness steady increases in the proportion of fathers who are absent as the child ages.

The data about individuals who are repeatedly interviewed over time in the NLSY permit one to go behind the overall statistics and examine the extent to which the "net" change statistics we have summarized may be masking flows of fathers who are both leaving and entering during this period of

TABLE 3.2

Percent of Fathers Absent During the First Few Years of Life by Race and Mother's Age at Birth

(Children Born 1979-1983, Interviewed Through 1988, Weighted Estimates)

	Birth	Survey One	Survey Two	Survey Three	Survey Four	Survey Five	Sample Size
TOTAL							
14-17	48.2	48.7	47.6	51.3	50.1	49.4	175
18-19	33.3	35.9	41.4	40.3	37.4	41.9	417
20-22	16.3	18.0	19.7	26.2	28.3	31.6	777
23-25	12.7	14.0	14.0	17.5	21.4	23.7	345
WHITE							
14-17	31.6	32.3	29.7	36.2	35.1	38.3	102
18-19	19.5	22.7	30.0	28.5	26.8	32.8	261
20-22	7.1	9.0	11.1	19.0	21.3	24.9	549
23-25	6.7	7.9	7.8	12.3	15.3	17.0	265
BLACK							
14-17	87.1	87.1	89.7	86.9	85.3	75.4	73
18-19	72.3	72.8	73.4	73.4	67.1	67.5	156
20-22	59.6	60.4	60.5	60.2	61.5	63.1	228
23-25	49.3	51.9	52.2	49.7	59.0	65.5	80

approximately five years. Table 3.1 synthesizes these statistics for black and white families. As we have indicated, only about 35 percent of black fathers are present in the home as of the birth of their children. This statistic declines slightly to 33.7 percent by the fifth post-birth survey point.[3] For white children, the percentage of fathers present declines from about 89 percent at birth to about 75 percent by the fifth post-birth survey point. These statistics mask the fact, however, that between the various survey points substantial proportions of fathers are both coming and going. For example, between the first and second post-birth surveys the proportion of black fathers present decreases slightly, from 34.1 to 33.5 percent. During that same period, however, about 6.7 percent of fathers are known to have left (i.e., were present at the first survey but gone at the second), and 6.1 percent are known to have returned--i.e., they were not present at the first survey point but were in the home at the second.[4] Similar patterns may be noted for the white children. What this mix means is that the overall trivial post-birth decline in fathers being absent from the home for black children and the somewhat larger decline for white children in reality masks a considerable turmoil of in and out movement. It has been suggested by many that this flux may well be more psychologically damaging to children than the simple absence of a father. Fortunately, the NLSY provides the individual level longitudinal data required to describe this process accurately.[5]

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[3] The reason for limiting this specific analysis to five post-birth survey points is that since all of these children were born prior to the 1983 survey point and were still being followed in 1988, there are five post-birth survey points available for all of the children. Extending the timeline beyond five survey points rapidly reduces the sample and, more importantly, further limits our ability to generalize about the whole group.

[4] It is acknowledged that these statistics understate actual flows, as we are limited to measuring changes between survey points. For example, a father might leave and return (or vice versa) between surveys without our knowledge. In this regard, our "net" transition statistics are probably quite accurate whereas our gross flows are understatements.

[5] Interpretations based on leaving and returning probabilities can vary considerably, depending on what reference group or denominator one chooses for measuring transitions. For example, if one examines the probability of a father leaving the home in relationship to the proportion of fathers in the home at the preceding survey point or return probabilities as a proportion of those absent at the preceding point, the overall gross statistics in Table 3.1 change considerably. This variation arises because a much larger proportion of the black fathers are already absent as of the birth point: these statistics may be found in Appendix Table 3.1. When considered in relationship to the proportion currently present or absent, it may be seen that black fathers continue to leave at a much higher rate than white fathers in the post-birth period. Additionally, when compared with those already absent, black fathers have much lower probabilities of returning between surveys than is true for their white counterparts.

TABLE 3.3

Patterning of Father's Absence During the First Few Years of Life by Race

(Children Born 1979-1983, Interviewed Through 1988, Weighted Estimates)

	Birth	Survey One	Survey Two	Survey Three	Survey Four	Survey Five	Sample Size
Cumulative % of Fathers "Ever-Absent" by Survey Point							
TOTAL	21.6	23.4	28.0	34.3	37.3	40.7	1714
WHITE	11.1	13.0	17.2	24.3	27.2	31.0	1177
BLACK	65.0	66.7	73.1	76.3	79.7	81.1	537
% of Fathers Absent at Survey Point							
TOTAL	21.6	23.3	25.2	29.2	30.3	33.3	
WHITE	11.1	13.0	15.2	20.4	21.8	25.3	
BLACK	65.0	65.9	66.5	65.5	65.7	66.3	
Cumulative % Fathers Leaving with No Return by Survey 5							
TOTAL	15.6	17.0	20.0	25.4	27.7	31.1	
WHITE	7.6	9.1	11.8	17.7	19.9	23.7	
BLACK	48.7	49.7	54.6	57.2	60.0	62.0	
% of Fathers Leaving with Return by Survey 5[1]							
TOTAL	6.0	6.4	8.0	8.9	9.6	9.6	
WHITE	3.5	3.9	5.4	6.6	7.3	7.3	
BLACK	16.3	17.0	18.5	19.1	19.7	19.7	
Proportion of "Ever-Absent" Fathers Absent at Particular Survey Point							
TOTAL	100.0	99.6	90.0	85.1	81.2	81.8	
WHITE	100.0	100.0	88.4	84.0	80.1	81.6	
BLACK	100.0	98.8	91.0	85.8	82.4	81.8	
Proportion of "Ever-Absent" Fathers Who Have Ever Returned by Fifth Survey Point							
TOTAL	27.8	27.4	28.6	25.9			
WHITE	31.5	30.0	31.4	27.2			
BLACK	25.1	25.5	25.3	25.0			

[1] A father can leave and return more than once.

The variety of patterns and statistics presented in Table 3.3 more directly synthesizes the dynamics of this process. We have noted the percent of fathers who are absent at the various survey points and the movements in and out between surveys. These statistics could significantly understate the proportion of children who have a father "ever-absent" during the first five years. For white children, by the fifth survey point 31 percent have had the experience of having an absent father at some point, even though only about 25 percent of fathers are absent in 1988. Among black children, 81 percent have experienced father-absence sometime, and 66 percent are experiencing it in 1988. In other words, a maximum of 19 percent of all the black children and 69 percent of the white children will have been living with both parents at all surveys between birth and the fifth survey point in 1988. Of those fathers who have left by the fifth survey, slightly under 25 percent have returned at least one time (i.e., were present at at least one survey point) since birth--proportions identical for white and black children.

Father's Presence and Absence In 1988: Patterning and Availability of Father Substitutes

The above tabulations focus on the first few years of life. In this section we will examine in some detail the presence of fathers or other father figures in 1988 as well as the patterning of contact with absent fathers in the years between 1984 and 1988. The focus is on this period because all the children in the study were already born by 1984 and because information on visitation by absent fathers is available for the period from 1984 to 1988. Thus, just as we are able to profile paternal presence-absence patterns for all the children for several years following birth, we can also profile paternal contact patterns for the years leading up to the critical outcome year for which we will be examine linkages between the effects, if any, of paternal absence and the childrens' cognitive and socio-emotional development.

1988: A Summary Perspective

For 1988, our primary "outcome" year of interest, we are able to define fairly comprehensively the patterning of father or father-figure contact for the approximately 1700 children who are the primary focus of our study. These are children born between the 1979 and 1983 survey dates whose mothers were still

being interviewed and who themselves were still being assessed in 1988. This sample of children was briefly described in chapter 2 and will be profiled more comprehensively in chapter 4. For the most part, these children are between the ages of five and eight and, if their fathers are absent, they have been absent for a number of years. Indeed, as of 1988 about two thirds of all absent fathers have been gone at least three years; about 50 percent for white and almost 90 percent for black children.

Aside from living in the traditional environment with two biological parents, a child may live in a wide variety of situations that have meaningful father or father-figure contact. If the child's father is not in residence, the child may still have extensive contact through visitation, either in his or her own home or in the father's residence. In addition, a new spouse or partner to the mother may be filling at least some of the traditional father roles. In some instances, other relatives may be relevant father figures or, as will be seen, other individuals, such as ex-boyfriends or partners (who are not the child's biological father may be actively involved in helping to raise the child. Table 3.4 profiles the patterning of father and father figure presence and absence in 1988. As with much of the analysis, we will concentrate on the patterning for black and white children separately because of the substantial differences in household composition for the two groups. About two-thirds of the white children are living with their biological father. Of the remainder, about 6 percent have never lived with their father and 27 percent have previously had their father in the home. In the homes of about half of the father-absent white children, there is a new man present. This man is equally likely to be a new spouse or a partner of the mother.

Only a moderate percent of the white absent fathers visit with their children frequently; about 23 percent visit at least weekly, an additional 39 percent visit sometimes but less than weekly, and about 38 percent never visit with their children. If one takes into account frequent (at least weekly) visitation, the presence in the home of a new father figure (who may be a spouse or partner of the mother or some other designated male) as well as the presence in the home of a biological father, about 90 percent of all white children have regular contact with a father or father figure. About 70 percent of white children not living with their biological father have regular contact with a father or father figure.

The situation for black children is strikingly different. Only 29 percent are living with their biological

TABLE 3.4

Father/Father Figure Presence and Absence According to Various Definitions by Race

(Children Born 1979 to 1983 and Assessed Through 1988, Weighted Estimates)

	Total		White		Black	
Father Present	59.7		67.1		29.3	
Father Absent	40.3	100.0	32.9	100.0	70.7	100.0
Father Never in Home	13.6	33.7	6.4	19.5	44.6	63.1
Father Previously in Home	26.7	66.3	26.5	80.5	26.1	36.9
"New Spouse"/Partner Present	18.2	100.0	17.0	100.0	23.0	100.0
Spouse	8.9	48.9	9.3	54.7	7.4	32.1
Partner	9.3	51.1	7.7	45.3	15.6	67.9
"No Man" in Home	22.1		15.9		55.1	
Father Absent	40.3	100.0	32.9	100.0	70.7	100.0
Father Visits Weekly	9.7	24.1	7.6	23.1	18.3	25.9
Father Visits Less than Weekly	16.3	40.4	12.9	39.2	30.3	42.9
Other Designated Father Figure[1]	7.0	17.4	6.8	20.7	8.2	11.6
Other Spouse/Partner Present - not Father Figure[2]	1.0	2.5	0.9	2.7	1.6	2.3
No Man Available	6.3	15.6	4.7	14.3	12.3	17.4
No Man Frequently Available[3]	14.3	35.5	10.1	30.7	31.6	44.7
Sample Size	1686		1154		532	

[1] Can be spouse, partner or other designated male.

[2] Mother specifies that new spouse or partner is not a father figure.
Note: for cross-tabulation of spouse/partner present and visitation frequency see Table 3.9.

[3] Includes children whose father visits less than weekly and otherwise has no father figure/spouse/partner of mother available.

father; thus 71 percent do not have a biological father present. Of this 71 percent, 45 percent have never lived in a home with their father and about 26 percent have a father who has previously been present but is absent in 1988. Thus, whereas 20 percent of white absent fathers have never been resident, the comparable figure for black children is 63 percent.

Black children of absent fathers are also less likely than their white counterparts to have a mother who has a new spouse or a partner present, and if a new man is present, he is much more likely to be a partner than a spouse. Whereas about half of the white children of absent fathers lived in a home where a new maternal spouse or partner was present, the comparable percentage for black children is about one-third.

While in an absolute sense black children are more likely to visit an absent father frequently, this greater likelihood appears only because a much larger proportion of fathers of black children are absent. Proportionately, black and white children of absent fathers encounter similar visitation patterns, even though, as will be shown, black absent fathers are more likely to live in proximity to their children. About a quarter of black children of absent fathers see their fathers at least weekly and slightly over 40 percent see their fathers less than weekly. About 31 percent of these black children never see their fathers compared with 37 percent for their white counterparts.

If we take into account all forms of father or father figure contact, we find substantial racial differences in male contact. This contact group includes biological fathers either in the home or visiting frequently (at least weekly), and new fathers in the home, be they spouses or partners of the mother or some other male relative or non-relative. Regardless of the definition used, it appears that black children have less contact with a significant male . Thirty percent of all black children have only limited contact with a male father figure, and ten percent of all white children have limited contact. When we focus on children of absent fathers, we see that 45 percent of blacks and 31 percent of whites have only limited contact with a father figure: i.e., the father visits less than weekly and there is no other father figure available.

Other Father Figures

Table 3.5 profiles for black and white children between the ages of six and nine the nature of the relationship between the childrens' mother and the father figures. (The data in this table are the only data in this report that do not explicitly describe the study children--this detailed relationship information was not available until 1990. These preliminary figures from the 1990 survey round describe children who were 6 to 9 in 1990.) We focus here on the relationship to the mother of a man who is being called the child's father figure where there is no biological father in the home and where we know the biological father is not being called the father figure. For white children, over 70 percent of the time the father figure is the mother's new spouse or the mother's partner, fiancé or boyfriend. In ten percent of these cases there is no father figure. The remaining 18 percent are approximately evenly divided between blood relatives or other friends or acquaintances.

For black children, about half the time, the child's father figure is a spouse or other partner, fiancé or boyfriend of the mother. In 15 percent of the cases there is no father figure. It is interesting to note that over 20 percent of the time the father figure is simply termed "friend." Whether this category includes a significant number of individuals who are really boyfriends cannot be determined. Additionally, it is important to note that only in eight percent of the cases is another relative (e.g., grandparent or uncle of the child) designated as the father figure, and that the black and white percentages are identical in this regard. Thus, in the large majority of cases for both races, designated father figures are spouses, partners or other male friends, although the mix between spouses and other friends varies considerably by race.

Visitation by Absent Fathers

Table 3.6 provides greater detail regarding the nature of visitation by absent fathers. While the racial differences in weekly visitation are not substantial, a larger proportion of black absent fathers are more likely to visit their children on a daily basis. Other than that, no major differences appear between the visitation patterns of the black and white fathers. What is quite important to note, however, is that distinctions in visitation patterns between black fathers who apparently have never lived in the home and

TABLE 3.5
Relationship of Father/Father Figures to Mother by Race and Presence/Absence of Father/Father Figure in Home, Children 6 to 9 Years of Age in 1990
(Weighted Estimates)

	No Biological Father in Home			No Biological Father in Home & Bio. Father is Not Father Figure		
Relationship of Father/Father figure to Mother	TOTAL	Black	White	TOTAL	Black	White
Spouse	27.6	19.1	31.4	47.8	26.7	55.8
Ex-spouse	35.1	19.7	41.9	2.7	3.4	2.4
Ex-partner/Boyfriend	2.6	2.7	2.6	0.7	0.3	0.9
Partner/Fiancé/Boyfriend	10.6	14.5	8.9	18.5	22.9	16.8
Friend	12.9	30.7	5.0	9.6	21.9	4.9
Blood Relative	4.1	4.5	4.0	8.4	8.3	8.5
Other	1.4	0.9	1.8	1.2	1.3	1.2
None	5.6	8.0	4.5	11.1	15.2	9.5
SAMPLE SIZE	850	420	430	369	166	203

TABLE 3.6

Pattern of Paternal-Child Contact and Visitation in 1988 for All Children Born Between 1979 and 1983 Survey Dates and Not Living with Their Father by Race

(Weighted Percent Distribution)

	Total			Black			White		
	Total	Father "Never" Present	Father Present in Past	Total	Father "Never" Present	Father Present in Past	Total	Father "Never" Present	Father Present in Past
DISTANCE FATHER LIVES FROM CHILD	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Within Mile	11.4	15.5	9.3	16.8	16.8	16.7	8.7	13.2	7.7
1 Through 10 Miles	29.1	31.3	27.9	32.9	33.6	31.8	27.1	27.4	27.1
11 Through 100 Miles	28.4	22.6	31.4	22.7	21.9	24.0	31.3	23.7	33.1
More Than 100 Miles	31.1	30.7	31.3	27.6	27.7	27.6	32.8	35.7	32.2
NUMBER OF TIMES FATHER VISITED IN PAST YEAR	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Almost Everyday	5.4	9.3	3.4	10.9	11.0	10.5	2.6	6.3	1.7
1-5 Times a Week	19.0	11.2	23.1	15.5	14.5	17.3	20.8	5.7	24.4
1-3 Times a Month	16.5	13.1	18.3	16.9	16.6	17.5	16.3	7.1	18.5
Once Every 2-3 Months	16.8	15.7	17.4	16.6	15.3	18.9	17.0	16.4	17.1
Once a Year	7.7	7.3	7.9	10.2	9.9	10.6	6.4	2.9	7.2
Never/Deceased	34.6	43.4	30.0	29.9	32.7	25.1	37.0	61.5	31.1
LENGTH OF LAST VISIT (Excluding "Never Visits")	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less Than Day	46.0	60.0	40.1	65.7	66.1	65.2	35.0	42.7	33.9
1-6 Days	49.2	33.8	55.8	27.6	26.0	30.2	61.3	56.2	62.0
7 Days or More	4.8	6.2	4.2	6.7	8.0	4.6	3.7	1.1	4.1
SAMPLE SIZE	790	342	448	371	243	128	419	99	320

those who are absent but previously were in residence are inconsequential. This pattern clearly does not hold true for white families, where white fathers who have always been absent are conspicuous by their continuing lack of contact with their children.

The concept of "never resident" needs further elaboration because of its substantive importance. Recall from Table 3.4 that fully 45 percent of all black children and 63 percent of black children of absent fathers are reported as never having lived with their father in the home.

Among black children, about 25 percent who have never lived with their father have at least weekly visitation and about one-third have no contact with their father--figures not substantially different from those for other black children with absent fathers. In contrast, only about 12 percent of white children who have never lived with their father have weekly visitation and fully 60 percent never see their father. While black fathers who have never been in residence are slightly more likely to live relatively nearby than are white fathers--less than ten miles away--this modest geographical distinction, either in terms of cause or effect, cannot appropriately explain the difference. It is useful to conjecture about how much these racial distinctions in visitation and residence patterns may be definitional, reflecting cultural variations in what constitutes a "living-together" relationship. It is possible that part of the overt racial distinction in father-presence/absence statistics may reflect cultural differences in defining residential presence or absence. The distinction between frequent visitation and actual residence in a home may be a fine one and may vary between cultural subgroups. This conjecture is certainly not unreasonable in a general cultural milieu where male-female relationships among all racial groups appear to have less stability than has historically been true. To some extent, we may be witnessing a greater willingness by black than white families to acknowledge a somewhat less than perfect father-mother-child linkage.[6]

Probing somewhat further into this racial distinction in frequency of visitation, it may be seen in Table 3.7 for both white and black children that paternal proximity is very closely associated with extensiveness of contact. However, regardless of the distance between their homes, black fathers appear to be more likely to visit their children on a dally basis, whereas white fathers are more likely to visit at least

[6] Mott, 1990, p. 515.

TABLE 3.7

Distance Father Lives from Child by Frequency of Visitation and Race

(Weighted Percent Distribution)

	Almost Every Day	1-5 Times a Week	1-3 Times a Month	2-11 Times a Year	Once a Year	Never	TOTAL	Sample Size
TOTAL RACE	5.9	20.3	17.9	17.7	8.3	30.0	100.0	718
Less Than Mile	28.7	39.1	20.3	7.6	3.3	1.0	100.0	93
1-10 Miles	6.1	32.4	26.4	16.4	1.4	17.4	100.0	220
11-100 Miles	1.6	19.8	23.2	24.0	7.3	24.2	100.0	184
100 Miles and Over	1.3	2.3	4.1	16.9	17.5	57.9	100.0	221
WHITE	2.8	21.8	17.5	18.2	6.7	33.0	100.0	379
Less Than Mile	23.2	53.1	16.8	5.5	1.4	0.0	100.0	31
1-10 Miles	0.7	37.5	25.7	14.2	0.9	21.1	100.0	109
11-100 Miles	0.4	19.5	25.5	27.5	3.4	23.7	100.0	110
100 Miles and Over	1.4	2.5	3.0	15.9	16.4	60.9	100.0	129
BLACK	12.0	17.2	18.8	16.8	11.3	24.0	100.0	339
Less Than Mile	34.5	24.4	24.0	9.7	5.4	2.0	100.0	62
1-10 Miles	15.0	24.1	27.5	20.0	2.2	11.2	100.0	111
11-100 Miles	4.7	20.8	16.7	14.3	17.9	25.5	100.0	74
100 Miles and Over	1.1	1.8	6.8	19.1	20.2	51.1	100.0	92

NOTE: Includes all father-abent children with live father.

weekly. While it is not possible to interpret the direction of causality, it is clear that once a father is substantially removed geographically, his likelihood of visitation is very low.[7] Overall, close to 90 percent of children who live within a mile of their father are visited at least monthly; this statistic declines to about 65 percent if the father lives one to ten miles away, 45 percent if he lives between 11 and 100 miles, and less than ten percent if the father's residence is at least 100 miles away. For all practical purposes, residence of more than 100 miles away is almost synonymous with complete physical, and perhaps psychological, separation of father from child.

To some extent, absent fathers residing further away substitute lengthier visits for an inability to visit frequently, and this phenomenon is more prevalent among white families. For example, as seen in Table 3.8, of the 23 percent of white children who visit with their father less than monthly, about two-thirds visit for more than a day per visit; in contrast, about two-thirds of the 27 percent of black children in the same category have an average visit of less than a day. In both cases, similar patterns are apparent regardless of the absent father's residential history.

Complementarity of Visitation and "New Man" Presence

Contrary to expectations, there are only modest differences in the frequency of paternal visitation between children living in homes where a new man was present and children living in homes where the mother does not have a new spouse or partner present. This may be related to the fact that for many of these families (particularly the black families), the father has been absent for a long time. Indeed, when we examined the comparable patterns for many of these same children two years earlier, in 1986, we found only limited overlap between visitation and the presence of new men in the home. At that point in time, one paternal status essentially precluded the other.[8] However, by 1988, almost 90 percent of black and fifty percent of white fathers have been absent at least three years. Thus, tensions and frictions typically linked with a relationship breakdown may have subsided with the passage of time. Table 3.9 shows that

[7] Seltzer et al, 1989; Furstenberg et al, 1988.

[8] Mott, 1990.

TABLE 3.8
Father-Child Interaction Patterns for Father-Absent Children by Race
(Weighted Estimates)

	All Father-Absent Children			Father Never Present Children			Father Present in Past		
	Total	White	Black	Total	White	Black	Total	White	Black
Father Visits at Least Weekly for a Day or More	10.1	12.1	6.3	5.8	3.6	7.0	12.4	14.1	5.0
Father Visits at Least Weekly for Less Than a Day	14.3	11.2	20.2	14.6	8.4	18.3	14.0	11.9	23.7
Father Visits 1-3 Times Monthly for a Day or More	12.0	14.0	8.0	6.4	5.5	7.0	14.9	16.1	9.8
Father Visits 1-3 Times Monthly for Less Than a Day	4.4	2.3	8.5	6.8	1.7	9.9	3.1	2.5	6.1
Father Visits Less Than Monthly for a Day or More	13.4	15.3	9.6	10.5	13.2	8.8	14.9	15.8	10.9
Father Visits Less Than Monthly for Less Than a Day	11.3	8.1	17.5	12.5	6.1	16.3	10.6	8.6	19.5
Father Never Visits (Includes Deceased)	34.6	37.0	29.9	43.4	61.5	32.7	30.0	31.1	25.1
SAMPLE SIZE	790	419	371	342	99	243	448	320	128

NOTE: The wording of the question was "In the past 12 months (or since child has been separated from his/her father) about how often has (child) seen his/her father?"

the anticipated associations between the presence of a new man in the home and a reduction in the child's contact with the father are not particularly in evidence. Overall, 22 percent of children who have a new man in the home visit at least weekly with their biological father compared with 26 percent where no new man is present. Subject to the modest caveat that the presence of a new man is associated with a slightly lesser likelihood of any visitation occurring, we find that the traditional expectation of greater visitation in situations where there is no potential conflict with a new father figure does not appear to be a significant phenomenon, at least for this group of children at this point in their lives. From a policy perspective this finding may be of some importance. It suggests that traditional notions of conflict and lack of complementarity in the potential for child economic and psychological support by two father figures may be a less significant problem, at least after some time has passed by, than may have been historically true.

Recent Trends In Father-Child Contact

The above statistics have profiled the family composition dynamics from the child's perspective as of one point in time, 1988. From the early-in-life trends depicted in the first section of this chapter, it should be apparent that we are examining family situations that are in flux; fathers and father figures of various kinds are coming and going. As we will describe further in chapter four, many facets of the family are undergoing change, including its economic well-being and the presence and absence of various family members. Earlier research examined the family dynamics for most of these same families in 1986, two years earlier before our current outcome year.[9] Not surprisingly, more fathers were present, fewer children had new father figures, and those fathers who were absent were more likely to maintain contact with their children. Just as the first five years of the child's life could be profiled (since all the children have been in the survey at least five years) the last several years, 1984 to 1988 can be similarly described. Whereas the profile of the early years of life suggested a greater flux for black families (in particular, the very early absence of many fathers with correspondingly smaller proportions leaving after birth), an examination of the 1984 to 1988 dynamics suggests proportionately more transitions for white families. In other words,

[9] Mott, 1990

TABLE 3.9
Percent of Children Maintaining Contact with Absent Father in 1988 by Current Relationship Status of Mother and Race
(Weighted Estimates)

	Visiting at Least Weekly	Visiting Less Than Weekly	Total Percent Ever Visiting	Sample Size
TOTAL FATHER-ABSENT CHILDREN				
New Man in Home	21.9	38.0	59.9	329
Spouse	14.6	33.3	47.9	145
Partner	28.8	42.4	71.2	184
No Man in Home	25.9	42.5	68.4	474
BLACK FATHER-ABSENT CHILDREN				
New Man in Home	28.7	35.6	64.3	121
Spouse	8.5	35.3	43.8	40
Partner	38.3	35.8	74.1	81
No Man in Home	24.5	46.4	70.9	257
WHITE FATHER-ABSENT CHILDREN				
New Man in Home	19.6	38.7	58.3	208
Spouse	15.8	32.9	48.7	105
Partner	24.1	45.7	69.8	103
No Man in Home	27.0	39.6	66.6	217

black children are more likely to have had their father absent very early in life whereas white children are more likely to have their father leave home in the toddler or early school ages. This variation of course may have implications for helping to explain racial variations in father-absence effects in children's development.

Table 3.10 profiles the family structure of the black and white children at the 1984 to 1988 (except 1987) survey points and highlights some important racial distinctions. First, it may be seen that, for all races taken together, the 1984-1988 period witnessed a continuing significant decline in the presence of biological fathers; the proportion of children who had fathers in the home sank from about 73 to 60 percent. This decline was occurring during a time period when the child cohort was aging from approximately one to five to five to nine years of age. While both the black and white families showed a significant decline in the presence of fathers in the home, a larger decline was evidenced for white children--from 81 percent in 1984 to 67 percent in 1988. The comparable black decline was from 37 to 29 percent. Paralleling this decline, there was, not surprisingly, a substantial and comparable increase in the presence of other men, with the mix of this "other man" category, varying somewhat by race, as was described earlier.

In the preceding section, we have emphasized the potential importance of continuing contact with an absent father. This contact has been viewed as a particularly important mechanism whereby black children continue to enjoy the presence of a father figure. As Table 3.10 clarifies, while frequent visitation continues to play an important role in father-child contact among blacks,, its role clearly diminishes as time goes by. This diminution is associated with the greater length of time that the average black father has been absent from the home. In 1984, about 27 percent of black children visited at least weekly with an absent father, compared with only 6 percent having a new man in the home. By 1988 these figures had turned around; only 16 percent were visiting frequently, compared with 23 percent having a new man present. For black children, the percent having no significant male contact (according to these definitions) remained essentially unchanged at about 30 percent. In other words, declines in frequent visitation and father presence were approximately mirrored by a comparable increase in the "new man" category.

TABLE 3.10
Paternal Contact Profile by Race: 1984-1988 Surveys
(Weighted Estimates)

	Father Present	Other Man Present	Visiting at Least Weekly	Visiting Less Than Weekly (Includes "Never" Visits)	Sample Size
TOTAL					
1984	72.5	5.3	8.1	14.1	1727
1985	69.1	8.6	7.1	14.7	
1986	66.2	13.1	7.7	13.0	
1988	59.7	18.2	7.8	14.3	
BLACK					
1984	36.7	6.4	26.5	30.7	550
1985	34.9	9.6	20.2	35.3	
1986	34.1	14.7	20.0	31.2	
1988	29.3	23.0	16.1	31.6	
WHITE					
1984	81.0	5.1	3.7	10.2	1177
1985	77.8	8.4	4.1	9.8	
1986	73.8	12.7	4.8	8.7	
1988	67.1	17.0	5.8	10.1	

NOTE: "Other Man" supersedes visit weekly category where a child falls into both categories. Other man present category is understated for 1984 and 1985 as Nonspouse-Nonpartner Father Figure information was not available.

For white children, the percent with no significant male contact remained essentially unchanged at about ten percent. In this case, the increase in the proportion of children with new men in the home essentially matched the decline in the presence of biological fathers.[10]

The importance of the duration of the father's absence on the frequency of child-father contact may be noted in Table 3.11. In particular, the three middle panels examine father visitation for children whose father has been absent since 1984 but previously present. For white children whose father has been absent since 1984, there is a modest decline in frequent (i.e., at least weekly) contact between 1984 and 1986 with some recovery noted between 1986 and 1988. This pattern is consistent with the notion that as time goes by improving parental relations may result in increasing father-child contact. It should also be noted, however, that the percent of white children whose fathers never visit increases substantially over the four-year period, from about 31 to 46 percent.

For comparable black children, there is a steady and substantial decline in weekly contact, from about 41 to 25 percent, and a modest increase in the percent whose fathers never visit. It should be recalled, however, that 1988 visitation percentages for these black children of absent fathers still remains substantially above the white percentage, even though the average black father has been absent from the home for a substantially longer period.[11]

While the various father and father figure contact patterns have been described in some detail, the results presented here are not meant to suggest equivalence between these various family forms in terms

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[10] Even these detailed "net" statistics mask more detailed gross flows in in and out of categories. The more detailed statistics that show the complexity of over-time transitions may be found in Appendix Table A.3.2. The dominant black and white movements are from infrequent visitation to the presence of a new man and from biological father presence to new man presence. Additionally, for black children, substantial proportions were in the less frequent visitation (less than weekly) category at both points.

[11] The research additionally considered whether or not there are significant variations in the father's absence and visitation patterns related to the gender of the child: Are fathers more or less likely to leave or more or less likely to visit frequently if the child is a boy (or girl)? These results are synthesized in Table A3.3. For the most part, the patterns/trends were erratic. There is no statistically valid evidence from the table suggesting a preference by fathers for not leaving or visiting more frequently boys or girls. As will be noted in the discussion in Chapter 4, however, there is indeed statistically valid evidence, in a multivariate context, that fathers are more likely to be absent from white homes if the child is female.

TABLE 3.11

Trends in Father Contact and Visitation Over Time: All Children, Children with Absent Fathers Since 1984 and Children with Never Present Fathers
(Weighted Percents)

	All Children			Father-Absent Children			Father Never Present Children		
	1984	1986	1988	1984	1986	1988	1984	1986	1988
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Father Absent	73.4	67.2	60.8	--	--	--	--	--	--
Visits at Least Weekly	8.9	8.6	9.8	29.9	20.4	20.1	29.8	22.2	20.6
Visits 2-12 Times a Year	7.6	10.7	13.4	29.5	31.9	31.0	21.8	26.2	29.5
Visits Annually	3.2	2.6	3.1	13.6	8.6	10.1	16.2	10.4	7.6
Never Visits (Includes Deceased)	6.9	10.9	13.0	26.9	39.1	38.9	32.2	41.2	42.4
WHITE	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Father Present	81.7	74.6	68.0	--	--	--	--	--	--
Visits at Least Weekly	4.5	5.5	7.7	21.3	11.7	15.9	16.7	7.0	12.4
Visits 2-12 Times a Year	5.9	9.0	10.9	32.5	36.6	29.0	17.7	27.1	23.9
Visits Annually	2.3	2.0	2.1	14.8	8.0	8.8	21.0	9.9	3.0
Never Visits	5.6	8.9	11.3	31.3	43.7	46.3	44.6	56.1	60.6
BLACK	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Father Present	37.7	35.2	30.0	--	--	--	--	--	--
Visits at Least Weekly	28.0	21.8	18.7	40.7	31.3	25.2	37.9	31.6	25.6
Visits 2-12 Times a Year	15.0	18.0	24.0	25.7	26.1	33.4	24.4	25.7	32.9
Visits Annually	6.9	5.4	7.4	12.2	9.2	11.7	13.3	10.6	10.3
Never Visits	12.4	19.5	19.9	21.5	33.4	29.7	24.5	32.0	31.2

NOTE: (1) Total sample includes 1632 children (1133 white and 499 black) for whom visitation information is available for all points.
(2) Father Absent sample includes 489 children (210 white and 279 black).
(3) Father Never Present sample includes 323 children (96 white and 227 black).

of their long-term psychological or intellectual impact on the child. The issue of differential impact on the child will be considered to some extent in later sections of this monograph. These contact patterns should, however, strongly suggest the considerable heterogeneity of family forms for black and white children. Additionally, our results show that these forms are subject to change over time. The implications of these changes, however, are ambiguous. For example, although the decline in visitation over time that has been described above is clear, it is also likely that those fathers who continue to maintain contact may differ in important ways from those who lose contact with their children as time goes by. This difference may not only reflect the father's greater interest in the child, but a greater likelihood that the mother and father have maintained cordial relations.

Similarly, the impact of the presence of new men on the children in the home can be linked not only with the transience or permanence of that individual but--of equal importance--with the psychological and cognitive traits which that person brings to the newly-formed family unit. This study will examine only the relative impact of different family forms in a general sense--e.g., Is a "new man," on average, preferable to continuing contact with a father, or vice versa?

Chapter 4. DIFFERENCES BETWEEN FATHER-PRESENT AND FATHER-ABSENT FAMILIES

There are essentially two reasons given for expecting that children in families headed by other than two biological parents may have traits or follow behavior paths different from children in "intact" families. As other research has suggested, children of absent fathers may be disadvantaged compared to other children because their parents both prior to and following the marital or family transition have characteristics known to be associated with less successful parenting, or they may live in neighborhoods or cultural milieus less conducive to "successful child raising." Secondly, the parents may be following behavior paths less conducive to successful child raising.[1]

From the perspective of a large scale survey certain kinds of traits and behaviors can be quantified far more easily than others. In particular, it is possible, using the NLSY, to control for a fairly wide range of pre-disruption maternal and family attributes and behaviors that other research has suggested may be associated not only with the probability of a marital or family transition but additionally, and independently, with child development outcomes. The more successful we can be in controlling for this range of factors, the more confident we can be that the measurable effects of any explanatory variables that directly proxy for a marital transition may indeed be measuring the effect of the transition on a child's intellectual or socio-emotional development. From a substantive perspective, it is of some importance to clarify which pre-transition maternal or family factors may be important independent predictors of a marital transition. Here the term transition encompasses more than just whether or not a father is present: consistent with our description of the transition process, we will examine the extent to which various manifestations of a father's absence impact differentially on children's development. These measures will include the potential importance of (1) father's absence per se; (2) the difference between having had a father in residence in the past compared with never having had a father present; and (3) the presence of a new man, be he a

[1] Stolberg et al, 1987; Zill, 1988; Hetherington, 1989.

maternal partner or spouse, in the home. Because these different father figure environments may be associated with different maternal characteristics as well as with different socio-economic or demographic home environments, we will explore in this chapter the extent to which varying family forms may be associated with different family environments. Any understanding of why the effects of fathers on children may vary across home environments is contingent on a sensitivity to variations in that home environment.

Family Traits and Behaviors From Before the Child's Birth

The NLSY includes a wider range of maternal and family characteristics than have typically been available to researchers who study issues associated with father absence and child development.[2] We use these socio-economic, demographic and social psychological inputs to explore the antecedents to marital transitions for black and white families. Virtually all of the analyses in this study will consider the effects of father's absence for black and white children separately. This decision is based first on our awareness that there are important differences in black and white family structure. There are also strong theoretical rationales, described in Chapter 1, for anticipating differences between black and white families in the effect of a father's absence and its socio-economic concomitants on a child's intellectual and socio-emotional development.

A Tabular Perspective

Table 4.1 provides overall mean statistics describing characteristics of both black and white homes according to whether the father is present or absent in 1988. These are the homes of the sample of children we have been examining--children born between 1979 and 1983 and still being interviewed in 1988. The group still being interviewed constitute over 90 percent of the original NLSY birth cohort, and no apparent biases have been found to be related to this very modest attrition.

We focus first on the pre-birth maternal and family characteristics. These traits and behaviors may reasonably be considered to represent pre-separation characteristics that could independently affect the

[2] Center for Human Resource Research, 1992.

TABLE 4.1
Mean Statistics for the Child Sample
By Father Presence and Absence in 1988 and Race
(Weighted Estimates)

	White			Black		
	Total	Father Present	Father Absent	Total	Father Present	Father Absent
MATERNAL/PREBIRTH						
% High School Dropout as of Pregnancy	36.0	29.7	48.2	45.2	31.9	50.6
% with 12 Years of School as of Pregnancy	48.1	50.8	43.0	40.3	49.4	36.6
% of Moms Working 40+ Weeks Prebirth	36.2	40.0	28.8	21.6	33.3	16.8
% of Moms Working 20-39 Weeks Prebirth	19.7	19.1	20.8	16.2	14.5	16.9
% of Moms Working 1-19 Weeks Prebirth	18.4	16.7	21.6	18.5	15.1	19.9
% of Children with Older Sibling at Home	38.1	41.1	32.1	42.3	43.9	41.7
% of Moms with AFQT Score Below Average	26.2	21.8	34.7	73.4	68.7	75.2
% of Children Born to Teenage Moms	20.7	14.9	31.9	35.0	25.5	38.4
% of Children Age Five or Six in 1988	49.0	50.1	46.7	47.4	42.1	49.5
% of Moms who Smoked During Pregnancy	43.6	37.6	55.1	31.1	30.3	31.5
% of Moms who Drank Alcohol > Monthly During Pregnancy	18.8	17.7	20.8	16.5	14.9	17.1
Infant Birth Weight (Ounces)	119.1	120.6	116.3	111.5	110.9	111.7
% Beginning Prenatal Care after 3 Months	18.8	16.4	23.3	23.2	21.4	24.0
% Living in Urban Area During Pregnancy	73.3	71.3	77.2	82.2	79.2	83.4
% Attending Church at Least Monthly	53.8	55.7	50.2	65.6	67.2	65.0
POST-BIRTH						
% of Weeks Worked by Mom, Birth to 1988	44.0	45.0	42.0	40.0	48.3	36.6
Average Family Income Birth-1988 < $10,000 (adjusted to 1988)	9.8	5.1	18.7	33.5	8.6	43.7
Average Family Income Birth-1988 $10,000-19,999	29.2	21.3	44.7	38.3	43.5	36.1
Mom Occupation Post-birth is 1-395 (3 digit Census)	23.6	25.5	19.8	14.8	18.4	13.3
Mom Occupation Post-birth is 401-984	18.7	17.3	21.3	19.4	22.7	18.0
% of Weeks Enrolled in School, Birth-1988	3.2	2.7	4.2	7.6	5.1	8.6
% of Surveys with a Health Problem, Birth-1988	8.0	7.5	9.0	9.8	11.0	9.3
% of Surveys with Grandparent Present, Birth-1988	9.0	5.0	16.9	29.9	15.5	35.8
# of Years with Non-Maternal Care, Years 1-3	1.2	1.2	1.3	1.3	1.4	1.2
Sample Size	1177			537		

likelihood of a father leaving as well as a child's subsequent development.[3] Additionally, aside from its obvious relevance for interpreting the meaning of father absence effects, understanding in what ways father-present and father-absent homes differ from each other may have important policy ramifications. The explanatory value for the pre-birth variables rests for the most part on the dual premises that (1) some women have traits which may make them more likely to be successful partners as well as successful mothers; and (2) some children have innate characteristics which can jointly affect how that child performs later in life and additionally potentially affect the probability of his or her parents staying together. The listing of maternal/pre-birth variables in Table 4.1 largely subsumes these two kinds of factors: Table 4.1 permits us to contrast the different family forms in terms of these maternal/family and child traits. (The set of variables included in this table are identical to the independent variables in the child outcome analyses that follow.)

Maternal intellectual attributes may be measured by the maternal education and maternal AFQT (Armed Forces Qualification Test) variables. The AFQT score is a component of the standard entry examination given to new military entrants.[4] All of the NLSY respondents were administered this test, which purports to measure the respondent's aptitude in a number of basic skill areas, including mathematics and reading.

Maternal socio-emotional attributes that could perhaps be precursors of better or poorer mothering traits include maternal smoking or drinking during pregnancy, late versus early use of prenatal care, and perhaps the frequency of church attendance and the age of the mother when the child was born. Infant birth weight is included as a proxy for child quality (maternal smoking and drinking may also be indirect proxies for child quality). Other variables are included as proxies for other aspects of the family

[3] A theoretical exception to this premise relates to the fathers who apparently have never lived in the home. In this study, we do, however, assume a similar process although the maternal traits of women in "never father" households are unique in some respects. This assumption will be tested in this research.

[4] In 1980, virtually all NLSY respondents completed the Armed Services Vocational Aptitude Battery (ASVAB). The AFQT is a subset of the ASVAB incorporating selected verbal and arithmetic subscores. See Center for Human Resource Research, 1992b, pages 105-106.

environment as well as precursors to the child's early environment (e.g., urban residence, the presence of older siblings).

Even a cursory examination of Table 4.1 suggests that while a limited number of pre-birth traits and behaviors are indeed significant generalizable precursors of subsequent father absence, a number of factors are predictors for only one racial group and other factors seemingly are not of predictive value, at least in this uncontrolled tabular presentation.

As may be seen in Table 4.1, for both black and white family units, the mothers of children whose fathers are absent are much more likely not to have completed high school, but within the father-present or father-absent categories, we see no apparent racial differences in maternal education level. In contrast, the other variable with significant intellectual content, maternal AFQT score, suggests significantly lower scores for mothers in father-absent homes, but additionally, much greater likelihoods of below-average scores for blacks compared with whites. This disparity may be related to a greater likelihood for blacks with a given level of schooling to have received a poorer quality education.

Children of both races who live in father-absent homes were more likely to have been born to an adolescent mother. The levels of early childbearing, however, are somewhat higher among blacks. Additionally, black and white children still living with their fathers in 1988 are more likely to have mothers employed year-round during pregnancy, although employment levels are generally higher for white mothers. Any potential anticipatory employment as a precursor to a marital transition which often has been found in other research is not evident in this tabular presentation.

Focusing on pregnancy-linked behaviors that potentially could be detrimental to father and child, we find that mothers whose partners are absent are much more likely to smoke during pregnancy than their counterparts whose partners are present, a pattern not in evidence for black children. In general, white mothers have substantially higher probabilities of smoking, a pattern found generally among younger white women.[5] No parallel variations appeared in the use of alcohol, either by race or father presence-absence. However, there is modest evidence, particularly for whites, that women whose partners are absent were

[5] Mott and Haurin, 1988; Metropolitan Life Insurance Company, 1984.

less likely to have received early prenatal care during pregnancy. We have explored this issue further in other studies and have found that having a man in the home during that pregnancy is indeed an important independent predictor of not receiving proper prenatal care.[6]

A Multivariate Perspective

Table 4.1 provided average characteristics for the families of the children being examined. However, as already indicated, just examining father presence and absence is limiting because it does not provide any insights into how the process of father absence may be mediated by a number of other contingent circumstances. These include the arrival of a new man in the home, frequent visitation by the father, or the duration of the father's absence from the home. Additionally, the above description accurately portrays variations in pre-birth characteristics by whether or not the father is subsequently (in 1988) absent, but it tells us nothing about which of these factors may be important independent predictors, perhaps in a causal context, of the various father-absent permutations.

Tables 4.2 and 4.3 use multichotomous logistic procedures for white and black children respectively to sort out the extent to which the pre-birth traits and behaviors differentiate homes where the father will continue to be present from those that will have a variety of father-absent statuses. The results are drawn from four sets of logistic equations that contrast the importance of these early background factors as predictors of different subsequent family statuses.[7] In all instances, father presence is coded one and the various alternatives are coded zero. Thus, a plus sign implies that the particular explanatory variable is positively linked with father presence in 1988 and a negative sign the opposite.

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[6] Mott and Abma, 1991.

[7] The sets contrast the following possibilities: (1) father presence compared with other father/father figure available, compared with no father/father figure available; (2) father presence compared with father absence; (3) father presence compared with frequent (at least weekly) visitation, compared with a "new man" in the home; and (4) father presence compared with father never present, compared with father previously present. In all cases, father presence is coded one compared with zero for the various alternatives.

White Children

Focusing first on the equations in Table 4.2 that describe white children, we see that, in contrast with having a father in the home, low maternal education is consistently linked with virtually all of the father-absence permutations, with the sole exception of the visitation category. That is, in families where the father continues to maintain significant substantial contact with the child, the mother's educational level is not significantly different from families where the father continues to be present. This finding is consistent with the notion that these particular father-absent families may have greater affinity between the parents that may lead to more continuing contact between the father and child.

The intellectual counterpart to school completion is higher scores on the AFQT. This measure shows a more limited association with father-presence, although it does attain significance in the overall father presence-absence equations as well as in the equation which contrasts father-presence with the situation where a father is absent and the child has no significant father or father figure contact--the situation that from some theoretical perspectives may, from the child's point of view, represent the worst status situation. This result is consistent those perspectives; these mothers may be women who have trails which are least likely to attract new partners.

An examination of the pregnancy-linked maternal behaviors suggests results consistent with the tabular statistics of Table 4.1, but provide additional important clarification. Almost regardless of the family form in which the child lives in 1988, it may be generalized that white families having a father in the home are much less likely to have a mother who smoked during pregnancy. This is a strong systematic finding which holds for virtually all father-absent family forms and is most pronounced for the mothers of children where the father has <u>never</u> lived in the home and where there is no current father or father figure contact.[8] Given the growing body of evidence about the potential harm that may result from secondary effects of smoking, the implications of this finding for the child's physiological development warrants further study.

[8] This finding is consistent with results we found in earlier research (Abma and Mott, 1991), in which there was strong evidence that younger mothers and mothers without partners were substantially more likely to use substances during their pregnancy.

