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SEVEN

*Developmental Roots of Adult Social Responsibility*

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[L]ife must be understood backward. But . . . it must be lived forward.

*Søren Kierkegaard*

INTRODUCTION

In our overview of the social demographics of social responsibility in chapter 3, we note numerous differences across domains and dimensions as to which demographic variables—age, sex, education—are predictors of social responsibility. For example, women and lesser-educated adults take the lead in providing social-emotional support or advice and hands-on caregiving to others, whereas men and the better educated are the major providers of financial contributions to family members and community organizations and causes. We also show that religious beliefs and generativity contribute to high levels on all our indicators of adult social responsibility, and we hypothesize that both religious beliefs and generativity are rooted in early life experiences. To test this hypothesis, we now probe more deeply and explicitly into the characteristics of families of origin and trace their effects on the personalities and values of the respondents, and on the extent to which respondents show varying levels of social responsibility in adulthood in the domains of family and community.

Before we can begin a discussion of our findings, we must address two key issues. The first is theoretical and concerns the rationale underlying a developmental trajectory model of adult social responsibility, which in turn hinges on two questions: first, what characteristics of early family life are most critical in paving the way for children to grow into responsible adults; and second, what is the most probable developmental sequence that intervenes between early family characteristics and our outcome measures of adult responsibility. The second issue is methodological and concerns our necessary reliance on retrospective data.

THE DEVELOPMENTAL TRAJECTORY MODEL  
Family of Origin Characteristics

Human development does not begin *de novo* with an individual's birth; it is well underway even before conception, in the genes, personality, and values parents bring to their marriages, which set the stage for their childbearing and childrearing styles. A parent experiencing a first birth is no more a *tabula rasa* than an infant is. For most adults, educational attainment, personality, and values are in place prior to marriage and typically play a role in mate selection itself. This is illustrated by the significant correlation between characteristics of mothers and fathers of our respondents: .57 in educational attainment, .38 in the personal qualities of generosity and sociability. The latter ratings, based on how "generous and helpful" and how "friendly and sociable" each parent was toward people *outside the family*, are deemed to be of special significance as predictors of personality and generativity among our respondents. We assume these generative qualities are characteristics the parents had prior to their marriage, tapping as they do relatively stable personality traits that are in place by early adulthood and that change only modestly at later stages of the life course.

The second cluster of family of origin characteristics we identify taps the two major axes of all childrearing, the degree to which each parent showed *affection* and imposed *discipline* when the respondents were growing up. (All questions were posed in such a way as to refer to the man or woman who raised the respondent, whether a biological parent or someone else, e.g., a stepparent or grandparent). The significance of parental affection for the healthy development of the child is attested to by countless novels and biographies, child developmental psychology, and clinical practice. Concern for others springs from the seedbed of family affection laid down during the years of dependency in infancy and childhood. We are literally *loved into loving*. Also, the intense attachment parents have to children is deeply rooted in human nature: like other mammalian species, we are innately social animals, necessarily so because we are totally dependent on parental care and supervision for years after birth before we can survive by our own resources. Hence, human sociality is itself grounded in the intense attachment between parent and child (unless the parent is impaired, by addiction, a crippling disease, or psychopathology, for example).

Theories concerning interpersonal attachments have varied over the past century, of course: Freud rooted human sociality and the need for

interpersonal contact in the sex drive and the relationship to the mother (Freud 1930); Bowlby's attachment theory followed in Freud's footsteps, labeling adults' quests for attachment as efforts to recapture the intimate contact they had as infants with their mothers (Bowlby 1969, 1973). In more recent years, psychologists have drawn upon animal research and genetics and are more accepting of the view that humans, like other mammals, are genetically predisposed not only to bond with their infants, but to have a *need to belong* throughout life, to seek persistent caring and frequent social interaction (Baumeister and Leary 1995). It is striking to note, in fact, how thoroughly saturated with sociality at least three of the big five personality scales are. All the items that go into scales on agreeableness and extroversion have implicit reference to social relationships: outgoing, friendly, talkative, sympathetic, helpful, caring. Agency also assumes social interaction: outspoken, dominant, forceful, does not refer to inanimate objects but to interaction with other people. It follows that sociality as a species characteristic is an innate predisposition shown in the intense attachments parents show toward their infants and the immediate attachment of newborns to their parents. This in turn leads to an expectation that any empirical measure we devise for the affection component of childrearing will be highly skewed in a positive direction, an expectation borne out in our findings.

But affection, though critical to healthy development, is not sufficient. Parents are also charged with socializing their children in the ways of their society, with encouraging the acquisition of skills and values necessary for adequate functioning in adult social life. The most significant contribution to a child's success in school is the head start provided by early parental training. If affection is critical for the acquisition of *character*, discipline is critical to the acquisition of *competence* (see, e.g., Damon 1995). Loving oneself in the absence of disciplined self-control can lead to narcissism and self-indulgence, hardly a prescription for socially responsible behavior. Researchers have argued that parents' and teachers' overemphasis on children's self-esteem and underemphasis on discipline and skill acquisition can lead children to underperform academically, to wrongfully blame others, and if extended to the extreme of grandiose narcissism, to respond with aggression when confronted with criticism or when denied wishes (Bushman and Baumeister 1998; Damon 1995).

Researchers less often recognize that emphasizing a child's self-esteem rather than his or her skill acquisition and performance is a

convenient parental cop-out: giving in to a child's wishes rather than investing the time and energy necessary to teach skills and to insist on consistent adherence to rules spares the parent both time and irritation. A good example of this is Alan Wolfe's finding that the middle-class parents he interviewed complained a great deal about the time their children spent watching TV and about sex and violence being so prominent on the screen (Wolfe 1998). Wolfe's informants wanted buttons or computer chips to control the channels and programs their children could watch; in other words, they favored censorship above taking responsibility for supervising the amount of time and the kinds of programs their children watch.

As suggested by this example, the content of parental discipline reflects societal and cultural norms about childrearing far more than parental affection does. Expert advice on childrearing has varied enormously over the course of the twentieth century. Behaviorists have recommended everything from strictly regulated infant feeding (e.g., Skinner 1953; Watson 1930) to permissive feeding on infant demand (e.g., Spock's numerous baby and childcare books), from insistence on obedience and conformity to permissive indulgence and encouragement of self-reliance and independence (Alwin 1990, 1996), from giving praise only for hard-earned skills to lavishing praise for mediocre performance. *Loving* a child may be enhanced by innate predispositions for attraction to and attachment to human infants; *disciplining* a child is less dependent on innate predisposition, instead reflecting childrearing norms and practices, which vary across historic time, class, and culture. Hence, a discipline scale should show a lack of consensus that produces not a skewed distribution but a more normal one, with greater variation than an affection scale has.

The third and last cluster of family of origin characteristics we identify takes into account family structure and the family economic situations and health issues that impact on children and adolescents. We give special attention to family composition, of particular importance because of the fragility of marriages in the latter half of the twentieth century. The MIDUS sample includes respondents who were reared by their mothers alone, others who were reared by a stepparent and a biological parent, and a small group of respondents who were reared by adults other than even one biological parent, presumably grandparents. In addition, we give special attention to respondents' family sizes and birth-order positions, both of which have relevance to the quality of relations with parents, the level of affection and discipline experienced in

youth, and potentially, status attainment in adulthood. Measures of the socioeconomic status of the family of origin include the educational attainment of each parent, whether the family was ever on welfare (for six months or more), and the family's relative financial situation compared to an "average" family at the time. Last, we have ratings of parents' health when respondents were about sixteen years of age, which have potential relevance to both the quality of relationships between family members and the family's socioeconomic status.

#### Sequential Ordering of Respondent Characteristics in the Developmental Model

In his account of the history of European morals, William Lecky ([1886] 1955) describes the broad sweep of what Europeans understood by "moral unity" from the time of Augustine through Charlemagne's reign in terms of a circle of affections expanding outward from the confines of the family to encompass clan and class, then a nation, then a coalition of nations, then the whole of humanity, and finally (though not yet manifest in the 1880s when Lecky was writing), to humankind's relationship with the animal world. By the 1990s, one might easily have added our species' place in the biosphere to Lecky's account of moral concerns in Western history, as indexed by the environmental protection movement. Peter Singer, an Australian-born moral philosopher, built on Lecky's metaphor in entitling his own book *The Expanding Circle* (Singer 1981). In this book Singer deals with the implications of sociobiology for philosophers' treatment of ethics and morality. He argues that sociality and altruism are not unique to humans but shared with others in the mammalian species going far back in evolutionary time. Through the exercise of human intelligence, however, humans have gradually expanded their circle of ethical concern beyond individual selves and close kin to include fellow creatures in distant lands.

The metaphor of an expanding circle is also an apt description of human development and provides the underpinning for ordering the factors brought into play when young adults move out from their families of origin and establish independent lives. A preschool child necessarily lives within a small circle of intimates—parents, siblings, other kin, neighborhood playmates; the circle expands when the child enters school to include congenial friendships and relationships with a sequence of teachers and friends' parents. In early adulthood, job experiences, courtship, marriage, travel, and social mobility further widen the

circle. With the birth of children, the circle may narrow for many, as the demands of early childcare and the economic pressures to increase income take hold. For many other young adults, however, becoming a parent opens the way to increased societal concern: even social isolates become involved with their neighbors as their children acquire neighborhood playmates; still other parents become involved with school and safety issues as their children move out and away from the protected world of family and immediate neighborhood. John Snarey and Peter Clark give a moving description of this increase in societal generativity in a case study of a father and son as the son entered puberty and early adolescence (Snarey and Clark 1998). By middle age, as family responsibilities lessen and incomes become higher and more stable, many midlifers seek opportunities to contribute to others through volunteer work and financial contributions to political causes and charities.

There is of course an idealistic vision in such a depiction. Many adults never move beyond the smaller circles of close family and friends; others remain compulsively dedicated to their personal search for wealth, power, or fame with little concern for the common good; still others are emotionally or physically incapacitated such that their horizons extend no further than their own selves.

As reviewed in chapter 1, numerous social trends have been cited to explain what is widely perceived as a decline in civility and civic virtue in American society. Prominent trends often pointed to as being responsible for such decline are the sexual revolution and the changes in gender roles stimulated by the feminist movement. Both trends have instigated changes in family life: sexual promiscuity before and during marriage, declining marriage rates, high divorce rates, births outside marriage, and parental failure to provide adequate supervision and training of children under the misguided notion that permissiveness will encourage self-reliance. Most of the essays in Mary Ann Glendon and David Blankenhorn's book, *Seedbeds of Virtue* (1995), are prominent examples of this interpretive argument. The authors consider the family to be *the* most important seedbed for the development of competence, character, and citizenship in American society (cf. especially Browning 1995 and Wilson 1995). Our measures on family of origin composition and childrearing styles provide an opportunity to test several of their assumptions. The analysis begins with what we know about our respondents' parents: their educational attainment; their level of helpfulness to and sociability with other people outside the family;

whether they are biological parents, stepparents, or some other adults; and their financial status, including whether or not the family was ever on welfare for six months or more while respondents were growing up. We relate these structural and qualitative characteristics of families of origin to the affection and discipline shown in the parents' childrearing practices as experienced and remembered by our respondents, as well as to the respondents' own educational attainment and marital and procreative history.

Along the way we also analyze parental and early family characteristics as they relate to respondents' personality traits. Because the youngest respondents in our sample are twenty-five years of age, it is not feasible to explore earlier individual psychological characteristics such as temperament, but we recognize that from an ontogenetic perspective, temperament can be considered the first "inter-individual difference indicator of personality, making individuals distinct even in the womb" (Baltes, Lindenberger, and Staudinger 1998, 1086). There is some consensus among child psychologists that activity, reactivity, emotionality, and sociability are among the major components of temperament (see Strelau and Angleitner 1991 and an overview summary in Baltes, Lindenberger, and Staudinger 1998, 1086-87), and there are echoes of these traits in several of the standard personality scales. A good example of the continuity of childhood temperament into adulthood is the finding reported by Caspi, Elder, and Bem (1987) from the Berkeley Growth and Oakland Guidance Studies that ill-tempered boys become ill-tempered men. Other researchers suggest there is a "heterotypic continuity" between childhood temperament and later phenotypically different but related personality traits, for example, the shy little girl turned introverted adult, or the highly impulsive, sensation-seeking child who as an adult scores very low on the conscientiousness scale (Zuckerman 1994).

Thus a child's early temperament characteristics may be transformed into personality traits by early adulthood and remain relatively stable at least through early old age. Studies of the very old (adults over eighty years of age) suggest some onset of age-related personality changes (Baltes, Lindenberger, and Staudinger 1998, 1088), but this need not concern us because our oldest respondents are seventy-four years of age.