TABLE 4.2

Prebirth-Maternal Determinants of Various Paternal-Absence Configurations in 1988: Multinomial Logit Estimates for White Children

(Children Born 1979-1983)

	FATHER PRESENT VRS.													
	Father Absent		Father/Father Figure Available		No Father/Father Figure Available		Frequent Visitation		"New Man" in Home		Father Never Present		Father Present in Past	
High School Dropout	-.78[a]	(.25)	-.59[b]	(.28)	-1.39[a]	(.49)	-.58	(.67)	-.61[b]	(.30)	-2.63[a]	(.92)	-.56[b]	(.27)
12 Years of School	-.46[b]	(.22)	-.30	(.24)	-1.03[b]	(.46)	-1.02[c]	(.57)	-.17	(.26)	-1.68[c]	(.90)	-.37[c]	(.22)
Worked 40 or More Weeks Pre-birth	.14	(.19)	.08	(.22)	.26	(.28)	.74	(.45)	-.07	(.24)	.52	(.40)	.07	(.20)
Worked 20-39 Weeks Pre-birth	.05	(.20)	-.16	(.23)	.14	(.29)	.29	(.45)	-.26	(.25)	-.32	(.32)	.01	(.21)
Worked 1-19 Weeks Pre-birth	.18	(.20)	-.35	(.22)	.14	(.28)	.04	(.43)	-.46[c]	(.24)	.14	(.37)	-.25	(.21)
Had Older Sibling	.43[a]	(.15)	.46[a]	(.17)	.37	(.22)	.23	(.35)	.53[a]	(.19)	1.09[a]	(.32)	.31[c]	(.16)
Mother Had Below Average AFQT Score	-.34[b]	(.16)	-.25	(.18)	-.48[b]	(.23)	-.10	(.37)	-.29	(.20)	-.44	(.29)	-.30[c]	(.17)
Child 5-6 and Mom Under 20 at Birth	-.79[a]	(.27)	-.71[b]	(.30)	-.95[a]	(.35)	-1.24[a]	(.56)	-.59[c]	(.32)	-1.12[a]	(.41)	-.66[b]	(.29)
Child 5-6 and Mom 20 and Over at Birth	.15	(.15)	.20	(.26)	.01	(.24)	-.28	(.38)	.32[c]	(.19)	.25	(.34)	.15	(.16)
Child 7-8 and Mom Under 20 at Birth	-.22	(.22)	-.22	(.25)	-.23	(.32)	-.85	(.52)	-.09	(.27)	-.03	(.40)	-.25	(.24)
Mother Smoked During Pregnancy	-.54[a]	(.14)	-.40[b]	(.16)	-.81[a]	(.21)	-.50	(.32)	-.38[b]	(.17)	.90[a]	(.28)	-.48[a]	(.15)
Mother Drank at Least Monthly During Pregnancy	-.09	(.17)	-.24[c]	(.19)	.23	(.27)	-.62[c]	(.36)	-.15	(.21)	-.55[c]	(.30)	.02	(.19)
No Prenatal Care First 3 Months of Pregnancy	-.22	(.17)	-.10	(.19)	-.42[c]	(.23)	.12	(.39)	-.16	(.20)	-.64[b]	(.28)	-.11	(.18)
Infant Birth Weight (Ounces)	.006[c]	(.003)	.007[c]	(.004)	.005	(.005)	.020[a]	(.007)	.001	(.004)	.007	(.006)	.006[c]	(.004)
Urban Residency During Pregnancy	-.48[a]	(.15)	-.44[b]	(.18)	-.55[b]	(.23)	-.38	(.36)	-.44[b]	(.19)	-.91[a]	(.33)	-.40[b]	(.16)
Attended Church at Least Monthly, 1979	.11	(.14)	.08	(.15)	.15	(.20)	-.74[b]	(.33)	.27	(.16)	.00	(.26)	.12	(.14)
Gender of Child is Male	.34[a]	(.13)	.30[b]	(.15)	.42[b]	(.20)	.60[b]	(.31)	.25	(.16)	.08	(.26)	.38[a]	(.14)
Intercept	-.85[c]	(.50)	.98[c]	(.56)	2.76[a]	(.80)	1.08	(1.06)	1.74[a]	(.62)	4.63[a]	(1.23)	.78	(.52)
Maximum Likelihood Ratio (Chi Square)	1376[a]		1872[a]		1872[a]		2093[a]		2093[a]		1723[a]		1723[a]	
Sample Size	1177		1177		1177		1177		1177		1177		1177	

NOTE: (1) Father Present outcome coded one; other categories coded 0. Separate equation sets included are: (a) Father absent; (b) Father/Father Figure available and not available; (c) Frequent Visitation, "New Man" and "No Man"; and (d) never present and present pre-1988.

(2) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.

In contrast, there is no evidence of significantly greater alcohol use by mothers in father-absent environments. As suggested earlier, however, there is evidence that in homes of whites where the father has never been present, the mother is less likely to use early prenatal care. Thus to the extent that these prenatal maternal behaviors may have longer-lasting implications--either direct physiological costs or other non-observable maternal behaviors associated with those we have described--it would appear that white children in homes where a father has never resided may be particularly disadvantaged.

The equation set in Table 4.2 also suggests strong systematic evidence of an independent association between residential location and paternal configuration, a finding which may be socio-economically as well as ecologically based. It is clear that children of white urban mothers are less likely to have their fathers in the home, and that this finding is not significantly mediated for any of the father-absence configurations other than visitation. Living in urban areas does apparently make it somewhat easier for a child to maintain contact with his or her absent father. Once again, however, it may be noted that the strongest coefficient is found for children in the father never-present category. Perhaps the phenomenon of family abandonment may be most prevalent among white urban family units.

One final finding of some importance that will be addressed repeatedly in this research relates to the gender issue, Is there significant evidence of parental or father favoritism towards boys or girls? In much of the remainder of this study, we will consider whether or not gender differences appear in how well children succeed emotionally and intellectually in father-absent homes. Here we directly consider whether there are important variations in the likelihood of the father leaving the home, contingent on whether the child is male or female. The results of Table 4.2 suggest that for families of white children, fathers are indeed more likely to leave the home if the child is a girl. Additionally, in comparison with father-present status, girls are more likely to be prevalent in most of the father-absent family configurations--other than the situations where a new man is present or where no father has ever been present, which are essentially "gender neutral" statuses. Thus, at least at this level of multivariate analysis, there is some compelling evidence that fathers may less readily leave the child's home if that child is a boy.

The primary variable in these equations that is meant to proxy directly for a child's positive or negative trait is the child's birth weight. We hypothesized that children with so-called "inferior" characteristics like low birth weight, all else being equal, might be (1) more likely to experience father-absence; and (2) subsequently exhibit inferior intellectual or emotional characteristics themselves. With regard to the first of these two hypotheses, the equations of Table 4.2 present very weak supporting evidence. Heavier birth weight children are marginally more likely to be living with two parents.

It is useful to conclude this examination of white father-absence patterns by highlighting one non-finding, the non-significance of all the pre-birth maternal employment variables for white mothers. At least at this very early pre-birth life cycle point, we find no evidence of anticipatory employment behavior. Women whose spouses or partners will soon be leaving are neither more nor less likely to be working during the pregnancy leading to the child's birth than are other women. Indeed, even women in families where the father has never been in evidence follow this behavior path. Whether this non-significant pattern is followed in the post-birth years will be considered later.

Black Children

Table 4.3 provides identical multivariate analyses for black family units. The coefficients in these equations typically are less likely to attain statistical significance partly because of the smaller sample size and partly because of the reality that the absence of a black father appears to be more of a "random" event--at least insofar as we are able to explain their behavior on the basis of this set of explanatory variables.[9]

The patterning of education with father's absence is quite similar for black and white children. Maternal high school completion has a similar positive association with father's presence for both racial

[9] The limitations inherent in attempting racial comparisons without a full-blown equation system interacting race with all the variables of interest are acknowledged. This interactive procedure is indeed followed in the forthcoming analyses examining the effects of father's absence on the children's intellectual and socio-emotional development. To completely interact with race all the relevant explanatory variables in the equation would have resulted in a massive set of independent variables where more general interpretation would be difficult and statistical degrees of freedom greatly reduced.

TABLE 4.3

Prebirth-Maternal Determinants of Various Paternal-Absence Configurations in 1988: Multinomial Logit Estimates for Black Children

(Children Born 1979-1983)

	FATHER PRESENT VRS.													
	Father Absent		Father/Father Figure Available		No Father/Father Figure Available		Frequent Visitation		"New Man" in Home		Father Never Present		Father Present in Past	
High School Dropout	-.68[c]	(.37)	-.63	(.42)	-.75[c]	(.42)	-.75	(.68)	-.65	(.46)	-.53	(.40)	-.84[c]	(.46)
12 Years of School	-.03	(.30)	.01	(.35)	-.07	(.34)	-.45	(.60)	.17	(.38)	.43	(.33)	-.63[c]	(.38)
Worked 40 or More Weeks Pre-birth	.60[b]	(.28)	.36	(.32)	.88[a]	(.34)	.43[c]	(.49)	.13	(.35)	.76[b]	(.32)	.32	(.34)
Worked 20-39 Weeks Pre-birth	-.24	(.32)	-.04	(.37)	-.39	(.35)	-.03	(.50)	-.06	(.41)	-.10	(.35)	-.47	(.38)
Worked 1-19 Weeks Pre-birth	-.24	(.30)	-.01	(.34)	-.43	(.32)	.17	(.47)	-.08	(.38)	-.09	(.32)	-.51	(.36)
Had Older Sibling	-.18	(.22)	-.19	(.25)	.55[b]	(.25)	-.46	(.34)	-.05	(.28)	.32	(.24)	-.01	(.26)
Mother Had Below Average AFQT Score	-.10	(.24)	-.21	(.27)	.01	(.27)	.05	(.38)	-.35	(.31)	-.26	(.26)	.10	(.28)
Child 5-6 and Mom Under 20 at Birth	-.76[c]	(.39)	-1.09[b]	(.43)	-.43	(.44)	-1.34[b]	(.58)	-.96[b]	(.47)	-.68	(.42)	-.93[b]	(.46)
Child 5-6 and Mom 20 and Over at Birth	-.55[b]	(.24)	-.52[c]	(.28)	-.59[b]	(.28)	-.33	(.44)	-.01	(.31)	-.39	(.27)	-.74[b]	(.30)
Child 7-8 and Mom Under 20 at Birth	-.32	(.31)	-.58	(.36)	-.02	(.36)	-1.11[b]	(.48)	-.27	(.40)	-.43	(.33)	-.01	(.41)
Mother Smoked During Pregnancy	.06	(.23)	.26	(.26)	-.11	(.25)	.25	(.37)	.30	(.29)	-.20	(.25)	.50[c]	(.29)
Mother Drank at Least Monthly During Pregnancy	-.32	(.28)	-.29	(.32)	-.35	(.31)	-.97[b]	(.40)	.17	(.38)	-.57[c]	(.30)	.09	(.36)
No Prenatal Care First 3 Months of Pregnancy	-.07	(.24)	.04	(.28)	-.17	(.27)	.03	(.37)	.04	(.30)	.23	(.26)	.23	(.31)
Infant Birth Weight (Ounces)	-.004	(.005)	-.005	(.006)	-.004	(.006)	-.009	(.008)	-.005	(.06)	-.004	(.006)	-.005	(.006)
Urban Residency During Pregnancy	-.46[c]	(.26)	-.65[b]	(.30)	-.28	(.29)	-.28	(.39)	-.87[b]	(.36)	-.40	(.28)	-.57[c]	(.33)
Attended Church at Least Monthly, 1979	.18	(.22)	.04	(.25)	.32	(.25)	-.29	(.36)	.20	(.28)	.12	(.24)	.27	(.27)
Gender of Child is Male	-.17	(.20)	-.18	(.23)	-.16	(.23)	-.41	(.32)	-.08	(.26)	-.29	(.22)	.02	(.24)
Intercept	.51	(.75)	1.74[b]	(.86)	.71	(.85)	3.14[a]	(1.20)	2.19[b]	(.96)	.92	(.82)	.74	(.94)
Maximum Likelihood Ratio (Chi Square)	601[a]		1090[c]		1090[c]		1311[a]		1311[a]		1044		1044	
Sample Size	537		537		537		537		537		537		537	

NOTE: (1) Father Present outcome coded one; other categories coded 0. Separate equation sets included are: (a) Father absent; (b) Father/Father Figure available and not available; (c) Frequent Visitation, "New Man" and "No Man"; and (d) never present and present pre-1988.

(2) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.

(3) Omitted reference groups for explanatory variables are (1) college attendance; (2) no work pre-birth; and (3) child 7-8 and Mom 20 and over.

groups. However, the consistent positive association between high AFQT scores and father-presence that was evidenced for white children is not present for blacks. Similarly, the strong association between smoking and father-absence that appeared for white families is not present in the black equations. There is, however, a weak positive association, at least in some instances, between the mother's early drinking and father's absence. This pattern is most pronounced in homes where the biological father continues to maintain some contact with the child--a pattern that was also observed for white families.

Also paralleling the white families, evidence of urban residence is statistically linked with a number of the father-absence configurations, suggesting that traditional two-parent value systems may remain stronger in contemporary rural America.

Two important distinctions between the black and white families need to be recognized. First, whereas we found that white fathers were less likely to leave the home if the child was male, no such gender discrimination appears for black families. This racial distinction in gender preference may be substantively linked with gender distinctions in father effects on childrens' development that will be highlighted in many of the subsequent findings of this study.

Finally, we find that black women who remain in intact families are much more likely to be employed during pregnancy in contrast with their white counterparts: this is a statistically significant racial distinction. This pattern for black women is particularly pronounced when we compare families where no father has ever been present or where no father or father figure is available. This perhaps suggests that, in some respects at least black family units where both biological parents remain present are a highly selected out sample of families more so than is true for their white counterparts.

Post-birth Trends in Employment, Income and Family Structure: Links with Father- Presence and-Absence

The above discussion highlighted potential precursors to the father-absenting process. We will here now examine more directly the process that parallels the father's absenting himself. In other words, in the years between (or even preceding) the child's birth and 1988, what is the patterning of the mother's employment, the family's economic well-being and the presence of other essential family members,

particularly grandparents in the home? These specific variables have been chosen because of their obvious social program and policy relevance. The patterning will be contrasted for three kinds of families: where a father is always present, where a father has been partially present since the child's birth but is no longer present, and where a father has apparently never been present. Our objective here is to distinguish those three family types along these three essential dimensions. In no way is this description intended to imply causation as all three of these factors could be rationalized in different situations as being contributing causes as well as consequences of family transitions.

Maternal Employment

The bottom panel of Table 4.4 describes the mother's employment intensity for the three father configuration categories from two years (survey points) preceding the child's birth through two survey points following the birth. For both black and white mothers, there is a consistent pattern of greater average weeks worked for women whose spouse or partner (termed "partner" in the following discussion) is always present. Although the racial discrepancy for the mothers of father-present children is considerable through the birth year, in the two years following the birth, this racial gap in maternal employment completely disappears. This convergence reflects the fact that the white women whose partners are present and who work more intensely preceding the birth are proportionately less likely to return to work following the birth.

White women whose partners are never present and those whose partners leave at some point following the birth show similar patterns. Their levels of employment intensity in the two years preceding the birth are considerably lower than for their partner-present counterparts, but both groups of women show significant declines in employment following the birth. In general, the patterning of employment intensity for the three categories of women narrows following the birth, reflecting the sharper decline and lesser recovery witnessed by the partner-present group.

Black partner-absent mothers also show a sharp decline in employment intensity. Their employment drops to very low levels in the first post-birth year even though, as will be shown, they are much more likely to have access to extended family care than do their white counterparts. By the second

TABLE 4.4

Trends in Family Income and Maternal Employment
From Two Surveys Before Birth to Two Surveys After Birth by Race and Paternal Presence Between Birth and 1988
(Weighted Estimates)

	Survey Year (Point)					Sample Size
	T - 2	T - 1	Birth Year	T + 1	T + 2	
FAMILY INCOME (1988 DOLLARS)						
TOTAL						
Dad Never Present[1]	18,409	17,656	16,543	17,260	13,299	234
Dad Partially Present[2]	20,671	19,593	19,203	18,486	17,799	557
Dad Always Present[3]	27,257	26,370	28,533	27,641	29,944	908
BLACK						
Dad Never Present	15,193	15,605	15,178	14,545	14,319	154
Dad Partially Present	17,470	16,010	14,799	14,369	14,368	154
Dad Always Present	20,394	19,396	21,872	21,706	23,685	88
WHITE						
Dad Never Present	22,059	19,984	18,093	20,341	12,141	80
Dad Partially Present	21,541	20,566	20,399	19,604	18,732	403
Dad Always Present	27,614	26,732	28,880	27,950	30,270	820
MEAN WEEKS WORKED BY MOTHER IN PRECEDING YEAR						
TOTAL						
Dad Never Present	20.1	20.1	20.9	14.8	18.3	508
Dad Partially Present	23.6	23.7	23.2	15.2	19.5	1162
Dad Always Present	31.8	32.4	32.0	22.2	23.9	1698
BLACK						
Dad Never Present	16.2	17.7	18.9	12.8	18.2	342
Dad Partially Present	16.7	19.2	19.0	13.2	16.6	366
Dad Always Present	23.0	25.9	27.1	21.5	26.9	231
WHITE						
Dad Never Present	24.9	23.2	23.5	17.2	18.3	166
Dad Partially Present	25.7	25.1	24.5	15.8	20.4	796
Dad Always Present	32.5	32.9	32.4	22.2	23.6	1467

NOTE: Sample included children born between 1981 and 1986 and interviewed every year.
[1] Not present any point birth - 1988; [2] Present some points birth - 1988; [3] Present all points birth - 1988.

post-birth year, the racial discrepancy in employment intensity has narrowed for women whose children have never had their fathers in the home and is relatively modest for the other father-absent group. To the extent that extensive early post-birth employment is viewed by some as potentially detrimental to a child's early intellectual or emotional development, particularly where a father is not present in the home, these results suggest that the potential for negative consequences is limited. Black and white women in already or soon-to-be disrupted homes average only about 17 to 20 weeks of employment per year compared to somewhat higher levels for their partner-present counterparts.[10]

Table 4.5 profiles the entire birth-to-1988 period in summary form for the mothers of the children whose fathers are always-present, sometimes-present, and never-present. This table documents how the employment of black mothers in the longer run is much more sensitive to father-presence than is white mother's employment. For white women, no significant variation appears between the three fathering patterns in the proportion of weeks worked by the mother from the child's birth to 1988. Thus while maternal employment intensity at the disaggregated individual level may differentially affect white children according to whether their fathers are present or absent, there is no reason to believe that overall differential maternal employment levels between father-presence and father-absence among white children should make a difference, since their patterns are so similar.

We see this finding reinforced when we examine the immediate pre- and post-marital transition employment pattern for the white mothers in families where the man has absented himself in the post-birth period. As may be seen in Table 4.6, there is no evidence of substantial change in average weeks worked by the mother in the years surrounding the father-leaving event, although there is a modest increase in employment, from an average of 22.4 weeks worked in the father-leaving year to 24.8 weeks by the second survey point following that transition.

If one follows the white mothers up to the 1988 survey point, we see that eventually the employment gap associated with the absence of a man diminishes and ultimately almost vanishes. As may

[10] In these tables the birth year is defined as the 12 months preceding the survey year which includes the child's year of birth. T - 1 and T - 2 refer to the two surveys preceding that point and T + 1 and T + 2 to the subsequent survey points.

TABLE 4.5

Percent of Weeks Worked by Mother Between Birth and 1988 by Recent Father-Presence/Absence Status and Race

(Weighted Percent)

	Percent of Weeks Worked Birth-1988							
	None	1-19	20-49	50-79	80-100	Total	Median Percent	Sample Size
WHITE								
Father Present All Surveys 1984-1988	10.7	23.5	26.3	22.8	16.7	100.0	35.8	249
Father Present Some Surveys 1984-1988	8.6	27.9	25.7	27.0	10.8	100.0	35.6	266
Father Present No Surveys 1984-1988	12.7	19.6	27.9	25.7	14.1	100.0	36.7	249
BLACK								
Father Present All Surveys 1984-1988	11.4	12.6	27.5	22.1	26.4	100.0	48.5	132
Father Present Some Surveys 1984-1988	20.4	29.8	24.8	14.9	10.1	100.0	20.0	117
Father Present No Surveys 1984-1988	19.8	29.5	22.7	15.7	12.3	100.0	20.1	304

TABLE 4.6

Maternal and Family Characteristics From Two Surveys Before Father Leaving To Two Surveys After Father Leaving by Race: Family Units Where the Father Left After the Birth Year (Weighted Estimates)

	T - 2	T - 2	Leaving Year	T + 2	T + 2	Sample Size
% with Grandparent Present						
White	25.6	24.8	31.7	21.3	25.0	416
Black	58.5	52.7	53.1	46.8	46.3	264
Mean Maternal Weeks Worked						
White	22.0	22.2	22.4	24.6	24.8	380
Black	16.0	18.3	20.0	19.1	22.2	234
Mean Family Income (1988 Dollars)						
White	16,887	18,093	10,992	14,568	17,729	166
Black	12,575	11,811	12,030	12,787	12,785	84

NOTE: Sample includes all families where father left between 1981 and 1986, thus permitting at least two survey points before and after leaving. Leaving year is defined as year preceding survey point which is in the calendar year that father left.

be seen in Table 4.7, by 1988, there is little difference in weeks worked in the year between women where the child's father is still present and women in the two father-absent categories. Thus the pattern of gradual increase in employment found soon after the partner-leaving event apparently does continue. This pattern undoubtedly reflects the economic need of the family unit as well as the fact that the children are reaching school age.

In contrast, for black children, we find huge differences in maternal employment intensity according to whether a father is present or absent. In black homes where the child's father is always present, mothers have worked on average about half of the weeks in the interval compared with only twenty percent of the weeks for the mothers in the two categories of father-absent homes.[11] This pattern is generally supported by the evidence of Table 4.6, which shows an increase in mean weeks worked by black women, from 16.0 two years preceding the transition to 22.2 weeks by two years after the father's absence. Additionally, as may be seen from Table 4.7, even as of 1988, very substantial differences in weeks worked remain between the women in father-present and father-absent families.

In summary, black women where the child's father is absent initially are much less likely to be employed than their white counterparts, although this gap diminishes as time goes by. Additionally, mothers of black children whose fathers are present are much more likely to work in the post-birth years. This pattern is also consistent with the notion that black families with mainstream two-parent stability represent more of an outlier population, perhaps in terms of unmeasured psychological attributes, in comparison with their black father-absent counterparts than is true for white family units. Earlier research with this same data set documented how selected segments of the young black mothers seem to have more mainstream desires for economic improvement and upward mobility than their white counterparts.[12]

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[11] More detailed statistics on the precise patterning of maternal employment leaving prior to giving birth and employment return following birth may be found in Table A.4.1. These results suggest that partner-present black mothers-to-be leave employment much sooner than their white counterparts, but enter employment as quickly in the immediate post-birth period. A similar racial difference exists for households where the father is always absent, although the levels of leaving are higher and the levels of early entry lower.

[12] Mott, 1986.

TABLE 4.7

Selected Family Characteristics Between 1984 and 1988 By Recent Father Presence/Absence Status and Race

(Weighted Estimates)

	White						Black					
	1984	1985	1986	1987	1988	Sample Size	1984	1985	1986	1987	1988	Sample Size
GRANDPARENT IN HOUSEHOLD (PERCENT OF HOUSEHOLDS)												
Father Present All Surveys 1984-1988	3.4	2.9	3.7	3.2	2.9	671	7.4	2.9	5.5	3.4	2.0	107
Father Present Some Surveys 1984-1988	9.8	11.3	12.3	11.3	11.8	282	23.3	23.5	23.5	18.0	15.9	133
Father Present No Surveys 1984-1988	28.0	17.5	17.0	15.9	16.8	208	46.3	37.2	30.7	27.7	27.2	278
PERCENT OF HOUSEHOLDS IN POVERTY[1]												
Father Present All Surveys 1984-1988	13.3	11.8	8.4	9.1	9.1	636	25.8	17.3	27.1	17.8	25.0	99
Father Present Some Surveys 1984-1988	27.8	28.5	32.1	33.2	27.6	268	57.3	62.3	59.6	58.6	59.7	127
Father Present No Surveys 1984-1988	53.2	46.7	48.8	40.9	42.4	201	67.5	65.8	63.6	60.4	54.7	262
MEAN FAMILY INCOME[1] (1988 DOLLARS)												
Father Present All Surveys 1984-1988	24,632	26,531	28,926	33,390	32,597	671	21,954	21,858	21,087	25,092	26,460	107
Father Present Some Surveys 1984-1988	19,286	20,955	21,253	20,782	17,171	282	12,167	11,865	13,724	13,151	14,441	133
Father Present No Surveys 1984-1988	15,005	14,724	15,986	18,194	19,267	208	12,433	12,111	13,309	14,280	12,569	278
MEAN NUMBER OF WEEKS WORKED BY MOTHER												
Father Present All Surveys 1984-1988	22.4	24.5	25.3	27.6	28.6	671	23.2	28.1	29.4	32.5	33.4	107
Father Present Some Surveys 1984-1988	18.3	21.9	23.5	25.5	28.5	282	17.0	20.7	20.7	26.9	26.9	133
Father Present No Surveys 1984-1988	18.0	23.3	23.1	25.8	25.2	208	14.9	18.1	22.7	27.0	24.6	278

NOTE: Statistics are for income in the year preceding the survey year.

Economic Well-being

In a somewhat similar manner, we now look at the pattern of income advantage and disadvantage for the father-present and-absent families. Not surprisingly, we find parallels between the maternal employment patterns described above and the concomitant income patterns. Table 4.4 shows that for black families, regardless of the specific life cycle point one considers, households where the father is never present and those where the father is sometimes present have essentially similar income flows. Both of these flows are well below those of the small percent of black households where the father is always present. This pattern at least partly reflects the comparable maternal employment patterns for the two father-absent configurations as well as the significantly higher employment level at all points in time for the father-present families.

For the white sample, the father-present family units also have significantly higher family incomes than all other groups--the white father-absent family units as well as all the black families. Additionally, until the second survey after the birth point where the gap begins to widen, there is little difference in income between the "never" and "part" father family units. The white father-present families' higher income partly reflects the higher working propensity for the white mothers and additionally is related to the higher earning capacity of both the men and women in these family units, a direct reflection of their greater education as well as their longer employment track record.

Table 4.6 defines income transitions associated with father-leaving for the families of the black and white children. The data suggests for the white families a large decline in family income in the father-leaving year followed by a dramatic recovery by two years after the father-leaving event. In stark contrast, for black families there is little decline or recovery in income when the father leaves. This result essentially corroborates the earlier results of Table 4.4, which show relatively flat income profiles in the shortrun for all three black family configurations.

Table 4.7 suggests a rather erratic pattern in income distribution as well as poverty status for the three family types in the years leading up to 1988, our primary outcome year. Transparently clear, however, is the overwhelming association between poverty status and household structure for both white

and black households. Among blacks in 1988, over 50 percent of both the father non-present family types are below the poverty line, compared with 25 percent for the father-present units. The comparable white statistics are substantially lower. Thus even though by 1988 black and white maternal employment patterns for father-absent families have narrowed greatly, the black father-absent families are much more likely to have lower incomes and to be in poverty. The higher poverty rate for the black families reflects both lesser earnings capability and larger family sizes (the poverty threshold for families is closely linked with family size; larger families require higher incomes to meet basic needs). Part of this larger black family size is related to the presence of a grandparent in the household--individuals who may provide psychological and physical comfort but who also represent additional mouths to feed.

Grand Parent Assistance

As may be seen in Table 4.8, large proportions of mothers are living with their parent(s) at the two survey points preceding the child's birth. This household configuration derives from the fact that at this time, many of the mothers are still adolescents living in their parental home, and large proportions have not yet formed permanent relationships with members of the opposite sex. Those mothers who are more likely to be in a relationship--either the father of their child is present from birth or the father is sometimes present--are indeed less likely to be in a home with their parents, be it their own home or their parents' home, at the survey immediately preceding the birth.

While family units where a man is absent frequently have the assistance of a grandparent during the child's first few years of life, even for these families, grandparental support rapidly declines as time goes by. By the second survey after birth, for both races together the percent of children whose father has never been present but who have a grandparent in their home has declined to 35 percent from 52 percent in the birth year. For families where the father left after birth, the decline is from 27 to 17 percent.

Table 4.7 follows the children and their families from 1984 up to 1988, and further substantial declines are noted. By 1988, for all except black families where no father has been present, the percentages of family units where a grandparent is present are modest. This decline in grandparental

TABLE 4.8

Trends in Grandparent Presence

From Two Surveys Before Birth to Two Surveys After Birth by Race and Paternal Presence Between Birth and 1988

(Weighted Estimates)

	Survey Year (Point)					Sample Size
	T - 2	T - 1	Birth Year	T + 1	T + 2	
% OF HOUSEHOLDS WITH GRANDPARENT(S) PRESENT						
TOTAL						
Dad Never Present	63.4	58.3	52.4	48.9	35.2	565
Dad Partially Present	47.0	37.1	26.6	19.5	16.7	1285
Dad Always Present	29.5	16.9	7.2	4.2	4.3	1748
BLACK						
Dad Never Present	70.9	65.3	59.8	52.0	40.1	382
Dad Partially Present	59.8	53.0	40.9	33.6	27.8	401
Dad Always Present	45.8	33.6	18.3	9.0	7.5	232
WHITE						
Dad Never Present	53.5	49.1	42.6	44.8	28.7	183
Dad Partially Present	43.1	32.2	22.3	15.2	13.3	884
Dad Always Present	28.3	15.6	6.4	3.8	4.0	1516

NOTE: Sample included children born between 1981 and 1986 and interviewed every year.

[1] Not present any point birth - 1988; [2] Present some points birth - 1988; [3] Present all points birth - 1988.

presence is due to a variety of factors, including the entry of new men into the households, the ability of the mothers to make other arrangements, and the continuing departure of the mothers and their children from the mothers' parental households.

While we have described a tendency of grandparents to provide assistance in connection with a birth event, there is little evidence of grandparental entry into the daughter's household resulting from the departure of the spouse or partner. As may be seen in Table 4.6, for white families there is a very temporary increase in the presence of grandparents associated with the father-leaving. For black women, there is no evidence in this regard; on the contrary, in the year following the father's exit, the proportion of black families that include a grandparent declines. Thus the data are consistent with the notion that many young childbearers may become pregnant and bear their first child while still living in their parents' household, particularly their mother's household.

While grandparents undoubtedly provide their daughters psychological support in often difficult situations, it remains unclear how significant and positive their longer-term impact is. As we have already seen, the families that are most likely to have grandparents present--black families where men are absent--are also the families where the mother is by far the least likely to be employed. In addition, as we will show, there is no apparent evidence of positive intellectual or socio-emotional benefit for children because of a grandparent's presence. It may be, however, that grandparents are more likely to enter and remain in households where the need is greatest--where daughters have few mothering skills and where their grandchildren may be developing early emotional problems. Additionally, relatively "successful" young family units who are living in the grandparental home may be more likely than others to move out into their own residence. An apparent but false negative association between grandparental presence and children's problem behavior could appear in such cases.

Chapter 5. PATERNAL ABSENCE AND CHILDRENS' BEHAVIOR PROBLEMS

Uniqueness of the Research

The available research on the associations between marital transitions and their effect on children is extensive but diffuse. Much of this research has been cross-sectional in orientation, describing associations between family characteristics and a child's intellectual or emotional development at one point in time--the time the survey is taken. The emphasis of such research typically has been on short-term consequences of divorce and, as often as not has considered constrained samples that limit the possibility of making reliable generalizations.[1]

The research described here also has limitations. The sample of children we examine were disproportionately born to younger mothers, although the wide range of controls included in the multivariate analysis partially neutralizes this limitation. The children are all between the ages of five and nine in 1988, the outcome year and, on average, they are several years removed from the transition event. It is entirely possible that if we were examining these children at younger or older ages, the results could be different. The children would then not only be at a different maturational stage, but they would additionally be either closer or further removed from the time of father-leaving.

The major strengths of our research approach have been described earlier. We have a large nationally representative sample of children. We have a comprehensive set of explanatory variables that can more effectively control for spurious associations between the set of variables measuring the paternal absence configurations and the child outcomes. Additionally, the explanatory variables can be temporally ordered so that we can have some confidence that many of our inputs could logically impact causally on the outcomes. We can be reasonably comfortable about the quality of these inputs because they were gathered contemporaneously; thus extensive retrospection was not required. We can be confident that the

[1] For example, Demo and Acock, 1988; Furstenberg and Cherlin 1991; Shinn 1988; Marino and McCowan, 1976.

pre-birth traits and behaviors of the mother are reasonable proxies not only for pre-birth maternal characteristics but, more importantly, that they represent maternal and family characteristics that precede in time most of the father-leaving points.

Most available research has examined consequences for children from the perspective of an adult marital transition, most typically, researchers consider the consequences for a child of having his or her parents divorce. While this question is extremely important, within the context of contemporary American family structure, particularly for younger families and minorities, this perspective can be limiting. As is generally known, a substantial proportion of younger children of all races, but particularly black children, are born outside of a formal marital union, and indeed the parents frequently have remained unmarried up to the point where the relationship has been terminated. Additionally, as we have described, a substantial proportion of black children are born and live in homes where a biological father has seemingly never been in residence. From the perspective of the child, particularly a younger child, we suggested that the most relevant question, regardless of the formal nature of the arrangement between the child's mother and father, would be, Is the father present? and Does the father remain present? This approach represents the philosophical orientation of this study. Here we will primarily be examining whether or not a father's presence or absence, not the parent's marital status, makes important measurable differences in the child's life.

Answering these questions is not our only objective. There has been and continues to be considerable interest in whether or not various fathering forms and configurations may in certain essential respects be substitutable for each other. Such speculation may be particularly relevant for younger children like those in this study. In some instances, these children have never known their biological father or he has departed early enough in the child's life that he represents only a distant memory. In such instances, any new man in the home, particularly one of long standing, may represent the real "one and only" father figure to the child. The availability of information on the presence of a new father figure--be he a partner, spouse or other relative or acquaintance of the mother, permits us to carefully consider this issue. Additionally, the availability of visitation information permits a comparison of the relative importance of

continuing contact with an absent father in comparison with interaction with a new man who is in the home. All of these comparisons, which frequently are not possible because of data constraints, can be accomplished in this study because the relevant inputs are available.

Most importantly, we utilize several child assessments for our outcomes, assessments that are relatively reliable, well acknowledged, and have reasonably high face validity as proxies for the childrens' emotional and intellectual well-being. Thus, while no single research effort can provide definitive results, the data and methodology we use can provide strong presumptive evidence about the longer-term impact of a father's absence from the home on the development of children between the ages of five and nine.

Research Methods

The basic multivariate approach in much of the following analysis provides parallel ordinary least square (OLS) regressions for each of three child assessment outcomes. We will first examine the associations between various fathering configurations and an overall behavior problems score as well as six behavioral subscores. Next we will use a similar procedure to examine the determinants of child's mathematics and reading cognition. In all instances we will consider the extent to which the effects of father-absence on children may vary by race and gender.

With regard to each outcome, three parallel OLS equations are developed. The three regressions for each outcome include: (1) only the relevant paternal-absence configuration (essentially an "uncontrolled" father-absence effect); 2) all of the maternal (essentially pre-birth) characteristics listed in Table 5.4, including of course the father-absence variable(s); and 3) all the maternal and post-birth variables plus the father- absence variables. While the patterning of causation between all of these factors of course remains complex, it is perhaps fair and useful to specify a temporal ordering. With limited exceptions, the maternal traits and behaviors reference a point prior to the child's birth and (except for the truly "father-never-present" situations), prior to the father's departure from the home. They represent some characteristics which can be anticipated to be predictive of a child's cognitive development directly (e.g., maternal AFQT and education) or indirectly--as proxies for better or worse mothering patterns (e.g.,

prenatal care) or positive or negative family affective role behaviors (e.g., smoking, drinking, regular church attendance). These characteristics also may logically be considered as meaningful antecedents to many of the post-birth behaviors, including the form of the family disruption.

The set designated "other factors" in Table 5.4 are essentially proxies for characteristics that are subject to change in conjunction with changes in father-presence (i.e., husband or partner). By incorporating these sets of variables into the equation in a stepwise manner, we can gain important insights into how a child's development is linked with maternal traits per se as well as with family and maternal factors that may change because of a father's leaving.

Because there are strong theoretical and empirical reasons for anticipating that the effects of the father's absence on behavior problems and cognition will vary not only by the form of the father-absence configuration (e.g., visit, new man present, no man present), but also by the race and/or gender of the child, these factors are built into the multivariate analyses. First, in many instances, separate equations are developed which include different permutations of father's absence. One set of equations simply compares father's presence with father's absence. A second set includes father present, father previously present and father never present; different categories may be omitted as a reference category depending on which categories are being compared.

A third set includes categories for father present, "no new man in home," no frequent (weekly) visitation, and no significant male contact (i.e., neither new man or visitation), termed "no man present". This series permits us to consider, for example, the relative impact of "visitation" in comparison with "new man," and so on. A fourth set combines visitation with "new man" to permit a direct comparison between father present, "no father or father figure contact," and "other (i.e., visit or "new man") father figure contact".

Additionally, in most instances the relevant father figure configuration categories are interacted with the child's gender and race (black-nonblack) to consider the extent to which the various father-absence effects may vary by the child's race and gender. This comparison is the central focus of the multivariate analysis. Because of the plethora of equations, most of the results are presented in summary form only.

That is, only the regression coefficients measuring the net effect of a particular father-absence category for a particular race-gender group are presented.

The summary tables include three sets of parameters: (1) the "uncontrolled" father absence effects; (2) the father absence effects net of the maternal factors; and (3) the father absence effects net of the maternal and post-birth factors. One would anticipate that maximally negative outcome effects would appear in the uncontrolled equations because most of the explanatory characteristics have a high face validity for suggesting more negative associations in father-absent than In father-present environments. We anticipate that father-absent coefficients will become increasingly positive as more controls are added to the equations.

Some Caveats

Whereas the empirical evidence linking a father's absence with less than optimal child cognitive development is quite ambiguous, the evidence for behavioral maladjustment is more systematic. Much of the available literature has however focused on the short run--the period immediately following the father's leaving the home--and typically has not considered advantages or disadvantages to the child that may result from substitute fathers or father figure arrangements. Because the NLSY follows children and their families for a number of years through and following the marital transition process, we have a longer post-disruption timeframe and consider the emotional consequences of a father's absence at a point in time further removed from the immediate trauma that is typically associated with a disruption. It is additionally possible at least partially to clarify the impact of new father figures or of continuing contact with an absent father. Indeed, given the passage of time, we conjecture that the biological fathers who maintain significant contact through visitation are probably selective and represent those men most motivated to keep in contact with their children. If this is true, one can hypothesize that any visitation effects we can quantify might well overstate visitation effects compared with those that would be evidenced if we had a full representation of children and absent fathers.

In this study we measure the child's behavioral outcome by how well he or she scores on an overall Behavior Problems Index (BPI) as well as how he or she scores on a number of subscales of this assessment which purport to measure a child's tendencies to be antisocial, anxious-depressed, headstrong, hyperactive, dependent, or excessively involved in peer conflict. All of the behavioral outcomes discussed here are in percentile score form. The children in this sample were normed against a nationally representative sample of children who completed this assessment in the 1981 National Health Interview survey. There are 28 items in the overall Behavior Problems (BPI) scale and smaller numbers in the six sub-scales. These and the components of the six subscales are specified in Appendix 1. Additionally, more comprehensive evaluations of this assessment may be found in Baker and Mott (1989) and Mott and Quinlan (1992). It is important to emphasize that this assessment is based on maternal reports and thus it may be biased in indeterminate ways. Additionally, while no one scale or set of subscales can represent the full spectrum of childrens' behavior problems, the items included in the (BPI) are relatively far-reaching. The concepts measured by the subscales range from less to more serious in terms of their implications for a child's general behavior pattern and longer term emotional health. Additionally, to the extent that child behavior can be linked with, and indeed impact on, his or her ability to acquire knowledge, the individual items and the concepts are not equal in importance. The individual items vary not only in terms of their seriousness as likely predictors of subsequent general life success, but more specifically in terms of their likely association with shorter term learning ability. For example, the implications for longer term success of feeling tense, arguing too much or being too dependent on others may differ quite a bit from those of cheating and lying, being cruel to others or deliberately breaking things. In addition, items representing concepts which appear socially more serious do not need to correlate highly with items which, in the shorter run, may impede learning ability. In contrast, being anxious or not being able to pay attention for long may impede ongoing home or classroom learning, but may or may not have major implications for longer term development.

In terms of the six subscores, we hypothesize and will document that being hyperactive, a seemingly less serious behavior problem, may be likely to be linked with a child's shorter term cognitive

development. In contrast, scoring high on antisocial behavior or peer conflict, behavior patterns which on the surface suggest more serious underlying difficulties, may show less of a direct association with shorter term learning and with scores on a mathematics or reading test. Thus, the 28 items in the assessment encompass a wide range of potential child misbehaviors which to varying degrees may be hypothesized to be linked with prior family transitions, current learning capability and future social adjustment.

Father Absence and Behavior Problems: A Descriptive Overview

Table 5.1 summarizes the behavior problems scores by race and father presence-absence status. For this assessment only, higher percentile scores reflect a greater level of behavior problems. A fully representative national sample of children would by definition have a mean percentile score of 50 percent on the overall score and each subscore. Because this sample of children is not fully representative, but are disproportionately children who have been born to younger mothers, their average scores are well above 50--about 65 for white and 67 for black children. This overall behavior problems score can of course mask systematic variations in behavioral difficulty along the six subscore dimensions. For all white children, the percentile scores range from 57 for peer conflict to 64 for hyperactivity. Black children range from a low of 54.5 for headstrongness to a high of 67 for antisocial behavior. Thus, even though there is only a modest overall racial difference in behavior problems, the range of subscores is somewhat wider among black children, although the patterning of subscores (from low to high) is fairly similar for black and white children. While the overall racial difference in behavior problems is modest, the patterning by father presence-absence status varies by race; white absent fathers children have a substantially higher level of problems than their counterparts whose fathers are present; a pattern not in evidence for black children. This is the first of a series of findings that suggest fundamental differences between black and white children in their behavioral and intellectual responses to not having a father in the home.

At the subscore level, white children of absent fathers have higher levels of behavior problems than children living with their fathers on all six subscores. Mean gaps in subscores range from four points for anxiousness-depression to eight points for antisocial behavior and dependency. In contrast, differentials

TABLE 5.1

Mean Behavior Problem (Percentile) Score and (Percentile) Subscores By Race, Gender and Father Presence-Absence in 1988

(Weighted Estimates)

	White			Black		
	TOTAL	Father Present	Father Absent	TOTAL	Father Present	Father Absent
ALL CHILDREN						
Behavior Problems Score	64.9	62.7	69.2	66.8	66.1	67.1
Antisocial Subscore	61.8	59.2	66.9	67.2	64.6	68.3
Headstrong Subscore	59.2	57.6	62.4	54.5	53.8	54.8
Depdendency Subscore	61.8	59.1	67.0	66.0	65.1	66.3
Anxious-Depressed Subscore	59.2	57.7	62.1	61.3	63.2	60.5
Hyperactive Subscore	64.2	62.8	66.9	65.4	62.9	66.4
Peer Conflict-Withdrawal Subscore	56.8	54.5	61.1	58.4	59.5	58.0
SAMPLE SIZE	1177	729	448	537	154	383
BOYS						
Behavior Problems Score	66.2	63.7	72.0	70.3	67.5	71.1
Antisocial Subscore	64.6	62.2	70.2	72.1	69.0	73.1
Headstrong Subscore	60.3	58.9	63.7	57.1	57.3	57.0
Dependency Subscore	59.3	56.7	65.1	64.5	61.9	65.4
Anxious-Depressed Subscore	59.5	56.6	66.0	62.5	60.8	63.2
Hyperactive Subscore	66.9	64.7	71.6	70.4	65.3	72.2
Peer Conflict-Withdrawal Subscore	57.8	54.6	65.1	60.2	62.7	59.3
SAMPLE SIZE	617	396	221	256	69	187
GIRLS						
Behavior Problems Score	64.0	61.6	66.6	63.6	64.9	62.9
Antisocial Subscore	58.6	55.5	63.8	62.7	61.2	63.4
Headstrong Subscore	58.0	56.0	61.3	52.0	51.0	52.5
Dependency Subscore	64.5	61.9	68.7	67.4	67.7	67.3
Anxious-Depressed Subscore	58.9	59.0	58.6	60.1	65.1	57.8
Hyperactive Subscore	61.3	60.5	62.6	60.6	61.0	60.5
Peer Conflict-Withdrawal Subscore	55.5	54.4	57.4	56.8	57.0	56.6
SAMPLE SIZE	560	333	227	281	85	196

for black children are much more modest, and in some instances are even reversed (but the reversals do not attain statistical significance). The independent impact of father's absence on these subscores will be clarified in the multivariate analyses to follow.

Finally, we note that both black and white boys have significantly higher behavior problem scores and subscores than girls. This is a generalizable phenomenon that other researchers have found. Boys in this age range typically have more behavioral difficulties. Behind this overall pattern, it may be noted that for three of the four race-gender categories--all except black girls--there is systematic evidence of greater reported behavioral difficulty among father-absent children. The gap is widest for white boys, but still significant for white girls and black boys. The modest divergent pattern for black girls will be shown to be robust and linked with certain black family forms. Even a casual examination of subscore differences suggests that this reverse pattern is linked with substantially higher levels of anxiety-depression among black girls in father-present households.

Individual Item Variations

Table 5.2 shows the considerable race-gender variation in apparent behavioral consequences of a father's absence from the home at a more detailed level. This table shows race-gender variations in response patterns for the twenty-eight individual items that are components of the overall score and six subscores. For white boys, pronounced and systematic variations appear in the level of reported behavior problems between children living with and without their fathers. In particular, for almost all the items that are components of the antisocial behavior scale, we see substantial differences in reported behavior between children whose fathers are present and those with absent fathers. These differences are largest for the two school-linked items. For example, about 37 percent of white boys from father-absent homes are reported by their mother as being sometimes or often disobedient at school, compared with 16 percent for white boys from homes where a father is in residence. Very substantial differences for white boys may also be seen for the item asking about whether the child is "unhappy, sad or depressed" (33 versus 15 percent), "clings to adults" (45 percent versus 27 percent), and "is not liked by other children" (25 percent

TABLE 5.2

Responses of Mothers to Individual Behavior Problem Items by Race, Gender and Father Presence or Absence
(Percent of Mothers Saying a Behavior is "Often" or "Sometimes" True for Their Child)
(Weighted Estimates)

	White Boy		White Girl		Black Boy		Black Girl	
	Father Present	Father Absent	Father Present	Father Absent	Father Present	Father Absent	Father Present	Father Absent
ANTISOCIAL								
Cheats/tells lies	44.4	55.9	36.2	54.7	57.7	68.3	54.3	58.2
Bullies/is cruel to others	30.1	37.3	23.3	23.6	25.9	27.7	22.6	25.3
Doesn't feel sorry after misbehaving	33.0	43.9	30.8	43.0	40.0	45.5	25.4	35.5
Breaks things on purpose	15.0	22.5	7.1	11.8	18.5	17.5	10.2	9.2
Disobedient at school	16.3	37.6	12.4	9.5	42.0	41.0	15.3	16.7
Has trouble getting along with teachers	4.9	16.9	2.7	6.4	18.6	15.4	6.7	5.8
ANXIOUS-DEPRESSED								
Has sudden changes in mood/feeling	59.8	71.8	64.1	60.9	76.9	79.3	73.7	73.2
Feels or complains that no one loves him/her	31.4	39.1	37.7	40.8	26.3	26.6	34.6	27.2
Too fearful or anxious	36.1	45.7	37.8	35.2	42.5	47.0	45.3	37.3
Feels worthless or inferior	20.7	26.0	15.0	23.5	18.1	19.2	14.8	12.1
Is unhappy, sad or depressed	15.2	33.4	18.5	22.4	15.4	19.9	24.4	12.7
DEPENDENCY								
Clings to adults	26.8	44.6	39.3	55.1	41.1	49.6	53.9	56.2
Cries too much	22.3	32.0	27.6	32.8	28.7	28.3	27.4	30.9
Demands a lot of attention	53.9	63.7	57.9	67.2	58.3	60.9	66.8	64.1
Too dependent on others	21.5	26.9	27.9	27.3	24.3	30.1	25.2	26.3
HEADSTRONG								
Is rather high strung, tense and nervous	37.7	41.5	26.6	34.2	35.2	36.2	27.6	25.9
Argues too much	65.2	75.0	64.0	74.8	54.4	55.8	57.5	58.5
Is disobedient at home	59.8	64.4	62.5	63.1	61.3	59.4	52.8	50.3
Is stubborn, sullen or irritable	49.8	59.3	54.5	60.2	50.5	50.8	46.6	49.5
Has very strong temper and loses it easily	48.3	49.5	35.9	42.5	46.5	45.8	26.8	38.8

TABLE 5.2 (cont'd).

Responses of Mothers to Individual Behavior Problem Items by Race, Gender and Father Presence or Absence
(Percent of Mothers Saying a Behavior is "Often" or "Sometimes" True for Their Child)
(Weighted Estimates)

	White Boy		White Girl		Black Boy		Black Girl	
	Father Present	Father Absent	Father Present	Father Absent	Father Present	Father Absent	Father Present	Father Absent
HYPERACTIVE								
Has difficulty concentrating, can't pay attention for long	48.2	60.9	42.5	51.0	56.9	66.8	48.8	34.6
Easily confused, seems to be in fog	20.7	28.8	16.0	21.1	24.3	31.4	26.8	24.3
Is impulsive, acts without thinking	64.2	72.7	58.8	62.8	63.5	68.0	57.6	56.6
Has difficulty getting mind off certain thoughts	33.4	42.8	35.3	30.0	32.5	36.5	32.0	29.3
Is restless or overly active, can't sit still	56.5	65.0	45.0	51.5	62.0	69.4	44.1	59.8
PEER CONFLICT								
Has trouble getting along with other children	19.3	32.9	13.3	24.8	29.6	25.0	21.1	17.8
Is not liked by other children	9.0	25.4	11.7	12.9	18.8	15.2	13.1	13.9
Is withdrawn, doesn't get involved with others	10.6	17.6	10.4	8.3	15.9	12.0	15.2	12.6
OTHER ITEMS								
Feels others are out to get him/her	9.3	16.5	10.1	8.0	20.5	18.5	15.2	9.9
Hangs with kids who get into trouble	14.8	23.5	5.6	5.3	28.4	28.2	10.0	11.6
Is secretive, keeps things to self	27.4	29.5	22.4	32.7	34.6	37.2	30.1	28.2
Worries too much	39.7	43.2	42.0	41.2	31.0	24.5	25.2	15.6

versus 9 percent). Thus, for white boys, the behavioral effects of a father's absence appear across all of the dimensions measured by this scale; father presence-absence differences are systematically reported for almost all the individual items.

For white girls whose fathers are absent there also is some evidence of behavioral disadvantage, but it often is less pronounced and somewhat less generalizable across all of the subscales. In an antisocial context, discrepancies among white girls are limited to relatively passive behavior problems--cheating or lying and "not feeling sorry after misbehaving." Importantly, there are no overt distinctions between white girls with fathers present or absent in the two school-linked items. Whereas white boys of absent fathers were much more likely to get in trouble at school than white boys with fathers in the home, no parallel differences were found for white girls. White girls without fathers tended to become overly dependent, showed evidence of headstrongness (for at least some of the items in that sub-category) and were more likely to have difficulty concentrating or paying attention. Finally, there is some evidence from the mothers that white girls in fatherless homes were somewhat more likely to have trouble getting along with other children. As a generalization, however, father's absence appears to have substantially fewer consequences for white girls than white boys. Even when similar patterns appear for both boys and girls, the girl's patterns typically were less pronounced. As we will show, this gender distinction will continue to be apparent in our multivariate analyses.

It is fair to generalize that, with only limited exceptions, the patterns in evidence for white children do not appear for their black counterparts. For black boys and particularly for black girls, there is very little evidence of adverse behavior associated with father's absence. For black boys, negative behavior associated with a father's absence, where it appears, tends to be concentrated in the antisocial, dependency and hyperactivity categories. The two school-linked items in the antisocial category show no variations by father-absence status. For black girls, only three disparate individual items vary by father absence status, and in fact there are a greater number of items where black girls in father-present homes show a higher level of misbehavior. These race-gender distinctions will be shown to be systematic and

are certainly consistent with historical racial sub-cultural variations in family structures as well as with gender distinctions in parent-child interactions.

By way of highlighting the substantive importance of some of these racial and gender variations, Table 5.3 synthesizes the differences in selected behavior items between white and blacks for the items in the anti-social and peer conflict subscales. These items were selected because they have a high face validity as predictors of particularly anti-social behaviors that might be anticipated to have broader and longer term consequences for the child and family. A negative sign in this table implies an advantage for white children--a lesser percentage of white than black children involved in the specified behavior.

For boys living with their fathers, it may be seen that white children typically have lower levels of behavior problems than do their black counterparts, with the largest gap evidenced for the school discipline and obedience items. In contrast, with one exception ("cheating-lying") in the father-absent environment, more often than not black boys behave better than white boys. Indeed, with regard to peer behavior, the signs vary systematically between father-present and absent children; white father-present boys are reported as behaving better than black father-present boys, but the opposite appears to be true for father-absent children. Clearly, before controlling for any of the socio-economic factors that may be linked with father-presence and-absence, the presence or absence of a father affects black and white boys differently, at least as reported by the mothers of the children. For girls, the evidence is more erratic. No consistent difference by father absence status appears between the races.

A Multivariate Perspective

The basic multivariate approach used here and described earlier in this chapter essentially contrasts the effects of various father/father figure presence-absence configurations on behavior problems. Percentile score and subscores for these problems are derived (1) without any controls; (2) with a full range of essentially pre-birth family and maternal controls (factors that could independently affect the likelihood

TABLE 5.3

Racial Differences in Selected Behavior Problem Responses by Father Presence-Father Absence Status and Gender

(White Less Black Weighted Percent "Doing Bad")

	Boys		Girls	
	Father Present	Father Absent	Father Present	Father Absent
ANTI-SOCIAL				
Cheats-Lies	-13.3	-12.4	-18.1	+3.5
Bullies	+4.2	+9.6	-0.3	-1.7
Not Sorry When Bad	-7.0	-1.6	+5.4	+7.5
Breaks Things on Purpose	-3.5	+5.0	-3.1	+2.6
Disobedient at School	-25.7	-3.4	-2.9	-7.2
Has Trouble Getting Along with Teachers	-13.7	+1.5	-4.0	+0.6
PEER CONFLICT				
Trouble Getting Along with Other Kids	-10.3	+7.9	-7.8	+7.0
Not Liked by Other Kids	-9.8	+10.2	-1.4	-1.0
Withdrawn, Doesn't Get Involved	-5.3	+5.6	-4.8	-4.3

of a father leaving as well as a child's behavioral development); and (3) with an additional set of post-birth socio-economic and demographic factors that could clearly be linked both with a father's leaving and the outcomes.

Effect of Background Factors on Child Behavior Problems

The possible associations between the maternal/pre-birth factors and the likelihood of a father's leaving were highlighted in Chapter 4. Because of the evident variations between race, gender, father's absence and the outcomes, potential interactions between these factors are considered throughout. The full set of "maternal/pre-birth" and "other" factors may be seen in Table 5.4, which provides the overall OLS equations that estimate the effects of all of the explanatory variables on the overall Behavior Problems score.[2]

"Explaining" Child Behavior: The Relevance of Background Controls

Table 5.4 shows that in a multivariate context, when only the pre-birth factors are in the equation, a limited number of variables are significantly associated with child behavior. Less maternal education, scoring below average on the Armed Force Qualification Test (AFQT), and low birth weight are independently linked with an above average level of behavior problems in 1988, the outcome year. Being a younger (i.e., age 5 or 6) child was associated with fewer behavior problems regardless of the age of the mother at the child's birth. While the signs of many of the other coefficients are typically in the expected direction, these were the only factors that attained statistical significance in this overall equation. For example, as expected, children with mothers who had negative personal traits such as smoking or drinking

[2] Clearly, if one were considering here the ways in which all of these variables may vary by race and/or gender in their effects on behavior problems, the equation could be significantly expanded to include appropriate interactions between race, gender and selected inputs. This would greatly increase the complexity of the equations, would decrease the degrees of freedom available, and make interpretation more difficult. We limit our interactions to those of central interest to this study--those between race, gender and the various father absence configurations. However, to provide some additional insights into the extent to which explanatory variables may vary in their impact on the outcomes, we selectively include in the Appendix complete behavior problem equations for the separate race-gender categories (e.g., see Appendix Tables A.5.1 and A.5.2). It is important to note that the use of alternate specifications for the various explanatory variables (e.g., including race-gender-education interactions) had little impact on the size or significance of the father-absence coefficients.

TABLE 5.4

Determinants of Behavior Problem Percentile Score With and Without Maternal and Other Controls
(Ordinary Least Square Estimates)

	Maternal Controls		All Controls	
MATERNAL/PREBIRTH FACTORS				
High School Dropout	6.3[a]	(2.2)	4.7[b]	(2.2)
12 Years of School	6.3[a]	(1.8)	5.8[b]	(1.8)
Worked 40 or More Weeks Pre-birth	1.1	(1.7)	1.9	(1.9)
Worked 20-39 Weeks Pre-birth	-0.6	(1.8)	-0.4	(1.9)
Worked 1-19 Weeks Pre-birth	-0.3	(1.8)	-0.5	(1.8)
Had Older Sibling	0.8	(1.3)	1.1	(1.4)
Mother Had Below Average AFQT Score	3.5[b]	(1.5)	1.9	(1.5)
Child 5-6 and Mom Under 20 at Birth	-4.6[b]	(2.4)	-4.7[b]	(2.4)
Child 5-6 and Mom 20 and Over at Birth	-5.0[a]	(1.4)	-5.1[a]	(1.4)
Child 7-8 and Mom Under 20 at Birth	0.1	(2.1)	0.3	(2.1)
Mother Smoked During Pregnancy	1.9	(1.3)	1.9	(1.3)
Mother Drank at Least Monthly During Pregnancy	2.3	(1.6)	2.9[c]	(1.6)
No Prenatal Care First 3 Months of Pregnancy	1.6	(1.5)	0.9	(1.5)
Infant Birth Weight (Ounces)	-0.07[b]	(0.03)	-0.05[c]	(0.03)
Urban Residence During Pregnancy	-1.0	(1.4)	-0.2	(1.4)
Attended Church at Least Monthly, 1979	-1.2	(1.2)	-1.0	(1.2)
OTHER FACTORS				
% of Weeks Worked Birth-1988			4.4	(3.0)
Average Post-birth Family Income N.A.			-0.6	(3.5)
Average Post-birth Family Income < 10,000 (1988 dollars)			9.7[a]	(2.2)
Average Post-birth Family Income $10-19,999 (1988 dollars)			5.2[a]	(1.5)
HI Occup. Status Post-birth (Census 3D.1-395)			-0.4	(1.7)
LO Occup. Status Post-birth (Census 3D.400-984)			1.4	(1.7)
% of Years Enrolled in School, Birth-1988			0.3	(5.7)
% of Years with Health Problem, Birth-1988			8.0[b]	(3.8)
% of Years Grandparent in Home, Birth-1988			5.2[c]	(2.9)
# of First 3 Years of Life with Non-Paternal Care			-1.1	(0.7)
Had Younger Sibling			0.5	(1.4)

TABLE 5.4 (cont'd).
Determinants of Behavior Problem Percentile Score With and Without Maternal and Other Controls
(Ordinary Least Square Estimates)

	Maternal Controls		All Controls	
OTHER FACTORS (cont'd)				
Father Absent 1988	SEE NOTE			
Intercept	65.8[a]	(4.5)	63.5	(6.2)
R^2 Adjusted	.046[a]		.057[a]	
F Ratio	4.6		4.0	
Sample Size	1714		1714	

NOTE: (1) These equations also include eight variables which interact race, gender and father presence-absence. These coefficients may be seen in Table 5.5 Omitted reference categories for the variables are: (a) 13 years or more of schooling; (b) worked no weeks pre-birth; (c) child was 7-8 and mom 20 and over at birth; (d) average post-birth family income $20,000 and above (1988 dollars); and (e) no post-birth occupational status.
(2) Standard errors in parentheses. a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.

were above average in their level of behavior problems--but they were not so high as to be statistically significant.

When the post-birth attributes and behaviors are added to this equation, several important results may be noted. First, the maternal and family attributes prior to birth maintain their independent statistical and substantive significance. This suggests that maternal traits per se may well be predictors of child behavior independent of any indirect effects that the mother may have on the child by way of her effects on the intervening attributes and behaviors in the post-birth family.

Among the post-birth variables, it may be seen that low family income is a powerful predictor of less appropriate child behavior. This one factor, as we have described earlier, is extremely sensitive to family transitions associated with a father leaving the home. Less appropriate child behaviors are also strongly independently linked with maternal health, as children whose mothers have a track record of activity-limiting health problems are themselves more likely to have significant behavior problems.

Other than these factors, none of the other post-birth explanatory variables are significantly associated with behavior problems in this overall equation. This overall equation does, however, mask some variations by race and gender in factors that affect child behavior. A comprehensive evaluation of these variations is beyond the scope of this work, but separate race-gender equations (Tables A5.1 and A5.2) are included in an Appendix. To some extent, the strength of the coefficients we have highlighted vary across groups. Some effects are more pronounced for whites than for blacks, some more pronounced for boys than for girls. Among white children, for example, low maternal education and maternal health problems are important predictors of behavior problems for boys but not girls; in contrast, having older siblings, low maternal AFQT score and extensive grandparental presence are predictive of problems for white girls, but not boys.[3] In a more generic sense, certain factors such as maternal intellectual capability

[3] In those instances where grandparent effects appear in this study they tend to be predictors of poorer child behavior. It may be that grandparents are more likely to be present in households where either the daughter (i.e., mother of the child) or the sample child has significant problems that are otherwise not being observed. Thus the finding would not necessarily be reflecting poor grandparenting, but rather unusually poor mothering, or perhaps a child with a significant unobserved physiological or emotional behavior problem. See discussion in last section of Chapter 4.

(whether proxied for by education of AFQT score), or family economic disadvantage (lower family income) are universal predictors of poorer child emotional circumstances, at least for white children.

For black children, fewer factors are significant predictors of child behavior problems. Limited maternal education is associated with behavior problems, as is low birth weight (which was not significant for whites). In the post-birth period, only maternal health makes a difference. Contrary to the white finding, family income has no impact. It may be that the white income finding is partially proxying for residential area or school characteristics. These factors may be more likely to be sensitive to family income level among white than black families.

Father Absence and Child Behavior Problems

Table 5.5 synthesizes the overall father-absence effects on child behavior problems. As indicated above, we will now look at three sets of equations; the first set are from overall equations that include no controls, only a set of variables interacting gender, race and the various permutations of father-absence configurations.

The second set also include the full range of family and maternal pre-birth explanatory variables. Thus coefficient differences between these first two sets of equations may reasonably be conjectured to reflect the extent to which differences between father-present and father-absent families in child behavior may really reflect family and maternal traits that were already in evidence prior to the father's absence.[4] In any case, these pre-birth family and maternal explanatory variables in the second set of equations are factors that have been shown to some extent to affect both father-leaving probabilities and child behavior.

The third set of equations includes the full package of post-birth maternal and family characteristics and behaviors which, as we have shown, can frequently be related to and vary considerably by whether

[4] Two important caveats should be mentioned. First, as already suggested, this statement may be less valid for families where a father has never been in residence. Second, the various early maternal traits undoubtedly are also partially capturing paternal traits (e.g., maternal education may also be reflecting paternal education to the extent that partners in relationships tend to have similar characteristics). Information on partner traits in the NLSY is, first of all, quite limited and of poor quality and, second, only available for a subset of our sample which excludes fathers who have never been present in the home and never identified.

TABLE 5.5

Father's Absence and Behavior Problems by Race and Gender

(Ordinary Least Square Coefficients: Father Presence is Reference Group)

	Father Absent	Father "Never" Present	Father Present in Past	Difference	Frequent Father/Father Figure Contact	Infrequent Contact	Difference	Frequent (Weekly) Visitation	"New Man" in Home	Difference
NO CONTROLS										
White Boys	8.4[a]	12.3[a]	7.2[a]	5.1	8.8[a]	7.5[b]	1.3	7.1	9.1[a]	-2.0
White Girls	5.0[b]	6.7[c]	4.7[b]	2.0	3.7	7.6[a]	-3.9	4.4	3.5	0.9
Black Boys	3.7	5.1	0.6	4.5	-0.4	7.7	-8.1[c]	-3.7	1.7	-5.4
Black Girls	-1.9	-1.7	-2.3	0.6	-2.7	-1.2	-1.5	5.4	-6.0	11.4
MATERNAL CONTROLS										
White Boys	6.2[a]	9.4[b]	5.4[b]	4.0	6.5[a]	5.8[c]	0.7	3.0	7.1[a]	-4.1
White Girls	3.3	3.9	3.3	0.6	2.6	4.6	-2.0	3.6	2.4	1.2
Black Boys	3.3	4.4	1.0	3.1	-0.8	7.3	-8.1[c]	-4.8	1.6	-6.4
Black Girls	-1.7	-2.1	-1.0	-1.1	-2.5	-0.9	-1.6	4.3	-5.4	9.7
ALL CONTROLS										
White Boys	3.6[c]	5.5	3.2	2.3	4.2[c]	2.5	1.7	0.5	4.9[b]	-4.4
White Girls	1.1	0.6	1.2	-0.6	0.9	1.4	-0.5	1.9	0.7	1.2
Black Boys	-0.4	0.7	-2.6	3.3	-3.7	2.9	-6.6	-7.8	-1.4	-6.4
Black Girls	-4.4	-4.8	-3.5	-1.3	-4.8	-3.9	0.9	1.2	-7.4	8.6

NOTE: (1) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.

(2) See Table 5.4 for full set of Maternal Controls and Other Controls.

(3) Frequent contact = new man in home or at least weekly visitation with father; infrequent contact are all other father-absent situations; new man in home may be a spouse, partner or other adult designated father figure. New man in home takes precedence over frequent visitation.

or not a man is in the home. To tease out the extent to which the specific patterning of the transition interacts with these post-birth factors in a causal context to alter child behavior is beyond the scope of this research. What the third set of equations can do, however, is suggest the extent to which the average patterning of these factors over time (between father-present and father-absent families) represents in a general sense, an important contribution to child behavior.

Overall Behavioral Effects

Even a cursory glance at the coefficients in Table 5.5 suggest important variations by race and gender in the extent to which children in father-absent homes in 1988 may vary in their behavior from children who are living with their fathers. Because of this fundamental differences between black and white children and boys and girls in father-absence effects, the discussion that follows will first systematically consider the four race-gender groups sequentially.

White Boys, Father-Absence and Behavior Problems

Focusing first on the set of coefficients from the "no control" equations for white boys in Table 5.5, several important findings are suggested. In this table, all the coefficients have father presence as the reference group; however, the "difference" coefficients indicate the magnitude of the difference between the father-absence coefficients and whether or not that difference itseif attains statistical significance. First, we see systematic evidence that virtually all of the father-absence configurations represent family situations where a child is likely to be above average in reported behavior problems in comparison with his counterparts who are living with two biological parents. Thus, before controlling for any family factors, white boys who do not have their father in the home regardless of (1) whether their father has ever been present; (2) whether they have frequent contact with a father or father figure or have no such frequent contact; or (3) whether or not there is a new man in the home are all disadvantaged behaviorally. All these father-configuration situations appear to be equally disadvantaged compared with the father-present status because none of the differences between the various configurations ever attain statistical significance. In

other words, before controlling for family factors, these results indicate that (1) living with a biological father is a preferable situation for a white boy; (2) statistically, having had a father previously in the home compared with never having had a father present does not make a difference; (3) having extensive contact with an absent father or new father figure is not advantageous compared with not having such contact; and (4) having frequent (at least weekly) contact with an absent father is neither better nor worse than having a new man in the home.

In terms of substantive (as contrasted with statistical) significance, some of the effects are quite large. Boys with absent fathers score about eight percentile points higher (i.e. worse) than children with fathers present on the Behavior Problems index; if they have never lived with their father, the gap is twelve points; and it is nine points where the boy is living with a new man in the home. The magnitude between the father-present and father-absent families is at least seven percentile points for every father-absent configuration.

We shift now to an examination of the coefficients for white boys from the equations which include all of the prebirth family and maternal factors ("maternal controls"). What we see is that while all of the coefficients appear to be systematically slightly smaller than in the uncontrolled equations, they nonetheless still maintain their statistical and substantive significance in virtually all cases. In other words, early family and maternal factors per se do not explain behavioral differences between father-present and father-absent families for white boys to any significant extent; nor do they selectively alter any differences in effects between the various father-absence configurations. The early maternal and family traits do not differ sufficiently across the different family forms and the effect of these traits on child behavior are not strong enough to alter the pattern of father-absence effects when these controls are added.

When we add in the post-birth set of explanatory factors, however, factor that can, in some instances as we have described, be directly linked with the transition process, we find a substantial decline in the father-absence coefficients. Overall, white sons of absent fathers are now only marginally (at $P \leq .10$) more likely than their father-present counterparts to have behavior problems. With only one exception, white boys who are living with a new man in the home, there are no longer statistically significant

differences in behavior problems between boys in father-present and father-absent homes. This change, of course, does not mean that white boys in father-absent homes do not have more behavior problems (we have shown in the uncontrolled equations that they do!)--justthat these differences can mostly be explained by (or at least shown to be linked with) family factors associated with the transition. In this instance, we have evidence that family income and to a lesser extent, differences in long-term maternal heaith (or factors associated with these two explanatory variables) directly alter the linkage between father-absence and child behavior.[5] In a later section we will explore how these factors may be associated with other aspects of the family or home environment that could affect child behavior more directly.

White Girls, Father Absence and Behavior Problems

For white girls, we find patterns similar to those for white boys, but less pronounced. Without any controls, there is evidence that white girls in father-absent homes score about 5 percentile points higher (worse) than their father-present counterparts. In comparison with father-present status, white girls (marginally) also report an above average level of behavior problems in environments where they have never lived with their father as well as having lived with him in the past. However, these two statuses do not differ from each other in terms of their negative consequences. The most pronounced negative effects appear to be in families where a white girl not living with her father has only limited contact either with her father or a father-figure (i.e., "infrequent" contact). However, there are no significant differences between white girls in this status and girls who have frequent father-figure contact.

Finally, it is important to note that even in this uncontrolled situation, girls who either have frequent contact with an absent father or who have a new father figure in residence do not evidence a higher level of behavior problems than do white girls living with their father, a situation different than we found for white boys, for whom the presence of new man was detrimental. Additionally, it should be noted that there are no apparent behavioral differences between white girls who have frequent contact with a visiting father and

[5] Mott, 1992a uses stepwise regression techniques to clarify the extent to which the independent variables contribute to "explaining" changes in the associations with father-absence.

those who have a new man in the home. Thus, counter to expectations, there are no apparent evident disadvantages for white girls if they move into an environment with a new man as a father figure. In general, contact with a father or a father figure apparently neutralizes potential negative consequences of not having a father in the home.

In most cases, the changes in the father-absent coefficient with the addition of the maternal traits is only modest--but sufficient to push the coefficients to non-significance. Consistent with theoretical expectations (as was also true with the white boys) adding the post-birth controls moves the father-absence coefficients in an increasing negative (i.e., favorable) direction because, as with most of the post-birth factors, children who remain in a home with their biological father typically live in a more favorable socio-economic environment. It appears that the father-absence effects that are evidenced for white girls appear to be essentially linked with pre-separation maternal and family characteristics. Thus we see that white girls follow a pattern similar to white boys. The primary difference is that even without taking any factors into account, white girls are less adversely affected by a father-absent environment.

Black Children, Father's Absence and Behavior Problems

Whereas white children without fathers present seem to have a higher level of behavior problems than those living with their fathers, quite a different pattern appears for black children, whether they are boys or girls. As may be seen from Table 5.5, none of the overall differences in behavior between children with fathers present and absent attain statistical significance. Even without any controls, the father-absence coefficients do not differ from the father-present coefficients, and the different father-absent coefficients do not differ from each other. This finding essentially parallels our tabular results, which suggested that black children in father-present and father-absent environments were behaviorally very similar. This finding is also but the first of several we will be describing in which father-absent effects will be suggested to be fundamentally different across the races.

Differences In Subscores

As we have suggested, the overall behavior problems scores can mask important variations in how children from different kinds of backgrounds may vary in the six dimensions tapped by the overall scores; hyperactivity, anxiousness-depression, antisocial behavior, peer conflict, headstrongness and dependency. Additionally, from the perspective of this research, we explore the extent to which effects of father's absence on the four gender-race groups may vary according to the varying father-configuration patterns. In Tables 5.6 through 5.9 we explore this issue for the four gender-race groups.

White Boys

Just as we found systematic overall father-absence effects for white boys, we find similar overwhelming subscore effects. Without any controls, white boys score more poorly on all six subscores if they are in father-absent homes (Table 5.6). For the most part (with frequent visitation being the primary exception), children living in all of the various father-configurations appear to have a greater level of behavior problems than children living with their father--and the differences in coefficients between children living in the various father-absent statuses are not significant. Thus, without taking into account any family factors, there is strong presumptive evidence that white boys in father-absent homes evidence a substantially above-average level of behavior problems along the full spectrum of potential misbehaviors represented by this scale. Overall, the largest behavioral deficits were for the peer-conflict and anxiousness-depression subscales, with large gaps (8 points) also evidenced for the antisocial and dependency dimensions. The negative consequences of a father's absence are thus apparently diffuse and generalizable across several domains.

As was true with the overall scale analysis, the introduction of the maternal and family pre-birth traits systematically but modestly reduces the negative effects. However, for the most part they maintain statistical and, more importantly, substantive significance. For example, white boys in father-absent homes score about 6 percentile points overall higher than father-present children. For the five subscales (other than headstrongness) which maintain statistical significance, percentile variations between children with

TABLE 5.6

Linkage Between Father-Absence Configurations and Child Behavior Problem Score and Subscores: White Boys

(Ordinary Least Square Coefficients: Father-Presence is Reference Group)

	Father Absent	Father "Never" Present	Father Present in Past	Difference	Frequent Father/Father Figure Contact	Infrequent Contact	Difference	Frequent (Weekly) Visitation	"New Man" in Home	Difference
NO CONTROLS										
Overall Behavior Problems	8.4[a]	12.3[a]	7.2[a]	5.1	8.8[a]	7.5[b]	1.3	7.1	9.1[a]	-2.0
Hyperactive	6.8[a]	10.1[a]	5.9[a]	4.2	7.3[a]	5.9[c]	1.4	2.2	8.3[a]	-6.1
Anxious-Depressed	9.4[a]	13.0[a]	8.4[a]	4.6	7.9[a]	12.6[a]	-4.7	8.5	7.8[a]	0.7
Antisocial	8.1[a]	10.3[a]	7.4[a]	2.9	8.0[a]	8.3[a]	-0.3	5.9	8.4[a]	-2.5
Peer Conflict	10.6[a]	9.1[a]	11.0[a]	-1.9	11.2[a]	9.3[a]	1.9	10.1[b]	11.4[a]	-1.3
Headstrong	4.8[b]	10.2[a]	3.3	6.9	6.7[a]	0.9	5.8	6.5	6.8[a]	-0.3
Dependent	8.5[a]	14.2[a]	6.9[a]	7.3[c]	7.4[a]	10.9[a]	-3.5	10.9[b]	8.7[a]	2.2
MATERNAL CONTROLS										
Overall Behavior Problems	6.2[a]	9.4[b]	5.4[b]	4.0	6.5[a]	5.8[c]	0.7	3.0	7.1[a]	-4.1
Hyperactive	5.2[b]	7.0[c]	4.8[b]	2.2	5.7[b]	4.1	1.6	-0.6	6.9[a]	-7.5
Anxious-Depressed	7.8[a]	11.3[a]	7.0[a]	4.3	5.9[b]	11.9[a]	-6.0	6.5	5.8[b]	0.7
Antisocial	6.3[a]	7.6[c]	5.9[b]	1.7	6.0[b]	6.9[b]	-0.9	0.7	7.1[a]	-6.4
Peer Conflict	9.5[a]	7.0[b]	10.3[a]	-3.3	10.5[a]	7.6[a]	2.9	8.6[c]	10.8[a]	-2.2
Headstrong	3.4	7.8[c]	2.2	5.6	5.1[b]	-0.1	5.2	4.1	5.3[b]	-1.2
Dependent	5.7[a]	10.1[b]	4.6[b]	5.5	4.6[c]	8.1[b]	-3.5	7.4	4.1	3.3
ALL CONTROLS										
Overall Behavior Problems	3.6[c]	5.5	3.2	2.3	4.2[c]	2.5	1.7	0.5	4.9[b]	-4.4
Hyperactive	3.4	4.3	3.1	1.2	4.0	1.6	2.4	-2.5	5.2[c]	-7.7
Anxious-Depressed	5.7[b]	8.9[b]	6.0[b]	2.9	4.0	9.6[a]	-5.6	4.0	4.0	0.0
Antisocial	4.5[b]	4.8	4.3[c]	0.5	4.7[c]	4.3	0.4	-1.2	5.8[b]	-7.0
Peer Conflict	8.7[a]	6.3[c]	9.5[a]	-3.2	9.8[a]	6.4[b]	3.4	7.4	10.2[a]	-2.8
Headstrong	1.0	5.2	0.0	5.2	2.9	-2.9	5.8	2.0	3.0	-1.0
Dependent	3.7[c]	5.5	3.2	2.3	3.3	5.0	-1.7	5.6	2.8	2.8

NOTE: (1) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.
(2) See Table 5.4 for full set of Maternal Controls and Other Controls.
(3) Frequent contact = new man in home or at least weekly visitation with father; infrequent contact are all other father-absent situations; new man in home may be a spouse, partner or other adult designated father figure. New man in home takes precedence over frequent visitation.

fathers present and absent range from about 5 percentile points for hyperactivity to over ten points for peer conflict.

The addition of the post-birth controls, as we have seen, reduces the overall behavior problems difference to only marginal significance and also reduces the father-presence/father-absence difference for most of the subscores. However, even with the addition of all of the pre- and post-birth controls, white sons of absent fathers are still more likely to be anxious-depressed (6 percentile points), antisocial (about 5 points), and particularly, engaged in peer conflict (9 percentile points). Thus the decline in the overall score to insignificance masks the fact that white boys still evidence significant behavior problems after controlling for all the factors we have available that are hypothesized to be associated both with parental separation and child behavior. In this regard, it may also be seen that, for the most part, the three subscores which maintain an overall significance for children of absent fathers also do so for most of the father-absence configurations. There is no apparent father-absent status that is preferable to all others.

White Girls

Just as the overall uncontrolled pattern of father-absence significance for white girls was less powerful than for white boys, the patterning of significant subscore effects is less universal. As may be seen in Table 5.7, without controlling for any family factors, white girls not living with their fathers are substantially more likely to be antisocial, headstrong and dependent. However, the hyperactivity, anxious-depressed and peer conflict factors are not significant. In addition, no apparent significant differences appear in associations between the subscores and the form of father-absence, with the exception of dependency which appears more closely linked with "infrequent contact." This effect does not, however, vary by the form of the father or father figure contact.

The basic pattern just described is maintained when the maternal controls are added, although once again, the magnitude of the three significant coefficients is somewhat reduced. Finally, with the addition of the post-birth controls, only the antisocial behavior coefficient maintains its significance. In this regard, it is useful to note that for white girls, antisocial behavior continues to be evidenced largely for the

TABLE 5.7

Linkage Between Father-Absence Configurations and Child Behavior Problem Score and Subscores: White Girls

(Ordinary Least Square Coefficients: Father-Presence is Reference Group)

	Father Absent	Father "Never" Present	Father Present in Past	Difference	Frequent Father/Father Figure Contact	Infrequent Contact	Difference	Frequent (Weekly) Visitation	"New Man" in Home	Difference
NO CONTROLS										
Overall Behavior Problems	5.0[b]	6.7°	4.7[b]	2.0	3.7	7.6[a]	-3.9	4.4	3.5	0.9
Hyperactive	2.1	-0.4	2.6	-3.0	4.3°	-1.8	6.1°	2.1	4.9°	-2.8
Anxious-Depressed	-0.4	3.2	-1.1	4.3	-1.7	1.9	-3.6	2.6	-2.8	5.4
Antisocial	8.3[a]	4.6	9.1[a]	-4.5	7.5[a]	9.8[a]	-2.3	1.9	8.9[a]	-7.0
Peer Conflict	3.0	3.1	3.0	0.1	2.3	4.2	-1.9	8.2[b]	0.7	7.5°
Headstrong	5.3[b]	8.1[b]	4.7[b]	3.4	4.2[a]	7.4[b]	-3.2	5.4	7.4[b]	-2.0
Dependent	6.8[a]	8.5[b]	6.4[a]	2.1	3.9	12.1[a]	-8.2[b]	5.7	3.4	2.3
MATERNAL CONTROLS										
Overall Behavior Problems	3.3	3.9	3.3	0.6	2.6	4.6	-2.0	3.6	2.4	1.2
Hyperactive	0.4	-3.3	1.2	-4.5	3.0	-4.6	7.6[b]	0.7	3.7	-3.0
Anxious-Depressed	-1.3	1.9	-1.8	3.7	-2.0	0.3	-2.3	2.5	-3.2	5.7
Antisocial	7.1[a]	2.4	8.1[a]	-5.7	6.7[a]	7.7[b]	-1.0	1.1	8.2[a]	-7.1
Peer Conflict	1.9	2.0	1.9	0.1	1.5	2.5	-1.0	-7.8°	-0.2	8.0°
Headstrong	3.9°	6.1	3.6	2.5	3.4	4.8	-1.4	4.2	3.2	1.0
Dependent	4.6[b]	4.9	4.6[b]	0.3	2.4	8.7[a]	-6.3°	4.9	1.8	3.1
ALL CONTROLS										
Overall Behavior Problems	1.1	0.6	1.2	-0.6	0.9	1.4	-0.5	1.9	0.7	1.2
Hyperactive	-1.5	-6.0	-0.6	-5.4	1.4	-7.4[b]	-8.8[b]	-0.5	1.9	-2.4
Anxious-Depressed	-2.5	0.0	-2.8	2.8	-2.6	-1.9	-0.7	1.9	-3.8	5.7
Antisocial	5.9[a]	1.0	6.8[a]	-5.8	5.8[b]	6.4[b]	-0.6	-1.0	7.6	-8.6°
Peer Conflict	1.5	2.2	1.4	0.8	1.1	2.1	-1.0	6.6	-0.4	7.0
Headstrong	1.6	3.5	1.5	2.0	2.9	3.4	-0.5	2.5	1.1	1.4
Dependent	2.2	0.1	2.6	-2.5	1.0	5.0	-4.0	3.5	0.3	3.2

NOTE: (1) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.
(2) See Table 5.4 for full set of Maternal Controls and Other Controls.
(3) Frequent contact = new man in home or at least weekly visitation with father; infrequent contact are all other father-absent situations; new man in home may be a spouse, partner or other adult designated father figure. New man in home takes precedence over frequent visitation.

white girls who have had a father previously in residence. Other research, not presented here, has clarified that for white girls, the most detrimental status is where there is no father or father figure contact, but a father had been previously in residence--a situation most likely to be regarded as overt paternal rejection by the child.[6] Additionally, a more detrimental behavior pattern remains (albeit marginally) for white girls who are in a home where a new man is present. This is one instance where a similar longer lasting effect remains for both boys and girls. Thus, in summary for white girls, while the effects are not overwhelming, we do have some evidence of continuing specific effects which are masked by an overall pattern of non-significance. Additionally, from a program perspective, it remains important that white girls do indeed appear to suffer several highly significant effects from father-absence, in the uncontrolled equations. These effects are linked with maternal and other factors that are known to be associated with a father's leaving, but this knowledge does not make them less important, just easier to explain.

Black Children

Just as there were no apparent significant patterns of association between father's absence and behavior problems for black children, few parallel patterns of association appear for black children between the various paternal absence configurations and the six subscores. As may be seen in Tables 5.8 and 5.9, father's absence per se shows no significant (at $P < .05$) association with any of the subscores for black boys or black girls in either the uncontrolled or controlled equation sets. There are, however, selected effects for black boys for some of the father-absence permutations; black boys with no significant male contact are substantially more likely to be reported as hyperactive--an effect that weakens when controls are added. Additionally and surprisingly, peer conflict appears to be reduced in comparison with father-present situations, in situations where there is continuing contact with an absent father, particularly one who had previously lived in the home. This effect is substantial, and it actually widens as maternal and post-birth controls are added to the equations, thus suggesting that the home environments for black boys where there is continuing contact with an absent father may have characteristics conducive to better child

[6] See Mott, 1991.

TABLE 5.8

Linkage Between Father-Absence Configurations and Child Behavior Problem Score and Subscores: Black Boys

(Ordinary Least Square Coefficients: Father-Presence is Reference Group)

	Father Absent	Father "Never" Present	Father Present in Past	Difference	Frequent Father/Father Figure Contact	Infrequent Contact	Difference	Frequent (Weekly) Visitation	"New Man" in Home	Difference
NO CONTROLS										
Overall Behavior Problems	3.7	5.1	0.6	4.5	-0.4	7.7	-8.1°	-3.7	1.7	-5.4
Hyperactive	6.9	7.6	5.4	1.8	3.5	10.3[b]	-6.8	3.2	3.6	-0.4
Anxious-Depressed	2.4	3.9	-0.7	4.6	-1.2	5.9	-7.1	-2.9	-0.1	-2.8
Antisocial	4.2	5.2	2.1	3.1	1.3	7.1	-5.8	-5.3	5.3	-10.6
Peer Conflict	-3.4	-0.8	-8.9°	8.1°	-5.3	-1.6	-3.7	-13.0[b]	-0.6	12.4[b]
Headstrong	-0.2	0.5	-1.8	2.3	-3.3	2.7	-6.0	-1.8	2.7	-4.5
Dependent	3.6	5.1	0.3	4.8	0.6	6.4	-5.8	-1.6	1.9	-3.5
MATERNAL CONTROLS										
Overall Behavior Problems	3.3	4.4	1.0	3.1	-0.8	7.3	-8.1°	-4.8	1.6	-6.4
Hyperactive	6.5	7.3	5.0	2.3	3.2	9.9°	-6.7	2.9	3.3	-0.4
Anxious-Depressed	2.0	3.3	-0.6	3.9	-1.2	5.1	-6.3	-3.2	-0.0	-3.2
Antisocial	3.6	4.4	2.1	2.3	0.4	6.8	-6.4	-6.8	4.7	-11.5°
Peer Conflict	-3.6	-1.1	-8.9°	7.8°	-5.4	-1.9	-3.5	-13.2[b]	-0.7	12.5[b]
Headstrong	-0.0	0.5	-0.9	1.4	-2.8	2.7	-5.5	-1.7	-3.5	1.8
Dependent	2.4	3.5	0.2	3.3	-0.9	5.7	-6.6	-3.9	0.9	-4.8
ALL CONTROLS										
Overall Behavior Problems	-0.4	0.7	-2.6	3.3	-3.7	2.9	-6.6	-7.8	-1.4	-6.4
Hyperactive	4.1	4.8	2.5	2.3	0.8	6.7	-5.9	0.3	0.9	-0.6
Anxious-Depressed	-2.4	-1.0	-4.2	3.2	-4.7	0.3	-5.0	-6.6	-3.6	-3.0
Antisocial	0.3	1.2	-1.8	3.0	-2.6	3.4	-6.0	-9.5	1.5	-11.0
Peer Conflict	-5.6	-2.6	11.2[b]	8.6°	-7.0	-4.2	-2.8	-14.6[b]	-2.7	-11.9°
Headstrong	-2.0	-1.3	-2.6	1.3	-4.1	-0.0	-4.1	-3.0	-4.8	1.8
Dependent	-1.0	-0.6	-2.3	1.7	-3.3	1.6	-4.9	-7.1	-1.0	-6.1

NOTE: (1) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.

(2) See Table 5.4 for full set of Maternal Controls and Other Controls.

(3) Frequent contact = new man in home or at least weekly visitation with father; infrequent contact are all other father-absent situations; new man in home may be a spouse, partner or other adult designated father figure. New man in home takes precedence over frequent visitation.

TABLE 5.9

Linkage Between Father-Absence Configurations and Child Behavior Problem Score and Subscores: Black Girls

(Ordinary Least Square Coefficients: Father-Presence is Reference Group)

	Father Absent	Father "Never" Present	Father Present in Past	Difference	Frequent Father/Father Figure Contact	Infrequent Contact	Difference	Frequent (Weekly) Visitation	"New Man" in Home	Difference
NO CONTROLS										
Overall Behavior Problems	-1.9	-1.7	-2.3	0.6	-2.7	-1.2	-1.5	5.4	-6.0	11.4
Hyperactive	-0.5	1.6	-3.5	5.1	-2.3	1.1	-3.5	3.3	-4.6	7.9
Anxious-Depressed	-7.4°	-6.0	-9.3°	3.3	-6.3	-8.5°	2.2	2.1	-9.6°	11.7
Antisocial	2.2	3.4	0.5	2.9	-1.3	5.5	-6.8	4.1	-3.4	7.5
Peer Conflict	-0.4	2.6	-4.7	7.3°	-0.1	-0.7	0.6	8.5	-3.5	12.0°
Headstrong	1.5	0.2	3.4	-3.2	1.5	1.5	0.0	9.3	-1.7	11.0
Dependent	-0.5	-1.3	0.7	-2.0	-0.9	-0.0	-0.9	-0.4	-1.1	0.7
MATERNAL CONTROLS										
Overall Behavior Problems	-1.7	-2.1	-1.0	-1.1	-2.5	-0.9	-1.6	4.3	-5.4	9.7
Hyperactive	-0.6	1.2	-3.1	4.3	-2.4	1.1	-3.5	2.1	-4.3	6.4
Anxious-Depressed	-6.3	-5.4	-7.4	2.0	-5.1	-7.4	2.2	2.1	-8.0	10.1
Antisocial	1.6	2.5	0.4	2.1	-1.9	4.9	-6.8	2.5	-3.7	6.2
Peer Conflict	-0.5	2.2	-4.3	6.5	-0.1	-1.0	0.9	8.8	-3.8	12.6°
Headstrong	2.3	0.3	5.3	-5.0	2.1	2.4	-0.3	8.3	-0.4	8.7
Dependent	-1.7	-3.0	0.4	-3.4	-2.0	-1.3	-0.7	-2.1	-2.0	-0.1
ALL CONTROLS										
Overall Behavior Problems	-4.4	-4.8	-3.5	-1.3	-4.8	-3.9	0.9	1.2	-7.4	8.6
Hyperactive	-2.7	-0.9	-5.2	4.3	-4.8	-1.3	3.5	-0.3	-6.7	6.4
Anxious-Depressed	-8.5°	-7.6	-9.0°	1.4	-6.8	-9.5°	2.7	-0.6	-9.4°	8.8
Antisocial	-0.6	0.3	-1.8	2.1	-3.4	2.5	-5.9	-0.3	-4.9	4.6
Peer Conflict	-1.8	1.3	-5.8	7.1	-1.1	-2.6	1.5	6.9	-4.6	11.5°
Headstrong	-0.5	-1.1	3.3	-4.4	0.6	0.2	0.4	6.1	0.2	5.9
Dependent	5.3	-7.5	-2.3	-5.2	-5.0	-5.1	0.1	-5.4	-5.0	-0.4

NOTE: (1) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.

(2) See Table 5.4 for full set of Maternal Controls and Other Controls.

(3) Frequent contact = new man in home or at least weekly visitation with father; infrequent contact are all other father-absent situations; new man in home may be a spouse, partner or other adult designated father figure. New man in home takes precedence over frequent visitation.

behavior, at least in this domain. The presence of a new man has no similar effect, perhaps suggesting fundamental differences in interactions patterns between black boys, visiting biological fathers and new spousal partners. It should be noted however that continuing visitation with an absent father who had previously lived in the home affects only a modest proportion of black children.

Black girls show even fewer significant father-absence effects (Table 5.9). The one association of note is linked with peer conflict, but in a diametrically opposite direction. Whereas black boys frequently visiting with an absent father had lesser levels of peer conflict in contrast with their counterparts who lived with a new man in the home, the opposite was true for black girls, who behaved better (marginally) if they had a new man present in contrast with continuing visitation. Thus, it would appear that the interaction process between black children and significant male figures differs in perhaps important ways between boys and girls.

Antisocial Behavior and Peer Conflict: A Synthesis

Table 5.10 and 5.11 synthesize the patterning of father-absence effects for the two subscales which, on the surface, may have the greatest face validity for suggesting future significant behavior problems for children. These tables summarize the race-gender consequences of father's absence for the childrens' likelihood of engaging in antisocial behavior or in peer conflict, at least as these behaviors are reported by the mother. With regard to antisocial behavior, we find consistent patterns of association for all white sons and daughters of absent fathers, patterns which remain pronounced regardless of which controls are added to the equations; thus, this effect remains significant (although at a reduced level) independent of the full range of maternal and early family traits as well as post-birth traits linked with the father-absenting process. The most pronounced effects are maintained in homes where a new man is present by 1988--and this effect is present for both white girls and boys. In contrast, there are no detrimental effects along this antisocial dimension present in homes where there is continuing contact with an absent father. Thus white children visiting frequently with an absent father remain no more likely to have behavior problems than children who are living with their biological fathers and no gender distinctions

TABLE 5.10

Father's Absence and Anti-Social Behavior by Race and Gender

(Ordinary Least Square Coefficients: Father Presence is Reference Group)

	Father Absent	Father "Never" Present	Father Present in Past	Difference	Frequent Father/Father Figure Contact	Infrequent Contact	Difference	Frequent (Weekly) Visitation	"New Man" in Home	Difference
NO CONTROLS										
White Boys	8.1[a]	10.3[a]	7.4[a]	2.9	8.0[a]	8.3[a]	-0.3	5.9	8.4[a]	-2.5
White Girls	8.3[a]	4.6	9.1[a]	-4.5	7.5[a]	9.8[a]	-2.3	1.9	8.9[a]	-7.0
Black Boys	4.2	5.2	2.1	3.1	1.3	7.1	-5.8	-5.3	5.3	-10.6
Black Girls	2.2	3.4	0.5	2.9	-1.3	5.5	-6.8	4.1	-3.4	7.5
MATERNAL CONTROLS										
White Boys	6.3[a]	7.6[c]	5.9[b]	1.7	6.0[b]	6.9[b]	-0.9	0.7	7.1[a]	-6.4
White Girls	7.1[a]	2.4	8.1[a]	-5.7	6.7[a]	7.7[b]	-1.0	1.1	8.2[a]	-7.1
Black Boys	3.6	4.4	2.1	2.3	0.4	6.8	-6.4	-6.8	4.7	-11.5[c]
Black Girls	1.6	2.5	0.4	2.1	-1.9	4.9	-6.8	2.5	-3.7	6.2
ALL CONTROLS										
White Boys	4.5[b]	4.8	4.3[c]	0.5	4.7[c]	4.3	0.4	-1.2	5.8[b]	-7.0
White Girls	5.9[a]	1.0	6.8[a]	-5.8	5.8[b]	6.4[b]	-0.6	-1.0	7.6[b]	-8.6[c]
Black Boys	0.3	1.2	-1.8	3.0	-2.6	3.4	-6.0	-9.5	1.5	-11.0
Black Girls	-0.6	0.3	-1.8	2.1	-3.4	2.5	-5.9	-0.3	-4.9	4.6

NOTE: (1) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.

(2) See Table 5.4 for full set of Maternal Controls and Other Controls.

(3) Frequent contact = new man in home or at least weekly visitation with father; infrequent contact are all other father-absent situations; new man in home may be a spouse, partner or other adult designated father figure. New man in home takes precedence over frequent visitation.

TABLE 5.11

Father's Absence and Peer Conflict by Race and Gender

(Ordinary Least Square Coefficients: Father Presence in Reference Group)

	Father Absent	Father "Never" Present	Father Present in Past	Difference	Frequent Father/Father Figure Contact	Infrequent Contact	Difference	Frequent (Weekly) Visitation	"New Man" in Home	Difference
NO CONTROLS										
White Boys	10.6[a]	9.1[a]	11.0[a]	-1.9	11.2[a]	9.3[a]	1.9	10.1[b]	11.4[a]	-1.3
White Girls	3.0	3.1	3.0	0.1	2.3	4.2	-1.9	8.2[b]	0.7	7.5°
Black Boys	-3.4	-0.8	-8.9°	8.1°	-5.3	-1.6	-3.7	-13.0[b]	-0.6	-12.4[b]
Black Girls	-0.4	2.6	-4.7	7.3°	-0.1	-0.7	0.6	8.5	-3.5	12.0°
MATERNAL CONTROLS										
White Boys	9.5[a]	7.0[b]	10.3[a]	-3.3	10.5[a]	7.6[a]	2.9	8.6°	10.8[a]	-2.2
White Girls	1.9	2.0	1.9	0.1	1.5	2.5	-1.0	7.8°	-0.2	8.0°
Black Boys	-3.6	-1.1	-8.9°	-7.8°	-5.4	-1.9	-3.5	-13.2[b]	-0.7	-12.5[b]
Black Girls	-0.5	2.2	-4.3	6.5	-0.1	-1.0	0.9	8.8	-3.8	12.6°
ALL CONTROLS										
White Boys	8.7[a]	6.3°	9.5[a]	-3.2	9.8[a]	6.4[b]	3.4	7.4	10.2[a]	-2.8
White Girls	1.5	2.2	1.4	0.8	1.1	2.1	-1.0	6.6	-0.4	7.0
Black Boys	-5.6	-2.6	-11.2[b]	8.6°	-7.0	-4.2	-2.8	-14.6[b]	-2.7	-11.9°
Black Girls	-1.8	1.3	-5.8	7.1	-1.1	-2.6	1.5	6.9	-4.6	11.5°

NOTE: (1) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.
(2) See Table 5.4 for full set of Maternal Controls and Other Controls.
(3) Frequent contact = new man in home or at least weekly visitation with father; infrequent contact are all other father-absent situations; new man in home may be a spouse, partner or other adult designated father figure. New man in home takes precedence over frequent visitation.

in this regard are evident. Among black children, boys and girls show no above average likelihood of antisocial behavior regardless of their father-present or father-absent status.

Shifting to the peer conflict dimension in Table 5.11, we see that a somewhat different pattern may be synthesized. Whereas antisocial behavior is perhaps a more generalized concept which taps both within-family and non-peer behaviors external to the family, the peer conflict dimensions more directly tap interaction patterns within the child's friendship network. This interaction may include physical manifestations such as fighting, activities more likely to be engaged in by boys.

The most pronounced evidence of peer conflict linked with father-absence may be seen only for white boys. Indeed, white boys not living with their father score eleven percentile points higher on the peer conflict subscale than white boys where the father is in residence. This is a strong pronounced effect which is present for all of the father-absence configurations. Neither the presence nor absence of a father or father figure in any form--other than living with a biological father--mediates this effect. While slightly reduced when the controls are added to the equation, the effect remains independent of all maternal and family factors. With only one exception, for white girls there is no evidence of negative peer consequences associated with a father's absence. White girls frequently visiting with an absent father are more likely to be involved in peer conflict situations than their father-present counterparts.