Of the numerous components of personality, personality traits were deemed to be most appropriate for the purposes of our analysis. In the design of MIDUS, we measured six personality traits, adapted from

standard scales (Bem 1981; Goldberg 1993; John 1990; Trapnell and Wiggins 1990): agency, agreeableness (or, as we shall refer to this scale, communion), extroversion, conscientiousness, openness to experience, and neuroticism. We chose these scales first because they are easily incorporated into a self-administered instrument, and second, because a long tradition of longitudinal research on these particular personality scales has shown high stability coefficients. Across some two dozen studies with measurement intervals from six to thirty years, Costa and McCrae (1994) estimate that *three-fifths* of the variance in true scores for these personality traits is stable across the full life course from thirty to eighty years of age (see Baltes, Lindenberger, and Staudinger 1998, 1096, for a good summary table on such results). While this finding of three-fifths stability is impressive, the residual of two-fifths allows considerable room for change over time for a significant proportion of adults.

In light of the subtle connection between early childhood temperament and relatively stable adult personality traits, it is appropriate to place personality traits *first* in the sequential order of variables that intervene between early family and subsequent adult development. A second reason for such placement is that behavioral genetic research has found that almost all of these personality traits have a large component of heritability, in a range from 40 to 60% (Scarr 1992, 3), only slightly smaller than the genetic component in intelligence. As shown below, our MIDUS data on twins are consistent with data from other twin samples. Awareness of the genetic component in personality also alerts us to the limitations of demonstrating the effects of parental childrearing style on our respondents. We have no direct behavioral measures of genetic characteristics, but we must keep in mind that genetics, along with socialization practices, will be involved in any cross-generational transmission effects we report.

In our analysis of the contribution of personality traits to adult social responsibility, we concentrate primarily on two of the aforementioned scales: agency and communion, two traits considered of primary significance as predictors of generativity in the work of Dan McAdams and his research associates, most recently in the lead chapter of an American Psychological Association publication on generativity (McAdams, Hart, and Maruna 1998). The traits tapped by the communion scale (e.g., helpful, warm, caring, sympathetic) are clearly linked to personal predispositions to empathic identification with and concern for others, which are critical to responsible behavior in both private and

public life. The traits included in the agency scale (e.g., forceful, assertive, outspoken) provide a measure of predispositions to *action* on behalf of others' welfare as well as one's own. Theoretically, high scores on the communion personality scale should result from earlier exposure to high parental affection, and high scores on the agency scale should result from early exposure to high levels of parental discipline. Alternatively, it may take the combination of both high affection and high discipline (a childrearing style often labeled Authoritative) to produce high adult levels of communion and agency. In the analysis below, we first explore the contribution of family composition and parental affection and discipline as *precursors* to respondents' personality profiles, and later in the analysis sequence, the *sequelae* of personality traits as contributors to generative concern and socially responsible behavior in adulthood. As McAdams and de St. Aubin note in the epilogue to their edited volume on generativity, only one of their fourteen chapters gives attention to the developmental *antecedents* of generativity (McAdams and de St. Aubin 1998, 488). Though they caution that only longitudinal studies can tease out what early factors predict generativity in adulthood, the prospects strike us as very dim that any such longitudinal study is likely to occur within the foreseeable future. Despite the limitations of reliance on retrospective accounts, we hope to provide depth to the understanding of the predictors for and the role of generativity in adult lives.

We placed religious beliefs in a position similar to that of generativity in the sequential ordering of our developmental analysis: as shown in chapter 3, the salience of religion in the early years in families of origin is significantly related to the level of religiosity in adulthood. Such cross-generational transmission of values is supplemented by linear increases in religiosity over the course of the adult years, which we take to reflect maturational effects as adults cope with their own mortality and seek larger, transcendent meanings for their lives.

Thus far we have specified the following sequence of our proposed developmental trajectory: from the qualities and characteristics parents had prior to the births of our respondents (education, generative characteristics, religious beliefs), to the events and characteristics affecting respondents while they were growing up (family composition and size, childrearing style of parents, parental physical and mental health, and economic resources), to the personality traits of respondents by early adulthood (especially agency, communion, and conscientiousness), to their adult beliefs and concerns (religiosity, generativity). The "out-

come" end of our developmental sequence consists of variables measuring normative obligations and actual behavioral indicators of social responsibility, that is, the domains and dimensions of social responsibility analyzed in chapter 3. We give priority in the sequential ordering of these outcome measures to *normative obligations* for three reasons: First, social norms, like ethical precepts, are grounded in early socialization, hence family of origin characteristics are highly likely to be more strongly related to adult normative obligations than to actual adult behaviors such as providing advice or support to others or engaging in volunteer service in the community. Second, caregiving and financial aid to family members not only reflect willingness to be of help, but also depend on existential and changing life situations: the time and financial circumstances of donors as well as the needs of recipients for such help.

Third, consistent with our developmental assumptions about the expanding circle, we have found in earlier research that there is a systematic ordering of obligations to a wide array of others in the private sphere of family, kin, friends, and neighbors (Rossi and Rossi 1990). On a rating scale from least to highest felt obligation (0 to 10) we found that obligation to parents and children rank at the top of the obligation hierarchy, followed in descending order by obligations to siblings, grandchildren, grandparents, nieces and nephews, aunts and uncles, and cousins. Greater obligations are felt to descendant kin (e.g., a niece, a grandchild) than to ascendant kin (e.g., an aunt, a grandmother). At each generational level, lower obligations are felt toward affinal kin (e.g., son-in-law, mother-in-law) than to blood kin (e.g., son, mother), in much the same way as obligations are typically stronger to a biological parent than to a stepparent. Obligations toward friends tend to be at a level similar to that toward nieces and nephews or aunts and uncles; obligations to close neighbors are at a level similar to those felt toward cousins (Rossi and Rossi 1990, 175).

Interestingly, where family and kin are concerned, the obligation hierarchy matches perfectly the ranking in degrees of genetic relatedness, although few of us could explicate the reasons for differentiating obligation level to, for example, a sister compared to an aunt. In more ways than illustrated briefly here, we found a beautiful symmetry to kinship norms, yet no one learns genealogy in school, and parents do not consciously teach their youngsters the rules of kinship or exactly how Aunt Sue (mother's sister) is related to them as compared to Aunt Alice (mother's brother's wife). Like the acquisition of language long before

the rules of grammar are understood (if they ever are!), the rules of kinship may be intuited in our youth through countless discrete instances of observation and experiences of interaction with family members of varying degrees of relatedness to us and our parents. There are no doubt deeper affective vibrations that young children pick up from their parents' interactions with various kin, and from the widening circle of relatives they become acquainted with, that contribute to the symmetry of obligations. Here too, the concept of the expanding circle holds, this time within the sphere of family and kinship. It is sad to note that for young children in recent years, barriers to such an expanding circle have been so often imposed through fear-driven parental warnings to be cautious about "strangers," including adults encountered in the proximate arena of the neighborhood, a childcare center, or a school playground. Indeed, we believe this parent- and educator-encouraged barrier to forming relationships beyond the intimate circle of family and friends represents a significant new hurdle to the expanding circle of relationships that are important to human development and concern for the common good.