For black children, while no overall peer effect is manifested, we see important distinctions by gender between father configuration categories, distinctions that partially parallel the evidence presented with respect to the antisocial dimension. For black boys, having continuing contact with an absent father who had been previously present seems to be preferable to living with a biological father, a finding highlighted earlier. Most significantly, black boys and girls respond very differently to continuing visitation with an absent father in contrast with having a new man present--and this is a robust finding independent of the controls included in the equations. Black boys appear to be substantially advantaged by such visitation, whereas black girls behave better (relative to visitation) if there is a new man in the home. This finding parallels somewhat the patterns reported for antisocial behavior, although here they are much more pronounced.

Gender, Father Absence and Child Behavior

Because our focus has been exclusively on the relative effects of father's absence for different categories of children, it is useful to conclude this chapter with one broader generalization that suggests an overall important interaction between gender and behavior problems. On average boys, regardless of race, are more likely to manifest overt behavior problems than are girls.[7] Table 5.12 synthesizes the patterning of gender differences in the effect of various paternal configurations on child behavior. The most important finding is that for both whites and blacks apparent gender differences in the overall behavior problems score are only apparent for father-absent families. For both black and white father-present households, there are no overall significant differences in behavior problems scores between boys and girls although this overall finding does indeed mask some subscore variations.[8] Typically, the white and black father-absent differences tend to be larger than the father-present differences.

For both whites and blacks, the largest overall gender differences are for family situations where a new man is in the home or where a father has never been present. These then represent the situations where boys are most disadvantaged compared with girls, relative to the preferable father-present situation. In contrast, there is no evidence of higher levels of male misbehavior among blacks or whites in homes where an absent father frequently visits; in fact, for black children there is a suggestion that sons of absent fathers behave better if their father visits frequently. In this context, it is suggested that girls may gain relative to boys when a new man is present, a finding that runs counter to a priori speculations.

Summary

Significant detrimental behavioral consequences for children are associated with father-absence. The effects are not generalizable, however, across all groups of children, nor are they equally prevalent among the various possible father-absent statuses. In general, the most pronounced negative behavioral

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[7] Mott and Quinlan, 1992; Baker and Mott, 1989.

[8] Because same-race boys and girls have essentially identical background traits, this table examines uncontrolled differences in gender coefficients for children in the various father-present-absent configurations.

TABLE 5.12

Gender Differences in the Effect of Various Paternal Configurations on Behavior Problem Score and Subscores by Race

(Boy Less Girl OLS Coefficients: No Controls)

	Father Present	Father Absent	"No Man" Available	"Man" Available	Frequent Visitation	"New Man" in Home	Father Present Pre 1988	Father "Never" Present
WHITE								
Overall Behavior Problems Score	2.1	5.4[a]	2.0	7.2[a]	4.8	7.7[b]	4.6	7.7[b]
Antisocial Subscore	6.7[a]	6.5[a]	5.1	7.2[b]	10.7	6.1[c]	5.0[c]	12.4[b]
Anxious-Depressed Subscore	-2.4	7.4[a]	8.2[b]	7.2[b]	3.6	8.1[b]	7.2[a]	7.4
Dependency Subscore	-5.3[a]	-3.5	-6.4	-1.7	2.3	-2.4	-4.7[c]	0.5
Headstrong Subscore	2.9[c]	2.4	-3.6	5.5[c]	4.0	5.8[c]	1.5	5.0
Hyperactive Subscore	4.2[b]	8.9[a]	12.0[a]	7.2[b]	4.3	7.6[b]	7.5[a]	12.8[a]
Peer Conflict Subscore	0.1	7.7[a]	5.2	9.0[a]	-2.0	10.8[a]	8.2[a]	6.1
BLACK								
Overall Behavior Problems Score	2.6	8.2[a]	11.4[a]	4.9	-6.6	10.3[c]	5.4	12.8[a]
Antisocial Subscore	7.8	9.8[a]	9.4[b]	10.4[b]	-1.6	16.6[a]	9.4[c]	9.6[b]
Anxious-Depressed Subscore	-4.4	5.4	10.0[b]	0.8	-9.4	5.2	4.2	5.6
Dependency Subscore	-5.9	-1.9	0.7	-4.3	-7.1	-2.8	-6.2	0.5
Headstrong Subscore	6.3	4.5	7.5	1.5	-4.9	3.8	1.1	6.6
Hyperactive Subscore	4.3	11.7[a]	13.5[a]	10.1[b]	4.2	12.5[b]	13.3[b]	10.3[b]
Peer Conflict Subscore	5.6	2.6	4.8	0.4	-15.9[b]	8.5	1.4	2.2

NOTE: (1) Coefficients are from regression equations selectively including various combinations of paternal absence configurations interacted with race and gender permitting direct comparisons between each specified category of father presence or absence and its same race opposite gender counterpart; e.g., if father present for white boys was being contrasted with father present for white girls, the father present white girl category was the omitted reference group in that particular equation.

(2) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.

consequences associated with a father's being absent are found for white boys, and these effects to a significant extent are independent of observable maternal and family background traits. There is evidence, however, that a significant portion of these effects are indeed associated with the disruption process and consequences. Long-term family income and maternal heaith are closely associated with a father's having left the home, and when they are included in the multivariate analysis, the father-absence effects are substantially reduced.

White girls evidence a similar pattern, but the effects are substantially smaller than those found for white boys. For black children, there is little evidence of any detrimental behavior effects associated with the father being in or out of the home.

We have found little systematic overt evidence of variations in behavior associated with specific household configurations for father-absent children. We find no selective disadvantage for girls associated with having a new man in the home although there is systematic evidence of antisocial behavior for both white boys and girls if they are in a home environment that includes a new man. Finally, there is no evidence that children who have never lived with their father are behaviorally disadvantaged compared with those living in homes where a father had been previously present but had left.

Chapter 6. FATHER'S ABSENCE AND CHILD COGNITION

The reasons for hypothesizing that a father's absence from the home may have negative consequences for the intellectual development of a child are essentially two-fold. The first centers on the possibility of a direct reduction in cognitive interaction with family members. The loss of physical contact with the father may reduce within-home intellectual contact between father and child.[1] To the extent to which a father may have unique knowledge not otherwise available within the home (e.g., mathematics knowledge) and to the extent that the father either consciously or subconsciously transfers this knowledge, a father's absence could translate into reduced child knowledge acquisition.[2] Additionally, the particular traits of the mother or other family members and their ability to provide substitute emotional and cognitive support can play a critical role in the adjustment process.[3] Associated with this potential for amelioration is the possibility that mothers in father-absent homes may have less time available to spend with each child in cognitive-related activities.[4] It is emphasized, as suggested earlier, that the above does not represent a consensus, as there is considerable ambiguity regarding the shorter and longer term significance of a father-leaving event in affecting a child's cognitive development.[5]

Second, it has been suggested by some researchers that the stress associated with a father's leaving the home may inhibit a child's intellectual functioning, at least in the short run.[6] There is indeed a general notion suggested by other research that stress associated with marital transitions per se can impede general learning ability. There may be a lesser level of acquired knowledge associated with stress

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[1] For example, Radin, 1981; Landy et al, 1969; Santrock, 1972; Drake and McDougall, 1977.

[2] For example, Landy et al, 1969; Lessing et al, 1970; Radin, 1981.

[3] Biller, 1981; Demo and Acock, 1988 (review article).

[4] Biller, 1981.

[5] For example, Demo, 1992; Lamb et al, 1987; Baydar, 1988; Hawkins and Eggebeen, 1991.

[6] Hess and Camera, 1979; Valencia et al, 1985; Demo and Acock, 1988.

which was linked with prior family transitions which have since been alleviated. It may also be associated with current stress, also a residual of a prior marital transition, which translates at the present time into a reduced capacity for learning as well as a lesser ability to handle ongoing stressful (e.g. testing) situations. One manifestation of this would be a child evidencing above average levels of hyperactivity, for example, which could impeded effective learning or test-taking. Of course, a corollary to these hypotheses would be that the impedance in cognitive functioning triggered by these emotional stressors would fade as time goes by.[7] Additionally, as we described earlier, both of these factors could be accentuated or ameliorated by a variety of factors, including continuing contact with the father, the presence of a new father figure, and gender-selective factors that result in one sex or the other gaining or losing an advantage.

The Cognitive Assessments

In this chapter, we use essentially the same approach that we used in Chapter 5, but we now explore the nature and extensiveness of the linkages between father's absence and child cognition in 1988. The cognitive assessments considered are the well-normed, well-established Peabody Individual Achievement Tests (PIAT) in mathematics, reading recognition and reading comprehension. These assessments have been prepared by American Guidance Service, Inc.

The PIAT mathematics assessment measures ability in mathematics as taught in mainstream education. It consists of 84 multiple-choice items, each with four options, and increasing in difficuity. It begins with such early skills as recognizing numerals and progresses to measuring advanced concepts in geometry and trigonometry.

The PIAT reading recognition assessment measures ability in oral reading. It contains 84 items, each with four options, which range in difficulty from preschool to high school levels. Skills assessed include matching letters, naming letters, and reading single words aloud.

[7] For example, Furstenberg and Seltzer, 1986.

The PIAT reading comprehension assessment measures the ability to derive meaning from printed words that are read silently. For each of the 66 items of increasing difficulty, the child silently reads a sentence and then selects one of four pictures which best portrays the meaning of the sentence.

National norms are available for this assessment and the children in our NLSY sample have been given national percentile scores based on the raw score they have received. The full national sample has an average percentile score of .50. The assessment is normed on a single year of age basis. A more detailed description of the PIAT sample as well as its strengths and limitations may be found in Appendix 2.

Just as the Behavior Problems scale in reality measured several dimensions of behavior problems, so are the PIATs measuring more than one concept. While the focus of this chapter, in a generic sense. is to explore linkages between father's absence and child cognition, it is important to maintain a sensitivity to what could be significant distinctions between the potential meanings behind the three assessments. The two reading assessments involve concepts of increasing difficulty or complexity. The reading recognition assessment addresses basic letter and word concepts which can be readily leamed in ordinary everyday situations including basic class exercises and even television. In contrast, the reading comprehension assessment involves more complex reading and understanding concepts. which are more likely to come from actual reading assignments, be their origin in the home or school. Thus it is entirely possible that family environmental factors such as income, maternal presence (measured for example by extensiveness of employment) and paternal presence (both its substantive aspects such as reading with a child as well as the stress associated with his leaving) might well prove more damaging to the acquisition of more sophisticated reading skills--the PIAT reading comprehension--than to learning the fundamentals of the alphabet and word meaning--PIAT reading recognition.

Similarly, the kinds of innate capabilities as well as the environmental support needed to acquire basic mathematics skills, as measured by the PIAT mathematics assessment, may differ from the inputs needed for reading acquisition. From the perspective of the orientations suggested by a reading of the literature on father-absence, this seems to be the case. Additionally, the limited literature linked with mathematics tends to be much more gender selective, suggesting that in some instances fathers may be

taking unique mathematics "talents" with them from the home, and that this loss can damage childrens', particularly sons', mathematics learning trajectory.[8] This hypothesis is eminently testable and we will do so in this chapter.

In any event, while the overall framework here is to examine in a general sense potential linkages between father's absence and cognitive development, there are no strong a priori reasons for anticipating uniformity in associations across the three assessments. Indeed, one strength of this research is that we can use standardized procedures, in terms of input and sample, to clarify the extent of variations in father's effects on two and maybe three dimensions of a child's intellectual development.[9]

Father's Absence and Cognition: Summary Statistics

Table 6.1 synthesizes the overall patterns of association between race, gender, father's absence and scores on the three PIAT assessments. As a general comment, it is apparent that white scores are systematically higher than black scores for both boys and girls, regardless of father-presence status. Additionally, white girls score higher that white boys in the reading assessments, and black girls score higher than their male counterparts on all three assessments. We focus here on examining within-race patterns, particularly as these patterns themselves may vary, perhaps by gender, across race by father presence-absence status.

As an overall generalization, it appears that white boys are most disadvantaged cognitively when we compare father-absent with father-present environments. That is, white boys in father-absent homes have PIAT scores substantially below their father-present counterparts. No such pattern is seen for black boys. Also, black girls in father-absent homes have PIAT scores somewhat less than black girls living with their fathers, a pattern less pronounced for white girls--although white girls also show small declines.

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[8] Carlsmith, 1964; Blanchard and Biller, 1971; Lessing et al, 1970.

[9] In general, anticipated variations associated with various father forms were acknowledged and described more extensively in Chapters 1 and 5.

TABLE 6.1

Mean PIAT Percentile Scores By Race, Gender and Father Presence-Absence in 1988

(Weighted Estimates)

	White			Black		
	TOTAL	Father Present	Father Absent	TOTAL	Father Present	Father Absent
ALL CHILDREN						
PIAT Mathematics	52.8	54.2	50.1	37.3	40.4	36.0
PIAT Reading Recognition	59.5	60.9	56.9	51.8	54.7	50.5
PIAT Reading Comprehension	63.0	64.6	59.8	53.9	55.1	53.3
Sample Size	1177	729	448	537	154	383
BOYS						
PIAT Mathematics	52.0	53.8	47.8	33.3	35.3	32.6
PIAT Reading Recognition	56.6	58.5	52.4	47.3	48.4	46.9
PIAT Reading Comprehension	59.9	62.7	53.7	48.7	48.6	48.7
Sample Size	617	396	221	256	69	187
GIRLS						
PIAT Mathematics	53.8	54.7	52.1	41.0	44.4	39.5
PIAT Reading Recognition	62.7	63.9	60.9	55.9	59.6	54.2
PIAT Reading Comprehension	66.1	66.7	65.2	58.3	59.5	57.7
Sample Size	560	333	227	281	85	196

The male race patterning of differences between children in homes with and without fathers in cognition does parallel similar variations we had reported for behavior problems, where white boys had substantially larger gaps in behavior between father-present and absent statuses than did black boys. In this regard, somewhat less consistency is found for girls, although for both white and black girls, poorer behavior and lesser cognition is linked with father's absence. This issue will be explored further in this chapter.

For all four race-gender groups, the largest differences in scores between father-present and absent children are for mathematics. White boys in fatherless homes score six percentile points lower in mathematics, 47.8 compared with 53.8 for children living with their fathers. However, the other three race-gender groups, particularly black girls, also show declines. It is useful to note that these results are consistent with the a priori suggestion that white boys might be expected to show the biggest mathematics disadvantage when a father is absent.

Essentially similar patterns by race and gender may be found for reading recognition scores. Somewhat surprisingly, reading comprehension scores were essentially identical between father-present and father-absent homes for three of the four groups. Once again, white boys show greater disadvantage in the father-absent state. This finding suggests that other factors such as the school environment may be the critical dimension for developing more refined reading skills at these younger elementary school ages. However, the very substantial variation between father-present and father-absent homes for white boys on this more complex reading assessment raises important questions. White boys in father-present homes score fully 9 percentile points higher than their fatherless counterparts on reading comprehension. Whether there are overt variations within white homes in how boys and girls interact with others or in having access to reading materials will be considered in Chapter 7. Thus across race and gender lines, and before controlling for any variations between father-present and absent homes in factors which could be linked with cognitive development and father's absence, we do find important variations in reported scores on a well-established nationally normed cognitive battery.

The Modelling Process

The equation sets that we use here to explore the linkages between background and cognition are identical to those we used to explain behavior problems. Thus, we have a three-equation set for estimating each of the three PIAT outcomes. As with behavior problems, there is an equation with "no controls," including only the set of interactive race-gender father absence variables, a set which includes additionally the pre-birth maternal and family attributes and behaviors and a third set which includes the post-birth maternal and family variables. Table 6.2 includes the complete equations for estimating the three PIAT percentile score outcomes for the children in the sample. From a theoretical perspective, the maternal and pre-birth factors may be considered once again as proxies for the full range of antecedents which on the basis of a priori theoretical expectations could be anticipated to be independently associated with both the likelihood of a father leaving as well as a child's intellectual development. In this equation set, however, it should be kept in mind that explanatory variable are relevant if they might affect either cognitive learning or emotional development as the hypotheses predicting cognitive well-being at least partly are psychologically based; emotional well-being can affect learning capacity.

From the perspective of cognition, the pre-birth variables proxy for several distinct categories of pre-birth factors. First are several variables that have a high face validity for being directly linked with the ability of a parent to transfer cognitive knowledge to a child. This transference is partly acquired knowledge and perhaps partly a genetic component--on average, brighter parents may have brighter children, everything else being equal. Variables falling in this category include maternal education, the mother's score on the Armed Forces Qualification Test (AFQT), a multi-dimensional assessment measuring aptitude and acquired knowledge in reading, mathematics and other spheres,[10] and perhaps to some extent the extensiveness of maternal employment, to the extent that working is associated with the acquisition of basic knowledge and skills (e.g, mathematics) which can be transferred to children. Proxies for prospective "mothering skills" (which are suggested to have cognitive as well as emotional components) and perhaps "maternal attentiveness" include the extensiveness of maternal pre-birth smoking or drinking, whether and

[10] See footnote 4 in Chapter 4.

when she went first for prenatal care, the frequency of church attendance, and the extent to which maternal resources need to be shared with an older sibling. The birth weight variable (and perhaps, to a small extent the smoking and drinking variables) is an approximate measure of "child quality" as of a very early point in life. Methodologically, to the extent that low birth weight is a partial proxy for poor child quality, it is hypothesized to perhaps be linked with both subsequent poorer child intellectual development as well as an above average likelihood of having the father leave the home. The "urban" variable is included as a general environmental variable that might be associated with both child quality and family transition and which may well vary across race and socio-economic status. In general, variables hypothesized to be linked with better (or poorer) child intellectual development have parallel theoretical bases consistent with less (or greater) probabilities of a father absenting himself from the home. The variables that interact child age and maternal age at birth are included primarily as proxies for unobserved social, economic and psychological factors linked with early childbearing.

Interpretation of the post-birth factors is more complex, because many of them are clearly directly linked not only with the child's intellectual or emotional development but the process itself (as opposed to being the "predictors of") of a father absenting himself from the home. Teasing out the extent to which these post-birth factors are determinants as opposed to consequences of a father's leaving is beyond the scope of this work. We can generalize, however--and this process is described in Chapter 4--that, on average, a number of these factors differ substantially between families where a man is present, once was present, and was never present.

The income trajectory variables are important proxies for factors which can impact on the quality of the child's cognitive upbringing: the time a mother is able to spend with the child as well as the quantity and quality of intellectual resources in the home, the quality of child care utilized and perhaps the quality of the school the child attends. The employment and grandparent trajectory variables as well as the non-paternal care variables are proxies for the extensiveness of maternal time in comparison with time spent by others with the child. Both these factor are hypothesized to have cognitive and emotional significance.

The younger sibling, as with the older sibling variable, is included as a measure of the extent to which family time and monetary resources must be shared. The maternal occupation, enrollment and health variables are included as measures of the quality and extensiveness of time the mother can spend with the child. All of the equations of course also include our essential explanatory variables which interact various configurations of father presence and absence, race and gender--as described in Chapter 5.

This "package" of explanatory variables certainly has some limitations, but it represents a far more comprehensive set of appropriate background measures than has typically been available for family-related large sample research. The range of explanatory inputs permits a more careful examination of the extent to which a father's absence from the home (1) can impact on children's development independent of factors which are clearly prior to the absenting event; and (2) is inextricably linked with factors associated with the disruption process.

Determinants of Child Cognition

Before focusing specifically on the extent to which a father's absence may be independently linked with a child's intellectual development, we clarify the extent to which the child's development may really reflect priors--family and maternal factors already evident prior to the father's leaving the home. The equations in Table 6.2 present the overall models from which the father-absent coefficients that we focus on here are derived. This table includes overall equations estimating PIAT mathematics, reading recognition and reading comprehension scores for the children, including alternatively just the pre-birth maternal/family controls and then additionally the post-birth factors. In these overall equations, it may be seen that a number of maternal priors are linked with the child's PIAT scores. Focusing on the equations which include only the maternal and pre-birth variables (plus, of course, the father-absence variables), we see that a number of these factors show strong independent associations with the outcomes. In particular, the measures of maternal intellectual capability--education and AFQT scores--show strong and systematic linkage with all three cognitive outcomes. Additionally, a child's birthweight continues to have a strong independent effect on how a child scores in mathematics and reading as of 1988, from five to eight years

TABLE 6.2

Determinants of PIAT Percentile Scores with and Without Maternal and Other Controls

(Ordinary Least Square Estimates)

	PIAT Mathematics				PIAT Reading Recognition				PIAT Reading Comprehension			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
MATERNAL/PREBIRTH FACTORS												
High School Dropout	-9.7[a]	(2.1)	-7.5[a]	(2.2)	-9.5[a]	(2.3)	-8.3[a]	(2.3)	-8.1[a]	(3.0)	-6.2[b]	(3.0)
12 Years of School	-4.6[a]	(1.7)	-3.3[c]	(1.8)	-6.2[a]	(1.8)	-5.8[a]	(1.9)	-5.3[b]	(2.4)	-4.4[c]	(2.5)
Worked 40 or More Weeks Pre-birth	-0.4	(1.7)	-3.7[b]	(1.9)	-0.7	(1.8)	-1.3	(2.0)	-6.5[a]	(2.3)	-10.3[c]	(2.6)
Worked 20-39 Weeks Pre-birth	1.5	(1.8)	0.0	(1.8)	1.1	(1.9)	1.3	(1.9)	1.2	(2.5)	-0.8	(2.5)
Worked 1-19 Weeks Pre-birth	-0.3	(1.7)	-0.8	(1.7)	3.3	(1.8)	3.9[b]	(1.9)	-0.3	(2.4)	-1.1	(2.4)
Had Older Sibling	-1.9	(1.3)	-3.0[b]	(1.3)	-7.0[a]	(1.4)	-8.1[a]	(1.4)	-8.8[a]	(1.8)	-10.6[a]	(1.9)
Mother Had Below Average AFQT Score	-10.4[a]	(1.4)	-9.0[a]	(1.5)	-12.1[a]	(1.5)	-10.5[a]	(1.6)	-13.7[a]	(2.0)	-11.5[a]	(2.1)
Child 5-6 and Mom Under 20 at Birth	1.3	(2.3)	0.9	(2.4)	-10.3[a]	(2.5)	-10.5[a]	(2.5)	-30.8[a]	(3.3)	-32.5[a]	(3.3)
Child 5-6 and Mom 20 and Over at Birth	-0.6	(1.3)	-0.5	(1.4)	-2.1	(1.4)	-2.0	(1.4)	-22.9[a]	(1.9)	-24.0[a]	(1.9)
Child 7-8 and Mom Under 20 at Birth	1.1	(2.0)	1.7	(2.0)	-2.8	(2.1)	-2.9	(2.1)	-5.5[c]	(2.8)	-5.0[c]	(2.8)
Mother Smoked During Pregnancy	-0.7	(1.3)	-0.5	(1.3)	0.0	(1.3)	0.1	(1.3)	-2.7	(1.8)	-2.8	(1.8)
Mother Drank at Least Monthly During Pregnancy	2.6[c]	(1.5)	2.7[c]	(1.5)	4.7[a]	(1.6)	4.3[a]	(1.6)	3.6[c]	(2.2)	3.3	(2.1)
No Prenatal Care First 3 Months of Pregnancy	-0.3	(1.5)	-0.1	(1.5)	-0.1	(1.6)	0.6	(1.6)	0.2	(2.1)		
Infant Birth Weight (Ounces)	0.13[a]	(.02)	.13[a]	(.03)	0.14[a]	(0.03)	0.13[a]	(0.03)	0.10[b]	(0.04)	0.10[b]	(0.04)
Urban Residence During Pregnancy	-0.0	(1.4)	-0.5	(1.4)	0.4	(1.4)	0.1	(1.4)	-0.3	(1.9)	-0.8	(1.9)
Attended Church at Least Monthly, 1979	0.3	(1.2)	-0.0	(1.2)	2.7[b]	(1.3)	2.9[b]	(1.3)	1.9	(1.7)	1.2	(1.7)
OTHER FACTORS												
% of Weeks Worked Birth-1988			4.6	(2.9)			1.1	(3.1)			0.2	(4.1)
Average Post-birth Family Income N.A.			2.3	(3.4)			-2.1	(3.6)			-2.9	(4.8)
Average Post-birth Family Income < 10,000 (1988 dollars)			-4.1[b]	(2.2)			-7.2[a]	(2.3)			-8.5[a]	(3.0)
Average Post-birth Family Income $10-19,999 (1988 dollars)			-3.7[b]	(1.5)			-6.2[a]	(1.6)			-3.8[c]	(2.1)

TABLE 6.2 (cont'd).
Determinants of PIAT Percentile Scores with and Without Maternal and Other Controls
(Ordinary Least Square Estimates)

	PIAT Mathematics				PIAT Reading Recognition				PIAT Reading Comprehension			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
OTHER FACTORS (cont'd)												
HI Occup. Status Post-birth (Census 3D.1-395)			4.4[a]	(1.7)			-0.8	(1.8)			9.4[a]	(2.3)
LO Occup. Status Post-birth (Census 3D.400-984)			3.7[b]	(1.7)			-0.2	(1.8)			6.0[a]	(2.3
% of Years Enrolled in School, Birth-1988			8.4	(5.5)			1.8	(5.8)			1.1	(7.7)
% of Years with Health Problem, Birth-1988			-5.6	(3.7)			-15.8[a]	(4.0)			-8.7[c]	(5.2)
% of Years Grandparent in Home, Birth-1988			-7.4[a]	(2.8)			-1.8	(3.0)			-3.7	(4.0)
# of First 3 Years of Life with Non-Paternal Care			-0.9	(0.6)			-0.7	(0.7)			-1.2	(0.9)
Had Younger Sibling			-2.2[c]	(1.3)			-2.9[b]	(1.4)			-5.8[a]	(1.8)
Father Absent 1988	SEE NOTE											
Intercept	46.6[a]	(4.4)	48.6	(4.8)[a]	54.5[a]	(4.7)	61.3[a]	(5.1)	61.9[a]	(6.2)	69.3[a]	(6.7)
R^2 Adjusted	.144[a]		.158[a]		.145[a]		.160[a]		.182[a]		.199[a]	
F Ratio	13.5		10.5		13.6		10.6		17.6		13.5	
Sample Size	1714		1714		1714		1714		1714		1714	

NOTE: These equations also include eight variables which interact race, gender and father-presence-absence. Those coefficients may be found in Table 6.4. See Table 5.4 for additional explanatory notes.

following birth.[11] We thus have strong presumptive evidence of important cross-generational intellectual payoffs as well as the continuing importance of the child's own physiological development as a predictor of cognition. It is useful to recall that both of these factors, to varying degrees (primarily for white children) had been shown in chapter 4 to be independent predictors of father absence and, in Chapter 5, to be predictors of behavior problems.

Additionally, we see evidence that having an older sibling in the home has a negative effect on a child's development, more strongly for reading than for mathematics development. This factor had also shown a very strong association with father presence--but in the opposite direction. Having an older sibling is associated with poorer reading skills but a greater likelihood of having a father in the home! For the most part, the other pre-birth variables have signs consistent with expectations, but they do not attain statistical significance.

For the post-birth period, we see that low family income has a strong systematic negative effect on all the child outcomes, paralleling the prior-to-birth maternal education effect. This education effect remains even after income is added to the equation. In addition, maternal work, particularly when it is linked with higher occupational status, is predictive of higher scores in mathematics and on the more complex reading comprehension assessment. In contrast, the level of the maternal occupation is quite independent of how well the child does on the more basic reading recognition assessment. This finding is certainly consistent with our earlier hypothesis regarding the possibility of varying associations between maternal attributes and behaviors and the child outcome, contingent on the nature and complexity of the outcome.

Just as having an older sibling was associated with reduced scores, so is the presence of an additional younger sibling in the post-birth period, presumably for the same reasons. Finally, it should be

[11] It should be noted that there is one perverse association which is fairly systematic but not easily explainable. We have evidence, particularly for the reading recognition outcome and to a lesser degree for the other two outcomes, that mothers who reported drinking during pregnancy had children with higher scores. It may be that we are picking up a modest "class" effect which is not accounted for by any of the other variables in the equation.

noted that poorer maternal health in the post-birth period is linked with poorer reading skills, perhaps reflecting a lesser ability by the mother to provide intellectual support for the child.

Racial and Gender Variations in Early Maternal Effects

Because the primary focus of most of the analyses considers differentially the effect of the various father-absent configurations for the four race-gender groups, we briefly explore the extent to which the various maternal-linked explanatory variables also differ in their linkages with the PIAT scores. The full equations for the four race-gender groups for the three outcomes may be found in Appendix Tables A6.1 through A6.6.

Synthesizing the results from these tables, we find evidence of systematic positive associations between maternal intellectual capability--whether measured by maternal education or AFQT scores--for both white boys and girls for all three assessments. Similar effects were found for black boys and girls, although typically the education variable was significant for black boys and the AFQT variable for black girls.[12]

Birth weight is a fairly systematic predictor of mathematics and reading for white boys and girls (an association not found in our analysis of behavior problem determinants). With the exception of its predictive value for black girls in the reading recognition equation, it is not significant for black children.

Having an older sibling in the home is a consistent predictor of poorer reading, both recognition and comprehension, for white boys and girls but not for black children. Additionally, extensive pre-birth maternal employment is linked with lower subsequent reading comprehension for white children whereas for black girls this association is significant and positive. In general, just as the background factors were more predictive of behavior problems for white than for black children, a similar pattern is seen with respect to the cognitive outcomes. It may be generalized that observable pre-birth maternal factors typically seem to impact more on white than black children.

[12] Clearly, both these factors include important ability components. AFQT is possibly a superior measure of actual acquired knowledge to the extent that the meaning of educational attainment is flawed because of variations in school quality. To the extent that the attainment-quality linkage may vary by race, the variable may not be measuring identical concepts for blacks and whites.

Racial and Gender Variations in Post-Birth Factors

We focus now directly on some of the post-birth factors that can be intimately linked with the father-leaving process, to consider the extent to which these factors may directly influence child cognition.

Income

Only the family income factor which was shown earlier to be linked with a father's absence (albeit primarily for whites) evidences a somewhat systematic association with how well the children score on the PIAT assessments in 1988. As may be seen in Table 6.3, low post-birth income is independently associated (after controlling for all other factors) with lower scores on all three PIAT assessments for white children. It is associated with about a six percentile reduction in mathematics scores, an eight percent reduction for reading recognition, and a full ten percent reduction for reading comprehension. However, an examination of the separate gender coefficients indicates that these income effects are primarily in evidence for white girls; the white boy coefficients do not attain significance. While all of the overall black income coefficients are also in the expected direction, only two separate coefficients attain significance, and one is in an unanticipated and inexplicable direction: black girls score low on mathematics if they are from low income households but the black boy low income coefficient is positive and significantl

Employment

The employment extensiveness variable suggests some important findings for white children. It is clear for white girls that more extensive maternal employment is strongly and positively linked with higher PIAT scores, and this link is reinforced for reading comprehension by a positive effect of higher maternal occupational status. This association suggests that for white girls maternal employment has potentially important spinoffs, perhaps because maternal cognitive skills are being enhanced in a way that is directly transmitted to daughters. Whether this effect is at all linked with father's presence or absence, however, is conjectural. As we have demonstrated (Table 4.5), there is little post-birth employment variability between

TABLE 6.3
The Effect of Selected Post-Birth Explanatory Variables on Child Outcomes By Gender and Race
(Ordinary Least Square Estimates)

	Total Black	Total White	Black Boy	Black Girl	White Boy	White Girl
% of Weeks Worked Birth-1988						
PIAT Mathematics	-3.8	5.6	-4.7	-1.9	-0.9	14.5[a]
PIAT Reading Recognition	0.1	1.2	2.7	-5.3	-2.9	7.9
PIAT Reading Comprehension	-1.2	0.2	-3.6	0.7	-12.8[c]	18.7[a]
Behavior Problems	8.3	3.5	-1.3	14.1[c]	-2.9	8.5
Family Income < 10,000 (1988 dollars) (Average Birth-1988)						
PIAT Mathematics	-2.8	-6.1[b]	10.7[b]	-11.5[b]	-2.6	-8.8[a]
PIAT Reading Recognition	-5.0	-8.0[a]	-7.2	-4.5	-6.7	-9.3[b]
PIAT Reading Comprehension	-5.1	-9.9[a]	-3.1	-9.7	-7.3	-12.1[b]
Behavior Problems	4.8	10.8[a]	6.6	2.3	8.2[b]	12.1[a]
% of Years Grandparent is Present, Birth-1988						
PIAT Mathematics	-1.2	-9.8[b]	3.5	-4.4	-15.8[a]	-5.3
PIAT Reading Recognition	-1.4	-0.4	-8.0	4.3	0.5	-3.3
PIAT Reading Comprehension	-4.1	-2.0	-1.7	-10.0	-6.6	1.6
Behavior Problems	-1.2	9.2[b]	0.3	-4.0	4.6	14.2[b]
Mother Has Higher Occupational Status Post-Birth						
PIAT Mathematics	12.4[a]	3.0	7.1	16.1[a]	3.8	2.3
PIAT Reading Recognition	1.4	-1.0	-0.7	-2.8	-0.2	-0.6
PIAT Reading Comprehension	6.8	9.8[a]	5.1	10.0	11.9[a]	8.9[a]
Behavior Problems	1.2	-0.7	6.2	0.1	-3.8	3.0

NOTE: (1) Coefficients are from separate race and race-gender equations which include all of the pre- and post-birth explanatory variables.
(2) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.
(3) High occupational status is defined as having a three digit Census occupational code of one through 395.

white mothers in intact and other relationships. This finding will be considered in an interactive context below.

White boys, in contrast, show some negative consequences of extensive maternal employment with regard to reading comprehension. However, they also benefit substantially from having a more skilled mother--one who has a higher level occupation.

Black children, in contrast to their white counterparts, show no effects, positive or negative, that can be linked with the extensiveness of their mother's employment. Thus, while we have shown that black children who live in intact families have mothers who work substantially more than mothers in fatherless homes, their work does not translate into any obvious direct cognitive advantage or disadvantage other than possible indirect income effects. However, black girls who have mothers in higher level occupations do score substantially higher in mathematics.

Family Structure

Finally, the grandparent trajectory variable, which is known to be closely linked with paternal presence or absence, is highlighted here to point out the caution which needs to be used when interpreting multivariate results. Typically, there are no grandparent effects and where they do appear (i.e., for white boys for mathematics and white girls for behavior problems) their significance appears perverse. Grandparents either appear as benign or, in some instances, severely damaging. While such an effect is of course theoretically possible, a more likely explanation is methodologically based. To the extent that the most disadvantaged families, in terms of unobserved mothering traits or child characteristics are more likely to need and seek grandparental assistance, if one cannot appropriately control for these factors, the remaining observed associations between grandparental present and child outcomes may be counter-intuitive.

In summary, these essential post-birth family factors, which in some (but not all) situations are known to be associated with parental absence, indeed selectively suggest some negative consequences for childrens' cognitive, and as had been demonstrated earlier, their socio-emotional development.

TABLE 6.4

Father Absence and Presence in 1988 by Race and Gender: Linkage with Child (Percentile) Outcomes

(Ordinary Least Square Coefficients: Father Presence is Reference Group)

	PIAT Mathematics			PIAT Reading Recognition			PIAT Reading Comprehension			Behavior Programs		
	No Controls	Maternal Controls	All Controls	No Controls	Maternal Controls	All Controls	No Controls	Maternal Controls	All Controls	No Controls	Maternal Controls	All Controls
White Boys	-6.0[a]	-3.1	-1.6	-6.4[a]	-3.3	-1.2	-4.9[c]	-3.3	-2.0	8.4[a]	6.2[a]	3.6[c]
White Girls	-2.6	0.4	1.5	-1.1	2.7	4.4[b]	-2.6	0.9	1.7	5.0[b]	3.3	1.1
Black Boys	-2.7	-1.1	1.4	-0.6	0.9	2.7	-2.4	-1.8	1.2	3.7	3.3	-0.4
Black Girls	-4.9	-3.5	-1.9	-5.9	-3.5	-2.7	-9.7	-4.6	-3.1	-1.9	-1.7	-4.4

NOTE: (1) a = significant at P < .01; b = significant at P < .05; c = significant at P < .10.
(2) See Tables 5.4 and 6.2 for full equations. In this and all subsequent tables, the father-absent category is coded one and father-presence is coded zero.

However, with the exception of some income and occupational consequences for black girls, these effects tend to be concentrated in white families. This conclusion parallels to some extent the more pronounced pre-birth maternal effects for white children that were described above.

Father Absence and Child Cognition

Using essentially the same methodology that we used to explore the determinants of a child's behavior problems, we now directly explore the linkages between the various father-absent configurations and a child's success in mathematics and reading. While we look here at father-absent cognition linkages, it should be noted that many of the tabular summaries which follow also include results from the behavior problems analysis. This concatenation makes it easier for us to compare results for the behavior problem and cognitive dimensions.

Father Absence Effects

Table 6.4 includes a synthesis of the father-absent coefficients for the four race-gender groups for the three PIAT outcomes. Paralleling the approach we used for behavior problems, the table includes the uncontrolled regression coefficients derived from an equation which includes only a series of dummy variables interacting race, gender and father presence or absence. It also includes the coefficients from the equations which have all the pre-birth maternal and family controls, and a set of coefficients which include all the controls--the pre-birth as well as post-birth factors.

Father-absence is the one category in all of these tables, and father presence, the reference group, is coded zero. The overwhelming result suggested by Table 6.4 is the almost universal lack of significance for all father-absence coefficients, except for white boys. In the most general theoretical sense, it had been anticipated that the father-absent coefficients in these equations would typically be strongly negative without any controls whatsoever in the equation; then we expected these coefficients to become increasingly positive, approaching negative non-significance, as the control variables were added to the equations. These expectations were based, on our awareness that, for the most part, the maternal and family factors

associated with a man absenting himself from the home have been suggested by this research as well as the preponderance of other work to be associated with poorer child socio-emotional and intellectual outcomes.

Our examination of Table 6.4 clearly indicates that for all except white boys, there are no significant associations between father's absence per se and any of the PIAT scores in the equations which have no controls!. Thus, while we have described some ways in which father-absent families may be disadvantaged in terms of maternal, family and even child traits, these factors: (1) are not of sufficient magnitude to result in significant negative cognitive father-absence consequences for most children; and (2) the a priori assumptions regarding the negative consequences which these variations in traits between family forms should have for cognition are not supported, at least for this large national sample of children.

Only for white boys is there any systematic evidence even in uncontrolled relationships of any cognitive disadvantage which can be directly linked with a father's absence. For these children, strong significant negative linkages appear between father's absence and PIAT mathematics and reading recognition scores, along with a weaker but marginally significant association with reading comprehension. The addition of the maternal controls, however, reduces even the white boys' father-absence coefficients below any significance level. Other analyses, not detailed here, document that this reduction is largely, and not surprisingly, due to the addition of the maternal education and AFQT variables to the equation. These were of course the two pre-birth variables which were most strongly linked with the cognitive outcomes for white boys.

It should be noted that the addition of first the maternal controls and then the post-birth controls leads to a gradual shifting of the father-absence coefficients in a positive direction, consistent with expectations. It is very important, however, to emphasize once again that except for white boys, none of the other coefficients ever achieved statistical significance. Thus even if we were to question the true process of causation between all of the explanatory variables and the child outcomes in a causal context, we could not explain away the lack of association in the uncontrolled equations, given that many of the differences in family traits between father-absent and father-present families would favor more negative

outcomes for father-absent children, but very few could be anticipated to operate in the opposite direction! We have hypothesized that overall father-absence effects or non-effects may mask important variations, that may be sensitive to particular father or father figure configurations or particular characteristics of the child, such as his or her race or gender. We will now explore the extent to which the overall father-absence coefficient may be masking important consequences of the various father-absence configurations.

Mediating Effects of Male Contact: Fathers and Father Figures

When a father leaves the child's home, a variety of situations can develop that can mediate any cognitive consequences for the child. As we have hypothesized and described in Chapter 2, any number of situations can develop. First, the mother may "replace" the father with another man, either a spouse or partner or just a "designated father figure." "Replacement" is not precisely the right term for all children as we have shown how in a significant proportion of households there is no evidence that the child's biological father had ever been in residence. In this research, the replacement is termed, for convenience, "new man." Additionally, even though the father has left the home, he may be maintaining close and continuing ties with the child. In this specific modeling we define visiting at least weekly as being a pattern of frequent visitation. In one phase of our research, visiting frequently with a father or living with a "new man" is jointly termed "frequent contact." In this context, we examine here the possible cognitive impact of having contact with a male figure in the broadest sense. "Other" status refers to those children who do not live with a biological father and do not fall into this "frequent" category.

From a theoretical perspective, the cognitive implications of a child having frequent visitation or living with a new man are somewhat ambiguous. Some available research suggests that the impact of a new man is partly contingent on the gender of the child, although this literature for the most part refers to emotional or behavioral consequences; i.e., young girls may have greater trouble adjusting to the presence of a new man in the home. A mirror image to this process might be that girls would have less difficulty if they maintain significant contact with their biological father.

In a different vein, it has been suggested that male figures are more likely to be able and willing to transmit particular skills, particularly mathematics knowledge; and, assuming greater father-son bonding, would be more likely to transmit this knowledge to a boy. While the net effect of all these factors is somewhat unclear, the suggestion is that boys might have more to gain than girls if there is continuing father figure contact.

A mirror image may be suggested for those situations where there is no significant "frequent" male contact (the "other" category). When a father is gone, girls may be less harmed emotionally than boys, as we have already documented, because of closer mother-daughter than mother-son links. For example, if this assumption is correct and there is indeed closer mother-daughter than mother-son bonding--at least at this life cycle stage-- then this bonding could translate to a greater transference of cognitive information from mothers to daughters, compensating for the absence of the father. Thus in situations where there is no significant male contact, daughters might score relatively better on cognitive assessments than their male siblings.

Table 6.5 summarizes the findings with regard to these specific comparisons. Without any controls in the equations, white boys who have "frequent" male contact, be it with a new man or continuing contact with an absent father, score poorer in mathematics than boys who live with their father. However, if they have no significant contact ("other") they do not score significantly different in mathematics than their father-present counterparts. This effect is maintained even when the maternal controls are added, but vanishes when the post-birth factors are added. None of the other three race-gender groups show any significant "frequent" or "other" effects with regard to mathematics. Thus, there is modest evidence that white boys may lose some ground in their mathematics skills if they live in an environment where they have regular access to a male figure. However, having no significant male contact leave them no worse off than boys who are living with their biological father. We will clarify below whether this negative effect is more closely linked with a new man or continuing contact with an absent father. In any event, there certainly is no evidence of compensatory mathematics learning for boys who are able to continue having male contact. White boys appear to be the only group who may actually suffer additional disadvantage along this

TABLE 6.5

Father/Father Figure "Frequent" vrs Less Frequent Contact by Race and Gender: Linkage with Child (Percentile) Outcomes

(Ordinary Least Square Coefficients; Father Presence Is Reference Group)

	No Controls			Maternal Controls			All Controls		
	Frequent	Other	Difference	Frequent	Other	Difference	Frequent	Other	Difference
PIAT MATHEMATICS									
WHITE									
White Boys	-6.8[a]	-4.4	-2.4	-4.6[b]	0.0	-4.6	-3.2	1.8	-5.0
White Girls	-1.8	-4.1	2.3	0.4	0.3	0.1	1.3	2.4	-1.1
BLACK									
Black Boys	-3.0	-2.5	-0.5	-0.8	-1.5	0.7	1.6	1.5	0.1
Black Girls	-5.5	-4.3	-1.2	-3.9	-3.1	-0.8	-1.9	-1.4	0.5
PIAT READING RECOGNITION									
WHITE									
White Boys	-4.6[c]	-10.2[a]	5.6	-2.7	-4.7	2.0	-0.2	-2.9	2.7
White Girls	-2.1	0.9	-3.0	0.7	6.3[b]	-4.7	2.2	8.6[a]	-6.4[c]
BLACK									
Black Boys	-1.3	-0.0	-1.3	1.5	0.2	1.3	3.1	2.6	0.5
Black Girls	-5.6	-6.2[c]	0.6	-2.2	-4.6	2.4	-1.5	-3.7	2.2
PIAT READING COMPREHENSION									
WHITE									
White Boys	-1.5	-12.0[b]	10.5[c]	-2.2	-5.5	3.3	-0.8	-4.0	3.2
White Girls	-4.4	0.8	-5.2	-1.3	4.9	-6.1	-0.8	6.5	-7.3
BLACK									
Black Boys	-3.5	-1.3	-2.2	-1.1	-2.4	1.3	2.2	0.5	1.7
Black Girls	-12.7[b]	-6.7	-6.0	-6.5	-2.8	-3.7	-4.5	-1.5	-3.0
BEHAVIOR PROBLEMS									
WHITE									
White Boys	8.8[a]	7.5[b]	1.3	6.5[a]	5.8[c]	0.7	4.2[c]	2.5	1.7
White Girls	3.7	7.6[a]	-3.9	2.6	4.6	-2.0	0.9	1.4	-0.5
BLACK									
Black Boys	-0.4	7.7	-8.1[c]	-0.8	7.3	-8.1[c]	-3.7	2.9	-6.6
Black Girls	-2.7	-1.2	-1.5	-2.5	-0.9	-1.6	-4.8	-3.9	0.9

NOTE: (1) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.
(2) "Frequent" contact includes father figure in home or weekly visitation with absent father.
(3) See Tables 5.4 and 6.2 for full equations.

cognitive dimension. In this regard, it is useful to note from the bottom panel of Table 6.5 that white father-absent boys who continue to have male contact are the only gender-race group to exhibit behavior problems at a level significantly worse than their father-present counterparts.

In contrast, white boys who have no male contact at all with a father or father figure score much lower on both reading assessments than those who live with their father. Additionally, on the comprehension assessment, that measures more complex reading skills, white boys who have no significant fatherly contact score significantly worse than their counterparts who have significant contact with a father/father figure ("frequent contact"). Thus, it appears that evidence of detrimental cognitive consequences for white boys does exist but is not completely systematic. Substitute father figures are most disadvantageous for mathematics but not for reading. Having no father figure is the worst scenario for reading but not mathematics.

White girls and black boys show no consequential negative effects in either of the two father-absent configurations for any of the PIAT assessments. However, we see some evidence of negative consequences for black girls who live in an environment where a male figure is available. These girls score substantially lower on the reading comprehension assessment than black girls living with their fathers. In summary, compared with the father-present status situation, it would appear that the evidence is mixed and generally not consistent with any prior theoretical expectations.

Finally, it may once again be concluded that the sets of maternal and post-birth control variables do indeed have their expected effects. As one adds the controls, all of the father-absent coefficients move in the expected direction--from negative to positive.[13] However, for the most part, even before beginning to take these factors into account, the various father absence coefficients show no significant negative effects.

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[13] It is of some interest to note that the "other" coefficient for white girls actually attains positive significance when the maternal controls are added to the equation. An exact interpretation of this is difficult, but on the surface it suggests that if the maternal traits in the two family types were identical, white girls would actually score higher if a father were not present in the home. This is of course not a completely fair statement as everything might not be equal including (e.g.,) unmeasured motivational levels for women at a given level of education.

Visitation Versus New Man Effects

The above discussion considered the relative impact of having frequent male (father or father figure) contact in comparison with living with a biological father or having no significant fatherly contact. The "frequent" category encompassed two kinds of male figures who in some instances, may have different psychological and cognitive meaning to both mother and child. In this section, we will try to clarify this distinction by directly contrasting the impact on a child's cognitive development of having a "new man" in the home as opposed to continuing frequent (weekly) contact with a visiting biological father.[14]

In a theoretical context, there are indeed expectations that a biological father who had been present and a new man in the home could have different behavioral implications for children, although in Chapter 5 we found only limited evidence for this difference. To varying degrees, children may have different rapport or bond differently with a new man who presumably in many instances may be viewed as a replacement, at least by the mother, for the child's biological father. This effect may be positive or negative, depending on how the biological father is viewed by the child; and how the child views this situation can certainly affect his or her willingness and ability to gain cognitively from either man. In addition, as has been suggested, the willingness of the man to transmit information as well as the likelihood of the child to receive this information may be contingent on the gender of the child.

Table 6.6 summarizes the information on this question in a format similar to that used in the preceding tables. We may recall from the bottom panel of Table 6.6 that behavior problems significantly different from those children whose for fathers are present was reported only for white boys living with a new man in the home. White boys who regularly visited with their absent father did not have coefficients significantly different from children with fathers present and no other gender-race group had any significant visitation or "new man" coefficients. As importantly, in no instance were the behavior problems suggested

[14] In some cases (but not enough to break out separately), a child had both a new man in the home as well as frequent visitation with a visiting father. In this situation we gave precedence to the man in the home, with whom the child typically would have more extensive and continuing contact. Thus, the child was coded as living with a new man rather than having frequent contact. Additionally, as described in chapter 3, "new man" can encompass a variety of relationship and non-relationship types but usually was the mother's spouse, partner or boyfriend.