The very last step in the sequential order of our developmental trajectory is the relationship between time and aid given to family versus community organizations or causes. Just as the early family is a seedbed in which values and personality are formed or directed, so too it is the environment where children learn that obligations to family have priority over obligations to serve the public good as citizen, volunteer worker, or contributor to a charitable organization. Here too the expanding circle metaphor is relevant. Higher educational attainment, especially, broadens horizons and encourages responsible citizenship. However, the pressures of job, home maintenance, and childrearing may be so great that participation in the larger community is necessarily curbed during the early adult years and becomes feasible only in the middle years as family responsibilities diminish and incomes become higher and more stable, hence the prediction that for most adults, civic obligations and service in the larger community increase in the later decades of life.

This completes the descriptions of and the explanations underlying the sequential order of the variables we enter into a developmental trajectory model that extends from early childhood to the mature years of our oldest respondents. While we considered it necessary to plan such a sequential trajectory for analysis purposes, we do not imply any one-way causal direction. Human development is a complex process, with

many possibilities for two-way interactions. For example, childrearing patterns themselves are no simple reflection of parental characteristics; they may be, as well, responses to the characteristics of one child compared to another. A calm healthy baby is easier to comfort than an irritable colicky baby, a compliant adolescent far easier to deal with than an adolescent engaging in socially deviant activities, and parents' rearing tactics may accommodate to such differences in the children. We necessarily focus on broad developmental patterns that disallow such subtle variations.

It should also be noted that the sequence in development we have posited to this point does not imply any mechanistic or unidimensional conception of human development. Contemporary theories of human development have moved a considerable distance from earlier theories in several important respects. The old polarities of nature-nurture, biology-culture, or individual-society have been replaced by a more dynamic systems approach that seeks to understand the interaction and mutual influences between such polarities: for example, how genes and environment constrain and influence each other, with constraints and influences that are flexible, not absolute. Genetic activity does not itself produce finished traits (Gottlieb 1991), but depends on societal and historic influences well above the cellular level. For example, while it is true that a girl's age at menarche is partially dependent on the genes she shares with her mother, it is also the case that menarcheal age has varied over historic time by social class and race as a function of progressive improvements in nutrition and health. In Western societies there has been an average decrease in menarcheal age of about four months per decade from 1840 to 1950 (Tanner 1962). In Japan over the years from World War II to 1975, an even more spectacular change has occurred, not four but eleven months per decade (Marshall and Tanner 1986), reflecting the rapid rate of improvement in nutrition and health in postwar Japan. As Richard Lerner puts it, "biological structure and function and societal structure and function are linked systematically across history" (Lerner 1998, 11). For psychologists, this perspective supports their current emphasis on a high degree of *plasticity* as a major characteristic of human development. For sociologists and social psychologists, the more complex models of human development also allow for much greater leeway for individual decision making and purposive action. Jochen Brandtstädter puts this point well: "Individuals choose and create their environments according to preferences and competencies that, as phenotypic dispositions, are linked to genotypic

factors. . . . [T]hrough their actions, individuals form, and continually transform, their phenotype and extend it into their personal culture and developmental history" (Brandtstädter 1998, 810).

The new emphasis on the dynamic interaction between individuals and their social context within the historic time and place in which they live out their lives encourages the recognition that attention must be paid, and if possible incorporated into research designs, to the multilevel integrations involved in human development. Multilevel integration implies attention to the physical and psychological self (person), the social context in which individuals are embedded (family, workplace, and friendship networks), and the larger world of community and society at a given time in history. Few of us could point to very many studies that achieve so full a multilevel integration. Ideally it would call for longitudinal studies conducted with representative samples that capture the diversity of class, race, and ethnicity of at least two, preferably more, purposely selected societies with different cultures and replicated in different historic eras. Clearly there is little prospect of mounting so complex, longterm, and costly a research program, and we are necessarily limited to achieving only approximations to such an ideal. The three greatest achievements the behavioral sciences can claim to date are (1) representative large samples drawn from two or more different societies to permit macrolevel comparisons of the influence of culture on human behavior, (2) short spans of time in multiwave panel studies to permit microlevel analyses that can control for causal directions, and (3) sequential cohort studies to permit teasing out historic, period, and maturational effects in the phenomena under study.

From the perspective of the ideal, the MIDUS studies fall short in numerous respects and are outstanding in others. We attempted a multilevel set of variables, including measures of physical and mental health, psychological well-being, detailed social demographics, and key measures on work, marriage, kin relations, social networks, personality, ratings on six life domains, a special module on menstruation and menopause for the women in the sample, to say nothing of the dimensions and domains of social responsibility that are the focus of this volume. We even obtained mouth swabs from hundreds of respondents for DNA testing, which may be linked to health, social, and psychological variables in the MIDUS instrument by researchers in the future. We relied on a large representative national sample of the population and have numerous spin-off studies that go into considerable detail on any number of topics, many of them represented in various chapters in this

volume. In one special recruitment effort, we gained access to a large sample of twins who were then subjected to the full battery of telephone and self-administered instruments. In this chapter, we shall incorporate some data from this twin sample in an analysis of the heritability component of personality traits. We more sparingly included a module on the family of origin in the design of MIDUS for the analysis reported in this chapter.

What we do not have are longitudinal follow-up data or an empirical way to test for cross-national differences or to change analyses reflecting the influence of historic events, although the potential is there for researchers to build on our efforts through replication in other societal settings or with follow-up studies of MIDUS respondents that could potentially span significant historic events that intervene between 1995 and other studies early in the twenty-first century.

One last point on the sequential ordering we imposed on the analysis reported in this chapter: faced with cross-sectional data, one must necessarily follow some rationale for an analysis that aims to contribute to an understanding of human development. It was our best judgment that it was better to rely on retrospective data on the families of origin for the light they could shed on the adults we studied than to merely provide a static picture of them at the specific time in their lives at which they shared so much about themselves. In the following section, we give some focused attention to the retrospective nature of many of the variables used in our analysis.