TABLE 6.6

Visitation vrs "New Man" in Home by Race and Gender: Linkage with Child (Percentile) Outcomes

(Ordinary Least Square Coefficients: Father Presence Is Reference Group)

	No Controls			Maternal Controls			All Controls		
	Weekly Visitation	"New Man" In Home	Difference	Weekly Visitation	"New Man" In Home	Difference	Weekly Visitation	"New Man" In Home	Difference
PIAT MATHEMATICS									
WHITE									
White Boys	-13.3[b]	-5.6[b]	-7.7	-7.4	-4.0[c]	-3.4	-6.3	-2.6	-3.7
White Girls	-2.5	-1.6	-0.9	-1.4	0.9	-2.3	-1.1	1.9	-3.0
BLACK									
Black Boys	-1.9	-3.7	1.8	-0.7	-1.7	2.4	3.3	0.6	2.7
Black Girls	-4.9	-5.8	0.9	-4.4	-3.7	-0.7	-2.3	-1.7	-0.6
PIAT READING RECOGNITION									
WHITE									
White Boys	-10.0[c]	-3.5	-6.5	-3.1	-2.5	-0.6	-1.7	-0.0	-1.7
White Girls	-5.6	-1.2	-4.4	-4.1	2.0	-6.1	-3.2	3.6	-6.8
BLACK									
Black Boys	-6.3	1.8	-8.1	-2.8	4.2	-7.0	-1.9	6.0	-7.9
Black Girls	-12.3[b]	-3.0	9.3	-10.1	0.9	-11.0	-9.0	1.4	-10.4
PIAT READING COMPREHENSION									
WHITE									
White Boys	-12.5[c]	0.7	-13.2	-5.2	-1.6	-3.6	-4.5	-0.1	-4.4
White Girls	-1.9	-5.1	3.2	-0.1	-1.6	1.5	0.3	-1.0	1.3
BLACK									
Black Boys	-1.4	-4.8	3.4	0.3	-1.9	2.2	3.2	1.6	1.6
Black Girls	-10.7	-13.5[c]	2.8	-7.4	-6.2	1.2	-5.2	-4.3	-0.9
BEHAVIOR PROBLEMS									
WHITE									
White Boys	7.1	9.1[a]	-2.0	3.0	7.1[a]	-4.1	0.5	4.9[b]	-4.4
White Girls	4.4	3.5	0.9	3.6	2.4	1.2	1.9	0.7	1.2
BLACK									
Black Boys	-3.7	1.7	-5.4	-4.8	1.6	-6.4	-7.8	-1.4	-6.4
Black Girls	5.4	-6.0	11.4	4.3	-5.4	9.7	1.2	-7.4	8.6

NOTE: (1) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.
(2) "New Man" includes spouses, partners or other adult males designated as father figures.
(3) See Tables 5.4 and 6.2 for full equations.

by the visitation or new man coefficients significantly different from each other. Thus, to the extent that anticipated cognitive differences might have behavioral bases, only limited cognitive effects might be anticipated.

An examination of the cognitive coefficients suggest some interesting variations. First, before controlling for any family factors, we find that the significant negative effect on mathematics skill for white boys reported in Table 6.5 really reflects disadvantageous situations for these children in both forms of households--where there is continuing contact with an absent father as well as where a new man is present in the home.[15] Thus, white sons of absent fathers are seemingly disadvantaged in the mathematics domain in both of these father and father figure status situations in comparison to boys who live with their biological father. This finding suggests that male presence per se is not the issue here, but rather that the family context in which the male is present makes the difference, an issue we will consider further in Chapter 7. When the maternal controls are added to the equation, we see that these coefficients tend to lose their significance, although they do continue to appear to be substantively non-trivial. The decline in significance appears to be associated with the pre-birth education of the mother, which to some extent may also be proxying for the education of the missing father. Additionally, while the white boy visitation coefficient does not quite attain significance (although it is in the right direction), the new man coefficient is highly significant. Paralleling the suggested cognitive deficits in mathematics, moreover, is corresponding evidence of above-average behavior problems, consistent with what we might anticipate.

White boys who have frequent visitation with their father also appear to be marginally disadvantaged on both reading assessments compared with children whose fathers are present children but no parallel evidence appears for those who are living with new men in the home. These effects also diminish when the maternal controls are added to the equation. thus there is a general suggestion that all of those negative effects for white boys are directly linked with cognitive aspects of the environment, particularly the education of family members.

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[15] While the difference between the visitation and new man coefficients does not attain statistical significance, the negative visitation effect for white boys does appear to be substantively more important than the new man effect on all three PIAT assessments.

Some negative consequences may also be seen to appear for black girls. It may be recalled that black girls not living with their father had evidenced some negative effects on reading comprehension in homes where there was frequent contact with a father/father figure. Table 6.6 clarifies that these negative PIAT effects were equally prevalent for these girls in both fathering environments. The data also suggest that black girls who have frequent contact with their absent fathers score substantially lower on reading recognition than do those living with their father. Thus these results continue to suggest a modest pattern of disadvantage for black girls who are in an environment where there is continuing father/father figure contact.

In general, what we find are only limited distinctions between the father and father figure statuses in terms of their effects on cognition and the effects which do appear are between-- selected father-absence statuses and father-presence. In no instance does any significant difference appear between visitation and new man coefficients. Additionally, except for white boys and to a lesser extent black girls, children in these environments as well as in environments where there is no significant fatherly contact (documented in Table 6.5) do not appear to fare worse cognitively than do children with fathers present and this observation holds true, even without taking into account any of the many possible differences in maternal and family traits among these family forms. Once again, this statement is not meant to suggest that family characteristics don't make any difference. They do indeed matter as we will see in Chapter 7. Also, as controls are added, typically the various coefficients move in the anticipated direction, from poorer to better cognition and from greater to lesser levels of behavior problems.

Paternal History: The Effects of Father Having Been in the Home

The expectation that having had prior extensive contact with an absent father in the home in comparison with never having had a father in residence will differentially affect children is based essentially on several notions. First, in families where a father was never in residence, the possible traumas associated with a father absenting himself should be significantly reduced. While these socio-emotional consequences are likely to be reduced as time goes by, one would nonetheless anticipate that on average,

children who have lived with their fathers would be more likely to show such emotional effects--and that such effects, if in evidence, could potentially affect a child's ability to learn. However, we may recall that in Chapter 5 we found no evidence of differences in behavior problems between children in "never" and "past" father homes, although, for white children, we did see evidence of similar negative effects for children in both these family types as compared with children in father-present homes.

Secondly, there might be behavioral factors or family traits such as maternal education or family income which vary substantially between two family forms, and these traits could result in differential access by children to preferable cognitive environments. In Chapter 4, we did indeed find some evidence that white families where a father was never present were more likely to be in poverty and at least temporarily, more likely to have grandparents in the home. Black families with a father never present also were more likely to have their family unit augmented with grandparents but showed no substantial income difference from families where the father had been previously present.

Regarding early maternal traits, white mothers in father-never-present homes had somewhat less education and additionally were somewhat more likely to have traits which potentially could be linked with poorer parenting, e.g., they were more likely to smoke during pregnancy and were less likely to have gone for early prenatal care. No overall significant effects were found for black mothers. Thus, potentially traumatic effects linked with a father leaving are apparently counterbalanced to some extent, at least for white children by differences in a number of family traits that might be anticipated to favor cognitive development for children who have previously lived with their fathers.

Table 6.7 synthesizes the potential cognitive (and behavioral, in the bottom panel) consequences of never having lived with a father in comparison with having had a father previously present. In the mathematics domain, we find evidence that white boys who have previously lived with their father score more poorly than white boys who have never lived with their father.[16] This significant difference between

[16] Indeed, with the addition of the maternal controls, the coefficient for the effect of "never father" becomes increasingly positive and significant, contrary to all expectations. We have no explanation for this. It may be recalled that children in this status were more likely to have behavior problems than children who were living with their father.

TABLE 6.7

Father Never Present Vrs Father Previously Present by Race and Gender: Linkage with Child (Percentile) Outcomes

(Ordinary Least Square Coefficient: Father Presence is Reference Group)

	No Controls			Maternal Controls			All Controls		
	"Never" Father	Past Father	Difference	"Never" Father	Past Father	Difference	Never Father	Past Father	Difference
PIAT MATHEMATICS									
WHITE									
White Boys	1.9	-8.3[a]	10.2[a]	8.9[b]	-6.2[a]	15.1[a]	11.5[a]	-4.7[b]	16.2[a]
White Girls	-7.5[c]	-1.5	-6.0	-4.4	1.6	-6.0	-1.3	2.7	-4.0
BLACK									
Black Boys	-1.2	-5.9	4.7	0.9	-5.2	6.1	4.6	-3.3	7.9[c]
Black Girls	-5.6	-3.8	-1.8	-3.1	-3.6	0.5	-1.0	1.3	0.3
PIAT READING RECOGNITION									
WHITE									
White Boys	-12.6[a]	-4.7[c]	-7.9[c]	-5.2	-2.9	-2.3	-3.7	-0.7	-3.0
White Girls	0.7	-1.4	2.1	3.9	2.3	1.6	5.5	3.9[c]	1.6
BLACK									
Black Boys	-2.0	2.2	-4.2	-0.4	3.4	-3.8	0.9	5.5	-4.6
Black Girls	-8.6[b]	-2.2	-6.4[c]	-5.8	-0.3	-5.4	-5.6	0.7	-6.3
PIAT READING COMPREHENSION									
WHITE									
White Boys	-6.7	-4.4	2.3	1.5	-4.6	6.1	2.9	-3.1	6.0
White Girls	2.2	-3.6	5.8	2.9	0.6	2.3	4.3	1.4	2.9
BLACK									
Black Boys	-1.4	-4.5	3.1	-2.0	-1.2	-0.8	1.4	1.5	-0.1
Black Girls	-10.8[c]	-7.8	-3.0	-6.1	-2.3	-3.8	-4.9	0.1	-5.0
BEHAVIOR PROBLEMS									
WHITE									
White Boys	12.3[a]	7.2[a]	5.1	9.4[b]	5.4[b]	4.0	5.5	3.2	2.3
White Girls	6.7[c]	4.7[b]	2.0	3.9	3.3	0.6	0.6	1.2	-0.6
BLACK									
Black Boys	5.1	0.6	4.5	4.4	1.0	3.1	0.7	-2.6	3.3
Black Girls	-1.7	-2.3	0.6	-2.1	-1.0	-1.1	-4.8	-3.5	-1.3

NOTE: (1) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.
(2) "Never" = Father not in home at any survey point. "Past" = Father in home at least one survey point since birth.
(3) See Tables 5.4 and 6.2 for full equations.

"never" and "past" fathers, which actually widens when controls are added, suggests strongly that the prior presence of a man certainly does not provide any advantage to white boys in mathematics! Other than for white boys, there does not appear to be any advantage or disadvantage in mathematics associated with any of the father-absence statuses for the three other race-gender groups.

For reading recognition, it appears that white boys who have never lived with their father are most disadvantaged. Thus for white boys we have somewhat disparate findings between mathematics and reading. Black girls also show some reading disadvantage in the family environment where a father has never been present. Thus, it is fair to suggest that no reading generalization can be made regarding the effect which never-versus-past father presence has on childrens' cognition and that there are no systematic parallels between behavior problems and cognition.

Behavior Problems, Father's Absence and Cognitive Development: Potential Interactions

We have speculated, as have many others, that cognitive disadvantages associated with father's absence may at least partly reflect a likelihood that children in father-absent homes are at an emotional disadvantage. The traumas associated with a family transition may, at least in the shorter run, make it more difficult for children to learn. However, as time goes by, these effects should lessen. We will now tentatively explore the issue empirically and examine whether any remaining cognitive disadvantage can perhaps be attributed to remaining emotional disadvantages among children of absent fathers.

First, in Table 6.8 we provide OLS coefficients for the overall behavior problems score as well as for the subscores from equations which include all of the explanatory variables where the three PIAT percentile scores are the outcomes. Coefficients are provided for white and black children as well as for the four race-gender groups. It may be seen that after controlling for all other factors, a higher level of behavior problems is indeed linked with lower cognition scores for all three assessments. These effects are particularly pronounced for white girls and, to a lesser extent, for white boys. Parallel effects for black children may only be found for the reading recognition assessment. Thus, once again, there is more systematic evidence of association for white children.

TABLE 6.8

Linkages Between Behavior Problems and Cognitive Outcomes by Race and Gender

(Ordinary Least Square Estimates From Equations with all Controls)

	PIAT Mathematics						PIAT Reading Recognition						PIAT Reading Comprehension					
	White	Black	White Boy	White Girl	Black Boy	Black Girl	White	Black	White Boy	White Girl	Black Boy	Black Girl	White	Black	White Boy	White Girl	Black Boy	Black Girl
OVERALL BEHAVIOR PROBLEM SCORE	-.11[a]	-.01	-.07[c]	-.16[a]	-.04	-.02	-.15[a]	-.11[b]	-.16[a]	-.12[a]	-.14[b]	-.11[c]	-.13[a]	-.10[c]	-.10[c]	-.15[a]	-.09	-.16[c]
Antisocial Subscore	-.03	-.02	-.07	.03	-.04	.03	-.03	-.03	-.08[c]	.02	-.04	.05	-.08	-.09	-.14[b]	-.00	-.18[c]	.01
Headstrong Subscore	.02	.04	.06	-.03	-.01	.06	.01	-.01	.01	.03	.01	-.05	-.04	.03	-.02	-.02	.09	-.03
Dependency Subscore	.02	.08[b]	.06	-.04	.05	.05	-.01	.04	-.02	-.02	.02	.02	.03	.02	.09	-.07	-.05	.05
Anxious/Depressed Subscore	.01	-.06	.03	-.01	-.08	-.07	-.03	.01	-.04	-.02	-.01	.02	.02	.00	.07	.01	-.01	.01
Hyperactive Subscore	-.19[a]	-.06	-.20[a]	-.19[a]	.11	-.15[b]	-.15[a]	-.15[a]	-.14[a]	-.16[a]	-.13	-.17[a]	-.13[a]	-.13[c]	-.15[b]	-.14[b]	-.01	-.19[b]
Peer Conflict/Withdrawn	.03	-.01	.02	.03	-.14[b]	.11	-.01	-.03	.03	-.03	-.00	-.01	.03	-.01	.04	.01	.04	-.05
SAMPLE SIZE	1177	537	617	560	256	281												

NOTE: (1) a = significant at P < .01 level; b = significant at P < .05 level; c = significant at P < .10 level.

What is most important about the results of Table 6.8 is that the statistically significant negative associations are primarily in evidence for only one subscale, the one measuring hyperactivity. This finding is not surprising, because hyperactivity certainly reduces a child's short-term ability to perform in a testing situation; moreover, in this survey the mother's report of the child's hyperactivity and the child's performance on the PIAT assessments were recorded at essentially the same time. It is also important to note that the several subscores which perhaps are linked with more significant emotional problems and which earlier had been shown at least in some instances to be linked with father's absence, show little direct association with cognitive development. In other words, to varying degrees, father's absence has been shown to be linked with behavior problems as well as with cognition. However, for the most part, the dimensions of behavior problems which have been shown to be associated with father's absence may not be those that directly affect cognition, or at least learning capability at this particular point in time.

In Appendix Table A6.7,and Table 6.9, and Appendix Table A6.8, we consider this issue further. Appendix Table A6.7 provides father-absence coefficients for the three PIAT equation sets, including and excluding the overall behavior problems scores as well as the six subscores. In no instance do the father absence coefficients predicting PIAT scores for any of the race-gender groups change substantially depending on whether or not the behavior problems scores are also included as explanatory variables. While, as shown, behavior problems by themselves have some effect on cognition for white children, the effect is largely independent of father presence or absence status.

More directly, in Tables 6.9 and Appendix Table A6.8, we interact father presence or absence with dummy variables proxying for above or below average behavior problems scores to consider whether father presence or absence mediates a behavior problems effect on the cognitive outcomes or vice versa.[17] Table 6.9 suggests several important statistically significant patterns. First, regardless of the comparison

[17] These coefficients are from equations which represent but the surface of a wide range of multivariate equations which tested different configurations of interactions between father's absence and behavior problems. Essentially the story presented here is quite robust across a variety of formulations. This very simple formulation is presented because it is easiest to describe in tabular form while at the same time it does not distort the patterning of the results.

TABLE 6.9

Interacting Behavior Problems and Father Absence by Race: Effects on Cognitive Outcomes

(Ordinary Least Square Coefficients)

	PIAT Reading Recognition		PIAT Reading Comprehension		PIAT Mathematics	
WHITE						
Father Absent High Behavior Problems vrs. Father Absent Low Behavior Problems	-7.3[a]	(2.6)	-9.7[a]	(3.4)	-7.6[a]	(2.4)
Father Absent High Behavior Problems vrs. Father Present High Behavior Problems	0.8	(2.3)	-4.3	(3.0)	-0.5	(2.1)
Father Absent High Behavior Problems vrs. Father Present Low Behavior Problems	-5.0[b]	(2.3)	-5.5[c]	(3.1)	-5.4[b]	(2.2)
Father Absent Low Behavior Problems vrs. Father Present Low Behavior Problems	2.3	(2.5)	4.2	(3.3)	2.2	(2.4)
Father Present High Behavior Problems vrs. Father Present Low Behavior Problems	-5.7[a]	(1.8)	-1.2	(2.4)	-4.9[a]	(1.7)
BLACK						
Father Absent High Behavior Problems vrs. Father Absent Low Behavior Problems	-4.3	(2.7)	-1.8	(3.5)	-1.0	(2.5)
Father Absent High Behavior Problems vrs. Father Present High Behavior Problems	-0.2	(3.6)	1.2	(4.8)	-3.2	(3.4)
Father Absent High Behavior Problems vrs. Father Present Low Behavior Problems	-5.8	(3.7)	-4.2	(4.9)	-3.9	(3.5)
Father Absent Low Behavior Problems vrs. Father Present Low Behavior Problems	-1.5	(3.8)	-2.4	(5.0)	-2.9	(3.5)
Father Present High Behavior Problems vrs. Father Present Low Behavior Problems	-5.6	(4.0)	-5.5	(5.3)	-0.7	(3.8)

NOTE: (1) Coefficients are from separate race-gender equations including all the maternal and "other" variables. Standard errors in parentheses.
(2) a = coefficient significant at P < .01; b = coefficient significant at P < .05; c = coefficient significant at P < .10. Standard Errors in parentheses.
(3) High Behavior Problems (i.e., "poor" behavior) is a percentile score of 66 or greater; low Behavior Problems (i.e., "better" behavior) is a percentile score less than 66 (the mean for the overall sample).

considered, no configurations of father's presence or absence interacted with behavior problems is significant for black children.

For white children, for a given paternal presence or absence configuration (i.e, either father-present or absent) we see strong evidence that children with above average behavior problems score lower cognitively than children with below average behavior problems (for all except PIAT recognition in the father-present comparison). However, in contrast, for a given level of behavior problems (i.e., low BP or High BP), we find no significant cognitive effects that can be attributed to father absence. Essentially, children of absent fathers and those with resident fathers are similar cognitively for a given level of behavior problems. Stated another way: behavior problems are indeed linked with cognitive development, but this linkage is largely independent of father-presence or absence status. And, as we have shown, the linkage is largely limited to the hyperactivity dimension of behavior problems.

It is true that behavior problems have a slightly greater effect on cognition in father-absent than father-present homes; this effect only reaches significance for the reading comprehension assessment where, clearly, father's absence and behavior problems have a synergistic effect on the acquisition of more complex reading skills. Appendix Table A6.8 provides parallel resuits for white boys and girls separately. For both genders, the effects of behavior problems are clearly much more powerful than the effects of father-absence, although father-absence does have reinforcing effects on behavior problems for the reading comprehension assessment.

Father Absence, Post-Birth Family Attributes and Cognitive Development: Potential Interactions

Just as poorer child behavior may have slightly different effects on cognition depending on whether the father is present or absent, similarly, father's presence or absence effects may be mediated by factors such as the family's economic well-being, the extensiveness of the mother's employment, or the extent to which a father's time may be replaced or complemented for by the presence of grandparents. We now briefly explore the extent to which significant substitutions may occur. The methodology here parallels that

used in sorting out the separate effects of behavior problems and father's absence. The results are highlighted in Tables 6.10 through 6.12.

Whereas behavior problems showed systematic negative effects on cognition for white children, independent of father's presence or absence, no similar evidence can be found for these three important post-birth family socio-economic and demographic trajectories. In summary, with isolated exceptions for both black and white children: (1) none of the three post-birth factors had systematic effects on cognition independent of father status (other than an income effect on PIAT recognition for white children); and (2) none of the father status configurations had systematic effects on cognition independent of the three post-birth factors.

The income effects finding of "none" is of some significance. High income (with the one exception noted) provides no cognitive edge for children within father statuses after controlling for all other maternal and family characteristics. The signs of the coefficients are typically as expected in that high income alone, in and of itself and regardless of father-presence status, is associated with positive signs in comparison with low income. These signs typically do not, however, attain statistical significance for either whites or blacks. The coefficient for father-absent high income in comparison with father-absent low income is no larger than the coefficient for father-absent high income in comparison with father-present low income. Thus, one cannot argue that higher income in any way compensates for a father's absence.

Similarly, maternal work neither helps nor hurts with regard to any of the father status situations. High work (i.e., more maternal employment since birth) typically is associated with negative coefficients for white children compared with low work regardless of the father-presence or absence status, but these coefficients in no instance attain significance. It would appear that while maternal work may have very slight negative implications for childrens' cognitive development, in no instances is this effect compounded by the father's presence or absence. Finally, it may be seen from Table 6.12 that the presence or absence of grandparents either separately or jointly with father presence-absence status has no apparent independent effect on how children score on the PIAT assessments. The only "significant" coefficients are

TABLE 6.10

Interacting Post-Birth Family Income and Father Absence by Race: Effects on Cognitive Outcomes

(Ordinary Least Square Coefficients)

	PIAT Reading Recognition		PIAT Reading Comprehension		PIAT Mathematics	
WHITE						
Father Absent High Income vrs. Father Absent Low Income	4.4	(3.2)	-0.8	(4.2)	0.8	(3.0)
Father Absent High Income vrs. Father Present High Income	-0.0	(3.2)	-3.3	(4.1)	-1.6	(3.0)
Father Absent High Income vrs. Father Present Low Income	5.0	(3.3)	-3.3	(4.3)	1.4	(3.1)
Father Absent Low Income vrs. Father Present Low Income	0.6	(2.0)	-2.6	(2.7)	0.5	(1.9)
Father Present High Income vrs. Father Present Low Income	5.0[a]	(2.0)	-0.0	(2.6)	3.0[c]	(1.8)
BLACK						
Father Absent High Income vrs. Father Absent Low Income	3.3	(3.4)	0.6	(4.4)	0.4	(3.2)
Father Absent High Income vrs. Father Present High Income	2.7	(4.0)	-0.1	(5.3)	-3.9	(3.8)
Father Absent High Income vrs. Father Present Low Income	-0.2	(4.7)	-2.6	(6.2)	0.7	(4.4)
Father Absent Low Income vrs. Father Present Low Income	-3.5	(3.8)	-3.2	(5.1)	0.3	(3.6)
Father Present High Income vrs. Father Present Low Income	-3.0	(4.6)	-2.5	(6.0)	4.6	(4.3)

NOTE: (1) Coefficients are from separate race equations including all the maternal and "Other" variables. Standard error in parentheses.
(2) a = coefficient significant at P < .01; b = coefficient significant at P < .05; c = coefficient significant at P < .10.
(3) For Blacks, low family income is less than 14,811 dollars. For Whites, low family income is less than 24,117 dollars.

TABLE 6.11

Interacting Post-birth Maternal Employment and Father Absence by Race: Effects on Cognitive Outcomes

(Ordinary Least Square Coefficients)

	PIAT Reading Recognition		PIAT Reading Comprehension		PIAT Mathematics	
WHITE						
Father Absent High Work vrs. Father Absent Low Work	-5.5°	(2.9)	-0.7	(3.8)	-2.9	(2.7)
Father Absent High Work vrs. Father Present High Work	-0.7	(2.4)	-0.3	(3.2)	-1.0	(2.3)
Father Absent High Work vrs. Father Present Low Work	-2.2	(2.7)	-1.7	(3.6)	-0.8	(2.6)
Father Absent Low Work vrs. Father Present Low Work	3.3	(2.4)	-1.0	(3.1)	2.1	(2.2)
Father Present High Work vrs. Father Present Low Work	-1.5	(2.2)	-1.5	(2.9)	0.2	(2.1)
BLACK						
Father Absent High Work vrs. Father Absent Low Work	0.1	(3.5)	-6.7	(4.7)	-2.9	(3.3)
Father Absent High Work vrs. Father Present High Work	-1.6	(3.6)	-1.2	(4.8)	-5.0	(3.4)
Father Absent High Work vrs. Father Present Low Work	0.1	(4.3)	-6.2	(5.7)	-3.7	(4.1)
Father Absent Low Work vrs. Father Present Low Work	0.0	(4.0)	0.5	(5.2)	-0.8	(3.7)
Father Present High Work vrs. Father Present Low Work	1.7	(4.7)	-5.0	(6.2)	1.3	(4.5)

NOTE: (1) Coefficients are from separate race equations including all the maternal and "Other" variables. Standard error in parentheses.
(2) a = coefficient significant at P < .01; b = coefficient significant at P < .05; c = coefficient significant at P < .10.
(3) Low Work for Blacks is having worked less than 44 percent of weeks since birth of child; for Whites, low work is less than 40 percent.

TABLE 6.12

Interacting Post-birth Grandparental Presence and Father Absence by Race: Effects on Cognitive Outcomes

(Ordinary Least Square Coefficients)

	PIAT Reading Recognition		PIAT Reading Comprehension		PIAT Mathematics	
WHITE						
Father Absent High Grand vrs. Father Absent Low Grand	-1.2	(2.6)	-1.1	(3.4)	-0.5	(2.5)
Father Absent High Grand vrs. Father Present High Grand	2.9	(2.9)	-1.5	(3.8)	4.7[c]	(2.7)
Father Absent High Grand vrs. Father Present Low Grand	-0.2	(2.4)	-1.5	(3.2)	-2.4	(2.3)
Father Absent Low Grand vrs. Father Present Low Grand	1.1	(2.1)	-0.4	(2.8)	-1.8	(2.0)
Father Present Low Grand vrs. Father Present High Grand	3.1	(2.4)	0.0	(3.2)	7.0[a]	(2.3)
BLACK						
Father Absent High Grand vrs. Father Absent Low Grand	-0.4	(2.8)	-2.4	(3.7)	-1.0	(2.6)
Father Absent High Grand vrs. Father Present High Grand	0.3	(4.7)	-1.3	(6.3)	-3.3	(4.4)
Father Absent High Grand vrs. Father Present Low Grand	-1.9	(3.2)	-3.0	(4.2)	-3.9	(3.0)
Father Absent Low Grand vrs. Father Present Low Grand	-1.5	(3.2)	-0.6	(4.3)	-2.7	(3.0)
Father Present Low Grand vrs. Father Present High Grand	2.2	(5.0)	1.7	(6.6)	0.6	(4.6)

NOTE: (1) Coefficients are from separate race equations including all the maternal and "Other" variables. Standard error in parentheses.
(2) a = coefficient significant at P < .01; b = coefficient significant at P < .05; c = coefficient significant at P < .10.
(3) For Blacks, High Grand = Grandparents present at least 30 percent of post-birth survey points; else = Low Grand. For Whites, High Grand = Grandparents present at least 9 percent of post-birth survey points; else = Low Grand.

counter to expectations; white children in father-present homes score better in mathematics if they are less likely to have grandparents in the home.

Summary

In this chapter, we have explored possible associations between a father's absence from the home and the longer term implications for childrens' cognitive development in reading and mathematics. We have found no systematic evidence of disadvantage associated with a father's absence. The limited effects we found for white boys typically were found to be directly linked with prior maternal attributes, particularly her education.

Consistent with expectations, we did indeed find that white girls encountered less disadvantage than boys when their father was absent. However, there is no evidence of selective female disadvantage associated with the presence of a new man in the home. Indeed, such disadvantage was found only for white boys and here, only with respect to mathematics--where it was least expected. Other effects which were found were essentially erratic and could not be readily explained within any systematic theoretical framework.

We explored the possibility that evidenced cognitive deficits might be emotionally based. While there are indeed overall linkages between behavior problems and cognition, primarily for white girls and to a lesser extent white boys, this linkage essentially was associated with only one dimension of behavior problems, hyperactivity, which could be anticipated to directly affect a child's ability to concentrate in a test taking situation. Clarification of this association suggests that as of this life cycle point, typically several years removed from a father's absenting point, there is no evidence that a child's intellectual development is impeded for emotional reasons.

Chapter 7. FATHER'S ABSENCE AND THE HOME ENVIRONMENT

The explanations given for why one might expect associations between a father's absence from the home and less satisfactory child performance rest for the most part on within-family differences in behaviors between father-present and absent homes--differences that can then be linked to how children perform intellectually or behave emotionally. Essentially, all of the explanatory variables we have used in our analyses have been rationalized as being linked either with how parents themselves act towards or with their children or with family-linked behaviors that can impact on how a child develops.

From an emotional standpoint, the process of family transition associated with a father's ultimate departure can generate tensions that can impede a child's development. Indeed, the home environment itself in the pre-disruption phase may be a major contributor to parental divorce or separation and may be the root cause of a child's emotional maladjustment. Aside from this purely psychological manifestation of family crisis, families who undergo these transitions may alter a variety of within-family behavior which impact on children; access to other relatives, including mothers, may change with disruption, particularly where several children are in the home. Time spent with a child on activities, both within and outside the home, may change significantly, and may result in mothers or other family members spending either more or less time with the child, depending on circumstances. The nature of so-called parental control for example, punishment modes, may change as the mother assumes increased unilateral responsibilities. Socio-economic and demographic variables undoubtedly only partially proxy for these processes.

From a cognitive perspective, resources available to the home, particularly monetary resources, may decline when a father leaves, resulting in a lessening of access not only to quality educational resource outside of the home but reduced cognitive-linked materials in the home. Thus, in a variety of ways, marital transitions can alter emotional and cognitive resources available to a child.

In the modelling of the preceding two chapters, a number of the key explanatory variables have been included at least partly as proxies for many of the unobserved within-family processes. For example,

maternal education is included partly as a measure of the mother's actual cognitive knowledge that she can transfer to her children, partly as a measure of her likely willingness to transfer ability to her children, and partly as a proxy for the quality of her general mothering skills. Family income is at least partly a proxy for the volume of cognitive material in the home available to the child as well as the propensity of the parents to involve the child in outside activities that have intellectual content. In general, it is implicitly if not explicitly assumed that greater maternal education, for example, and higher family income are overt manifestations of greater levels of within-family intellectual interaction patterns, and that greater levels of parent-child interaction, everything else being equal, are probably predictors of higher levels of child cognition.

In the NLSY data set, we now have available one maternally administered assessment, the Home Observation of the Environment or HOME scale, which directly probes a number of within-family interaction patterns. This assessment is not available for the full lifetime of the children in the study. From the perspective of this research, it is available for the 1988 survey point, which permits one to clarify several important issues. First, To what extent are family interaction patterns and child's within-family emotional and cognitive development closely linked with whether a child's father is present in the home? Second, How close are the linkages between a child's "Home" score and the full package of explanatory variables we have used in this research? and third, Does having these home inputs available enhance our ability to understand the processes whereby different paternal configurations may translate into different levels of child behavior problems and cognition? More specifically: for a family that has a greater income, a given measurable cognitive context (e.g., maternal education or AFQT score) and a given paternal configuration, do specific within-family attributes make a difference; can specific within-family interactions compensate for various overt family constraints?

The Home Assessment

The Home scale used in this analysis is an abbreviated version of the larger scale created by Caldwell and Bradley.[1] It includes a wide range of inputs, most of which are delineated in Table 7.1. This scale measures various dimensions of the quality of the home environment, including family interaction patterns, physical attributes of the home, and intellectual attributes of the environment. The scale is detailed more extensively in Appendix 3. Many of the items in this scale have a high face validity as factors which might be closely associated with family structure, particularly paternal presence or absence, as well as being predictors of a child's ongoing intellectual and emotional well-being. The individual items can provide important information about the extent to which aspects of the home environment can vary among children living in different family environments.

In addition to forming an overall Home score which correlates well with various aspects of a child's cognitive and emotional development, it also can be decomposed into two subscales, one measuring the cognitive support which a child received in the home (the "cognitive stimulation" subscale) and the other measuring the extensiveness of the emotional support (the "emotional support" subcale) available to the child in the home.[2] To some extent the latter subscale is collinear with a father's presence or absence, as a number of the inputs to this scale incorporate items directly linked with paternal presence or absence. These scales are useful both to describe the magnitude of family attribute variations for families with different paternal configurations as well as to suggest the extent to which variations in family attributes associated with a father's presence or absence can translate into differential child cognitive and emotional outcomes. Perhaps most importantly, it is possible to explore whether variations in home environment within different family forms can enhance or mitigate father absence effects.

[1] Bradley and Caldwell, 1979, 1980; Caldwell and Bradley, 1984.

[2] See Baker and Mott, 1989; Mott and Quinlan, 1992.

Father Presence-Absence and Its Linkage with Individual Home Attributes and Behaviors

Table 7.1A describes the range of items available in the Home scale. It incorporates items tapping intellectual activities and attributes, family interaction patterns, the ways in which parents maintain control and interact with their children, and items that describe the extent to which children are assigned tasks or responsibilities in the home.

White Home Environments

In Table 7.1A we describe for white children how family interaction patterns and attributes may vary between father-present and absent environments, and in Table 7.1B we provide parallel resuits for black children. While the distinctions are not always precise, we will separately focus on the Home components that predominately suggest emotional in comparison with cognitive advantage.

For the most part, the differences between white father-present and absent families in child task expectation and many dimensions of parental control are quite modest. Children whose fathers are present and absent face similar expectations in what tasks they are expected to help with in the home. The ways mothers respond to some childrens' inappropriate behaviors such as swearing or throwing tantrums also do not vary by family type; additionally, with modest exceptions, mothers of children whose fathers are present or absent respond similarly when the child brings home a report card beneath maternal expectations. The one substantial exception here is that mothers in father-present homes are somewhat more likely to contact a teacher or principal if a report card does not reach expectations; 64 percent of parents in intact families are very likely to go to school in this situation compared with 51 percent in families where the father Is absent.

More generally, there is little or no difference in white parental punishment modes between the two family types. The likelihood of spanking children, grounding children, sending a child to his or her room, or taking away allowances are not linked with father-presence or absence for these five to nine year-old children. Children whose fathers are present are somewhat more likely (83 percent compared with 73

TABLE 7.1A

Individual Home Item Responses for White Children by Gender and Father Presence/Absence

(Weighted Percent in Category Unless Otherwise Specified)

	TOTAL	Father Present	Father Absent	BOYS	Father Present	Father Absent	GIRLS	Father Present	Father Absent
BOOKS AND READING									
Owns 10 or More Books	88.5	90.3	85.2	88.2	90.7	83.2	88.8	89.9	87.1
Reads to Child at Least Weekly	57.8	58.8	55.8	56.2	58.0	52.6	59.4	59.8	58.8
CHILD TASK EXPECTATIONS (MORE THAN 50% of TIME)									
Makes Own Bed	48.7	48.7	48.8	42.1	40.3	45.8	55.6	58.5	51.2
Cleans Own Room	71.6	74.0	67.1	65.6	65.8	65.5	77.8	83.6	68.5
Cleans After Spills	72.5	71.8	73.8	72.7	70.9	76.6	72.2	72.8	71.1
Bathes Self	90.0	90.6	88.8	93.1	93.0	93.4	86.7	87.9	84.6
Picks Up After Self	88.9	90.9	85.4	88.2	89.0	86.5	89.8	93.2	84.3
INTELLECTUAL ACTIVITIES/ENVIRONMENT									
Musical Instrument?	42.3	45.1	37.3	41.6	45.2	34.2	43.1	45.0	40.0
Daily Newspaper?	48.4	53.8	38.6	48.1	53.1	38.0	48.6	54.5	39.2
Reads for Enjoyment? ($\geq$ Several Times Weekly)	69.5	68.9	70.3	63.9	64.3	62.9	75.6	74.6	77.0
Encourage Hobby?	85.8	89.2	79.7	85.1	89.3	76.4	86.5	89.0	82.6
Special Lessons, Organizations?	43.9	47.8	36.9	46.0	57.4	33.0	41.7	42.5	40.3
Museum? (Several Times a Year or Greater)	34.3	33.1	36.5	35.6	34.1	38.4	33.0	31.9	34.7
Music/Theater? (Several Times a Year)	17.9	14.4	24.1	14.5	13.5	16.5	21.4	15.3	31.1
FAMILY INTERACTION									
Get Together with Family/Friends (Weekly)	41.5	43.9	37.1	44.1	47.9	36.3	38.7	39.3	37.8
Child Sees Father/Father Figure	94.5	99.3	85.9	94.2	99.5	83.1	94.9	99.0	88.5
Sees Father Figure Daily (If "Yes" to Sees F/FF)	72.6	86.6	43.8	76.0	86.8	49.7	69.0	86.5	38.6
Spends Time with F/FF Daily in Outdoor Activities[1]	21.4	23.7	16.7	23.5	26.9	15.4	19.1	19.9	17.9
Eats Daily Meal with Both Parents[1]	67.5	76.6	48.8	70.3	76.1	56.3	64.5	77.1	42.5
Discusses TV Program with Parent[1]	85.1	89.7	75.3	87.4	91.7	76.6	82.6	87.4	74.1

NOTE: [1] Denominator is children who indicate they see their father/father figure.

TABLE 7.1A (cont'd).

Individual Home Item Responses for White Children by Gender and Father Presence/Absence

(Weighted Percent in Category Unless Otherwise Specified)

	TOTAL	Father Present	Father Absent	BOYS	Father Present	Father Absent	GIRLS	Father Present	Father Absent
PARENTAL CONTROL									
Parental Response to Swearing/Tantrums									
% Grounding	22.9	22.2	24.4	21.0	19.9	23.5	25.1	24.9	25.3
% Spanking	28.7	28.0	29.9	25.7	23.2	31.4	31.8	33.7	28.5
% Talk with Child	60.6	60.5	60.8	58.9	58.2	60.4	62.4	63.2	61.1
% Give Chore	8.3	9.2	6.6	8.1	7.6	9.0	8.6	11.0	4.5
% Ignore	5.6	5.7	6.2	5.8	6.1	5.4	5.9	5.3	6.9
% Sent to Room	16.8	16.9	16.6	14.9	15.7	13.1	18.8	18.3	19.7
% Take Away Allowance	3.2	3.7	2.2	3.0	3.5	1.9	3.4	3.9	2.5
% Take Away TV/Other Privilege	24.0	23.6	24.6	25.4	24.6	27.2	22.3	22.4	22.2
Parental Response to Poor Report Card (% Very Likely)									
Contact Principal/Teacher	59.4	64.0	51.3	62.2	66.1	54.5	56.5	61.6	48.3
Lecture Child	25.3	22.3	30.8	28.6	24.5	36.8	21.8	19.7	25.3
Keep Closer Eye on Activities	69.9	70.7	68.4	69.5	72.1	64.1	70.3	69.0	72.2
Punish	6.7	5.2	9.3	7.3	5.4	11.4	6.0	5.0	7.5
Talk with Child	88.2	90.3	84.5	88.0	90.3	83.4	88.4	90.2	85.6
Wait and See if Improvement	18.3	15.4	23.5	16.1	13.1	22.1	20.6	18.0	24.8
Tell Child to Spend More Time on Something	60.8	60.4	61.5	58.3	59.7	55.6	63.4	61.1	66.9
Spend More Time Helping Child	82.7	83.3	81.7	84.7	88.1	77.9	80.6	77.6	85.3
Percent Who Have Never _____ in Past Week									
Spanked Child	58.7	59.7	56.7	59.2	61.1	55.3	58.1	58.2	57.9
Grounded Child	79.9	81.8	76.4	77.5	78.8	74.6	82.4	85.1	77.9
Taken Away TV, Other Privileges	76.2	72.7	82.6	76.3	73.0	83.6	76.0	72.4	81.8
Sent Child to Room	43.7	42.9	45.3	44.3	44.0	44.9	43.1	41.6	45.6
Taken Away Allowance	96.6	97.4	95.1	96.5	96.9	95.5	96.7	97.9	94.7
Show Child Physical Affection	1.8	0.9	3.5	1.0	0.4	2.2	2.7	1.6	4.7
Praised Child	1.6	1.1	2.7	1.1	0.7	2.0	2.2	1.5	3.3
Told Other Adult Something Good About Child	3.7	2.7	5.7	3.7	2.8	5.4	3.8	2.6	5.9
Sample Size	1138	706	432	600	383	217	538	323	215

NOTE: [1] Denominator is children who indicate they see their father/father figure.

percent) to have lost TV or other privileges in the past week. Other than this, the children have been treated indistinguishably in terms of recent (past week) punishment modes.

In contrast, we find substantial variations in the intellectual environments of white children according to whether their fathers are present or absent. Children living with two biological parents are more likely to have a musical instrument, receive special lessons, have a daily newspaper in the home, or have parents who encourage their hobbies. Many of these factors are socio-economically linked. To the extent that father-present families have more economic resources, they are better able to assist their children with at least some of these activities. In contrast, and inexplicably, children in father-absent families are more likely to attend a concert or theater several times a year, a difference concentrated among female children.

Finally, there are major differences in family interaction patterns along dimensions which, at least to some extent, are closely linked with the father's presence or absence. However, if we limit comparisons of this type to father-present and absent families where the children indicate that they regularly see their father or father figures, important substantive differences in paternal contact are found. For example, in father-present and absent homes where a child has regular father or father figure contact, 24 percent of children whose fathers are present spend time daily with their father or father figure in outdoor activities, compared with 17 percent of children whose fathers are absent; 77 percent of children whose fathers are present eat at least one daily meal with both "parents" compared with 49 percent for children of absent fathers. And finally, 90 percent of the children with fathers present discuss TV programs with a parent compared with 75 percent of children whose fathers are absent. This suggests that father/father figure-child interaction in father-absent homes is clearly not equivalent to interaction with a biological father in residence, even when one limits the comparison to situations where there is known to be frequent contact. While for many task and parental control dimensions, white children of absent and present fathers apparently have similar home environments, there are still several important dimensions along which these children differ. These differences tend to be concentrated in the cognitive domain, although of course the parent-child interaction dimension has important cognitive and emotional components.

Gender Distinctions in White Home Environments

Because many of the differences we have reported between children whose fathers are present and absent seemed to be gender-linked, we examine the extent to which environments in father-present and absent homes may vary for boys and girls. Table 7.1A contrasts individual Home item responses for white boys and girls with fathers present and absent. Before considering these gender distinctions, we consider which items suggest gender distinctions in parent or child behaviors per se, independent of father-presence or absence. White girls are much more likely than boys to make their beds, clean their rooms, read for enjoyment, and go to the theater. Boys are more likely to have frequent contact with their father and to have parents who interact with the school or lecture the child if grades are poor. Other than these items, overall gender variations in Homes responses are essentially trivial.

The gender differentials that can be linked with paternal absence are also linked with the overall gender distinctions noted above, as overall gender distinctions closely parallel father-present gender distinctions for white children. For example, gender differences in making beds or cleaning rooms tend to disappear in father-absent homes. They almost entirely reflect rather substantial differences between boys and girls in childraising patterns in homes where two parents are present. In father-absent homes, there are no important differences in the likelihood of boys and girls carrying out these tasks. Homes with only one parent may well not be able to afford the luxury of treating boys and girls differently with regard to tasks that have no inherent basis or need for being differentiated by gender. It may also be noted that the substantial gender difference in receiving special lessons or belonging to organizations which exist for children whose fathers are present is also substantially diminished when the father is absent; white boys show a major decline in their likelihood of receiving special lessons when a father is absent compared with a modest increase for girls. Whatever the reason, be it less special advantages for boys relative to girls when a father leaves, or simply less time available to mothers for chauffeuring children around, it is clear that father's absence is a great gender equalizer along this dimension.

A similar case can be made for several other home dimensions, including the likelihood of being involved in family get-togethers, spending time with father or father figure in outdoor activities, or spending

time helping a child who has a poor report card. All of these are factors where a boy has an "edge" in father-present homes and where that edge is diminished or even reversed when the father is not present. Additionally, white girls are more likely to be spanked when they throw a tantrum in father-present homes than are boys. However, in father-absent homes, the opposite it true. Also, as indicated earlier, girls appear to gain an advantage in the theater attendance dimension compared with boys when the father is absent and additionally are more likely to be encouraged to pursue a hobby. Thus it is perhaps fair to generalize that while there are many instances where gender positions are not altered when a father absents himself from the home, there also is strong evidence that male advantage is reduced. Overall, these detailed patterns suggest that boys are favored over girls to some extent in two-parent homes relative to living in an environment where only the mother is present. More often than not, reductions in gender differentials result in greater equalization in how children are treated rather than in overt favoritism towards girls in father-absent homes.

The one area where white boys do not lose any advantage and indeed may gain are for those activities that directly involve fathers. In father-absent homes, the gap between boys and girls (which always favors boys) in seeing a father figure daily or in eating a daily meal with both parents is larger than it had been in homes where both biological parents are in residence.

The Black Home Environments and Black-White Home Environmental Distinctions

To the extent that racial variations in cognitive or emotional outcomes may be linked with variations in within-home environments, it is useful to contrast the Home patterns for white children reported in Table 7.1A with the parallel statistics for black children in Table 7.1B. Overall, there are modest differences between black and white homes in the availability of intellectual stimuli. White children are more likely to have reading material in the home, and somewhat more likely (58 percent compared with 48 percent) to have a parent read to him or her at least weekly. There are small differences favoring white children in the availability of musical instruments and in having special lessons, factors which may be economically linked--and the white families are better off economically.

TABLE 7.1B

Individual Home Item Responses for Black Children by Gender and Father Presence/Absence

(Weighted Percent in Category Unless Otherwise Specified)

	TOTAL	Father Present	Father Absent	BOYS	Father Present	Father Absent	GIRLS	Father Present	Father Absent
BOOKS AND READING									
Owns 10 or More Books	60.7	69.7	56.8	59.5	71.9	55.1	61.9	68.0	58.7
Reads to Child at Least Weekly	47.7	50.0	46.5	42.2	40.1	43.0	53.0	57.5	50.5
CHILD TASK EXPECTATIONS (MORE THAN 50% of TIME)									
Makes Own Bed	55.4	65.7	50.9	49.7	61.8	45.3	61.1	68.6	57.2
Cleans Own Room	67.3	71.1	65.6	64.7	68.6	63.2	70.1	73.1	68.5
Cleans After Spills	83.0	86.7	81.4	79.1	85.9	76.6	86.9	87.4	86.8
Bathes Self	95.0	95.0	95.0	93.4	92.9	93.6	96.7	96.7	96.8
Picks Up After Self	89.2	91.7	88.1	87.9	89.6	87.2	90.5	93.3	89.2
INTELLECTUAL ACTIVITIES/ENVIRONMENT									
Musical Instrument?	30.8	29.9	31.2	29.9	25.1	31.6	31.7	33.7	30.7
Daily Newspaper?	43.1	48.4	40.8	44.5	44.8	44.4	41.8	51.0	36.9
Reads for Enjoyment? (≥ Several Times Weekly)	63.0	66.4	61.5	56.0	60.8	54.3	69.8	70.6	69.4
Encourage Hobby?	82.4	81.2	83.0	82.6	80.4	83.5	82.2	81.8	82.4
Special Lessons, Organizations?	34.2	37.9	32.6	33.7	34.3	33.5	34.7	40.6	31.6
Museum? (Several Times a Year or Greater)	37.5	42.6	35.2	37.9	45.8	35.2	37.0	40.2	35.2
Music/Theater? (Several Times a Year)	22.0	25.8	20.4	20.1	27.4	17.6	24.0	24.6	23.7
FAMILY INTERACTION									
Get Together with Family/Friends (Weekly)	35.0	41.8	32.0	30.6	47.5	24.8	39.2	37.6	40.1
Child Sees Father/Father Figure	79.2	98.1	71.0	79.7	100.0	73.1	78.7	96.7	68.6
Sees Father Figure Daily (If "Yes" to Sees F/FF)	45.2	76.7	27.6	40.3	74.7	25.8	50.3	78.2	29.8
Spends Time with F/FF Daily in Outdoor Activities[1]	14.5	23.9	9.2	13.8	27.4	8.0	15.3	21.3	10.9
Eats Daily Meal with Both Parents[1]	41.5	67.3	27.3	40.4	66.7	29.5	42.7	67.7	24.5
Discusses TV Program with Parent[1]	66.0	85.4	55.2	62.7	86.1	52.9	69.5	84.8	58.2

NOTE: [1] Denominator is children who indicate they see their father/father figure.