#### RELIANCE ON RETROSPECTIVE DATA: METHODOLOGICAL AND ANALYTICAL ISSUES

The perceived relevance of early life for understanding current behavior and affect differs across the social science disciplines and the professions of medicine and psychiatry. It seems likely that no field has been more concerned for understanding early life than psychiatry, dominated as it has long been by the search for clues to mental illness in the conditions of the early home environment. Psychologists have also based many of their theories on the assumption that "what was past is prologue" (Henry et al. 1995, 92) and accordingly have sought data about the prior stages of life of the children or adults they have studied. By contrast, for most of its early history sociological theory was based on an assumption that one only needed social facts to explain social facts in a concurrent time frame, a position congenial to a newly emerging field trying to carve out its own special place at the turn of

the century in the academic firmament without infringing on other disciplines. In more recent decades, as sociologists became concerned with the policy implications of their research, a new factor has been at work in the avoidance of retrospective data on early life experiences: to the extent such early factors are found to be significant explanations of current behavior, any "quick fix" short-term policy recommendations would have a small probability of success, hence the preference for viewing human action as purposive and volitional and therefore more appealing to funding agencies and more amenable to policy recommendations that assume rapid changes in behavior are possible.

Developmental psychology has a long history of theory-driven concern for establishing links among variables across time. Child development research in the past often relied on mothers' recall about early stages of their children's development and their parenting practices. One example is Sears, Maccoby, and Levin's study of childrearing (1957) that was launched in 1951 with a sample of 379 mothers of kindergarten age children in the Boston area who were interviewed about their parenting practices up to and including current practices with their five-year-old children. After hundreds of similar studies, concern grew about the reliability and validity of such retrospective data (Yarrow, Campbell, and Burton 1970). A major impetus behind early longitudinal studies of children was to avoid dependence on parental recall in favor of studying changes over time as they actually unfolded in the lives of children. Longitudinal studies, however, do not completely bypass dependence on recall; in addition to repeat measures at two or more points in time, they often seek information about what happened in the intervening periods.

Very long term longitudinal studies have their own problems of respondent and researcher attrition and of often dramatic changes in the developmental issues of concern to later generations of social scientists. For example, the Wisconsin Longitudinal Study (WLS) began in 1957 with a sample of high school seniors and focused narrowly on educational and occupational aspirations. The WLS was quickly transformed into a longitudinal study of occupational status attainment (Sewell, Hauser, and Featherman 1976). In more recent years, WLS researchers expanded the topic coverage to embrace issues of health and family life as they impact on occupational careers. Thus hindsight is often better than foresight, particularly when theory and methods undergo rapid change as has occurred in the social sciences since the late 1950s. As a result, even in longitudinal studies, researchers often incorporate retro-



spective measures for earlier events, measures no one anticipated would be necessary, in order to test new constructs suggested by advances in theory.

The growth of longitudinal studies has facilitated special research on the reliability and validity of retrospective data by asking long-studied subjects questions about their past and comparing their recall with the data obtained from them when they were younger. A good example is the Dunedin Health and Development Study in New Zealand, which assessed agreement between retrospective recall and actual measures taken in the past for seven domains, including reading ability, residence changes, and behavior problems (Henry et al. 1995). The findings on reading ability are of special interest. The researchers found what they call a "Lake Wobegon effect" (i.e., all the children are above average): retrospective self-reports of reading ability at age thirteen showed 39% of the subjects claimed they had been *above average* readers, 48% *average*, and only 13% *below average*. Since the respondents had taken a standardized reading test at age thirteen, the group's actual scores reflected a normal distribution. Henry and his colleagues report, however, that their results did not reflect an optimistic erosion of memory over the years. When the subjects were thirteen, both they and their parents estimated their reading abilities. Similarly low proportions reported below average reading ability, suggesting that "bias toward perceptions of average or better reading ability may represent a more general source of reporting error, not a unique retrospective bias" (Henry et al. 1995, 96).

There is a message in this finding that applies to all research on social behavioral topics, whether measures are concurrent or retrospective. As David Featherman, among others, has reminded us, the difference is one of degree, not of kind, between concurrent and retrospective measures (Featherman 1980; see also Bradburn, Rips, and Shevell 1987; Robbins 1963; Wolkind and Coleman 1983). In both cases, informants are providing information through a subjective lens that may distort not only past but present reality as well, and they do so for any number of reasons: respondents' purposeful distortion of answers to project a favorable impression of self (the "social desirability" factor); respondents' misunderstanding of what is asked; respondents' faulty memory; questions that seek more precision than it is reasonable to expect; and as we have learned, the sad fact that reported memories may involve events that never actually occurred, as witness the many trials in recent years of presumed child molesters whose sup-

posed victims were reporting memories invidiously suggested to them by police or social workers, if not the parents themselves.

A larger issue goes beyond the point that differences in reporting errors are only a matter of degree, not kind, in retrospective versus concurrent measures: the past is in fact very much present when we report on our current selves. As we move through our daily routines, there is what Winifred Gallagher felicitously described as a constant "background hum of the past" (Gallagher 1996, 79): how we interact with a grandchild, for example, evokes and is partially affected by how we related to our children at a comparable age, or even how we were treated as children by our parents and grandparents. At a deeper level, an organism's phenotype reflects past environmental influences on our genotype, so that our individual histories are encoded in the very wiring of our nervous and immune systems, as they are in responses to a researcher about our lives today. Quite apart, then, from questions of validity and reliability, retrospective measures have a *utility of their own*. As Bill Henry puts this point, "even if retrospective measures do not constitute valid indicators of features of interest to social scientists . . . they may constitute valid indicators of the individual's current perception of those features, and as such, may be useful in understanding psychological development or adjustment" (Henry et al. 1995, 93).

The major caution to observe in relying on retrospective measures is to be fully aware that their proper use is to provide *the relative standing of individuals in a distribution*, not to test hypotheses that require precise reports of event frequencies or the specific dates of their occurrence.

This general caution dictated the selection of constructs and the items used to measure them in the design of the module on the family of origin in the MIDUS survey. Some examples of the criteria used in choosing measurements are the following:

1. Time reference. We made no effort to measure changes during or specific stages of the childhood and adolescence of respondents. All questions were pegged loosely to these early years by using phrases such as "most of your childhood," "up until you were sixteen," "during most of your childhood years," "the years you were growing up." It may well be that respondents had varying ages in mind when answering such questions. Some may have focused on early childhood, others on when they were adolescents, still others may have considered the more global overview intended by the question format. In a multipurpose lengthy instrument, space limitations do not permit any attempt to capture

changes between, say, relationships to parents in childhood versus mid-adolescence. For our purposes, the broad sweep of the formative years was deemed preferable to any attempt to link questions to a specific age. The exceptions to this design rule were questions on the health status of respondents and each of their parents when respondents were sixteen, a decision dictated by our desire to measure respondents' health at an age when most were still living at home and their parents were middle-aged, a life stage when many parents (especially fathers) confront problems associated with incipient chronic diseases.