TABLE 7.1B (cont'd).
Individual Home Item Responses for Black Children by Gender and Father Presence/Absence
(Weighted Percent in Category Unless Otherwise Specified)

	TOTAL	Father Present	Father Absent	BOYS	Father Present	Father Absent	GIRLS	Father Present	Father Absent
PARENTAL CONTROL									
Parental Response to Swearing/Tantrums									
% Grounding	26.2	29.2	25.0	28.8	31.6	27.9	23.7	27.3	22.1
% Spanking	41.1	50.3	37.4	42.6	50.4	39.8	39.8	50.3	35.1
% Talk with Child	50.6	54.1	49.2	49.7	52.0	48.8	51.4	55.7	49.5
% Give Chore	9.2	12.2	8.5	8.4	11.0	7.4	10.7	13.2	9.5
% Ignore	3.1	2.2	3.4	1.6	0.0	2.2	4.5	3.9	4.7
% Sent to Room	19.5	22.6	18.3	20.5	21.8	20.1	18.6	23.3	16.5
% Take Away Allowance	5.8	8.9	4.5	5.3	6.8	4.8	6.3	10.6	4.3
% Take Away TV/Other Privilege	27.6	31.4	26.1	29.0	32.8	27.7	26.3	30.2	24.5
Parental Response to Poor Report Card (% Very Likely)									
Contact Principal/Teacher	67.3	77.1	62.6	67.7	77.5	63.9	66.9	76.9	61.2
Lecture Child	55.9	54.7	56.5	56.1	59.0	55.0	55.7	51.5	58.1
Keep Closer Eye on Activities	79.1	88.7	74.6	78.7	87.5	75.3	79.5	89.7	74.0
Punish	31.4	34.0	30.1	29.7	31.4	29.0	32.9	35.9	31.2
Talk with Child	89.6	93.4	87.8	87.4	93.7	84.9	91.7	93.2	90.8
Wait and See if Improvement	38.5	36.8	39.3	41.0	39.4	41.7	36.0	34.8	36.7
Tell Child to Spend More Time on Something	81.9	81.2	82.3	82.7	82.1	83.0	81.2	80.6	81.5
Spend More Time Helping Child	89.2	93.1	87.4	89.5	93.4	88.1	88.9	92.9	86.6
Percent Who Have Never _____ in Past Week									
Spanked Child	47.0	47.7	46.7	37.7	31.6	40.0	56.0	59.4	54.0
Grounded Child	63.2	58.5	65.5	56.7	46.6	60.4	69.6	66.9	71.1
Taken Away TV, Other Privileges	63.6	58.8	65.8	59.3	44.7	64.8	67.8	69.2	67.0
Sent Child to Room	52.0	44.9	55.3	47.9	43.9	49.4	55.9	45.7	61.7
Taken Away Allowance	86.1	85.6	86.3	85.0	78.8	87.3	87.1	90.4	85.1
Show Child Physical Affection	9.0	7.2	9.8	11.1	8.5	12.0	7.0	6.2	7.4
Praised Child	10.5	4.0	13.5	10.0	1.4	13.0	11.1	5.8	14.1
Told Other Adult Something Good About Child	14.3	10.5	16.0	15.4	8.0	18.0	13.3	12.4	13.8
Sample Size	525	148	377	250	66	184	275	82	193

NOTE: [1] Denominator is children who indicate they see their father/father figure.

More overt racial distinctions may be noted for those family factors that relate to family interaction and social control. Black children are less likely to interact with other family members and, not surprisingly, considerably less likely to be involved in activities that include both parents. These factors, which may be proxies for general family interaction, seem to favor white children. There is strong evidence, however, that black parents may attempt to exercise more continuing day-to-day control over their children and may follow somewhat different punishment modes than do white parents. Specifically, a comparison of Table 7.1B with 7.1A suggests that when a black child brings home a poor report card, parents are more active in their responses, being more likely than their white counterparts to engage a full range of interactions with school and child. Black parents indicate that they are more likely to contact a teacher, lecture the child, keep a closer eye on his or her activities, punish the child, and so on. Regarding punishment modes, it would appear that black parents are more traditional in their upbringing and perhaps for that reason are much more likely to spank a child who misbehaves. In general, they are more likely to have punished their child for a misbehavior in the past week.

We shift our focus now to contrasting home environments of black children whose fathers are present with those whose fathers are absent. In some instances the differences that do appear may be socio-economically based, as was true for the white children. Black children living without their father are less likely to have immediate access to reading materials and are slightly less likely to read themselves or to have someone read to them. It is emphasized, however, that the latter two differences are very modest. Generally, for the other items which presumably have significant intellectual content, there is little evidence of major differences between the two family environments, although black children with fathers present are slightly more likely to have special lessons or to leave the home for museum- or concert-related activities. For the most part, it is fair to generalize that across the full range of cognitive items, differences by family type are not pronounced for black families.

In contrast, as with white children, there are very substantial differences in family interaction patterns. If one compares black children with fathers present and absent who are known to have daily contact with a father or father figure, there are still very substantial differences in the amount of time they

spend with those fathers or father figures, be it in outdoor activities, eating meals or having within-home discussions. In this regard, these distinctions by family type are larger for black than for white families.

With regard to parental control, there is for the most part systematic, albeit modest, differences between parents in homes where fathers are present and absent in the extent to which they are involved in disciplining their children. Typically, two-parent black households exercise more continuing control over their children when responding to detrimental situations. Whether responding to "swearing or tantrums" or to a poor report card, two-parent black families apparently try to maintain more direct control, be it by contacting teachers or keeping a closer eye on activities. Two-parent black families are significantly more likely to spank their children when they misbehave and slightly more likely to follow a variety of other punishment modes when their child misbehaves. Over the past week (preceding the interview), black mothers in homes where the father is not present are less likely to have punished their child, either by "grounding", taking away privileges or sending their child to his or her room. While cross-race generalizations must be made cautiously, it does appear that there is relatively more evidence of less control in black than in white father-absent homes in comparison with their respective father-present forms.

Gender Distinctions in Black Home Environments

In the cognitive domain, for the most part, black girls have an advantage over boys in both father-present and absent environments. It is difficult to generalize any further regarding present-absent distinctions because in some instances girls have a greater relative advantage in father-absent homes, but in other instances the obverse is true.

There are, however, some striking distinctions for black children father-present and absent homes in expectations regarding within-home task activities. It may be recalled that for white children, substantial gender differences in home tasks that were in evidence when a father was present tended to vanish in father-absent homes. Whereas white girls were much more likely than white boys to be responsible for personal tasks in families with two parents, this gender difference was greatly reduced in father-absent homes (largely due to a reduction in female activity rather than to any increase in within-home help by

boys). In contrast, for black families, whereas there is no gender difference in within-home assistance in father-present homes, in father-absent homes, girls help out more than boys. While these shifts are not huge, they do suggest gender differences in role expectations between black and white families, differences consistent with less gender equality in black families when the father is gone--opposite to what is found for white families.

Not surprisingly, both black boys and girls have much less father/father figure contact in father-absent homes. There is no substantial evidence of one gender or the other being given a preference. The one important gender distinction in family interaction has to do with the tendency of the children's family unit to interact with other friends or family. The family units of boys have substantially less contact with other family members or friends when the father is absent; this difference does not appear for the family units of girls. We have no good explanation for this pattern. There is no apparent reason why five to eight year-old girls would generate more family cohesion than would young boys.

For the most part, parenting styles in controlling or punishing children and distinctions noted between father-present and absent families that we have highlighted for all black children follow similar patterns for both black boys and girls. There is a generally lower level of close supervision for both genders in father-absent homes. In the father-present and absent homes, there is a general pattern of a lesser level of disciplining attention for girls than for boys. This pattern was not found for white children, where we found a greater "equality" in punishment modes.

The Determinants of Home Scores: Linkages with Paternal Presence and Absence

The overall Home score and the two major subscores, which proxy for emotional and cognitive attributes of the home environment, are constructed from the various items indicated in Tables 7.1A and 7.1B as well as from several other related items specified in Appendix 3. In this section, we will explore first in a tabular context how these scores are linked with father-present and absent environments. Then we will consider the extent to which the full range of explanatory variables, some of which are strongly linked with paternal presence or absence and the child outcomes, are indeed linked with the HOME

environment--both the overall percentile score as well as the cognitive and emotional percentile subscores. An understanding of this process sets the stage for the concluding analysis, which clarifies to some extent how the home environment, both separately and interactively with father presence or absence, can affect the cognitive and emotional development of five through nine year-old children.

A Tabular Perspective

Table 7.2 provides overall Home percentile scores as well as cognitive stimulation subscores for white and black children, both with and without fathers in the home. As may be seen, the overall white Home score of 56.5 (higher scores imply preferable Home environments) is far higher than the average black score of 33.5.[3] Comparable differences may be noted for the cognitive subscores. The pattern of racial difference is similar for both boys and girls but narrows somewhat when one controls for father presence and absence status. Thus most of the difference may be attributed to racial differences in family characteristics within father presence-absence statuses, differences that will be shown to be closely linked with socio-economic differences between black and white families.

The gender distinctions of Table 7.2 are generally consistent with the disaggregated results suggested by Tables 7.1A and 7.1B. For white children, boys and girls in father-absent homes have poorer home environments than their counterparts with fathers present. White daughters of absent fathers, however, have home environments (overall score as well as cognitive) slightly preferable to those for sons of absent fathers, whereas there were no gender differences between white boys and girls who live with two parents. In contrast, black girls living with their fathers scored higher than comparable black boys. No gender difference in scores was evident where fathers were not present.

While a number of the individual Home items are indeed associated with the socio-economic well-being of the family unit, Table 7.3 suggests that score differentials are more closely linked with family

[3] Whereas Behavior Problems and the PIAT assessments are normed against a nationally representative sample of children, the Home is internally normed as no national norms are available. Thus, the overall NLS sample (when weighted) has a mean of 50. and is approximately normally distributed around this mean.

TABLE 7.2

Mean HOME and Cognitive Stimulation Scores By Race, Gender and Father's Presence/Absence

(Weighted Percentile Scores)

	TOTAL	Father Present	Father Absent	BOYS	Father Present	Father Absent	GIRLS	Father Present	Father Absent
WHITE									
HOME Score	56.5	62.6	44.7	56.8	63.3	42.3	56.2	61.7	46.9
	(1138)	(706)	(432)	(600)	(383)	(217)	(538)	(323)	(215)
Cognition Subscore	55.1	59.0	47.5	54.5	59.2	43.9	55.8	58.7	50.9
	(1085)	(678)	(407)	(571)	(368)	(203)	(514)	(310)	(204)
BLACK									
HOME Score	33.5	43.8	29.4	32.0	40.0	29.1	35.0	46.7	29.7
	(525)	(148)	(377)	(250)	(66)	(184)	(275)	(82)	(193)
Cognition Subscore	38.8	44.9	36.3	38.6	41.7	37.5	39.1	47.3	35.1
	(490)	(142)	(348)	(231)	(61)	(70)	(259)	(81)	(178)

NOTE: Sample sizes in parentheses. Percentile scores internally normed.

TABLE 7.3

Mean HOME and Cognitive Stimulation Scores by Race, Father Presence/Absence, Maternal Education at Birth and Gender of Child

(Weighted Percentile Scores)

	Total		Male		Female	
	HOME	Cognition	HOME	Cognition	HOME	Cognition
FATHER PRESENT						
WHITE						
Mother Graduate	65.0	60.8	67.4	62.7	62.2	58.5
	(317)	(307)	(167)	(162)	(150)	(145)
Mother Dropout	60.2	57.1	59.4	55.7	61.2	58.8
	(389)	(371)	(216)	(206)	(173)	(165)
BLACK						
Mother Graduate	44.7	44.9	41.2	44.1	47.2	45.4
	(74)	(69)	(32)	(28)	(42)	(41)
Mother Dropout	42.8	45.0	39.0	39.8	46.2	49.4
	(74)	(73)	(34)	(33)	(40)	(40)
FATHER ABSENT						
WHITE						
Mother Graduate	48.4	50.3	46.9	45.3	49.6	54.7
	(159)	(147)	(77)	(72)	(82)	(75)
Mother Dropout	41.8	45.4	39.1	42.9	44.6	47.8
	(273)	(260)	(140)	(131)	(133)	(129)
BLACK						
Mother Graduate	33.7	40.2	35.7	42.4	31.8	38.0
	(134)	(123)	(59)	(54)	(75)	(69)
Mother Dropout	27.0	34.1	25.6	34.8	28.4	33.3
	(243)	(225)	(125)	(116)	(118)	(109)

NOTE: Sample sizes in parentheses. Percentile scores internally normed.

structure than with socio-economic status per se. For example, within father-present or absent statuses, for both white and black children, differences in overall Home scores as well as cognitive stimulation scores across educational categories are typically modest, ranging from no difference on cognition for black children living with two parents to a maximum of six percentile points for black children of absent fathers In contrast, differences within education categories but across family forms are much larger. For example, for white children whose mother has completed at least 12 years of school, the differences in cognition scores between father-present and father-absent environments is 17 points--62.7 compared with 45.3. For children whose mothers have completed less than 12 years of school, the comparable difference is about 13 points. Thus, the quality of the home environment appears to be closely linked with paternal presence or absence independent of social class.

Multivariate Results

Table 7.4 examines the independent predictors of the Home scores within a multivariate context. Even a cursory glance at these results suggests important similarities between the determinants of a child's home environment and the determinants of a child's emotional and intellectual well-being as presented in Chapters 5 (Table 5.4) and 6 (Table 6.2). Low maternal education, low scores on the AFQT, and low family income are strongly and independently associated with all three Home scores, although this socio-economic linkage is stronger for Home cognitive stimulation than for emotional support. Having siblings, both younger and older, in the home also contributes to a poorer environment: once again, effects are more pronounced in the cognitive domain. Almost without exception, these results parallel our tabular findings: these explanatory variables tended to be better predictors for the PIAT cognitive outcomes than they were for Behavior Problems.

Beyond these similarities, some notable differences appear between the factors that had predicted child cognition and behavior and those that predict home environment. Living in an urban environment is strongly linked in a positive way with the quality of the home environment, but urban residence was shown not to materially affect children's cognition or behavior. Additionally, several maternal traits and behaviors

TABLE 7.4

Determinants of HOME Scores with and Without Maternal and Other Controls

(Ordinary Least Square Estimates)

	Total HOME Score				Cognitive Stimulation Subscore				Emotional Support Subscore			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
MATERNAL/PREBIRTH FACTORS												
High School Dropout	-15.2[a]	(2.2)	-11.4[a]	(2.2)	-14.7[a]	(2.4)	-10.9[a]	(2.4)	-10.7[a]	(2.4)	-8.0[a]	(2.4)
12 Years of School	-7.1[a]	(1.8)	-5.2[a]	(1.8)	-8.1[a]	(2.0)	-6.1[a]	(2.0)	-3.3[c]	(1.9)	-2.0	(2.0)
Worked 40 or More Weeks Pre-birth	0.6	(1.7)	-2.0	(1.9)	-0.4	(1.9)	-1.2	(2.1)	1.1	(1.8)	-2.6	(2.1)
Worked 20-39 Weeks Pre-birth	2.1	(1.8)	1.4	(1.8)	3.2	(2.0)	3.5	(2.1)	-0.6	(2.0)	-2.0	(2.0)
Worked 1-19 Weeks Pre-birth	-2.3	(1.8)	-2.8	(1.7)	-1.3	(2.0)	-1.5	(1.9)	-1.5	(1.9)	-2.1	(1.9)
Had Older Sibling	-6.5[a]	(1.3)	-7.7[a]	(1.4)	-7.7[a]	(1.5)	-8.7[a]	(1.5)	-2.3	(1.4)	-3.4[b]	(1.5)
Mother Had Below Average AFQT Score	-10.3[a]	(1.5)	-7.0[a]	(1.5)	-9.8[a]	(1.7)	-6.2[a]	(1.7)	-5.5[a]	(1.6)	-3.5[b]	(1.6)
Child 5-6 and Mom Under 20 at Birth	4.4[c]	(2.4)	4.2[c]	(2.4)	3.8	(2.7)	3.3	(2.7)	2.7	(2.6)	2.6	(2.6)
Child 5-6 and Mom 20 and Over at Birth	-1.7	(1.4)	-1.2	(1.4)	-1.5	(1.5)	-0.6	(1.5)	-2.3	(1.5)	-2.2	(1.5)
Child 7-8 and Mom Under 20 at Birth	-1.0	(2.0)	-0.6	(2.0)	-2.8	(2.3)	-2.8	(2.3)	3.6	(2.3)	4.5[b]	(2.3)
Mother Smoked During Pregnancy	0.8	(1.3)	1.3	(1.3)	1.4	(1.4)	1.8	(1.4)	-1.8	(1.4)	-1.3	(1.4)
Mother Drank at Least Monthly During Pregnancy	-2.7[c]	(1.6)	-3.3[b]	(1.5)	-1.6	(1.8)	-2.4	(1.7)	-1.6	(1.7)	-1.7	(1.7)
No Prenatal Care First 3 Months of Pregnancy	-6.2[a]	(1.5)	-5.2[a]	(1.5)	-8.2[a]	(1.7)	-7.1[a]	(1.6)	-0.8	(1.7)	-0.2	(1.7)
Infant Birth Weight (Ounces)	0.00	(0.03)	-0.02	(0.03)	0.00	(0.03)	-0.02	(0.03)	-0.01	(0.03)	-0.02	(0.03)
Urban Residence During Pregnancy	5.1[a]	(1.4)	3.8[a]	(1.4)	4.0[a]	(1.5)	2.7[c]	(1.5)	5.2[a]	(1.5)	4.8[a]	(1.5)
Attended Church at Least Monthly, 1979	-1.0	(1.2)	-1.4	(1.2)	2.1	(1.4)	1.8	(1.4)	-3.8[a]	(1.3)	-4.0[a]	(1.3)
OTHER FACTORS												
% of Weeks Worked 1979-1988			4.6	(2.9)			4.3	(3.2)			4.2	(3.2)
Average Post-birth Family Income N.A.			-9.3[a]	(3.4)			-7.1[c]	(3.9)			-5.2	(3.9)
Average Post-birth Family Income < 10,000 (1988 dollars)			-14.6[a]	(2.2)			-17.1[a]	(2.4)			-7.6[a]	(2.4)
Average Post-birth Family Income $10-19,999 (1988 dollars)			-7.5[a]	(1.5)			-9.0[a]	(1.6)			-2.5	(1.6)

TABLE 7.4 (cont'd).
Determinants of HOME Scores with and Without Maternal and Other Controls
(Ordinary Least Square Estimates)

	Total HOME Score				Cognitive Stimulation Subscore				Emotional Support Subscore			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
OTHER FACTORS (cont'd)												
HI Occup. Status Post-birth (Census 3D.1-395)			3.4[b]	(1.7)			1.5	(1.8)			3.5[c]	(1.8)
LO Occup. Status Post-birth (Census 3D.400-984)			-2.8	(1.7)			-4.6[a]	(1.8)			-0.7	(1.8)
% of Years Enrolled in School, Birth-1988			14.1[a]	(5.5)			22.0[a]	(6.1)			4.9	(6.2)
% of Years with Health Problem, Birth-1988			4.0	(3.8)			7.5	(4.3)			-2.4	(4.2)
% of Years Grandparent in Home, Birth-1988			-8.5[a]	(2.8)			-2.8	(3.1)			-13.3[a]	(3.2)
# of First 3 Years of Life with Non-Paternal Care			-0.8	(0.6)			-1.3	(0.7)			-0.1	(0.7)
Had Younger Sibling			-3.0[b]	(1.3)			-3.8[a]	(1.5)			-1.9	(1.5)
White Boy Father Absent	-17.8[a]	(2.0)	-14.7[a]	(2.0)	-11.8[a]	(2.2)	-8.5[a]	(2.2)	-20.4[a]	(2.2)	-18.5[a]	(2.2)
Black Boy Father Present	-16.6[a]	(3.9)	-19.6[a]	(2.8)	-11.3[a]	(4.4)	-8.4[a]	(3.1)	-18.2[a]	(4.5)	-26.9[a]	(3.2)
Black Boy Father Absent	-25.8[a]	(2.6)	-15.0[a]	(3.9)	-13.6[a]	(2.9)	-10.1[b]	(4.3)	-32.6[a]	(2.9)	-17.6	(4.5)
White Girl Father Present	-0.9	(1.6)	-1.1	(1.6)	0.5	(1.8)	0.4	(1.8)	-1.2	(1.8)	-1.2	(1.7)
White Girl Father Absent	-13.7[a]	(1.9)	-10.8[a]	(2.0)	-5.5[a]	(2.2)	-2.8	(2.2)	-12.6[a]	(2.1)	-15.5[a]	(2.2)
Black Girl Father Absent	-26.4[a]	(2.6)	-20.4[a]	(2.8)	-16.9[a]	(2.9)	-11.6[a]	(3.1)	-30.4[a]	(2.9)	-25.6[a]	(3.2)
Black Girl Father Present	-12.8[a]	(3.6)	-10.9[a]	(3.5)	-8.1[b]	(3.9)	-6.6[c]	(3.9)	-13.2[a]	(3.9)	-11.6[a]	(3.9)
Intercept	74.1[a]	(4.5)	79.0[a]	(4.8)	69.9[a]	(5.1)	75.5[a]	(5.4)	72.0[a]	(4.9)	74.1[a]	(5.3)
R^2 Adjusted	.31[a]		.34[a]		.21[a]		.25[a]		.24[a]		.26[a]	
F Ratio	33.3		26.6		18.7		16.5		22.3		16.7	
Sample Size	1663		1663		1575		1575		1517		1517	

NOTE: (1) a = coefficient significant at P < .01; b = coefficient significant at P < .05; c = coefficient significant at P < .10. Standard errors in parentheses.
(2) See Table 5.4 for additional explanatory notes.

had stronger apparent effects on the quality of the home environment, but typically did not impact on the children's development. These included the mother's enrollment status, occupational status and early use of prenatal care. All these factors were more closely linked with environmental well-being than with individual child outcomes.

From the perspective of this research, the primary question is, Are there significant differences for children in cognitive and emotional environments according to whether or not fathers are present? In Table 7.5 and 7.6 we summarize the father-absence effects for black and white boys and girls. The father-absence coefficients in these two tables are drawn from the equations included in Table 7.4. As may be seen, these equations included a set of variables that interacted race, gender and father presence-absence status. By rotating the omitted category, it is possible to obtain coefficients for all the categories of interest relative to the appropriate reference group. For example, omitting the "white boy father-present" category permits one to measure directly the difference between the effects of white boy father-absent in comparison with their counterparts with fathers present, and so on.

It may be seen from Table 7.5 that in all instances a father-absent family situation is associated with significantly lower overall Home scores, and that this association has little to do with the prior characteristics of the mother in the home--as shown by the very small change in the coefficients when the maternal traits are added to the equations. Thus, the multivariate results are quite consistent with the tabular results presented in Table 7.3. Adding the post-birth variables does appear to modestly reduce the father-absence effects in all cases, and the father-absence effect for black boys is no longer significant. Within the context of the factors highlighted in Table 7.4, this reduction is most closely linked with family income; higher family income is strongly linked with factors associated with the quality of the home environment as well as with paternal presence or absence. Of course, the most relevant coefficients are those that are not controlled since they suggest the real world environment that the children live in. Variations in responses to the individual items in Table 7.1A and 7.1B represent the reality of the children's home environment.

TABLE 7.5

Father's Absence - HOME Score Linkages: Father Absence-Presence Percentile Differences by Race and Gender

(Ordinary Least Square Coefficients)

	Overall HOME Score			Cognitive Stimulation Subscore			Emotional Support Subscore		
	No Controls	Maternal Controls	All Controls	No Controls	Maternal Controls	All Controls	No Controls	Maternal Controls	All Controls
White Boys Father Absent	-21.1[a] (2.1)	-17.8[a] (2.0)	-14.7[a] (2.0)	-15.3[a] (2.3)	-11.8[a] (2.2)	-8.5[a] (2.2)	-22.2[a] (2.2)	-20.4[a] (2.2)	-18.5[a] (2.2)
White Girls Father Absent	-14.8[a] (2.1)	-12.8[a] (2.0)	-9.7[a] (2.0)	-7.8[a] (2.3)	-6.1[a] (2.2)	-3.2 (2.3)	-17.3[a] (2.2)	-16.3[a] (2.2)	-14.3[a] (2.3)
Black Boys Father Absent	-10.9[b] (4.7)	-9.3[b] (4.3)	-4.6 (4.3)	-4.2 (5.2)	-2.3 (4.9)	1.7 (4.9)	-15.7[a] (5.1)	-14.3[a] (5.0)	-9.3[c] (5.0)
Black Girls Father Absent	-17.0[a] (4.3)	-13.6[a] (4.0)	-9.6[b] (4.0)	-12.2[a] (4.7)	-8.8[b] (4.4)	-5.0 (4.4)	-19.3[a] (4.5)	-17.2[a] (4.4)	-4.0 (4.4)

NOTE: (1) Reference Group is same gender-race father-present category. See Table 7.4 for full equations.
(2) See Table 5.4 for additional explanatory notes.

The overall Home score encompasses both the cognitive and emotional support components of the home environment. Because the emotional component includes some items contingent on a father's presence or absence, we consider separately the linkages between father's absence and the two subscales. As we have shown in Table 7.4, to some extent different maternal and family traits affect the two components, suggesting different mechanisms through which family environments ultimately affect child development. The emotional support scale, not surprisingly, is closely linked with father's absence from the home for all four race-gender groups. As with the overall Home results, the significance of the linkages are in no way reduced when the maternal controls are added to the equation. However, as was true overall, the addition of the post-birth controls that are most closely linked with the child's actual home environment in 1988 negates the linkage between father's absence and family emotional support for black children.

The cognitive stimulation subscale results are somewhat different and indeed parallel some of our earlier reported differentials in outcomes between different categories of children. White boys with absent fathers live in poorer cognitive environments when compared with boys whose fathers are present, at least insofar as this cognitive stimulation scale fairly represents their cognitive environment. Additionally, controlling for maternal and other factors does not alter this fact. This differential certainly parallels the tabular evidence we have already presented for these children, and it suggests that home environmental factors associated with a marital transition may be most detrimental for this group. As our early analyses have suggested, these white sons of absent fathers are apparently the group most detrimentally affected cognitively and behaviorally. Here, changes in the home environment are directly paralleling the earlier reported changes in child outcomes.

White girls also are somewhat disadvantaged environmentally in the cognitive sphere in father-absent compared with father-present homes. This finding also parallels the evidence we have presented in Table 7.1A. The effects, however, are not as pronounced as for white boys, and are no longer significant when the post-birth controls are added to the equation. These results also coincide with our earlier analyses which suggested some cognitive disadvantage (in terms of PIAT scores) for white girls in

In father-absent families we find a different situation. There is indeed some modest evidence that white boys encounter a more hostile environment than white girls--and that this gender distinction is most pronounced for the cognitive dimensions of the environment. To put this in some perspective, it may be seen from Table 7.6 that the cognitive Home score for white boys in father-absent environments is about 7 percentile points below that for white girls, and that difference remains essentially unchanged (being 5.7 percentile points) even when all the differences that can be attributed to the full range of maternal and family demographic and socio-economic factors are removed. This finding strongly supports the hypothesis that the overt family attributes which are frequently available in large sample surveys do not completely describe within-family behaviors or attributes that may be gender-selective--in this instance leading to a cognitive advantage for girls compared with boys in father-absent homes, an advantage not present in intact family units. Thus, while both white boys and girls are disadvantaged with regard to the cognitive aspects of their environment in father-absent homes (as we have demonstrated in Table 7.5), boys indeed lose significantly more ground than girls. This finding, moreover, is consistent with our earlier PIAT results.

We also note that while black girls in father-absent homes appear to live in a poorer cognitive environment than their male counterparts, compared with father-present family units (from Table 7.5), this gender distinction does not attain statistical significance, as one can see directly from Table 7.6.

Home Environment and Child Development

The home environment can affect a child's cognitive or socio-emotional development through a variety of mechanisms. Cognitive and emotional aspects of the home environment can of course directly affect a child's intellectual and emotional well-being. In this regard, we have described ways in which children in homes where fathers are present or absent encounter somewhat different environments, and we have shown that these variations can be explicitly linked with the child's race or gender. In this section, we take the analysis one step further, to consider how home environment and father presence or absence jointly as well as independently can affect a child's development. A question of particular importance which

we will consider is whether positive aspects of a home environment can effectively compensate for a father's absence.

Independent Home Effects on Child Outcomes

Table 7.7 summarizes for black and white children the extent to which aspects of the home environment retain important significant independent effects on PIAT scores and on Behavior Problems scores even after controlling for all observable maternal and family attributes and behaviors. Table 7.7 presents regression coefficients from a set of equations that includes the full range of explanatory variables in addition to one of the three Home percentile scores. Separate black and white equations were run for each of the cognitive and behavioral outcomes.

Home Effects for White Children

Recalling that lower Behavior Problems scores imply preferable behavior, we see that for white children the overall Home score is strongly and positively associated with the three PIAT scores and inversely associated with the overall Behavior Problems score as well as with the various subscores. Overall Home effects for white children are about equal for the mathematics and reading recognition, and somewhat smaller but still substantial for reading comprehension, suggesting that general Home environmental effects on a child's cognitive development as represented by the Home scale are pronounced in both the mathematics and reading domain.

In contrast, there are variations in how the Overall Home score is linked with child's behavior. The overall impact that the Home score has on reducing behavior problems is quite substantial. Essentially, a ten percentile point increase in Home scores is associated with a two percent decline in behavior problems. The effects do vary somewhat between the various dimensions of behavior problems. A more positive home environment has a pronounced depressing effect on a child's tendency to act in an antisocial way. Additionally, significant effects are found for all of the remaining subscales except for dependency, a dimension that appears to be relatively independent of home environment as we have measured it.

TABLE 7.7

Effect of HOME Scores on Child Outcomes by Race

(OLS Coefficients from Equations with All Controls)

	PIAT Math	PIAT Reading Recognition	PIAT Reading Comprehension	Behavior Problems Score	Antisocial Subscore	Anxious-Depressed Subscore	Dependency Subscore	Headstrong Subscore	Hyperactive Subscore	Peer Conflict Subscore
WHITE										
Total HOME Score	.152[a] (.030)	.163[a] (.031)	.087[b] (.038)	-.211[a] (.031)	-.252[a] (.033)	-.143[a] (.034)	-.063[c] (.038)	-.198[a] (.033)	-.160[a] (.034)	-.143[a] (.030)
Cognitive Stimulation Subscore	.132[a] (.028)	.183[a] (.029)	.109[a] (.035)	-.160[a] (.029)	-.204[a] (.031)	-.147[a] (.032)	.000 (.032)	-.134[a] (.032)	-.172[a] (.032)	-.099[a] (.028)
Emotional Support Subscore	.080[a] (.030)	.064[b] (.031)	.018 (.038)	-.120[a] (.031)	-.135[a] (.033)	-.042 (.034)	-.079[b] (.033)	-.130[a] (.033)	-.065[b] (.033)	-.089[a] (.029)
BLACK										
Total HOME Score	.110[b] (.044)	.123[a] (.046)	.100[b] (.051)	-.032 (.046)	-.046 (.048)	.010 (.048)	-.002 (.051)	-.042 (.051)	-.045 (.052)	.037 (.045)
Cognitive Stimulation Subscore	.043 (.042)	.114[a] (.044)	.119[b] (.051)	-.005 (.044)	-.019 (.046)	.017 (.046)	.027 (.049)	-.011 (.049)	-.019 (.049)	.054 (.043)
Emotional Support Subscore	.107[b] (.045)	.108[b] (.047)	.065 (.054)	-.055 (.046)	-.049 (.049)	-.048 (.049)	-.055 (.052)	-.035 (.051)	-.047 (.052)	-.024 (.046)

NOTE: (1) a = significant at P < .01; b = significant at P < .05; c = significant at P < .10. Standard Error in Parentheses.

(2) Coefficients are from separate race equations including all the maternal and post-birth controls.

Shifting to the Home cognitive domain, we see that for white children the cognitive aspects of the Home environment measured by our scale do indeed correlate highly with all the PIAT outcomes, with the linkages being strongest for reading recognition. This is consistent with the fact that several of the Home score items directly tap basic reading skills.

A preferable cognitive environment also has positive emotional value, as measured by our behavior problems scores. While the linkages are somewhat weaker for some of the subscales, it is fair to generalize that all of the behavioral items that were significantly associated with the overall Home score are also linked with the cognitive stimulation scale. It may be recalled that several of the individual cognitive items (e.g., parents encourage hobbies, parents read to child, parents take children to museums and concerts) also have strong emotional content because positive responses to many of these items imply higher levels of parent-child interaction. Interaction can have important cognitive and emotional consequences for the child. In this vein, positive cognitive interaction has potentially important implications, e.g., for reducing antisocial behavior, hyperactivity and anxiety in the child as well as for enhancing his or her intellectual competence. Additionally as we have suggested in earlier analyses, hyperactivity is the one dimension of behavior problems which directly, in the shorter run, has been shown to affect cognitive competence.

The independent linkages between the emotional support subscale and the cognitive and socio-emotional outcomes provide some results that are very useful analytically. First, the emotional scale does significantly effect cognition (PIAT mathematics and reading recognition), although, not surprisingly, it does not have the strength of the cognitive scale. The effects may be direct insofar as parental modes of control can affect a child's willingness to do school work and many of the parent-child interactions described are directly transmitting cognitive information. Indirectly, family emotional support can enhance learning by being associated with reduced family tension which, in turn, can enhance a child's ability to absorb knowledge.

Of greater interest is the fact that while the emotional support subscore does indeed predict fewer behavior problems overall as well as for several of the behavior problems subscores, for white children,

overall cognitive support may be as important as emotional support for reducing behavior problems. Indeed, for several of the subscores, antisocial behavior, anxiousness-depression and hyperactivity, there is evidence that a strong family cognitive environment may be more closely linked with preferable behavior than is emotional support! This finding suggests the possibility that for these subscores family cognitive support, because it can enhance learning ability and acquired knowledge, effectively reduces a child's tendency to be hyperactive and anxious and perhaps, antisocial in his or her actions. The first two of these subscores are indeed the two that have the highest face validity for being linked directly with academic success or failure as opposed to more generalized social success or adjustment. Thus, we have here a potential causal linkage in a direction opposite to that more frequent hypothesized--cognitive advantage reducing emotional disadvantage rather than vice versa.

Home Effects for Black Children

For black children, strong overall linkages appear between Home scores and the cognitive battery, but we find no associations with any of the behavior problem outcomes. Overall Home is linked strongly and positively with all three PIAT assessments; cognitive stimulation in the home environment is predictive of higher reading scores and emotional support in the home is a strong predictor of mathematics and reading recognition. Thus, we see strong evidence for black children of fairly systematic linkages between a stronger home cognitive and emotional environment and childrens' intellectual development.

Striking by its absence, however, is the total lack of association for black children between any of the Home scores and behavior. To some extent, this void parallels the generally weaker linkages in black than white families between behavior problems and socio-economic and demographic aspects of the home. Tentatively, this finding suggests that the determinants of the behavior of black children may be relatively exogenous, relatively independent of the family environment and perhaps more strongly conditioned by peers, the neighborhood context and the outside environment generally. For example, it may be recalled that income and some aspects of family structure had pronounced independent effects on behavior

problems for white children, whereas there was virtually no evidence of any post-birth proximate factors, other than maternal health, being significant with the behavior of black children.

Home Effects, Father-Absence and Child Development

We now consider more directly the extent to which, separately and interactively, father's absence and home environment are linked with the various child outcomes. By comparing independent effects of various combinations of father absent-present and high or low Home environment scores we can gain some clarification of their relative direct impact. Once again, the coefficients in Tables 7.8 and 7.9 measure the effect of various combinations of father presence-absence and home environment, independent of all the maternal and post-birth controls.

In this instance (as with Table 7.7) we feel it is most appropriate to examine Home-father's absence-child behavioral or intellectual linkages after controlling for all related factors. We are aware that factors such as income, maternal education and maternal employment may be associated with the likelihood of a father being absent as well as with the quality of the home environment. What we are trying to clarify in this final analytical section is whether or not factors internal to the family can have lasting impact on children for a given set of family circumstances. In a real world where some families are economically more advantaged than others, we seek to learn whether or not remaining within-family attributes and behaviors act, if you will, as a buffer for a child. Specifically, recognizing her lower income and more external pressures (such as employment) on the mother, along with the father's absence, we hope to document what it takes to enable a child to cope or indeed, to succeed emotionally and intellectually.

Independent Linkages with Behavior

Examining first the linkages with behavior problems, several distinct results are apparent for white children. First, for children living in a given home environment, be it better or poorer, there is clear evidence from Table 7.8 that having a father in the home is preferable emotionally to not having a father

TABLE 7.8

Interacting Father Presence/Absence and HOME Scores by Race: Effects on Child Behavior Problems Percentile Scores

(Ordinary Least Square Coefficients)

	Behavior Problems
TOTAL HOME SCORE	
WHITE	
Father Absent High HOME vrs. Father Absent Low Home	-0.8 (2.6)
Father Absent High HOME vrs. Father Present High HOME	6.2[a] (2.3)
Father Absent High HOME vrs. Father Present Low HOME	-7.2[a] (2.6)
Father Absent Low HOME vrs. Father Present Low HOME	6.3[a] (2.4)
Father Present High HOME vrs. Father Present Low HOME	-13.4[a] (1.9)
BLACK	
Father Absent High HOME vrs. Father Absent Low HOME	-2.2 (2.7)
Father Absent High HOME vrs. Father Present High HOME	-1.8 (3.5)
Father Absent High HOME vrs. Father Present Low HOME	1.0 (4.1)
Father Absent Low HOME vrs. Father Present Low HOME	3.2 (4.0)
Father Present High HOME vrs. Father Present Low HOME	2.8 (4.2)
HOME EMOTIONAL SUPPORT SUBSCORE	
WHITE	
Father Absent High Emotional vrs. Father Absent Low Emotional	-2.0 (3.0)
Father Absent High Emotional vrs. Father Present High Emotional	2.4 (2.9)
Father Absent High Emotional vrs. Father Present Low Emotional	-4.5 (3.0)
Father Absent Low Emotional vrs. Father Present Low Emotional	-2.5 (2.3)
Father Present High Emotional vrs. Father Present Low Emotional	-7.0[a] (1.9)
BLACK	
Father Absent High Emotional vrs. Father Absent Low Emotional	-1.7 (2.8)
Father Absent High Emotional vrs. Father Present High Emotional	0.2 (3.7)
Father Absent High Emotional vrs. Father Present Low Emotional	-5.0 (4.5)
Father Absent Low Emotional vrs. Father Present Low Emotional	-3.4 (4.4)
Father Present High Emotional vrs. Father Present Low Emotional	-5.2 (4.7)

NOTE: (1) Coefficients are from separate race equations including all the maternal and "Other" variables.
(2) For white children, High HOME and High Emotional scores are percentile scores of 57 and above; for black children, High HOME and Emotional scores are 34 and above. Value below these means were designated as low. Standard error in parentheses.
(4) a = coefficient significant at P < .01; b = coefficient significant at P < .05; c = coefficient significant at P < .10.

present. Thus, we continue to have evidence that for white children, living with two parents confers an emotional advantage independent of other within-family support.

Conversely, the independent effect of home environment on the emotional well-being of white children is somewhat more ambiguous since it is contingent on father present-absent status. For children who are living with two parents, there is clearly a very pronounced positive benefit to living in a more positive home environment; for these children, beyond the emotional benefits that can be linked with the father's presence per se, there is a strong additional benefit that comes independently from having a strong supportive environment.

In contrast, for white children not living with their father, a stronger home environment does not apparently provide emotional compensation. At least in the emotional sphere, we cannot point to any direct evidence that other family members are filling important substitute roles in the raising of the children, a finding we find rather disconcerting.

For black children, we find neither independent Home or father absence effects. This finding is consistent with our continuing evidence of less association among black families between home factors and child behavior. As can be seen from Table 7.8, Home scores do not have any significant effects on child behavior independent of father's presence or absence and conversely, father's absence has no effects independent of Home scores.

In the bottom panels of Table 7.8, we clarify further the extent to which the child's behavior is independently associated with the socio-emotional environment in his or her home. In general, we find only limited association between the emotional support subscale and behavior, for both black and white children. This weak association may partly reflect a greater collinearity between the emotional subscale and father presence or absence. It may be recalled from Table 7.1A that the most pronounced differences in home environment between the homes of father-present and absent children were for items that directly relate to daily contact with both parents, items that link closely with parental presence or absence as well as items with high intellectual content. Their direct relevance for the child's intellectual well-being will be considered

below. The lack of significance in the results for black children parallels the overall weaker associations between father's absence and child behavior we have highlighted in Chapter 5.

Independent Linkages with Cognition

We shift now in Table 7.9 to the cognitive sphere of the child's development. To what extent can we clarify how the quality of the Home environment and the presence or absence of a father separately and perhaps jointly contribute to a child's reading and mathematics skills? For white children some pronounced patterns may be seen. First, once one removes the effect of the Home environment, there is no significant remaining father-absence effect. That is, for white children living in above-average or below-average Home environments, no differences appear in mathematics or reading scores according to whether their fathers were present or absent! This finding is quite different from what we found in the behavioral domain, where father's absence was linked with poorer behavior scores even after taking Home environment into account.

In contrast, when we examine the linkage between Home scores and cognition for children within a given father status, we obtain pronounced effects. Independent of father present-absent status, children in preferable Home environments score higher on the reading assessments. It is also important to note that white children in a strong home environment where the father is absent score significantly higher in reading and mathematics than their counterparts who are living with their father, but who have a below-average level of support on the Home (i.e., father-absent, high Home versus father-present, low Home). This finding certainly suggests that in the cognitive more than the emotional domain, a strong within-family environment, and particularly the cognitive environment, as we will show below, is essential.

For black children somewhat similar results were found. While the results are somewhat erratic, an above-average Home environment contributes independently to reading and mathematics capability for both children of absent and present fathers. In contrast, for a given Home environment, be it poor or good, father's presence or absence appears to have no independent mediating effect. Thus for both races, we saw important supportive effects of a strong Home environment that appear to be independent of paternal

TABLE 7.9

Interacting Father Presence/Absence and HOME Scores: Effects on Child Cognition by Race

(Ordinary Least Square Coefficients)

	PIAT Reading Recognition		PIAT Reading Comprehension		PIAT Mathematics	
TOTAL HOME SCORE						
WHITE						
Father Absent High HOME vrs. Father Absent Low HOME	8.0[a]	(2.7)	8.2[b]	(3.6)	3.2	(2.6)
Father Absent High HOME vrs. Father Present High HOME	2.2	(2.4)	1.8	(3.2)	0.3	(2.3)
Father Absent High HOME vrs. Father Present Low HOME	10.5[a]	(2.7)	8.1[b]	(3.6)	6.1[b]	(2.6)
Father Absent Low HOME vrs. Father Present Low HOME	2.5	(2.5)	-0.1	(3.3)	2.9	(2.4)
Father Present High HOME vrs. Father Present Low HOME	8.3[a]	(2.0)	6.4[b]	(2.7)	5.7[a]	(1.9)
BLACK						
Father Absent High HOME vrs. Father Absent Low HOME	6.4[b]	(2.7)	2.9	(3.6)	5.3[b]	(2.6)
Father Absent High HOME vrs. Father Present High HOME	1.4	(3.7)	-3.0	(4.7)	-2.2	(3.4)
Father Absent High HOME vrs. Father Present Low HOME	7.0[c]	(4.2)	11.8[b]	(5.5)	7.5[c]	(4.0)
Father Absent Low HOME vrs. Father Present Low HOME	0.6	(4.0)	8.9[c]	(5.3)	0.1	(3.8)
Father Present High HOME vrs. Father Present Low HOME	5.4	(4.3)	14.8[a]	(5.6)	7.5[c]	(4.0)
HOME COGNITIVE STIMULATION SUBSCORE						
WHITE						
Father Absent High Cognitive vrs. Father Absent Low Cognitive	9.2[a]	(2.7)	9.1[b]	(3.7)	5.2[b]	(2.6)
Father Absent High Cognitive vrs. Father Present High Cognitive	2.2	(2.4)	3.2	(3.2)	0.4	(2.2)
Father Absent High Cognitive vrs. Father Present Low Cognitive	11.3[a]	(2.6)	6.3[c]	(3.5)	6.9[a]	(2.5)
Father Absent Low Cognitive vrs. Father Present Low Cognitive	2.1	(2.6)	-2.8	(3.5)	1.7	(2.4)
Father Present High Cognitive vrs. Father Present Low Cognitive	4.1[a]	(2.1)	3.2	(2.7)	6.5[a]	(1.9)
BLACK						
Father Absent High Cognitive vrs. Father Absent Low Cognitive	5.5[c]	(2.9)	-0.2	(3.8)	4.4[c]	(2.7)
Father Absent High Cognitive vrs. Father Present High Cognitive	-0.0	(3.7)	-4.8	(4.9)	-2.6	(3.5)
Father Absent High Cognitive vrs. Father Present Low Cognitive	5.8	(4.1)	7.5	(5.3)	2.7	(3.8)
Father Absent Low Cognitive vrs. Father Present Low Cognitive	0.4	(4.0)	7.7	(5.2)	-1.7	(3.8)
Father Present High Cognitive vrs. Father Present Low Cognitive	5.8	(4.3)	12.4[b]	(5.6)	5.3	(4.0)

NOTE: (1) Coefficients are from separate race equations including all the maternal and "Other" variables.
(2) For white children, High HOME and High Cognitive Stimulation are percentile scores of 57 and above and 55 and above respectively; for black children, the mean breakpoints are 34 and 39 respectively. Percentiles below this are designated as "low." Standard error in parentheses.
(3) a = coefficient significant at $P < .01$; b = coefficient significant at $P < .05$; c = coefficient significant at $P < .10$.

status. This finding is consistent with the notion that cognitive advantage for children can be gained in all forms of homes; where fathers are not present, the results suggest that in the cognitive domain families are able to provide complementary emotional and cognitive support.

The bottom panels of Table 7.9 provide results similar to those we have just highlighted, more for white than for black children. A strong cognitive environment enhances the reading and math skills of white children regardless of whether or not a father is in residence. While the linkages are not as pronounced, similar patterns appear for black children. Linkages approaching statistical significance may be found supporting the notion that the cognitive environment for the child may be relatively more significant than father presence or absence per se.

Summary

The cognitive environment incorporates both intellectual attributes of the home environment, the willingness of available adults to interact with the child, and a concerted effort by the available adults to utilize aspects of the environment outside of the home. This assistance may be provided by a father when he is present (or sometimes even when he is not present) or by any family member actively involved in the child's raising. What is called "good parenting" may encompass many individuals, relatives and non-relatives, who may be concerned with the child's upbringing. The evidence we have provided supports the notion that the essential nature of the family environment is the most important determinant of a child's success or failure, particularly in the cognitive domain. Fathers have been and continue to be at the core of a family's emotional strength for most families. We have shown, however, that strong positive family environments can take many forms. The key ingredient from the perspective of the child is having other adults nearby who care enough to be involved with the child's emotional and intellectual development.

In general, what our results here seem to suggest is that children's emotional well-being is linked more closely with the presence or absence of a father per se rather than other aspects of the home environment. In contrast, the child's intellectual development is more directly associated with general

aspects of the home environment. A father is more readily "replaceable" in the cognitive than in the emotional domain. Our results also call into question some of the longer term implications of possible linkages between emotional and cognitive well-being. In some respects, we find more support for cognitive effects on emotional well-being than vice versa.

Chapter 8. A SYNTHESIS

This study has had two primary objectives. First, we have described in some depth the dynamic process of family transitions for a socially important population group, children at the early school ages who have been born to relatively younger women. The depth and quality of the NLSY and its availability for a long period of time have made it possible to examine the dynamics behind paternal presence and absence from the child's perspective. We have examined the levels of father's absence from the home in the years following a child's birth, and we have gone below the surface to describe how the overall percentages mask major movements of men into and out of the home. For more recent periods leading up to the 1988 outcome year, the available data have permitted us to clarify partially the extent to which the physical absence of a father from the home may be accompanied, from the child's and mother's perspective, by substitute arrangements. To what extent does an absent father continue to maintain contact with his children? How quickly is there evidence of new father figures in the home, be they new spouses or partners of the mother or other friends or relatives? After all is said and done, how large a proportion of black and white children have no apparent significant contact with a father figure?