2. Ratings and response categories. For the most part, we avoided numerical frequencies, as recommended by researchers who have compared recalled events with archival records. Henry (1995) and Robins (Robins et al. 1985) report that subjects can accurately inform researchers whether or not something happened but not the number of times it occurred. Instead we used short response categories: a little, some, a lot; never, rarely, sometimes, often; or poor, fair, good, very good, excellent. We made no effort to obtain income data for families of origin; rather, we asked for a comparative judgment on how much better off or worse off financially respondents' families were as compared to the average family at the time (a lot, somewhat, a little better/worse off or the same as an average family) and simply whether or not the family had ever been on welfare "for six months or more." Regarding fathers' employment histories, we asked merely for how much of their childhood (all, most, some, a little, or not at all) their fathers worked for pay. We restricted specific numerical information to questions regarding demographics such as the number of older and young siblings respondents had. Many (especially older) respondents did not know how much education each of their parents had. Because this is an important variable, the missing values were imputed by assigning the appropriate mean years of schooling according to our six-category age classification for respondents, a necessarily rough approximation, since we did not ask about parental age (or birth date). Allowing for sex differences in the educational attainment of the parents, we assigned the missing values on parents' education by the mean educational attainment in terms of both age and sex. For example, missing values on mothers' education were assigned by the mean educational attainment of women respondents in each of six age categories. (Respondents' age is a reasonable substitute for parents' age, in the absence of a direct question on age of parent, thus allowing for historic trends toward more education during the past several decades.)

3. Multiple-item measures. The major constructs on the family of origin are the two dimensions of affection and discipline, and parents as generativity models. A variety of items, including a global rating on the quality of the relationship to each parent (poor to excellent), were part of the instrument, mixing item candidates for the affection and discipline scales. Factor analysis clearly distinguished the predicted items for each of these two major scales. Illustrative items and psychometric characteristics of the affection and discipline scales can be found in table 7.1. The generativity model measure for each parent is based on ratings of the extent (not at all to a lot) the parent was "generous and helpful" or "sociable and friendly" to people *outside the family*, as mentioned earlier. The discipline scale items were supplemented by two additional questions on how many "regular chores" and how many "rules about how to spend your time" respondents reported (none to a lot). These items were asked generally, not specifically for each parent, and therefore they form a separate scale from the discipline scale—the chores/time-use rules scale.

4. Family composition. We took great care to obtain highly specific information about the adults who were the primary parenting figures for our respondents' early years. The lead question was "Did you live with both of your biological parents up until you were sixteen?" For those who reported they did *not* grow up in intact biological families, we asked detailed follow-up questions to identify those who experienced the death of one or both parents, those whose parents were divorced or never lived together, and those who were adopted. We also asked whether the male (or female) head of the household was biological, adoptive, step, or other. All subsequent questions about parents referred to possible parent surrogates as well as the biological parents, for example, "your mother, or the woman who raised you."

With the benefit of hindsight, we would prefer to have more detailed information about the religious involvement and beliefs in the family of origin than what we obtained, but we did not anticipate that religiosity and generativity would be such major predictors of adult responsibility. At the design stage, we opted against seeking any detail on religious attendance or beliefs in youth, limiting ourselves to a general question on how important religion was in respondents' early family life (not at all to very important). We take comfort, however, from knowing that often in social research, global subjective ratings have better predictive power than all manner of specific objective information. Paul Cleary, for example, has reported that general perceived

TABLE 7.1 Constructs and Measures Used in Analysis of Developmental Roots of Adult Social Responsibility

Dimension	Measure	Descriptive Detail
Parents' premarital characteristics	Educational attainment Religiosity	Years of schooling of mother and father. Single-item four-point rating of importance of religion in family of origin ("not at all" to "very" important).
Family of origin's child-rearing	Generativity	Two-item scales of four-point ratings on extent to which mother and father were generous/helpful and friendly/sociable to people outside the family (mother: 2-8 scale range, alpha = .81, mean = 6.8, SD = 1.4; father: 2-8 scale range, alpha = .87, mean = 6.5, SD = 1.6).
	Affection	Seven-item scales of four-point ratings ("not at all" to "a lot") of maternal and paternal affection, e.g., understood respondent, respondent could confide in her/him, gave time and attention to respondent when needed (maternal affection: 7-29 scale range, alpha = .91, mean = 22.9, SD = 5.0; paternal affection: 7-29 scale range, alpha = .93, mean = 20.3, SD = 5.7).
	Discipline	Four-item scales of four-point ratings on extent to which each parent exerted discipline and supervision, e.g., was strict and consistent about rules, harsh in punishment (maternal discipline: 4-16 scale range, alpha = .77, mean = 11.8, SD = 2.5; paternal discipline: 4-16 scale range, alpha = .83, mean = 11.6, SD = 3.0).
	Chores/time-use rules	Two-item scale of four-point ratings on number of regular chores and number of rules re use of time (2-8 scale range, alpha = .65, mean = 5.9, SD = 1.4).
Family of origin's existential circumstances	Relative financial status	Single-item seven-point rating of family's financial status compared to the average family when respondent was growing up, from "a lot worse off" to "a lot better off."
	Welfare dependence	Single-item (yes = 1, no = 0) on family welfare dependency for six months or more during respondent's childhood and adolescence (7% of sample report yes).
	Parents' health	Single-item five-point rating of mother's and father's health (poor to excellent) when respondent was about sixteen.
Respondent's personality traits	Communion (agreeableness)	Five-item scale of four-point ratings on helpful, warm, caring, sympathetic, softhearted (5-20 scale range, alpha = .80, mean = 17.4, SD = 2.4).
	Agency	Five-item scale of four-point ratings on forceful, self-confident, assertive, outspoken, and dominant (5-20 scale range, alpha = .79, mean = 13.7, SD = 3.3).
	Conscientiousness	Four-item scale of four-point ratings on organized, responsible, hardworking, (not) careless (4-16 scale range, alpha = .57, mean = 13.6, SD = 1.8).
	Openness to experience	Seven-item scale of four-point ratings on creative, imaginative, intelligent, curious, broad-minded, adventurous, and sophisticated (7-28 scale range, alpha = .77, mean = 21.3, SD = 3.7).
	Neuroticism	Four-item scale of four-point ratings on worrying, nervous, moody, and (not) calm (4-16 scale range, alpha = .74, mean = 9.0, SD = 2.6).
	Extroversion	Five-item scale of four-point ratings on outgoing, lively, friendly, active, talkative (5-20 scale range, alpha = .78, mean = 16.0, SD = 2.8).
Respondent's values	Generativity	Six-item scale, adapted from Loyola Generativity Scale (McAdams and de St. Aubin 1992) of self-ratings, e.g., like to teach others, feel people need you, have important skills to pass along to others (6-24 scale range, alpha = .84, mean = 17, SD = 3.7).
	Religiosity	Six-item scale of four-point ratings on religiosity, e.g., how important religion is in respondent's life, in sending children for religious instruction, in preference for socializing with those of same religion (6-24 scale range, alpha = .88, mean = 16.5, SD = 4.6). See chapter 3, table 3.1
Respondent's normative obligations	Family/friends obligation Civic obligation	See chapter 3, table 3.1
Respondent's responsible behavior	Altruism Emotional-social support to family/friends Volunteer work Contributions to family/friends Contributions to organizations/causes	See chapter 3, table 3.1

health by adults (on a global subjective rating from poor to excellent) “predicts subsequent morbidity and mortality, even controlling for other biological and health status variables” (Cleary 1997, 3) and self-evaluations of health accurately predict mortality even after statistically controlling for the presence of health problems, disability, and other risk factors (Kaplan and Camacho 1983; Mossey and Shapiro 1982). Cleary suggests that global subjective ratings often benefit from knowledge and experience known only to the respondent and provide a more integrated rating than is possible with numerous other data a researcher may have access to, including medical records, which are rarely standardized and are often based on subjective ratings by several healthcare professionals. In similar fashion, our single rating of the importance of religion, or our single ratings of how well respondents did ten years ago in specific life domains, may provide more significant information than far more detailed measures based on numerous specific indicators.

We present one last point about the use of retrospective data. An analyst can derive considerable confidence in the validity of such data in at least two ways: One procedure is to compare our research results with those from prospective studies that identify early markers in childhood that are significant predictors of adult behavior, markers close to those we obtained in our cross-sectional survey. Carol Franz, David McClelland, and Joel Weinberger provide such evidence in a thirty-six-year follow-up of the children first studied at age five by Sears, McClelland, and Levin (1957), whom we referred to earlier. At the time of the follow-up, the subjects were forty-one years of age. Franz and her colleagues found that high measures of warmth and affection in early childhood predicted social accomplishment in midlife (as measured by long, happy marriages and good relationships with children and friends), higher levels of generativity, and engagement in more affiliative behaviors (Franz, McClelland, and Weinberger 1991).

A second procedure involves internal analysis of retrospective measures in the same cross-sectional survey. A relevant example comes from a prior study of ours that obtained retrospective ratings of how close adult respondents were to their mothers and fathers at three specified ages: ten, sixteen, and twenty-five. With respondents classified in terms of the actual historic time periods during which they were adolescents, we compared the intimacy ratings at age sixteen of two specific groups: those who were sixteen during the relatively calm social and political atmosphere of the 1950s with those who were adolescents in the late 1960s and the early 1970s, when American society was rife with

social and political ferment. As predicted, the latter cohort reported significantly lower ratings of intimacy with parents than the former when they were sixteen-year-old adolescents, but there were no significant differences between the two cohorts in their ratings of intimacy when they were ten and twenty-five years of age (Rossi and Rossi 1990, 107–8). We take this to mean that memories are not necessarily just “fragmented bits of flotsam and jetsam,” as psychologist Daniel Stern suggested in an interview with Winifred Gallagher (Gallagher 1996, 78). In the case of memories of our childhood and adolescence, which we have so many occasions to review and think about later in life, we may be fairly good reporters, even if our lenses are somewhat on the rosy or the dark side.

#### WHAT LIES AHEAD

We begin the analysis with close attention to structural and demographic characteristics of the families of origin and we trace their long-term impact on the marital and procreative histories of our respondents. Next we link family composition to the childrearing patterns of respondents' parents, following which we show how family composition and childrearing styles relate to the personality traits of respondents. Finally, bringing together the most significant early family characteristics, we test their effects upon the profile of social responsibility in the domains of family and community in adulthood.

#### COMPOSITION OF FAMILY OF ORIGIN AND ITS EFFECTS

Table 7.2 provides detailed descriptions of the major types of composition of our respondents' families of origin: four in five respondents grew up in intact biological or adoptive families (only thirty-three cases of adoption were reported). Note that the MIDUS survey undercounts poorly educated adults because some literacy sophistication was required to fill out the lengthy self-administered questionnaires. The extent of this selection can be seen by comparing the proportion of MIDUS respondents who grew up in intact biological families to that reported in the National Survey of Families and Households (NSFH-I) in 1987–88—83% of the former, but only 75% of the latter (Bumpass and Sweet 1989, 257). The proportion was even lower (64%) for the 1960–68 birth cohort in the NSFH survey, a drop reflecting the impact of higher divorce rates and out-of-wedlock births in the 1960s and 1970s.

The two major alternate family composition types are biological mothers alone (with or without another female, presumably the mater-

TABLE 7.2 Types of Family of Origin Composition

Type <sup>a</sup>	Definition	N	%
Intact	Both biological or adoptive parents <sup>b</sup>	2,499	82.7
Mother only	Biological mother alone, or biological mother plus other female (presumed to be respondent's maternal grandmother)	197	6.5
Mother and stepfather	Biological mother plus other male (stepfather or mother's cohabiting partner)	203	6.7
Father and stepmother	Biological father alone, or biological father plus other female (stepmother or father's cohabiting partner)	67	2.2
Grandparents	Other male and female, or other female alone (presumed to be grandparents or grandmother alone)	55	1.9
Total		3,021	

Note: All questions about relationship to parents in childhood made allowance for other than the biological parent, e.g., "your mother (or the woman who raised you)."

<sup>a</sup> These abbreviated labels, characterizing the predominant type in these categories, will be used in subsequent tables.

<sup>b</sup> Sample included only thirty-three respondents who reported they were adopted.

nal grandmothers of respondents), and biological mothers plus a cohabiting partner or second husband (respondents' stepfathers). Least frequent but of special interest is the category of respondents reared by their biological fathers alone or with a cohabiting partner or second wife (respondents' stepmothers), and those reared by other men and women. (We did not ask specifically who these "other adults" were; we will assume the majority were grandparents, though there may be some cases of foster parents or older siblings in this category.)