Beyond examining the levels and patterning of contact with a father or father figure, we have also clarified the extent to which a father's absence from the home is associated with distinct socio-economic, demographic and social-psychological factors that were clearly in evidence prior to when the father left the home, and typically prior to the child's birth. This clarification had as its over-riding objective to examine the extent to which father-leaving and child development have important common origins. To the extent that father's leaving may be linked with a child's subsequent emotional or cognitive well-being, we wished to clarify the extent to which child disadvantage often associated with parental transitions may really reflect prior factors that were really at the root cause of the disruption. This methodological orientation has as its psychological basis the growing literature that suggests that an evidenced marital or partnership breakdown may just be the final behavioral manifestation of a lengthy process of family disharmony. From a child's

perspective, the parallel view is that it is not the disruption event which creates turmoil for him or her, but the continuing tension-filled or acrimonious process leading up to that event. In a methodological sense, the actual parental breakup, which is often the only visible evidence, is proxying for the whole process. Thus, the more we incorporate into our modelling the meaningful prior conditions that might be linked with the process, the more effectively we can sort out the patterns of causation as they impinge on the child's development. This process is very difficult to interpret because it does not necessarily end with the marital transition; indeed, it is not unreasonable to assume that more continuing child-father contact after the transition may at least partially be proxying for better rapport between the mother and the prior spouse or partner.

A child's adjustment is linked not only with the psychological but also with the physical environment. The longitudinal data we have available have permitted an examination of a number of concomitants of the transition factors, factors which are assumed to change with a father's exit and which also are hypothesized to be linked with a child's adjustment. We focused on economic well-being, family structure and maternal time. Specifically, we have clarified the extent to which a family's income is directly altered in connection with a transition; we have examined whether or not the mother alters her employment behavior in important ways. Presumably, the upside of increased employment is more money, and in some cases, an improved maternal psyche. A downside might be less maternal time available for the child and a greater need to make substitute arrangements--and these may be good or bad. We have also considered the extent to which other family members, primarily parents of the mother, are or become available to help the mother at this critical life cycle point. Descriptively, we examined how these various inputs and outcomes are intimately linked with the disruption process. We found that the patterns are not as crystal clear as we might have anticipated. The process clearly varies by race, and even aside from the racial variations, patterns are not always consistent with expectations. More importantly, when we examine these patterns in relationship to the child's subsequent cognitive or emotional well-being, findings are not always as anticipated.

We have so far focused most generally on the descriptive process, which represented the first major objective of this research. The second objective was to clarify the extent to which much of this process could be tied directly to subsequent child outcomes. Given the fact that fathers in some households have remained, whereas others have left, what can we say about: (1) the extent to which all the factors that may contribute to the family transitions ultimately impact on the child's well-being; (2) how much the socio-economic and demographic factors linked with the transition process make a difference to the child--we acknowledge that defining how much of this process is a determinant and how much is a consequence of the transition is not always possible-- and (3) how much a father's absence contributes to the child's cognitive or emotional development. With regard to this third point, we have of course been concerned with how much the factors listed under (1) and (2) above mediate or are linked with the father-leaving process. Examining these mediating effects is essential for understanding the process. However, one should not lose sight of the fact that children live in an "uncontrolled" world; in this regard, it is the total effect of a father's absence that ultimately affects a child's traits or behaviors. In a methodological context, we have anticipated that the maximum negative consequences of a father's leaving the home would, on average, appear before taking any of the factors that could be associated with a father's leaving into account. Making the assumption (based on substantial prior evidence) that the socio-economic and psychological environment of children whose fathers will be leaving or who have already left is typically less satisfying than the environment of children living with two parents, we anticipated that adding the various explanatory variables would reduce the anticipated negative significance of any father-absence coefficients in our various multivariate analyses. Most of the time this expectation was correct.

Finally, based on our reading of the literature, we directly tested a variety of hypotheses associated with the potential benefits or costs to a child of substitute fathering arrangements. First, in the most generic sense, we anticipated and tested the proposition that everything else being equal, children who at ages five through eight are continuing to live with their fathers are probably advantaged emotionally and cognitively in comparison with children where the father is not present. Second, if the father is absent, in the most general sense, we anticipated that those children who had substantial contact with a father figure, be he

a biological father or a new man in the home, might gain some advantage; they might still lag in their development in comparison with children who have always lived with their biological father but probably, on average, would be better off than those children who had no apparent paternal support network.

However, who that father figure is may make a difference, at least in some situations, according to some theoretical premises. While frequent contact with an absent father and having a new man in the home (in most cases a new spouse or partner of the mother), may both represent father contact, these situations are not necessarily interchangeable in terms of their emotional or cognitive meaning for the child, and this meaning may vary, depending on whether the child is a boy or a girl. A large demographic sample can provide some clarification in this area. While it may not be possible to completely clarify the process, it is certainly possible to explore which of these two situations leads to preferable child outcomes.

Finally, and here the available literature is less developed largely because appropriate data has not been available, we have raised the question of whether in all cases, having had past close contact with a now-absent father is a preferable situation for children in comparison with never having lived with a father. One important implication of having lived with a father who then left the home is that the child frequently would have lived through the traumas associated with parental separation as well as parallel socio-economic transitions. Such situations suggest the possibility that children who have previously lived with their father may have more overt behavior problems than children who have never had their father present. Of course, one counterpoint would be that having lived with a father for even part of one's life may have positive implications of paternal bonding and, in at least some instances, continuing meaningful paternal contact. However, for black children, who are much more likely than their white counterparts to have never had a father in residence, this argument partially breaks down. We have documented that black children who have never had their fathers in residence are about as likely to frequently visit with their biological father as are black children in situations where a father has been previously present but has left. How all these factors net out has of course been considered in this research.

Aside from the variations we had anticipated to be associated with the different forms of father-absence, we have also explored anticipated differences in consequences for children which other research

has suggested can be linked with the gender of the child. In the most general sense, we anticipated some relative psychological and cognitive disadvantage for boys when their father leaves the home. This premise was based on the notion that fathers and younger sons typically would bond more than fathers and daughters. Thus, a father leaving the home would be felt more by a son. There is also a modest literature that suggests that because (historically at least) men are more likely to be the repository of unique mathematics knowledge which women are less likely to possess, and they are also more likely to transmit this knowledge to sons, sons stand to lose more in the cognitive domain when a father is absent. Presumably, a counterpoint to this loss might be that boys should also have a comparative advantage when and if significant father figures become available, men who also might have these same (so-called) unique skills.

In somewhat of a mirror image to this gender-based advantage, it is suggested that to the extent mothers and daughters form closer psychological links, girls would have a relative advantage when the father leaves the home, perhaps more so if there are no strong father figures available. In any event, most of our results are consistent with the expectation that boys may show more disadvantage than girls when a father is absent.

The specific form of the father absence had also been anticipated to make a difference. There is some evidence that girls may feel more threatened than boys when a new man appears on the scene; presumably the new man can pose a threat to the unique relationship between the daughter and her mother. If this were correct, more negative behavioral manifestations might appear for girls compared with boys in this particular paternal configuration.

From a racial perspective, we had anticipated somewhat milder behavioral consequences for blacks from a father's absence than for their white counterparts. We based this expectation largely on the historical reality that because a father's absence from the home was a far more common occurrence within the black culture, normative expectations regarding what are the most appropriate family forms would vary across the races. While there certainly has been some racial convergence in family structure over the past two decades, certainly with regard to out-of- wedlock childbearing and marital and partnership separations,

substantial racial variations still remain. To the extent that children would have less psychological difficulty accepting a status that is more common within one's culture, we anticipated fewer negative emotional consequences related to a father's absence (or never-presence) for black than for white children. Paralleling this finding from a socio-economic perspective, given that the average black family has fewer economic resources, it was anticipated that economic transitions associated with parental transitions would be more modest for black families. To the extent that emotional crises are more likely to be linked with major discontinuities--in economic well-being or family structure--we anticipated that father-absence transitions for black children would be less likely to be linked with major emotional crises.

What Have We Found? And What Might It Mean?

We have described how more typically available cross-sectional statistics on divorce, separation or even father-absence mask major movements of fathers in and out of the home, movements that can be very important from a child's perspective. This movement appears in homes of both black and white children, although the nature of family structure does vary across the races. Black fathers are much more likely to have been absent from the home very early in the child's life. In contrast, although they are still much more likely to be present as of our outcome year 1988, white fathers are more likely to leave, in absolute terms, in the preschool and early school ages and, in all likelihood, are more likely to keep leaving in the years ahead. This finding, however, is largely an artifact of the fact that they are still in the home and thus available to leave! From the child's perspective, as we have noted throughout, this departure process suggests potentially important implications. For black children, the biological father, if he is going to leave, is probably gone. For white children, the father-leaving process will represent a continuing drama throughout the childrens' early and mid-school years. While all the implications may not be apparent, there certainly is strong reason to believe that the departure of parents when children are at the school ages probably represents a greater potential for ongoing psychological damage than does father-leaving at very early ages.

Similarly, the presence of a "new man" who arrives during the child's infancy or toddlerhood probably has a different subsequent meaning to the child than does a stepfather who enters the home when a child is at school age. In many respects, the first situation may be viewed by the child as essentially interchangeable with biological fatherhood, particularly if the child had never known his or her biological father. These are but a few of the reasons why one might anticipate different associations between father's absence, father-figure presence and a child's emotional development for children at different life cycle points. Aside from specific issues directly linked with maturational stage which are mostly beyond the scope of this research, it is fair to anticipate that as these children grow older, their interpretation of what "father absenting" means will change and their specific recollections of biological fathers who have been absent for increasingly large proportions of their lives will change. Paralleling these changes in recall is their concept of what a new father might mean and their ability to gauge relatively the significance of their biological father in comparison with any (or several) new men will be altered.

Because of its central importance to this research, we have dwelled further on racial differences and on the patterns we have described for black and white children. We have documented that a very large proportion of black fathers--approaching 50 percent--have apparently never lived with their child. In comparison, the white proportion is very small, less than ten percent. The proportion of black fathers who have ever been absent or are absent as of 1988 is also much larger than the white proportion, although, as we have suggested, this gap will narrow somewhat over time.

However, these substantial racial differences mask a finding, which is of some importance, having to do with the extent to which presumably absent fathers continue to maintain contact with their children. For the modest proportion of white fathers who have never been in residence, the probability of their having no contact at all with their children is very high. "Never" continues to mean never in a real psychological sense. In contrast, the much larger proportion of black fathers who have never been in residence are as likely to continue visiting with their children as are those black fathers who can be documented as having lived in the home! Additionally, absent black fathers, regardless of their residence history, are more likely to be living nearby. To be sure, as time goes by, the likelihood of frequent visitation does diminish for all

kinds of absent fathers. However, the results clearly support the thesis that "never" means something very different in black than in white families! Perhaps to some extent we are dealing here with a semantic issue; there may be a very fine psychological line between not being in residence but maintaining contact from nearby in comparison with actually being in residence, particularly where a family unit may be in transition and a particular individual may be sometimes physically present and sometimes not. Thus, to some extent, what our statistics may be describing are real cultural differences in defining the presence or absence of a particular individual.

Beyond this issue, our data certainly support contrasting racial patterns in the likelihood of a child having contact with a father or father figure. It seems clear that a white family unit is more likely to gain a new man more quickly after the father leaves than is a black unit. Just as was true for the paternal relationship, the black woman is more likely to reform her household with a new partner as opposed to a spouse. Not all of the implications of this pattern are clear, although we have documented elsewhere that a union that is formalized through marriage has a somewhat lesser probability of ending as quickly. (However, from a different perspective, research we have carried out does not suggest any different impact for the child's cognitive and emotional development, at least as of 1988, between the loss of a father who had been a partner and one who had been a spouse.) As a final comment on this issue, regardless of how one defines paternal contact or what one assumes about the relative meaning of the various family types, one must still conclude that a larger proportion of black children in this national sample--30 percent compared with 10 percent for the white children--appear to be without significant father or father figure contact as of 1988.

We have enumerated above a substantial number of hypotheses about our expectations of the consequences for a child of not having a father present. In this volume, we have tried to systematically test these hypotheses. Given the large number of equations, coefficients and outcomes, our philosophy has essentially been conservative. We have tended to interpret the individual coefficients cautiously. Obviously, from a statistical standpoint, a certain proportion of coefficients could and will be statistically significant just due to chance. Unless a particular pattern appears systematically, our intellectual bias is

to downplay random patterns. As we stated earlier on, we have searched first for commonalities and then for more direct potential linkages. First, Is there evidence of common background threads weaving through all our outcomes of interest? By outcomes we mean paternal absence in its various forms, aspects of the home environment which can be anticipated to be linked with father's presence or absence, and then of course, the child emotional and cognitive outcomes. All of these issues are central to our over-riding theoretical framework, which is to sort out the ways in which father's absence is linked with child development. To reiterate, we are using what is in essence a brush stroke multivariate approach to tease out from a large-scale data set the extent to which and the process by which a father's absence from the home may impinge on a child's socio-emotional and cognitive development. We have tried to answer a number of questions: Where do we find any evidence of father-absence effects? Where we find them, can they reasonably be attributed to events or traits in the child's home which are long-standing, in all likelihood linked with situations in existence prior to the parental dissolution or indeed even the child's birth? Beyond this, and without getting embroiled in the issue of whether a particular behavior (e.g., maternal employment) is mostly a determinant or consequence of the disruption process, Can consequences be directly linked with overt manifestations of the process associated with the father's leaving? Finally, and from a policy perspective perhaps most importantly, beyond the overt linkages between status, demographics and father's absence, Are we able to tease out at all the extent to which within-family traits or behaviors can either enhance or mitigate the impact on children of the overt family factors we have already considered, factors such as family income or a father's absence? That is, given a father's absence and all it implies in terms of income levels, maternal employment, and other changes, Can we point to evidence from within the home that, first, helps us understand what is going on and second, suggests that families <u>can</u> make a difference for children, even in the midst of extraordinarily difficult circumstances?

It is perhaps useful to first suggest some background commonalities which are predictive across all our outcomes, providing a high face validity about the fundamental importance of socio-economic well-being for almost all dimensions of family and child success. While this re-statement may seem overly simplistic, it is nonetheless useful to recall the basic, primary robustness of education, intellectual aptitude,

income and often family structure and health as universal predictors--of father-presence or absence, the quality of the HOME environment, and children's intellectual and emotional well-being. While the power of these factors for predicting the several outcomes varies somewhat across race, it is nonetheless appropriate and somewhat satisfying to be able to state that before examining subtle distinctions between and across groups, these are certain universals we can start with. However, to state that all the outcomes we are concerned with have certain common causations is not to say that the processes or linkages we are most interested in (i.e., effects of father's absence on child development) are the same across groups. As we have repeatedly shown in this research, such variations abound.

Moving now to direct tests of our hypotheses of interest, What can we conclude? Let us focus first on what we have found regarding direct linkages between a father's absence and a child's emotional development, as measured by the Behavior Problems scale and subscales. For white boys, we found clear and systematic evidence of detrimental behavioral effects associated with a father's absence from the home. These negative effects are for the most part not limited to particular family forms. They appear in all father-absence family situations except where the child has frequent contact with an absent biological father. Additionally, these effects appear to be essentially independent of early family or maternal traits, although they are reduced substantially when we control for the full range of factors that can be directly linked with or a consequence of the disruption--factors such as family income or long-term maternal health. Consistent with predictions, white boys do appear to suffer the most emotionally when a father absents himself from the home, and these effects are rather substantial. When one looks below the surface, it is apparent that these behavioral effects are quite diverse: they are found in a variety of behavioral domains--for example, these children are more likely to be involved in peer conflict, to be anxious-depressed, antisocial, hyperactive and overly dependent.

Somewhat similar but more modest effects are found for white girls. The magnitude of the effect is somewhat less and the range of behavioral domains affected is more limited. As was true for boys, the effects are somewhat reduced, but still important when one removes the contributing effect of maternal prior conditions; and virtually all of the effects are gone when the so-called "process" variables are taken into

account. Thus for white girls, we also found behavioral consequences due to a father's absence which are independent of maternal and family traits observed before the father-absence transition. The implication for both white boys and girls is that there is behavioral damage which in all likelihood is strongly linked with the disruption process.

We now focus briefly on the hypotheses linking the presence of a new man in the home with an above-average level of behavior problems--an association we had anticipated finding primarily for girls. While there is indeed some evidence to support this hypothesis for girls, particularly in the "antisocial behavior" and "overly headstrong" domains, the phenomenon is much more prevalent for boys, where the linkage between the presence of a new man and inappropriate behaviors is much stronger and more generally in evidence.

It is also important to note that for both white boys and girls, no significant difference appears between the behavioral consequences for children of never having lived with a father in comparison with having had a father present in the past. In both instances, the relevant coefficients are significant and negative. Thus we have no evidence consistent with our premise that never having lived with a father may indeed be preferable for a child's emotional development in comparison with having had a father in the past who subsequently left the child's home.

With very limited exceptions, we found virtually no evidence of linkages between a black father's absence from the home and subsequent negative behavior by his children. It is also consistent with the notion that the behavior of black children may be more closely associated with the outside environment--peers, other neighborhood factors and schools--and less with the family environment.

When we examined the cognitive domain closely, we found a few similarities, but also important differences. Once again, the strongest evidence of detrimental father's absence effects may be found for white boys, where we found fairly systematic evidence of negative consequences in the mathematics and reading domain for father-absent boys. In this instance, the linkage could be directly made with family and maternal traits in evidence very early in life. The suggestion is made that for white boys, cognitive disadvantage is directly linked with a priori traits such as maternal education and cognitive ability (as

measured, for example, by how the mothers performed on the AFQT). That no parallel negative effects are evidenced for white girls is at least consistent with the notion that family members selectively interact with children depending on their gender. This finding is certainly consistent with the possibility that a father's being absent is more likely to hurt sons and that present mothers (or other family members) are more likely to help daughters.

The fact that white boys who frequently visit with an absent father or who have a new man in the home are both equally disadvantaged in mathematics renders suspect any hypotheses regarding selective advantages that a boy may gain from continuing male contact. Aside from the white boy effects we have just noted, the only other adverse cognitive consequences are for black girls, who appear to show some systematic disadvantage compared with black boys when their father is absent. This statement must however be considered very cautiously as these black results are far from systematic, and inconsistent across equations.

In the final phase of our research, we attempted to separate the effects of father's presence or absence per se and its overt linkages with socio-economic and demographic factors from within-family characteristics that we have available for the households of all the children in 1988. On the basis of this work, we are able to generalize that elementary age children born to younger mothers are, in a nutshell, quite resilient and, given half a chance, are typically able to persevere intellectually and emotionally through many relatively adverse situations.

Perhaps our most generalizable finding, particularly for white children, is that the presence of a father in the home makes more of an emotional than a cognitive difference; specific characteristics of the home environment do not seem to make as much of a difference emotionally for white children as does the presence or absence of a father per se. In contrast, the presence or absence of the father matters less for cognitive development for black and white children than does the quality of the child's environment--the presence of caring individuals, and the extent to which they are willing to work with or stimulate their children. Who these people are may not be very important. What they do is!

The generally limited associations between the presence or absence of a father or quality characteristics of the home environment that we have been able to identify and the emotional well-being of black children is disconcerting. For lack of a better term, what we find more than anything else is an essential randomness in the linkages between a black child's home environment as we measure it and whether the child scores well on our behavior problems scale and subscales. One implication is that the outside environment, be it peers, neighborhood characteristics or school--or more likely, a combination of these factors--support the emotional well-being of black children to a greater extent than is true for white children. This finding is indeed disconcerting because it places a much greater onus on the community and society to compensate for the poorer quality neighborhoods and schools which typically form the total environment of these children.

Finally, we have explored in some detail different ways in which paternal absence may translate into emotional or cognitive disadvantage. In some instances, we have found analytically meaningful associations that were consistent with our expectations. In many instances, however, we found no associations, and in a few instances, we found anomalous results. One particularly robust finding appears to be that at least at this point in the childrens' lives, apparent substantive linkages between emotional and cognitive or intellectual well-being are, at best, weak. We do indeed find, primarily for white children, some strong associations between a father's absence and the full range of the behaviors we are able to examine. When put to direct tests, however, little evidence remains of direct ties between behavior problems and cognitive test scores, outside of the hyperactivity dimension which can directly impact on how well a child performs in a testing situation. We do not question the many research findings which find that the tensions associated with parental crises can impede a child intellectually. Nor can we guarantee that as additional time goes by, latent behavioral effects, be they manifested through various antisocial behaviors, peer conflict or in other ways, will not impede the school accomplishments or intellectual capability of some of these children. As of this point in the childrens' lives, however, when they are typically several years past the immediate family crises associated with father-leaving, we can state fairly confidently that no strong evidence of intellectual retardation reflecting emotional problems can be observed. In this vein, it is worth

reiterating that our results suggest that a supportive home environment can apparently substitute for cognitive disadvantage associated with a father's leaving.

Sifting through a myriad of diverse findings, what can we most comfortably conclude? First, many of the particular findings which have been found by some researcher but not others may well be correct--but perhaps only for some children and families, in some environments, and for constrained outcomes. Even the broadest generalization we have been willing to make must be age-bound and time-bound. We have been willing to make some generalizations--but only for children at the early elementary ages born to relatively younger mothers who were living in the United States in 1988. This caveat may appear quite constraining, but it is less so than is typically true for research of this type.

An important final caveat is in order. While our research has tried to avoid overall generalizations and has focused on specific race-gender groups, in the final analysis this remains a group level study, and it can still be masking many variations. Most importantly, our "average," statistics are essentially glossing over differences between individuals. Individuals--adults and children--not only use different mechanisms for coping with different situations, but indeed have different capabilities for being able to cope with stressful situations. Our research has indeed suggested that children in father-absent homes on average, exhibit selected behavior problems, and that these problems appear more for white children, particularly younger boys. Our demographic perspective has suggested some important associations between maternal and family traits and behaviors and child behavior problems which can reasonably be viewed as antecedents to the paternal absence event; indeed, these traits to some extent are common antecedents to both unsatisfactory parental relationship and unsatisfactory child development. The level of our analysis precludes specification of precise social-psychological origins for problem behavior, and it does not enable us to clarify why two children from seemingly similar environments may behave differently in response to apparently similar stimuli, in this case a father's leaving the home.

We would like to leave the reader with several concluding thoughts. First, as broad as our outcome measures are, they nonetheless are constraining, tapping only selected dimensions of behavior which are overtly obvious to the mother, subject to the caveat that we are indeed getting from the mother's

perspectives what she views as accurate or, in some instances, views which she wishes to provide us. They represent the perspective of the mother as of one point in time for children who are at one particular life cycle point; as we have reiterated at earlier points, when the child was closer to the father-leaving event, the child's witnessed behavior would surely have been different. At a later point, perhaps in adolescence, the child may again respond differently. In addition, children can vary in translating their feelings into overt behaviors; and we are here reporting what their mothers say they do, not what they feel.

Finally, we have used an analytical approach that has permitted us to partially clarify the patterning of events and the extent to which a child's behavior may reflect parental or family attributes which may be linked with a paternal absence. It is always important to keep in mind that from the childrens' perspective, the consequences of the total situation--family attributes and behaviors prior to a father's leaving, the father-leaving process itself, and the socio-economic consequences of father-leaving--are what matters. Untangling the process can provide understanding and perhaps suggest remedies. However, in the final analysis, regardless of the precise patterning of the causality, the child is faced with the consequences of all the priors. "Controlling for effects" clarifies process but does not alter the child's real world.

Appendix 1. COMPONENT ITEMS OF THE BEHAVIOR PROBLEM SCALE AND SUBSCALES

The Behavior Problems Index Assessment was completed by all mothers of children age four years or over. There are 28 individual items, of which the final two are completed only for children who have ever attended school. The 28 items included in the scale translate into one overall score and six subscores tapping various dimensions of child adjustment. Before scoring, the individual items are recoded such that code 3 ("not true") in the questionnaire becomes "0" and code 1 ("often true") or 2 ("sometimes true") becomes "1." Higher scores on this index imply a greater level of behavioral problems.

In addition to the overall and six raw subscores, normed scores have been constructed based on data from the 1981 National Health Interview Survey. These normed scores are based on single year of age data. For children below the age of six, separate norms are computed for children in and out of school. Given the limited number of possible responses for some of the subscores, the user is cautioned that the range of normed outcomes for some of the subscores is quite constrained.

The following 28 items are all components of the overall Behavior Problems Index with the lasttwo items only asked for children who are in school. Items included in the six subscales are specified by the notation to the right; ANTI = Antisocial subscore; ANX = Anxious-Depressed; HEAD = Headstrong; HYP = Hyperactive; DEP = Dependent; and PEER = Peer Conflict, Withdrawal subscore.

1.	He/She has sudden changes in mood or feeling.	(ANX)	15.	He/She is not liked by other children.	(PEER)
2.	He/She feels or complains that one loves him/her.	(ANX)	16.	He/She has a lot of difficulty getting his/her mind off certain thoughts (has obsessions).	(HYP)
3.	He/She is rather high strung, tense and nervous.	(HEAD)	17.	He/She is restless or overly active, cannot sit still.	(HYP)
4.	He/She cheats or tells lies.	(ANTI)	18.	He/She is stubborn, sullen, or irritable.	(HEAD)
5.	He/She is too fearful or anxious.	(ANX)	19.	He/She has a very strong temper and loses it easily.	(HEAD)
6.	He/She argues too much.	(HEAD)	20.	He/She is unhappy, sad, or depressed.	(ANX)
7.	He/She has difficulty concentrating, cannot pay attention for long.	(HYP)	21.	He/She is withdrawn, does not get involved with others.	(PEER)
8.	He/She is easily confused, seems to be in a fog.	(HYP)	22.	He/She breaks things on purpose or deliberately destroys his/her own or another's things.	(ANTI)
9.	He/She bullies or is cruel or mean to others.	(ANTI)	23.	He/She clings to adults.	(DEP)
10.	He/She is disobedient at home.	(HEAD)	24.	He/She cries too much.	(DEP)

11.	He/She does not seem to feel sorry after he/she misbehaves.	(ANTI)	25.	He/She demands a lot of attention.	(DEP)
12.	He/She has trouble getting along with other children.	(PEER)	26.	He/She is too dependent on others.	(DEP)
13.	He/She is impulsive, or acts without thinking.	(HYP)	27.	He/She is disobedient at school.	(ANTI)
14.	He/She feels worthless or inferior.	(ANX)	28.	He/She has trouble getting along with teachers.	(ANTI)

This scale was created by Drs. Nicholas Zill and James Peterson of Child Trends, Inc., Washington, D.C. to measure the frequency, range and type of childhood behavior problems. Many items were derived from the Achenbach Behavior Problems Checklist (Achenbach & Edelbrock, 1981) and other child behavior scales (Graham & Rutter, 1968; Rutter, Tizard & Whitmore, 1970; Kellam et al., 1985; Peterson & Zill, 1986).

Appendix 2. THE PIAT ASSESSMENTS

The PIAT is a wide-range measure of academic achievement for children aged five and over which is widely known and used in research. It is among the most widely used brief assessment of academic achievement having demonstrably high test-retest reliability and concurrent validity. The NLSY Child Supplement includes three subtests from the full PIAT battery, the Mathematics, Reading Recognition and Reading Comprehension assessments.

Administration of this assessment is relatively straightforward, and the resulting completion rate quite high. Children enter the assessment at an age-appropriate item and establish a "basal" by attaining five consecutive correct responses. A "ceiling" is reached when five of seven items are incorrectly answered.

For a precise statement of the norm derivations, consult Dunn, L.M. and Markwardt, F.C., *PIAT Manual*, Circle Pines, Minnesota: American Guidance Service, 1970, (pp 81-91; 95). In interpreting the normed scores, the researcher should note that the PIAT assessments were normed about 20 years ago. Thus, social changes affecting the mathematics and reading knowledge of small children in recent years may have altered the mean and dispersion of the reading distributions between 1970 and 1988. The national sample against which the PIATs were normed has a mean of 100 and a standard deviation of 15. The percentile scores used in this research are a direct translation from the children's individual standard scores which are, of course, derived from the raw score.

PIAT Mathematics

The PIAT Mathematics assessment is widely used and is generally considered to be highly reliable and valid. Of all the psychological tests, the PIAT had the forty-second largest number of citations since 1978 in Mitchell's (1983) Tests in Print. The PIAT was standardized on a national sample of 2887 kindergarten through twelfth grade children in the late 1960s. The one month test-retest reliability for the

PIAT Mathematics assessment was .74 with lower levels of reliability generally evidenced at the lower grades (Table 9, Dunn and Markwardt, 1970). In the NLSY, the overall PIAT Math completion exceeds 90 percent with limited social variability.

The NLSY PIAT Math scores show systematically strong correlations with other NLSY assessments. On an age specific basis, PIAT Math correlated at between .47 and .57 with PPVT. For children age 6 and over, its correlations with PIAT Reading Recognition ranged from .52 - .63 and with PIAT Reading Recognition from .43 to .61. Finally, for children age 7 and over, its correlations with the Wechsler Digit Span scores were in the .4 range (Baker and Mott, 1989). All of the above evidence is consistent with the notion that the PIAT Math is an effective outcome measure for a full range of analytical studies that probe sample variations relating to demographic and socioeconomic factors.

PIAT Reading Recognition

This subscale measures word recognition and pronunciation ability -- essential components of reading achievement. Children read a word silently, then say it aloud. PIAT Reading Recognition contains eighty-four items, each with four options, which increase in difficuity from preschool to high school levels. Skills assessed include matching letters, naming names, and reading single words aloud.

To quote directly from the PIAT Manual, the rationale for the reading recognition subtest is as follows: "In a technical sense, after the first 18 readiness-type items, the general objective of the reading recognition subtest is to measure skills in translating sequences of printed alphabetic symbols which form words, into speech sounds that can be understood by others as words. This subtest might also be viewed as an oral reading test. While it is recognized that reading aloud is only one aspect of general reading ability, it is a skill useful throughout life in a wide range of everyday situations in or out of school" (Dunn and Markwardt, 1970, pp. 19-20). The authors also recognize that "performance on the reading recognition subtest becomes increasingly confounded with acculturation factors as one moves beyond the early grades."

This assessment was administered to children whose PPVT age is five and over. The scoring decisions and procedures are identical to those described for the PIAT Mathematics assessment. As noted in the PIAT Manual, Reading Recognition (one month) test-retest reliability ranged between .81 for kindergarten level children to .94 for third graders (an overall median of .89 for all grades through grade twelve). Thus, this particular subscale is apparently highly reliable. It correlates moderately well with PIAT Mathematics scores. In addition, as one progresses from kindergarten through grade five, its correlation with PIAT spelling gradually increases from .27to .72. It correlated between .78 (first grade) and .88 (third grade) with the overall PIAT total test score, and between .42 (fifth grade and kindergarten) and .64 (third grade) with the PPVT IQ score.

The zero order correlations between Reading Recognition and other NLSY assessments generally parallel what was found for PIAT Mathematics. Correlations with PPVT-R range from .30 for six year-olds to .56 for the oldest children. Correlations with the Digit Span assessment for children age seven and over are about .4. As already mentioned, it correlates fairly highly with PIAT Mathematics--from .48 for five year-olds to .63 for the oldest children, those aged nine and above. NLSY inter-assessment correlations with PIAT Math generally parallel what was found by the test developers (Dunn and Markwardt, 1970, Table 11); correlations with the PPVT-R are perhaps slightly lower than those reported elsewhere, but not by a substantial amount (Baker and Mott, 1989).

PIAT Reading Comprehension

The PIAT Reading Comprehension subtest measures a child's ability to derive meaning from sentences that are read silently. For each of 66 items of increasing difficulty, the child silently reads a sentence once and then selects one of four pictures which best portrays the meaning of the sentence. "While understanding the meaning of individual words is important, comprehending passages is more representative of practical reading ability since the context factor is build in, which plays an important role, not only in depicting the intended meaning of specific words, but of the total passage. Therefore, the format selected for the reading comprehension subtest is one of a series of sentences of increasing

difficulty. The 66 items in Reading Comprehension are numbered from 19 through 84, with item 19 corresponding in difficulty with item 19 in Reading Recognition." (Dunn and Markwardt, 1970, pp. 21-22).

The PIAT Reading Comprehension assessment is administered to all children whose PPVT age is five years and over who scored at least 19 on the Reading Recognition assessment. Children who scored less than 19 on Reading Recognition were assigned their Reading Recognition score as their Reading Comprehension scores. If they scored at least 19 on the Reading Recognition assessment, their entry point to Reading Comprehension was determined by their Reading Recognition score.

As with other PIAT assessments, Reading Comprehension is generally considered a highly reliable and valid assessment which, as noted earlier, has been extensively used for research purposes. This version was normed in the late 1960s, and thus is subject to the same analytical constraints as the other PIAT assessments. In this regard, while the level of the standardized scores appears too high, it is likely that the patterning of the responses is probably reasonable. That is, higher scores still represent better outcomes in comparison with lower scores.

The PIAT Reading Comprehension subtest has a (one month) test-retest reliability which ranges from .61 for eighth grade children to .78 for first graders with an across-grade median of .64 (Dunn and Markwardt, 1970, Table 9). This is somewhat lower than was reported for the Mathematics and Reading Recognition subtests.

In terms of concurrent validity, as reported in Dunn and Markwardt, its linkage with the other subtests is somewhat erratic and appears quite sensitive to the grade level of the child. In the grade range of primary interest (grades five and below), correlations with PIAT Mathematics scores were generally low. Correlations with the PIAT spelling subtest ranged between .50 and .65. Overall correlations with the total PIAT score were more impressive--.70 for first graders to .89 for third graders. In addition, not surprisingly, correlations between Reading Recognition and Reading Comprehension were generally fairly high (.61 - .80). The Hammill and McNutt meta-analyses cited below found a .72 median concurrent correlation between Reading Comprehension and composite reading and .74 between Reading Recognition and Reading Comprehension.

Evaluation of the NLSY PIAT Reading Comprehension data suggests that a greater caution needs to be exercised when using this assessment than when using the other PIAT assessments (Baker and Mott, 1989). This is because it has a substantially higher non-completion rate. About 15 percent of all children could not be assigned a PIAT comprehension raw score; this varied from about 14 percent for black and white children to 21 percent for Hispanic children (see Table 18). The non-completion rate did not, however, vary systematically by maternal education as children of high school dropouts were as likely to complete the assessment as children of college attendees. Thus, the primary distinction in completion rates appears to be linked with English language difficuity and not social class per se.

Regarding inter-assessment correlations, NLSY correlations between PIAT Reading Comprehension scores and the PPVT-R are generally somewhat lower than those reported in previous studies (Dunn and Markwardt, 1970, Table 14). For example, NLSY correlations were in the .26 to .36 range for five through seven year-olds compared with .47 for first graders reported in the PIAT Manual. NLSY correlations with PIAT Mathematics were in the .45 - .61 range, whereas the correlations reported in the PIAT Manual ranged from .62 for third graders to only .22 for first graders and .28 for fifth graders.

PIAT References

Dunn, Lloyd M. and Frederick C. Markwardt, Jr. 1970. *Peabody Individual Achievement Test Manual.* Circle Pines, Minnesota: American Guidance Service, Inc.

Hammill, D. and G. McNutt. 1981. *The Correlates of Reading.* Austin, Texas: PRO-ED.

Naglieri, J.A. and P.A. Harrison. 1982. "McCarthy Scales, McCarthy Screening Test, and Kaugman's McCarthy Short Form Correlations with the Peabody Individual Achievement Test." *Psychology in the Schools* 19: 149-155.

Appendix 3. THE HOME

1. Description

The Home Observation for Measurement of the Environment-Short Form (HOME-SF) is the primary measure of the quality of the child's home environment included in the NLSY child survey. It is a modification of the HOME Inventory (Caldwell and Bradley, 1984), a unique observational measure of the quality of the cognitive stimulation and emotional support provided the child by his or her family. The HOME-SF is about half as long as the HOME Inventory, an adaptation necessitated by survey time and cost constraints; nearly all of its items are reworded from the HOME Inventory. More than half of the HOME-SF's items are multichotomous maternal self-reports reworded from the HOME Inventory's dichotomous observer-ratings. Like the HOME Inventory, three age-specific versions were used, each translated into Spanish. The HOME-SF's items and scales are generally comparable across age.

Bettye Caldwell authored the Infant Version of the HOME Inventory, and with Robert Bradley, co-authored the Preschool and Elementary Versions. Bradley worked closely with CHRR staff to shorten, modify, and reword the HOME Inventory for use in survey research, making part of it interviewer observation and part maternal self-report. Caldwell provided general advice and consultation. At least three items from each domain of the original HOME were selected for the HOME-SF whenever possible, as well as observer-ratings of cognitive stimulation and particularly the emotional relationship between mother and child. Bradley and Caldwell reviewed and approved the final draft of CHRR's Infant, Preschool, and Elementary HOME-SF versions used in the Mother and Child Supplements of the NLSY. They consulted with CHRR staff at professional meetings, exchanged memoranda with CHRR staff, provided a Spanish translation, and supplied CHRR with the relevant psychometric and clinical literature and data on the HOME Inventory.

Specifically, Bradley selected the HOME Inventory items for each of the three versions of the HOME-SF. Items were selected based on reliability coefficients, discrimination indices, validity coefficients,

and factor loadings from prior published and unpublished research. Bradley recommended items that are important to the research community--items which are strong indicators of the home environment's constructs, and comparable across the age-specific versions. He edited the item stems and response alternatives written by CHRR, writing occasional items himself. He decided which items would be dichotomous, which multichotomous, and how they should be scored. Bradley selected the items for each subscale and with CHRR staff named the subscales. Finally, he suggested procedures used to train the interviewers in their administration of the instrument.

As noted, there are three versions of the HOME-SF, one each for infants (birth through two years), preschool (three through five years), and elementary-aged (six years and older) children. Only the second and third of these versions are relevant to this research. The infant version consists of six categories: maternal emotional and verbal responsibility, maternal acceptance of child's behavior, materials for learning,; organization of the environment; maternal involvement; and variety of stimulation. The preschool and elementary versions tap the same dimensions and, in addition, provide a measure of parental modeling of maturity.

Evaluation of the HOME-SF at the Center for Human Resource Research provides evidence generally consistent with the notion that the HOME-SF scale appears to be a potentially extremely useful assessment for a variety of social science research. The overall HOME-SF shows relatively high reliability, particularly for children age three and over, yielding a Cronbach Alpha coefficient of .7. The internal consistency reliability was found to be alpha = .6 and alpha = .7 for the cognitive stimulation subscale for children three and over and for the emotional support subscale for children age six and over respectively.

Further enhancing the likely reliability of the HOME-SF is the fact that nearly all mothers completed this assessment for all children. The overall completion rate for this assessment is well over 90 percent with little racial/ethnic variability. In addition, the response rate varied little by maternal education or by the maternal age at the birth of the child.

2. Items

General Description of Items Included in the Cognitive Stimulation and Emotional Support Subscales

Cognitive Stimulation: The items included in the Cognitive Stimulation scale are those listed under "Books and Reading" and "Intellectual Activities/Environment," as well as the item on "Discussing TV Program with Parent" in Table 7.1A. Additionally, there are four items which were completed by the interviewer at the end of the interview with the child. These four items are related to the perceptual stimulation available to the child in the home; is the home interior dark or perceptually monotonous? are the rooms reasonably clean? minimally cluttered? does the building have no potentially dangerous structural or health hazard?

Emotional Support: The remaining items in Table 7.1A, with some recoding are components of the emotional support subscale. Additionally, there are several interviewer items: is child encouraged to contribute to conversation? did mother answer child's questions? does mother's voice convey positive feelings about child? did mother converse with child? did mother introduce child to interviewer by name?

For additional information please see Baker and Mott (1989) as well as the individual NLSY mother and child interview schedules, available from the Center for Human Resource Research.

TABLE A3.1
Transition Probabilities for Father Presence-Absence by Race
(Weighted Estimates)

	Total	Black	White
BIRTH - SURVEY ONE			
Leaving Probability[1]	-.023	-.034	-.022
Entering Probability[2]	+.003	+.004	+.002
SURVEY ONE - SURVEY TWO			
Leaving Probability	-.061	-.196	-.048
Entering Probability	+.121	+.092	+.157
SURVEY TWO - SURVEY THREE			
Leaving Probability	-.087	-.114	-.085
Entering Probability	+.101	+.072	+.132
SURVEY THREE - SURVEY FOUR			
Leaving Probability	-.053	-.157	-.043
Entering Probability	+.089	+.080	+.096
SURVEY FOUR - SURVEY FIVE			
Leaving Probability	-.068	-.133	-.062
Entering Probability	+.060	+.060	+.060
SAMPLE	1714	527	1029

NOTE: [1] Denominator is Father Present Group at survey point.
[2] Denominator is Father Absent Group at survey point.

TABLE A3.2
Four-Year (1984-1988) Transitions in Father Status by Race
(Weighted Estimates)

	Total	Black	White
TOTAL	100.0	100.0	100.0
Father Present Both	56.8	24.2	64.6
Father to New Man	8.7	5.6	9.6
Father to Frequent Visit	2.7	2.0	2.9
Father to Less Frequent Visit	4.6	5.4	4.3
Frequent Visit to Father Present	1.4	3.1	1.0
Frequent Visit to New Man	3.4	8.0	2.3
Frequent Visit to Less Frequent Visit	2.7	9.6	1.1
Less Frequent Visit to New Man	8.1	13.1	6.7
Frequent Visit to Frequent Visit	1.6	7.2	0.3
Less Frequent Visit to Less Visit	7.7	17.6	5.5
Other	2.3	4.2	1.7

NOTE: (1) "New Man" category is understated for 1984 as nonspouse--nonpartner father figure information was not available.
(2) "New Man" = non-spouse, partner or other male father figure in home. Frequent visit = at least weekly contact with biological father; less frequent visit = less than weekly contact with biological father.

TABLE A3.3

Child Gender Differences in Father Contact by Race

(Weighted Estimates)

	Total				White				Black			
	1984	1986	1988	Sample Size	1984	1986	1988	Sample Size	1984	1986	1988	Sample Size
PERCENT WITH FATHER PRESENT												
Boy	73.7	67.3	63.3	835	82.3	74.9	71.0	595	33.6	31.9	27.9	240
Girl	73.2	67.1	58.2	797	81.0	74.3	64.7	538	41.6	38.4	32.0	259
PERCENT OF FATHERS VISITING WEEKLY[1]												
Father Absent 1984-1988												
Boy	31.0	24.5	20.7	251	18.8	16.1	15.6	105	45.4	34.3	26.8	146
Girl	28.8	16.2	19.3	238	23.9	7.3	16.3	105	35.3	27.9	23.4	133
Father Never Present												
Boy	33.0	25.1	23.9	168	16.0	10.0	17.1	47	42.8	33.7	27.8	121
Girl	26.1	19.0	16.8	155	17.4	3.8	7.7	49	32.0	29.1	22.9	106
PERCENT OF FATHERS VISITING YEARLY OR NEVER[1]												
Father Absent 1984-1988												
Boy	42.9	49.6	48.7	251	52.6	54.8	57.5	105	31.5	43.4	38.4	146
Girl	38.1	45.6	49.3	238	39.6	48.6	52.5	105	36.2	41.8	44.8	133
Father Never Present												
Boy	49.8	53.1	48.4	168	73.1	68.2	68.2	47	36.5	44.5	37.0	121
Girl	46.8	49.7	51.7	155	58.0	63.7	58.9	49	39.3	40.4	46.8	106

NOTE: [1] Universe is father-absent children with live father.

TABLE A4.1

Maternal Employment Before and After the Birth for Children Whose Father was Present or Absent in the Years Following Birth by Race

(Cumulative Percents: Weighted)

	White			Black		
	Total Children	Father Present Thru 4 Surveys Post-birth	Father Absent All 4 Surveys Post-birth	Total Children	Father Present Thru 4 Surveys Post-birth	Father Absent All 4 Surveys Post-birth
PRE-BIRTH						
Left Work One Year or More Pre-birth	28.7	29.5	33.4	45.8	39.4	52.2
Left Work 40-52 Weeks Pre-birth	35.1	35.3	44.4	52.6	47.6	59.8
Left Work 27-39 Weeks Pre-birth	47.9	47.2	58.0	63.7	59.1	71.2
Left Work 14-26 Weeks Pre-birth	60.1	59.0	74.1	73.8	65.4	79.9
Left Work 1-13 Weeks Pre-birth	83.5	83.1	89.7	89.1	83.6	92.2
POST-BIRTH						
Never Left Work	13.5	14.2	8.2	9.2	13.5	6.6
Returned to Work 1-13 Weeks Post-birth	30.1	30.4	23.5	24.7	31.3	21.7
Returned to Work 14-26 Weeks Post-birth	38.8	39.4	27.5	35.2	41.4	30.3
Returned to Work 27-39 Weeks Post-birth	48.7	49.1	36.8	41.9	51.6	35.6
Returned to Work 40-52 Weeks Post-birth	55.2	55.5	42.1	46.5	58.1	39.6
Returned to Work in Second Year	68.9	68.5	57.5	60.7	71.9	52.5
Sample Size						

NOTE: Sample includes children born between 1979 and 1983 surveys with at least 4 post-birth survey points.

TABLE A5.1

Determinants of Behavior Problems Percentile Scores by Gender With and Without Maternal and Other Controls: White Children

(Ordinary Least Square Coefficients)

	Total				Boys				Girls			
	Maternal		All		Maternal		All		Maternal		All	
MATERNAL/PREBIRTH FACTORS												
High School Dropout	5.3[b]	(2.6)	3.4	(2.7)	10.0[a]	(3.6)	9.2[b]	(3.7)	1.1	(3.9)	-1.7	(4.2)
12 Years of School	6.7[a]	(2.1)	5.9[a]	(2.2)	8.9[a]	(3.0)	8.8[a]	(3.0)	4.9	(3.1)	3.1	(3.3)
Worked 40 or More Weeks Prebirth	0.9	(2.1)	2.4	(2.3)	-1.0	(2.8)	1.4	(3.2)	2.9	(3.1)	3.2	(3.5)
Worked 20-39 Weeks Prebirth	-1.0	(2.2)	-0.5	(2.3)	-0.0	(3.0)	1.0	(3.1)	-1.8	(3.3)	-1.8	(3.4)
Worked 1-19 Weeks Prebirth	-1.2	(2.2)	-1.2	(2.2)	-1.2	(3.0)	-1.0	(3.0)	-1.2	(3.3)	-1.8	(3.3)
Had Older Sibling	1.9	(1.6)	2.5	(1.7)	-1.9	(2.3)	-0.7	(2.5)	5.4[b]	(2.3)	5.3[b]	(2.4)
Mother Had Below Average AFQT Score	4.3[b]	(1.8)	2.5	(1.9)	0.7	(2.5)	1.9	(2.6)	8.1[a]	(2.7)	6.3[b]	(2.8)
Child 5-6 and Mom Under 20 at Birth	-2.5	(3.1)	-3.0	(3.1)	-1.4	(4.1)	-1.5	(4.2)	-4.7	(4.7)	-6.9	(4.7)
Child 5-6 and Mom 20 and Over at Birth	-5.2[a]	(1.6)	-5.2[a]	(1.7)	-1.9	(2.2)	-0.6	(2.3)	-9.0[a]	(2.4)	-9.5[a]	(2.5)
Child 7-8 and Mom Under 20 at Birth	3.8	(2.6)	3.4	(2.6)	3.4	(3.5)	3.8	(3.5)	2.7	(4.0)	1.8	(4.0)
Mother Smoked During Pregnancy	2.0	(1.6)	2.0	(1.6)	3.1	(2.1)	3.1	(2.1)	0.9	(2.4)	0.5	(2.4)
Mother Drank at Least Monthly During Pregnancy	3.4[c]	(1.9)	4.1[b]	(1.9)	4.3	(2.6)	4.6[c]	(2.6)	2.7	(2.8)	4.0	(2.9)
No Prenatal Care First 3 Months of Pregnancy	0.9	(1.9)	-1.8	(1.9)	-1.7	(2.6)	-2.8	(2.6)	3.4	(2.7)	2.4	(2.8)
Infant Birth Weight (Ounces)	-0.05	(0.04)	-0.03	(0.04)	-0.07	(0.05)	-0.05	(0.05)	-0.03	(0.06)	-0.01	(0.06)
Urban Residence During Pregnancy	-1.3	(1.6)	-0.6	(1.6)	1.8	(2.3)	-0.1	(2.4)	-2.3	(2.4)	-1.1	(2.4)
Attended Church at Least Monthly, 1979	-1.4	(1.5)	-1.3	(1.5)	1.6	(2.0)	1.1	(2.1)	-3.1	(2.2)	-3.0	(2.2)
Gender of Child	3.0[b]	(1.4)	3.1[b]	(1.4)								

TABLE A5.1 (cont'd).

Determinants of Behavior Problems Percentile Scores by Race and Gender With and Without Maternal and Other Controls: White Children

(Ordinary Least Square Coefficients)

	Total				Boys				Girls			
	Maternal		All		Maternal		All		Maternal		All	
OTHER FACTORS												
% of Weeks Worked Birth-1988			3.5	(3.6)			-2.9	(5.0)			8.5	(5.4)
Ave. Post-Birth Family Income N.A.			-0.9	(4.8)			6.4	(6.8)			-2.7	(6.7)
Ave. Post-Birth Family Income <10,000 (1988 dollars)			10.8[a]	(2.8)			8.2[b]	(3.9)			12.1[a]	(4.4)
Ave. Post-Birth Family Income $10-19,999 (1988 dollars)			6.4[a]	(1.8)			4.2[c]	(2.4)			8.5[a]	(2.7)
HI Occup. Status Post-birth (Census 3D, 1-395)			-0.7	(2.0)			-3.8	(2.8)			3.0	(3.0)
LO Occup. Status Post-Birth (Census 3D, 400-984)			1.3	(2.1)			1.1	(3.0)			1.7	(3.0)
% of Weeks Enrolled in School, Birth - 1988			3.0	(7.6)			12.5	(11.3)			-7.0	(10.6)
% of Years with Health Problem, Birth - 1988			7.1	(4.8)			14.6[b]	(7.3)			4.7	(6.7)
% of Years Grandparents in Home, Birth - 1988			9.2[b]	(4.1)			4.6	(5.9)			14.2[b]	(6.1)
# of First 3 Years of Life with Non-Maternal Care			-1.3	(8.2)			2.8	(1.1)			-2.5[b]	(1.2)
Had Younger Sibling			1.0	(1.7)			2.6	(2.3)			0.2	(2.6)
Father Absent 1988	4.5[a]	(1.6)	1.6	(1.8)	5.2[b]	(2.2)	3.2	(2.4)	3.9[c]	(2.3)	0.5	(2.6)
Intercept	67.2	(5.5)	58.4	(6.1)	69.3	(7.7)	61.1	(8.6)	67.3	(8.0)	58.5	(8.9)
R^2 (Adjusted)	.052		.065		.045		.056		.059		.078	
F Ratio	4.55[a]		3.81[a]		2.69[a]		2.31[a]		3.06[a]		2.70[a]	
Sample Size	1177		1177		617		617		560		560	

NOTE: (1) a = coefficient significant at P < .01; b = coefficient significant at P < .05; c = coefficient significant at P < .10. Standard errors in parentheses.
(2) See Table 5.4 for other notes.

TABLE A5.2

Determinants of Behavior Problems Percentile Scores by Race and Gender with and Without Maternal and Other Controls: Black Children

(Ordinary Least Square Coefficients)

	Total				Boys				Girls			
	Maternal		All		Maternal		All		Maternal		All	
MATERNAL/PREBIRTH FACTORS												
High School Dropout	11.3[a]	(3.9)	11.0[a]	(4.1)	2.6	(5.9)	2.6	(6.2)	17.6[a]	(5.5)	16.6[a]	(5.7)
12 Years of School	5.7[c]	(3.4)	6.0[c]	(3.4)	1.8	(5.2)	1.9	(5.4)	8.8[c]	(4.5)	9.2[b]	(4.6)
Worked 40 or More Weeks Prebirth	3.4	(3.1)	0.4	(0.4)	4.0	(4.7)	1.4	(5.9)	2.1	(4.4)	-1.9	(4.8)
Worked 20-39 Weeks Prebirth	-0.5	(3.3)	-1.5	(3.4)	0.2	(4.7)	-1.1	(4.9)	-0.6	(4.8)	-1.3	(5.1)
Worked 1-19 Weeks Prebirth	3.3	(3.0)	2.4	(3.1)	3.7	(4.4)	2.3	(4.7)	3.3	(4.2)	2.8	(4.3)
Had Older Sibling	-2.6	(2.3)	-3.5	(2.4)	-3.0	(3.3)	-3.2	(3.5)	-2.4	(3.3)	-4.6	(3.5)
Mother Had Below Average AFQT Score	0.8	(2.5)	0.4	(2.7)	2.7	(3.7)	2.4	(4.1)	-1.3	(3.6)	-2.0	(3.9)
Child 5-6 and Mom Under 20 at Birth	-11.7[a]	(3.8)	-10.1[a]	(3.9)	-7.2	(5.5)	-6.0	(5.7)	-14.6[a]	(5.6)	-11.5[b]	(5.9)
Child 5-6 and Mom 20 and Over at Birth	-3.9	(2.7)	-3.2	(2.7)	8.7[b]	(3.9)	-8.7[b]	(4.1)	0.6	(3.7)	2.7	(3.8)
Child 7-8 and Mom Under 20 at Birth	-10.2[a]	(3.3)	-8.0[b]	(3.4)	-9.1[b]	(4.6)	-8.6[b]	(5.0)	-9.8[b]	(4.8)	-6.5	(5.0)
Mother Smoked During Pregnancy	0.5	(2.4)	0.4	(2.4)	2.5	(3.4)	2.4	(3.5)	-0.2	(3.4)	-0.8	(3.4)
Mother Drank at Least Monthly During Pregnancy	-2.0	(2.9)	-2.1	(2.9)	4.6	(4.1)	4.4	(4.2)	-7.2[c]	(4.1)	-7.0[c]	(4.2)
No Prenatal Care First 3 Months of Pregnancy	2.4	(2.5)	2.4	(2.5)	1.2	(3.5)	0.6	(3.6)	4.0	(3.8)	4.1	(3.8)
Infant Birth Weight (Ounces)	-0.12[b]	(0.05)	-0.11[b]	(0.05)	-0.12[b]	(0.07)	-0.11	(0.07)	-0.12	(0.09)	-0.11	(0.09)
Urban Residence During Pregnancy	1.2	(2.8)	1.9	(2.9)	-4.8	(4.0)	-4.1	(4.2)	5.8	(4.1)	6.7	(4.1)
Attended Church at Least Monthly, 1979	-0.6	(2.3)	-0.6	(2.4)	-0.8	(3.4)	-0.1	(3.6)	-0.6	(3.3)	-1.3	(3.3)
Gender of Child	7.0[a]	(2.1)	7.7[a]	(2.2)	--		---		---		---	

TABLE A5.2 (cont'd).

Determinants of Behavior Problems Percentile Scores by Race and Gender with and Without Maternal and Other Controls: Black Children

(Ordinary Least Square Coefficients)

	Total		Boys		Girls	
	Maternal	All	Maternal	All	Maternal	All
OTHER FACTORS						
% of Weeks Worked Birth-1988	8.3 (5.7)		-1.3 (8.6)		14.1° (8.1)	
Ave. Post-Birth Family Income N.A.	-2.6 (4.9)		0.8 (6.9)		-7.2 (7.5)	
Ave. Post-Birth Family Income <10,000 (1988 dollars)	4.8 (3.7)		6.6 (5.7)		2.3 (5.1)	
Ave. Post-Birth Family Income $10-19,999 (1988 dollars)	-0.9 (3.0)		2.1 (4.6)		-4.5 (4.1)	
HI Occup. Status Post-birth (Census 3D, 1-395)	1.2 (3.7)		6.2 (5.7)		-0.1 (4.9)	
LO Occup. Status Post-Birth (Census 3D, 400-984)	2.4 (3.2)		0.6 (4.9)		6.7 (4.5)	
% of Weeks Enrolled in School, Birth - 1988	-7.3 (7.9)		-15.0 (11.2)		-3.4 (11.9)	
% of Years with Health Problem, Birth - 1988	13.0[b] (6.5)		-0.5 (10.3)		19.8[b] (8.7)	
% of Years Grandparents in Home, Birth - 1988	-1.2 (3.7)		-0.3 (5.3)		-4.0 (5.6)	
# of First 3 Years of Life with Non-Maternal Care	-4.0 (1.1)		1.6 (1.6)		-2.0 (1.7)	
Had Younger Sibling	0.9 (2.3)		1.7 (3.4)		0.2 (3.3)	
Father Absent 1988	1.0 (2.4)	0.4 (2.7)	4.0 (3.5)	2.7 (4.1)	-1.5 (3.4)	-0.1 (3.8)
Intercept	73.0	66.3	89.3 (11.3)	83.3 (14.2)	65.0 (12.1)	62.0 (38.5)
R^2 (Adjusted)	.035	.038	.004	-0.014	.031	.046
F Ratio	2.08[a]	1.73[b]	1.06	0.88	1.53[c]	1.49[c]
Sample Size	537	537	256	256	281	281

NOTE: (1) Standard Error in Parentheses. a = significant at P < .01; b = significant at P < .05; c = significant at P < .10.
(2) See Table 5.4 for other notes.

TABLE A6.1

Determinants of PIAT Mathematics Percentile Scores by Gender With and Without Maternal and Other Controls: White Children

(Ordinary Least Square Estimates)

	Total				Male				Female			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
MATERNAL/PREBIRTH FACTORS												
High School Dropout	-10.4[a]	(2.6)	-8.3[a]	(2.6)	-14.6[a]	(3.6)	-13.9[a]	(3.7)	-6.4[c]	(3.7)	-2.8	(3.9)
12 Years of School	-5.8[a]	(2.1)	-4.5[b]	(2.1)	-7.3[b]	(2.9)	-7.1[b]	(3.0)	-5.1[c]	(3.0)	-2.8	(3.1)
Worked 40 or More Weeks Pre-birth	-1.6	(2.0)	-4.9[b]	(2.2)	0.4	(2.8)	-0.4	(3.2)	-3.6	(2.9)	-10.1[a]	(3.2)
Worked 20-39 Weeks Pre-birth	1.7	(2.1)	0.1	(2.2)	4.9	(3.0)	4.8	(3.1)	-0.8	(3.1)	-4.2	(3.2)
Worked 1-19 Weeks Pre-birth	-1.1	(2.1)	-1.4	(2.1)	2.3	(3.0)	2.2	(3.0)	-3.8	(3.1)	-4.6	(3.1)
Had Older Sibling	-2.8[c]	(1.6)	-3.8[b]	(1.7)	-2.5	(2.3)	-4.3[c]	(2.5)	-3.2	(2.2)	-3.6	(2.2)
Mother Had Below Average AFQT Score	-11.5[a]	(1.7)	-9.8[a]	(1.8)	-8.2[a]	(2.5)	-7.1[a]	(2.6)	-14.7[a]	(2.5)	-12.3[a]	(2.6)
Child 5-6 and Mom Under 20 at Birth	3.0	(3.0)	2.6	(3.0)	4.3	(4.1)	5.4	(4.2)	1.1	(4.4)	-0.3	(4.4)
Child 5-6 and Mom 20 and Over at Birth	-0.1	(1.6)	-0.2	(1.6)	0.7	(2.2)	0.4	(2.3)	-1.0	(2.3)	-0.9	(2.4)
Child 7-8 and Mom Under 20 at Birth	-1.1	(2.5)	-0.5	(2.5)	-0.5	(3.5)	0.5	(3.5)	-2.5	(3.8)	-2.7	(3.8)
Mother Smoked During Pregnancy	-0.6	(1.5)	-0.3	(1.5)	-0.3	(2.1)	-0.3	(2.1)	-1.0	(2.2)	-0.2	(2.2)
Mother Drank at Least Monthly During Pregnancy	3.5[c]	(1.8)	3.7[b]	(1.8)	4.5[c]	(2.6)	4.2	(2.6)	2.6	(2.6)	3.7	(2.7)
No Prenatal Care First 3 Months of Pregnancy	-1.2	(1.8)	-0.5	(1.8)	-3.7	(2.6)	-3.1	(2.6)	1.1	(2.6)	2.0	(2.6)
Infant Birth Weight (Ounces)	0.18[a]	(0.03)	0.17[a]	(0.04)	0.13[a]	(0.05)	0.12[a]	(0.05)	0.24[a]	(0.06)	0.23[a]	(0.06)
Urban Residence During Pregnancy	-0.6	(1.6)	-1.0	(1.6)	0.6	(2.3)	0.8	(2.3)	-1.1	(2.2)	-1.6	(2.3)
Attended Church at Least Monthly, 1979	-0.1	(1.4)	-0.3	(1.4)	-3.4[c]	(2.0)	-3.7[c]	(2.1)	2.6	(2.1)	3.0	(2.1)
Child is Male	-2.2	(1.4)	-2.0	(1.4)	--	--	--	--	--	--	--	--
OTHER FACTORS												
% of Weeks Worked Birth-1988			5.6	(3.5)			-0.9	(5.0)			14.5[a]	(5.0)
Average Post-birth Family Income N.A.			7.1	(4.6)			6.3	(6.8)			8.0	(6.3)
Average Post-birth Family Income < 10,000 (1988 dollars)			-6.1[b]	(2.8)			-2.6	(3.9)			-8.8[a]	(4.1)
Average Post-birth Family Income $10-19,999 (1988 dollars)			-3.0[c]	(1.8)			-3.5	(2.4)			-2.6	(2.6)

TABLE A6.1 (cont'd).

Determinants of PIAT Mathematics Percentile Scores by Gender With and Without Maternal and Other Controls: White Children

(Ordinary Least Square Estimates)

	Total				Male				Female			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
OTHER FACTORS (cont'd)												
HI Occup. Status Post-birth (Census 3D.1-395)			3.0	(2.0)			3.8	(2.7)			2.3	(2.8)
LO Occup. Status Post-birth (Census 3D.400-984)			2.0	(2.0)			1.4	(3.0)			2.0	(2.8)
% of Years Enrolled in School, Birth-1988			4.0	(7.4)			7.5	(11.2)			3.2	(9.9)
% of Years with Health Problem, Birth-1988			-6.1	(4.6)			-4.9	(7.2)			-10.8[c]	(6.2)
% of Years Grandparent in Home, Birth-1988			-9.8[b]	(4.1)			-15.8[a]	(5.8)			-5.3	(5.7)
# of First 3 Years of Life with Non-Paternal Care			-0.7	(0.8)			-1.1	(1.1)			-0.6	(1.2)
Had Younger Sibling			-1.9	(1.6)			-2.7	(2.3)			-0.5	(2.4)
Father Absent 1988	-1.1	(1.5)	0.6	(1.7)	-3.0	(2.2)	-0.7	(2.4)	0.7	(2.4)	2.1	(2.4)
Intercept	43.3[a]	(5.3)	46.5	(5.9)	45.6[a]	(7.7)	53.0[a]	(8.6)	38.3[a]	(7.5)	36.3[a]	(8.3)
R^2 Adjusted	.109[a]		.121[a]		.113[a]		.118[a]		.106[a]		.138[a]	
F Ratio	9.0		6.6		5.6		4.0		4.9		4.2	
Sample Size	1177		1177		617		617		560		560	

NOTE: (1) Standard Error in Parentheses. a = significant at P < .01; b = significant at P < .05; c = significant at P < .10.
(2) See Table 5.4 for other notes.

TABLE A6.2

Determinants of PIAT Mathematics Percentile Scores by Gender With and Without Maternal and Other Controls: Black Children

(Ordinary Least Square Estimates)

	Total				Male				Female			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
MATERNAL/PREBIRTH FACTORS												
High School Dropout	-5.3	(3.8)	-3.9	(3.9)	-13.3[b]	(5.5)	-13.8[b]	(5.6)	0.1	(5.4)	3.5	(5.5)
12 Years of School	0.8	(3.3)	1.3	(3.3)	-11.8[b]	(4.9)	-12.7[b]	(4.9)	9.7[b]	(4.5)	11.7[a]	(4.4)
Worked 40 or More Weeks Pre-birth	4.5	(3.1)	0.4	(3.5)	9.6[b]	(4.4)	8.4	(5.3)	0.5	(4.4)	-4.1	(4.7)
Worked 20-39 Weeks Pre-birth	-1.3	(3.2)	-2.5	(3.3)	3.6	(4.4)	3.2	(4.5)	-6.9	(4.8)	-7.3	(4.9)
Worked 1-19 Weeks Pre-birth	2.3	(2.9)	0.0	(3.0)	4.8	(4.1)	5.5	(4.2)	-0.7	(4.2)	-3.1	(4.1)
Had Older Sibling	0.7	(2.2)	0.6	(2.3)	-0.8	(3.1)	-0.7	(3.2)	1.1	(3.3)	1.3	(3.4)
Mother Had Below Average AFQT Score	-6.8[a]	(2.5)	-5.1[b]	(2.6)	-3.4	(3.4)	-4.2	(3.7)	-11.1[a]	(3.6)	-9.7[a]	(3.8)
Child 5-6 and Mom Under 20 at Birth	-2.7	(3.7)	-3.4	(3.7)	-2.4	(5.1)	-4.6	(5.3)	1.0	(5.6)	2.0	(5.6)
Child 5-6 and Mom 20 and Over at Birth	-2.4	(2.6)	-2.1	(2.6)	-0.1	(3.7)	-1.2	(3.7)	-3.1	(3.7)	-0.4	(3.7)
Child 7-8 and Mom Under 20 at Birth	5.6[c]	(3.2)	6.4[b]	(3.3)	10.1[b]	(4.3)	10.0[b]	(4.5)	1.7	(4.8)	2.5	(4.8)
Mother Smoked During Pregnancy	-0.2	(2.3)	-0.1	(2.3)	-1.0	(4.3)	-0.4	(3.2)	1.9	(3.4)	2.1	(3.3)
Mother Drank at Least Monthly During Pregnancy	-1.9	(2.8)	-2.0	(2.8)	1.1	(3.9)	1.7	(3.8)	-6.4	(4.1)	-6.4	(4.1)
No Prenatal Care First 3 Months of Pregnancy	3.9	(2.5)	2.4	(2.1)	0.5	(3.2)	-0.4	(3.2)	7.3[c]	(3.8)	4.6	(3.7)
Infant Birth Weight (Ounces)	-0.02	(0.05)	0.01	(0.05)	-0.06	(0.06)	-0.01	(0.06)	0.04	(0.08)	0.03	(0.08)
Urban Residence During Pregnancy	2.8	(2.7)	3.2	(2.7)	3.6	(3.7)	5.2	(3.8)	1.6	(4.0)	3.5	(3.9)
Attended Church at Least Monthly, 1979	2.9	(2.3)	2.2	(2.2)	0.3	(3.1)	1.0	(3.3)	4.4	(3.3)	2.8	(3.2)
Child is Male	-7.3[a]	(2.1)	-7.8[a]	(2.1)	--	--	--	--	--	--	--	--
OTHER FACTORS												
% of Weeks Worked Birth-1988			-3.8	(5.4)			-4.7	(7.8)			-1.9	(7.8)
Average Post-birth Family Income N.A.			-7.5	(4.7)			7.2	(6.3)			-20.4[a]	(7.3)
Average Post-birth Family Income < 10,000 (1988 dollars)			-2.8	(3.5)			-10.7[b]	(5.2)			-11.5[b]	(4.9)
Average Post-birth Family Income $10-19,999 (1988 dollars)			-6.7[b]	(2.8)			2.3	(4.2)			-11.5[a]	(4.0)

TABLE A6.2 (cont'd).
Determinants of PIAT Mathematics Percentile Scores by Gender With and Without Maternal and Other Controls: Black Children
(Ordinary Least Square Estimates)

	Total				Male				Female			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
OTHER FACTORS (cont'd)												
HI Occup. Status Post-birth (Census 3D.1-395)			12.4[a]	(3.5)			7.1	(5.4)			16.1[a]	(4.8)
LO Occup. Status Post-birth (Census 3D.400-984)			10.7[b]	(7.6)			9.2[b]	(4.4)			10.7[b]	(4.3)
% of Years Enrolled in School, Birth-1988			15.2[b]	(7.6)			15.4	(10.2)			20.8[c]	(11.5)
% of Years with Health Problem, Birth-1988			-7.5	(6.2)			-8.4	(9.3)			-8.2	(8.4)
% of Years Grandparent in Home, Birth-1988			-1.2	(3.6)			3.5	(4.8)			-4.4	(5.4)
# of First 3 Years of Life with Non-Paternal Care			-1.0	(1.1)			0.0	(1.5)			-2.6	(1.7)
Had Younger Sibling			-4.5[b]	(2.2)			-8.4[a]	(3.1)			-2.4	(3.2)
Father Absent 1988	-1.9	(2.3)	-3.0	(2.6)	-1.6	(3.3)	-6.0	(3.8)	-3.1	(3.4)	-1.4	(3.7)
Intercept	43.5[a]	(7.8)	45.4	(9.3)	45.2[a]	(10.5)	35.6[a]	(12.9)	36.4[a]	(12.1)	45.7[a]	(13.7)
R^2 Adjusted	.062[a]		.102[a]		.051[b]		.084[a]		.053[b]		.130[a]	
F Ratio	3.0		3.1		1.8		1.8		1.9		2.5	
Sample Size	537		537		266		266		281		281	

NOTE: (1) Standard Error in Parentheses. a = significant at P < .01; b = significant at P < .05; c = significant at P < .10.
(2) See Table 5.4 for other notes.

TABLE A6.3

Determinants of PIAT Reading Recognition Percentile Scores by Gender With and Without Maternal and Other Controls: White Children

(Ordinary Least Square Estimates)

	Total				Male				Female			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
MATERNAL/PREBIRTH FACTORS												
High School Dropout	-9.3[a]	(2.7)	-8.5[a]	(2.8)	-16.9[a]	(3.9)	-18.3[a]	(4.0)	-1.1	(3.9)	2.6	(4.1)
12 Years of School	-7.7[a]	(2.2)	-7.2[a]	(2.2)	-11.2[a]	(3.2)	-12.7[a]	(3.2)	-4.1	(3.1)	-1.5	(3.2)
Worked 40 or More Weeks Pre-birth	-1.6	(2.1)	-1.7	(2.4)	-0.4	(3.0)	2.5	(3.4)	-2.9	(3.1)	-6.0°	(3.4)
Worked 20-39 Weeks Pre-birth	1.7	(2.3)	2.3	(2.3)	0.2	(3.2)	2.1	(3.3)	2.7	(3.3)	1.7	(3.4)
Worked 1-19 Weeks Pre-birth	4.2°	(2.3)	5.2[b]	(2.3)	4.9	(3.2)	6.4[b]	(3.2)	3.7	(3.2)	4.3	(3.2)
Had Older Sibling	-8.3[a]	(1.7)	-9.6[a]	(1.8)	-7.1[a]	(2.5)	-8.9[a]	(2.7)	-9.2[a]	(2.3)	-10.0[a]	(2.4)
Mother Had Below Average AFQT Score	-13.9[a]	(1.9)	-12.3[a]	(1.9)	-12.8[a]	(2.7)	-11.5[a]	(2.8)	-14.2[a]	(2.6)	-12.4[a]	(2.7)
Child 5-6 and Mom Under 20 at Birth	-12.9[a]	(3.2)	-13.1[a]	(3.2)	-8.4°	(4.4)	-7.8°	(4.5)	-19.0[a]	(4.6)	-18.0[a]	(4.6)
Child 5-6 and Mom 20 and Over at Birth	-4.0[b]	(1.7)	-4.0[b]	(1.7)	-2.3	(2.4)	-4.1°	(2.5)	-5.5[b]	(2.4)	-4.6°	(2.4)
Child 7-8 and Mom Under 20 at Birth	-4.6°	(2.7)	-4.6°	(2.7)	-2.8	(3.7)	-3.2	(3.7)	-5.9	(3.9)	-5.2	(3.9)
Mother Smoked During Pregnancy	1.6	(1.6)	1.5	(1.6)	-0.1	(2.3)	0.2	(2.3)	2.8	(2.3)	2.8	(2.3)
Mother Drank at Least Monthly During Pregnancy	5.7[a]	(2.0)	5.1[a]	(2.0)	4.7°	(2.8)	3.5	(2.8)	6.6[b]	(2.8)	7.0[b]	(2.8)
No Prenatal Care First 3 Months of Pregnancy	0.2	(1.9)	0.9	(1.9)	0.3	(2.8)	1.5	(2.8)	-1.3	(2.7)	-0.7	(2.7)
Infant Birth Weight (Ounces)	0.14[a]	(0.04)	0.13[a]	(0.04)	0.15[a]	(0.05)	0.13[b]	(0.05)	0.16[a]	(0.06)	0.14[b]	(0.06)
Urban Residence During Pregnancy	-0.1	(1.7)	-0.5	(1.7)	-2.9	(2.5)	-2.1	(2.5)	2.3	(2.3)	1.5	(2.4)
Attended Church at Least Monthly, 1979	3.4[b]	(1.5)	3.6[b]	(1.5)	2.8	(2.2)	2.6	(2.2)	4.1°	(2.2)	4.8[b]	(2.2)
Child is Male	-5.6[a]	(1.5)	-5.7[a]	(1.5)	--	--	--	--	--	--	--	--
OTHER FACTORS												
% of Weeks Worked Birth-1988			1.2	(3.7)			-2.9	(5.4)			7.9	(5.3)
Average Post-birth Family Income N.A.			3.4	(4.9)			2.9	(7.2)			1.6	(6.6)
Average Post-birth Family Income < 10,000 (1988 dollars)			-8.0[a]	(2.9)			-6.7	(4.1)			-9.3[b]	(4.3)
Average Post-birth Family Income $10-19,999 (1988 dollars)			-6.4[a]	(1.9)			-5.5[b]	(2.6)			-8.1[a]	(2.7)

TABLE A6.3 (cont'd).

Determinants of PIAT Reading Recognition Percentile Scores by Gender With and Without Maternal and Other Controls: White Children

(Ordinary Least Square Estimates)

	Total				Male				Female			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
OTHER FACTORS (cont'd)												
HI Occup. Status Post-birth (Census 3D.1-395)			-1.0	(2.1)			-0.2	(2.9)			-1.6	(2.9)
LO Occup. Status Post-birth (Census 3D.400-984)			-1.1	(2.1)			-6.3[b]	(3.2)			3.4	(2.9)
% of Years Enrolled in School, Birth-1988			-2.2	(2.8)			-7.4	(12.0)			5.2	(10.4)
% of Years with Health Problem, Birth-1988			-17.7[a]	(4.9)			-16.8[b]	(7.7)			-18.2[a]	(6.5)
% of Years Grandparent in Home, Birth-1988			-0.4	(4.3)			0.5	(6.2)			-3.3	(6.0)
# of First 3 Years of Life with Non-Paternal Care			-0.9	(0.8)			-1.3	(1.2)			-1.2	(1.2)
Had Younger Sibling			-3.6[b]	(1.7)			-5.4[b]	(2.4)			-2.1	(2.5)
Father Absent 1988	-0.6	(1.6)	1.3	(1.8)	-2.1	(2.4)	-0.1	(2.6)	1.5	(2.2)	3.7	(2.5)
Intercept	57.2[a]	(5.7)	67.0[a]	(6.3)	55.6[a]	(8.3)	69.6	(9.2)	51.7[a]	(7.9)	57.1[a]	(8.7)
R^2 Adjusted	.149[a]		.168[a]		.157[a]		.174[a]		.135[a]		.163[a]	
F Ratio	12.5		9.2		7.7		5.6		6.1		4.9	
Sample Size	1177		1177		617		617		560		560	

NOTE: (1) Standard Error in Parentheses. a = significant at P < .01; b = significant at P < .05; c = significant at P < .10.
(2) See Table 5.4 for other notes.

TABLE A6.4

Determinants of PIAT Reading Recognition Percentile Scores by Gender With and Without Maternal and Other Controls: Black Children

(Ordinary Least Square Estimates)

	Total				Male				Female			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
MATERNAL/PREBIRTH FACTORS												
High School Dropout	-7.8[c]	(4.0)	-5.7	(4.2)	-15.5[b]	(6.3)	-14.0[b]	(6.5)	-1.6	(5.4)	2.5	(5.7)
12 Years of School	-0.6	(3.4)	-0.4	(3.5)	-7.9	(5.5)	-7.3	(5.7)	4.3	(4.5)	5.2	(4.6)
Worked 40 or More Weeks Pre-birth	4.5	(3.2)	2.7	(3.7)	3.8	(4.9)	-1.0	(6.2)	5.7	(4.4)	6.5	(4.8)
Worked 20-39 Weeks Pre-birth	-2.5	(3.4)	-3.0	(3.5)	-5.2	(5.0)	-7.6	(5.2)	-0.3	(4.7)	1.1	(5.0)
Worked 1-19 Weeks Pre-birth	0.7	(3.1)	-0.2	(3.2)	4.0	(4.6)	2.7	(4.9)	-2.8	(4.1)	-4.0	(4.3)
Had Older Sibling	-4.1[c]	(2.4)	-3.6	(2.4)	-4.8	(3.5)	-5.5	(3.7)	-3.2	(3.3)	-1.7	(3.5)
Mother Had Below Average AFQT Score	-6.3[b]	(2.6)	-3.8	(2.8)	-4.6	(3.9)	-3.2	(4.3)	-8.1[b]	(3.6)	3.7	(3.9)
Child 5-6 and Mom Under 20 at Birth	-3.5	(3.9)	-4.1	(4.0)	-2.7	(5.8)	-2.3	(6.1)	-3.3	(5.6)	-6.0	(5.8)
Child 5-6 and Mom 20 and Over at Birth	6.1[b]	(2.7)	6.3[b]	(2.8)	7.6[c]	(4.2)	7.3	(4.3)	5.0	(3.7)	5.0	(3.8)
Child 7-8 and Mom Under 20 at Birth	1.8	(3.4)	0.7	(3.5)	3.0	(4.9)	2.2	(5.2)	0.4	(4.8)	-1.6	(5.0)
Mother Smoked During Pregnancy	-5.9[b]	(2.4)	-5.3[b]	(2.5)	-6.7[c]	(3.6)	-6.6	(3.7)	-4.1	(3.4)	-2.9	(3.4)
Mother Drank at Least Monthly During Pregnancy	-1.3	(2.9)	-0.7	(3.0)	-2.2	(4.4)	-2.0	(4.4)	-1.5	(4.1)	-0.4	(4.2)
No Prenatal Care First 3 Months of Pregnancy	1.4	(2.6)	0.7	(2.6)	0.9	(3.7)	0.5	(3.8)	1.4	(3.8)	-0.6	(3.8)
Infant Birth Weight (Ounces)	0.13[b]	(0.05)	0.13[b]	(0.06)	0.09	(0.07)	0.05	(0.08)	0.22[a]	(0.08)	0.21[b]	(0.08)
Urban Residence During Pregnancy	3.6	(2.9)	3.3	(2.9)	6.8	(4.2)	5.3	(4.4)	0.7	(4.0)	1.2	(4.0)
Attended Church at Least Monthly, 1979	1.8	(2.4)	0.9	(2.4)	-2.0	(3.6)	-2.6	(3.8)	4.5	(3.2)	3.4	(3.2)
Child is Male	-8.7[a]	(2.2)	-9.0[a]	(2.2)	--	--	--	--	--	--	--	--
OTHER FACTORS												
% of Weeks Worked Birth-1988			0.1	(5.8)			2.7	(9.1)			-5.3	(8.0)
Average Post-birth Family Income N.A.			-9.6[c]	(5.0)			-5.1	(7.3)			-15.6[b]	(7.5)
Average Post-birth Family Income < 10,000 (1988 dollars)			-5.0	(3.7)			-7.2	(6.0)			-4.5	(5.1)
Average Post-birth Family Income $10-19,999 (1988 dollars)			-5.9[c]	(3.0)			-5.0	(4.9)			-6.0	(4.1)

TABLE A6.4 (cont'd).

Determinants of PIAT Reading Recognition Percentile Scores by Gender With and Without Maternal and Other Controls: Black Children

(Ordinary Least Square Estimates)

	Total				Male				Female			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
OTHER FACTORS (cont'd)												
HI Occup. Status Post-birth (Census 3D.1-395)			1.4	(3.8)			-0.7	(6.3)			-2.8	(4.9)
LO Occup. Status Post-birth (Census 3D.400-984)			3.5	(3.2)			1.4	(5.1)			5.6	(4.4)
% of Years Enrolled in School, Birth-1988			13.4[c]	(8.1)			1.0	(11.9)			26.9[b]	(11.8)
% of Years with Health Problem, Birth-1988			-7.5	(6.6)			-11.6	(10.9)			-6.6	(8.6)
% of Years Grandparent in Home, Birth-1988			-1.4	(3.8)			-8.0	(5.6)			4.3	(5.6)
# of First 3 Years of Life with Non-Paternal Care			1.1	(1.7)			0.9	(1.7)			2.2	(1.7)
Had Younger Sibling			-0.9	(2.3)			2.5	(3.6)			-4.8	(3.3)
Father Absent 1988	-1.1	(2.4)	-0.8	(2.8)	1.5	(3.7)	4.7	(4.4)	-3.1	(3.4)	-5.1	(3.8)
Intercept	44.9[a]	(8.2)	47.2[a]	(9.9)	47.0[a]	(11.9)	58.4[a]	(15.0)	32.7[a]	(12.0)	30.6[b]	(14.1)
R^2 Adjusted	.129[a]		.136[a]		.106[a]		.085[a]		.090[a]		.115[a]	
F Ratio	5.4		3.9		2.7		1.8		2.6		2.3	
Sample Size	537		537		256		256		281		281	

NOTE: (1) Standard Error in Parentheses. a = significant at P < .01; b = significant at P < .05; c = significant at P < .10.
(2) See Table 5.4 for other notes.

TABLE A6.5

Determinants of PIAT Reading Comprehension Percentile Scores by Gender With and Without Maternal and Other Controls: White Children

(Ordinary Least Square Estimates)

	Total				Male				Female			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
MATERNAL/PREBIRTH FACTORS												
High School Dropout	-9.2[a]	(3.6)	-7.5[b]	(3.7)	-10.7[b]	(5.0)	-11.0[b]	(5.1)	-9.2[c]	(5.2)	-5.3	(5.3)
12 Years of School	-6.0[b]	(2.9)	-4.8[c]	(2.9)	-4.2	(4.1)	-4.8	(4.1)	-9.1[b]	(4.1)	-6.8	(4.2)
Worked 40 or More Weeks Pre-birth	-9.6[a]	(2.8)	-12.8[a]	(3.1)	-6.7[c]	(3.9)	-6.1	(4.4)	-12.9[a]	(4.1)	-20.9[a]	(4.5)
Worked 20-39 Weeks Pre-birth	1.3	(3.0)	-0.3	(3.1)	5.3	(4.2)	5.1	(4.3)	-4.9	(4.4)	-8.6[c]	(4.5)
Worked 1-19 Weeks Pre-birth	-0.1	(3.0)	-0.2	(3.0)	2.0	(4.2)	2.5	(4.2)	-2.8	(4.3)	-3.6	(4.3)
Had Older Sibling	-10.2[a]	(2.2)	-12.7[a]	(2.3)	-6.3[b]	(3.2)	-10.6[a]	(3.4)	-14.0[a]	(3.0)	-14.5[a]	(3.1)
Mother Had Below Average AFQT Score	-15.3[a]	(2.5)	-12.7[a]	(2.5)	-9.3[a]	(3.5)	-7.1[b]	(3.6)	-20.8[a]	(3.5)	-18.0[a]	(3.6)
Child 5-6 and Mom Under 20 at Birth	-33.7[a]	(4.2)	-36.2[a]	(4.2)	-30.8[a]	(5.7)	-31.9[a]	(5.8)	-37.2[a]	(6.1)	-39.9[a]	(6.1)
Child 5-6 and Mom 20 and Over at Birth	-24.7[a]	(2.2)	-26.9[a]	(2.2)	-27.2[a]	(3.1)	-30.3[a]	(3.2)	-21.8[a]	(3.2)	-22.6[a]	(3.2)
Child 7-8 and Mom Under 20 at Birth	-6.1[c]	(3.5)	-5.5[a]	(3.5)	-5.9	(4.8)	-6.0	(4.8)	-5.7	(5.2)	-5.7	(5.2)
Mother Smoked During Pregnancy	-1.6	(2.1)	-1.8	(2.1)	-4.1	(2.9)	-4.4	(2.9)	2.5	(3.1)	2.7	(3.1)
Mother Drank at Least Monthly During Pregnancy	4.6[c]	(2.6)	4.2	(2.6)	-0.9	(3.7)	-1.5	(3.6)	9.7[a]	(3.7)	11.0[a]	(3.7)
No Prenatal Care First 3 Months of Pregnancy	-0.6	(0.1)	0.2	(2.5)	3.7	(3.6)	4.8	(3.6)	-5.2	(3.6)	-4.7	(3.6)
Infant Birth Weight (Ounces)	0.11[b]	(0.05)	0.11[b]	(0.05)	0.13[c]	(0.07)	0.13[c]	(0.07)	0.10	(0.08)	0.08	(0.08)
Urban Residence During Pregnancy	-0.1	(2.2)	-1.1	(2.2)	-1.3	(3.2)	-0.7	(3.2)	0.1	(3.1)	-1.1	(3.1)
Attended Church at Least Monthly, 1979	1.8	(2.0)	1.1	(2.0)	2.2	(2.8)	1.4	(2.9)	1.9	(2.9)	1.6	(2.9)
Child is Male	-9.3[a]	(2.0)	-9.3[a]	(1.9)	--	--	--	--	--	--	--	--
OTHER FACTORS												
% of Weeks Worked Birth-1988			0.2	(4.9)			-12.8[c]	(6.9)			18.7[a]	(7.0)
Average Post-birth Family Income N.A.			2.7	(6.4)			0.5	(9.4)			2.3	(8.7)
Average Post-birth Family Income < 10,000 (1988 dollars)			-9.9[a]	(3.9)			-7.3	(5.3)			-12.1[b]	(5.6)
Average Post-birth Family Income $10-19,999 (1988 dollars)			-4.0	(2.4)			-1.7	(3.3)			-5.6	(3.6)

TABLE A6.5 (cont'd).

Determinants of PIAT Reading Comprehension Percentile Scores by Gender With and Without Maternal and Other Controls: White Children

(Ordinary Least Square Estimates)

	Total		Male		Female	
	Maternal Controls	All Controls	Maternal Controls	All Controls	Maternal Controls	All Controls
OTHER FACTORS (cont'd)						
HI Occup. Status Post-birth (Census 3D.1-395)		9.8[a] (2.7)		11.9[a] (3.8)		8.9[b] (3.9)
LO Occup. Status Post-birth (Census 3D.400-984)		5.5[b] (2.8)		2.9 (4.1)		7.6[b] (3.8)
% of Years Enrolled in School, Birth-1988		4.3 (10.3)		20.8 (15.5)		-11.0 (13.8)
% of Years with Health Problem, Birth-1988		-10.7[c] (6.5)		-11.7 (10.0)		-13.5 (8.7)
% of Years Grandparent in Home, Birth-1988		-2.0 (5.6)		-6.6 (8.0)		1.6 (7.9)
# of First 3 Years of Life with Non-Paternal Care		-1.3 (1.1)		-0.7 (1.5)		-3.0[c] (1.6)
Had Younger Sibling		-8.1[a] (2.3)		-11.7[a] (3.2)		-1.3 (3.4)
Father Absent 1988	-1.4 (2.2)	-0.6 (2.4)	-3.5 (3.1)	-3.0 (3.3)	0.9 (3.0)	3.3 (3.4)
Intercept	63.6[a] (7.5)	73.4[a] (8.2)	47.4[a] (10.8)	63.0[a] (11.8)	70.6[a] (10.5)	73.3[a] (11.5)
R^2 Adjusted	.206[a]	.229[a]	.181[a]	.208[a]	.235[a]	.267[a]
F Ratio	18.0	13.1	9.1	6.8	11.1	8.3
Sample Size	1177	1177	617	617	560	560

NOTE: (1) Standard Error in Parentheses. a = significant at P < .01; b = significant at P < .05; c = significant at P < .10.
(2) See Table 5.4 for other notes.

TABLE A6.6

Determinants of PIAT Reading Comprehension Percentile Scores by Gender With and Without Maternal and Other Controls: Black Children

(Ordinary Least Square Estimates)

	Total				Male				Female			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
MATERNAL/PREBIRTH FACTORS												
High School Dropout	-0.7	(5.3)	1.0	(5.5)	-9.6	(7.7)	-8.3	(8.0)	6.2	(7.5)	11.1	(8.0)
12 Years of School	-2.9	(4.5)	-2.6	(4.6)	-11.4°	(6.8)	-10.2	(7.1)	4.2	(6.2)	5.8	(6.5)
Worked 40 or More Weeks Pre-birth	10.0[b]	(4.2)	5.1	(4.9)	7.4	(6.1)	1.7	(7.6)	12.4[b]	(6.1)	7.7	(6.8)
Worked 20-39 Weeks Pre-birth	-0.6	(4.4)	-3.0	(4.6)	-1.2	(6.1)	-4.5	(6.4)	-1.1	(6.6)	-3.1	(7.1)
Worked 1-19 Weeks Pre-birth	0.3	(4.0)	-1.8	(4.2)	4.0	(5.7)	1.1	(6.1)	-2.9	(5.8)	-5.4	(6.0)
Had Older Sibling	-4.4	(3.1)	-4.8	(3.2)	-7.1	(4.4)	-7.5°	(4.5)	-1.9	(4.6)	-3.3	(4.9)
Mother Had Below Average AFQT Score	-7.7[b]	(3.4)	-6.2°	(3.7)	-3.5	(4.8)	-1.7	(5.3)	-12.2[b]	(5.0)	-9.3°	(5.5)
Child 5-6 and Mom Under 20 at Birth	-22.8[a]	(5.2)	-22.5[a]	(5.3)	-27.8[a]	(7.1)	-26.9[a]	(7.5)	-16.1[b]	(7.8)	-13.5	(8.2)
Child 5-6 and Mom 20 and Over at Birth	-12.8[a]	(3.6)	-12.3[a]	(3.7)	-15.7[a]	(5.2)	-16.3[a]	(5.3)	-10.2[b]	(5.1)	-7.9	(5.4)
Child 7-8 and Mom Under 20 at Birth	-3.3	(4.4)	-3.4	(4.6)	-2.6	(6.1)	-3.8	(6.5)	-3.7	(6.7)	-3.3	(7.0)
Mother Smoked During Pregnancy	-6.1°	(3.2)	-5.8°	(3.2)	-4.7	(4.5)	-5.1	(4.6)	-6.5	(4.7)	-5.0	(4.8)
Mother Drank at Least Monthly During Pregnancy	-2.4	(3.4)	-2.4	(3.9)	-6.0	(5.4)	-6.3	(5.5)	0.4	(5.7)	0.9	(5.9)
No Prenatal Care First 3 Months of Pregnancy	3.8	(3.4)	3.1	(3.4)	3.2	(4.5)	2.6	(4.6)	4.2	(5.2)	3.0	(3.5)
Infant Birth Weight (Ounces)	0.05	(0.07)	0.04	(0.07)	0.07	(0.09)	0.04	(0.10)	0.01	(0.11)	-0.01	(0.12)
Urban Residence During Pregnancy	1.6	(3.8)	1.5	(3.8)	4.4	(5.2)	3.8	(5.4)	-0.9	(5.5)	-0.5	(5.7)
Attended Church at Least Monthly, 1979	4.1	(3.1)	3.6	(3.2)	3.5	(4.4)	3.6	(4.7)	3.9	(4.5)	2.8	(4.6)
Child is Male	-10.7[a]	(2.9)	-10.9[a]	(2.9)	--	--	--	--	--	--	--	--
OTHER FACTORS												
% of Weeks Worked Birth-1988			-1.2	(7.6)			-3.6	(11.2)			0.7	(11.3)
Average Post-birth Family Income N.A.			-7.6	(6.6)			-8.1	(9.0)			-5.2	(10.5)
Average Post-birth Family Income < 10,000 (1988 dollars)			-5.1	(4.9)			-3.1	(7.5)			-9.7	(7.1)
Average Post-birth Family Income $10-19,999 (1988 dollars)			-2.4	(4.0)			-3.3	(6.0)			-1.5	(5.8)

TABLE A6.6 (cont'd).

Determinants of PIAT Reading Comprehension Percentile Scores by Gender With and Without Maternal and Other Controls: Black Children

(Ordinary Least Square Estimates)

	Total				Male				Female			
	Maternal Controls		All Controls		Maternal Controls		All Controls		Maternal Controls		All Controls	
OTHER FACTORS (cont'd)												
HI Occup. Status Post-birth (Census 3D.1-395)			6.8	(5.0)			5.1	(7.7)			10.0	(6.9)
LO Occup. Status Post-birth (Census 3D.400-984)			7.1[c]	(4.2)			6.3	(6.3)			9.3	(6.3)
% of Years Enrolled in School, Birth-1988			-0.2	(10.7)			-11.0	(14.6)			18.2	(16.7)
% of Years with Health Problem, Birth-1988			-2.7	(8.7)			-6.1	(13.4)			-3.0	(12.2)
% of Years Grandparent in Home, Birth-1988			-4.1	(5.0)			-1.7	(6.9)			-10.0	(7.9)
# of First 3 Years of Life with Non-Paternal Care			0.8	(1.5)			2.3	(2.1)			-0.8	(2.4)
Had Younger Sibling			2.3	(3.1)			7.4[c]	(4.4)			-3.2	(4.7)
Father Absent 1988	-2.6	(3.2)	-0.5	(3.7)	-1.5	(4.6)	-0.9	(5.4)	-4.2	(4.7)	-1.4	(5.4)
Intercept	47.6[a]	(10.9)	50.1[a]	(13.0)	40.4[a]	(14.7)	41.6[b]	(18.5)	48.1[a]	(16.7)	52.3[a]	(19.9)
R^2 Adjusted	.100[a]		.095[a]		.093[a]		.080[a]		.052[b]		.046[c]	
F Ratio	4.3		2.9		2.6		1.8		1.9		1.5	
Sample Size	537		537		256		256		281		281	

NOTE: (1) Standard Error in Parentheses. a = significant at P < .01; b = significant at P < .05; c = significant at P < .10.
(2) See Table 5.4 for other notes.

TABLE A6.7

Father Absent Coefficients With and Without Behavior Problems Scores by Race and Gender

(Ordinary Least Square Coefficients)

	PIAT Mathematics			PIAT Reading Recognition			PIAT Reading Comprehension		
	All Controls Except B.P.	All Controls + Overall B.P.	All Controls + Subscores	All Controls Except B.P.	All Controls + Overall B.P.	All Controls + Subscores	All Control Except B.P.	All Controls + Overall B.P.	All Controls +Subscores
WHITE									
White Boy	-1.64	-1.30	-1.25	-1.22	-0.72	-0.36	-1.96	-1.52	-1.54
White Girl	1.52	1.62	1.21	4.36	4.51	4.28	1.70	1.83	2.00
BLACK									
Black Boy	1.37	1.33	2.24	2.66	2.60	3.16	1.18	1.13	1.90
Black Girl	-1.87	-2.28	-2.27	-2.71	-3.32	-3.34	-3.09	-3.62	-3.12

NOTE: Coefficients are father absence coefficents in equations which include all explanatory variables but varying configuration of behavior problem scores.

TABLE A6.8

Interactions Between Behavior Problems and Father Presence/Absence: Effects on Child Cognition for White Children

(Ordinary Least Square Coefficients)

	BOYS						GIRLS					
	PIAT Reading Recognition		PIAT Reading Comprehension		PIAT Mathematics		PIAT Reading Recognition		PIAT Reading Comprehension		PIAT Mathematics	
WHITE												
Father Absent High Behavior Problems vrs. Father Absent Low Behavior Problems	-12.2[a]	(3.8)	-8.6[c]	(5.0)	-7.7[b]	(3.6)	-1.8	(3.5)	-9.6[b]	(4.7)	-8.5[a]	(3.3)
Father Absent High Behavior Problem vrs. Father Present High Behavior Problems	-2.4	(3.2)	-6.3	(4.2)	-2.5	(3.0)	5.1	(3.3)	-0.2	(4.3)	2.3	(3.1)
Father Absent High Behavior Problems vrs. Father Present Low Behavior Problems	-8.9[a]	(3.4)	-6.9	(4.4)	-5.8[c]	(3.2)	0.6	(3.3)	-1.8	(4.4)	-6.0[c]	(3.1)
Father Absent Low Behavior Problems vrs. Father Present Low Behavior Problems	3.3	(3.7)	1.7	(4.8)	1.9	(3.5)	2.4	(3.5)	7.8[c]	(4.6)	2.5	(3.3)
Father Present High Behavior Problems vrs. Father Present Low Behavior Problems	-6.5[a]	(2.6)	-0.6	(3.3)	-3.2	(2.4)	-4.6[c]	(2.7)	-1.6	(3.6)	-8.2[a]	(2.5)

NOTE: (1) Coefficients are from separate race-gender equations including all the maternal and "other" variables. Standard error in parentheses.
(2) a = coefficient significant at P < .01; b = coefficient significant at P < .05; c = coefficient significant at P < .10.
(3) High Behavior Problems (i.e., "poor" behavior) is a percentile score of 66 or greater; low Behavior Problems (i.e., "better" behavior) is a percentile score less than 66 (the mean for the overall sample).

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