There are predictable correlates of family composition, reflecting trends in marital stability, cohabitation, and remarriage following divorce. Table 7.3 highlights the major reflections of such trends by age and race. Age of respondents provides a linkage to the historic periods during which they grew up. Rough estimates of these time periods are shown below the three age categories. There is little variation in the percentage of intact families across white birth cohorts, but the proportion of black respondents who grew up in intact families declines sharply with each younger age group, resulting in much larger racial differences among those who grew up in the 1960s and 1970s than among those who grew up in earlier decades. The small proportion of black respondents in the MIDUS sample (6.6%) permits only a two-way age classification for the detailed family composition among non-

TABLE 7.3 Family of Origin Composition, by Age and Race

Family Composition	White			Black		
	25-39 (1960s- 70s)	40-59 (1940s- 50s)	60-74 (1930s- 40s)	25-39 (1960s- 70s)	40-59 (1940s- 50s)	60-74 (1930s- 40s)
Percentage intact	83.2	84.8	84.6	59.7	66.3	70.0
Percentage not intact	16.8	15.2	15.4	40.3	33.7	30.0
N	919	1,289	590	77	89	30
Mother only	31.8	38.3	42.3	41.9	41.0 <sup>a</sup>	—
Mother and stepfather	51.9	39.2	25.7	38.7	20.5 <sup>a</sup>	—
Father and stepmother	9.1	12.8	22.7	3.3	12.9 <sup>a</sup>	—
Grandparent(s)	7.2	9.7	9.3	16.1	25.6 <sup>a</sup>	—
N	154	196	97	31	39 <sup>a</sup>	—

Note: Dates in parentheses are a rough classification of the time period during which respondents of various ages were growing up. For example, respondents who were thirty-five in 1995 were born in 1960, hence they grew up in the 1960s and 1970s, an era marked by counterculture, civil rights, and antiwar movements. By contrast, respondents fifty years of age in 1995 were born in 1945 and spent their formative years during the postwar decades of the late 1940s and early 1950s, a time of affluence and the Cold War. Respondents sixty-five years of age in 1995 were born in 1930 and grew up during the Depression in the 1930s and World War II in the early 1940s.

<sup>a</sup> Includes respondents aged forty to seventy-four. The small proportion of black respondents (6.6%) in the MIDUS sample permits only a two-way age classification: under forty and forty or older.

intact families of origin, but for both races, similar trends exist: over the decades from the early 1930s through the 1970s, a *decrease* in the prevalence of growing up with a biological father and stepmother, and an *increase* in biological mothers and stepfathers (or cohabiting partners of a biological parent). These trends reflect the decline in maternal mortality, the increase in divorce, and the increase in cohabitation and remarriage of divorced women with children over these years. One additional characteristic is uniquely more prevalent among black respondents: growing up with neither biological parent, presumably with grandparents, though some may have been reared by foster parents or other kin.

Socioeconomic indicators of early family life by family structure are shown in table 7.4. Note that the historic trend toward increased amounts of education is reflected in the lower educational attainment of grandparents compared to biological parents or stepparents of respondents. (This supports our assumption that the majority of the surrogate parents are in fact grandparents, whose birth cohorts attained less education on average than that of foster parents or older siblings of

TABLE 7.4 Socioeconomic Indicators of Family of Origin Composition

Socioeconomic Indicators	Intact	Mother Only	Mother/Stepfather	Father/Stepmother	Grandparent(s)	Statistical Significant <sup>a</sup>
Education						
Mother/maternal figure	11.3	11.1	10.9	11.0	9.3	***
Father/paternal figure	11.0	—	11.5	9.8	9.4	***
Percentage on welfare <sup>b</sup>	3.6	26.4	18.2	9.0	14.6	***
Percentage "worse off" than average family <sup>c</sup>	24.5	58.7	39.8	28.4	30.8	***

<sup>a</sup> Anova *f* for mean educational attainment;  $\chi^2$  for percentage differences in economic indicators.

<sup>b</sup> "Yes" response to the question, "During your childhood and adolescence was there ever a period of six months or more when your family was on welfare or AFDC?"

<sup>c</sup> "Somewhat" or "a lot" worse off in response to the question: "When you were growing up, was your family better off or worse off financially than the average family was at that time? (If your parents lived separately and had different financial situations, answer for the family you lived with for the longest time)."

\*\*\*  $p < .001$ .

our respondents.) In this sample, solo mothers rearing children alone do not show significantly less education than mothers in intact families. Biological parents who divorced and remarried show slightly lower educational attainment than parents in intact families, reflecting the inverse relationship between divorce and socioeconomic status. On the other hand, stepparents are not significantly different from biological parents in educational attainment.

Far sharper contrasts exist in economic indicators by family composition type. Although solo moms are not significantly less well educated than mothers in intact families, they clearly stand out in terms of vulnerable economic circumstances during their childrearing years: respondents reared by solo mothers show the highest percentage of having been poorly off financially and of having been on welfare. Compared to all other family composition types, only 4% of intact families were on welfare at some point in the past. By contrast, solo moms and remarried moms are associated with some period of economic vulnerability: solo mothers were *six* times more likely and remarried mothers *four* times more likely than intact families to have depended on welfare, probably because they experienced spells of single-parent status one or more times between marital or cohabiting partners. These results mirror those reported by Sara McLanahan and Gary Sandefur (1994) regarding data from the Panel Study of Income Dynamics, that is, at each level of parental educational attainment, the poverty rate for single-parent families far exceeds that for two-parent families or stepfamilies (McLanahan and Sandefur 1994, 84).

Marital breakdown and subsequent remarriage has much less economic impact on men than on women: Only a slightly elevated percentage of remarried fathers, compared to fathers in intact parental marriages, report having been "worse off" than the average family (28.4% vs. 24.5%, respectively). Reports from remarried mothers reflect a much greater incidence of having been "worse off" than do those from mothers in intact parental marriages (39.8% vs. 24.5%, respectively), a statistic which reflects the remarried mothers' having spent some period of time in single-parent status, as previously noted.

By themselves, the differences by family composition type shown in table 7.4 provide an interesting window on the family histories of respondents in their formative years. Of far greater interest, however, is the question of whether these early experiences carry over and influence the adult characteristics of our respondents. A first profile is provided by table 7.5, which summarizes several aspects of the marital and

TABLE 7.5 Sequelae of Family of Origin Composition on Marital and Procreative History, by Sex

	Intact	Mother Only	Mother/Stepfather	Father/Stepmother	Grandparent(s)	Statistical Significance <sup>a</sup>
<b>Marital history</b>						
<b>Current Status (%)</b>						
Men						
Never married	12.7	19.0	13.0	3.3	9.5	
Separated/Divorced	13.0	13.9	20.6	26.7	23.8	
Married	72.2	65.8	62.0	70.0	66.7	
Widowed	2.2	1.3	4.4	—	—	
N	1,241	79	92	30	21	**
Women						
Never married	9.4	17.0	17.1	2.7	14.7	
Separated/Divorced	21.8	26.2	26.1	24.3	26.4	
Married	59.2	44.9	53.2	59.5	44.1	
Widowed	9.5	11.9	3.6	13.5	14.7	**
N	1,258	118	111	37	34	**
<b>Average age at first marriage</b>						
Men	24.3	24.7	22.5	22.8	22.8	**
Women	21.5	21.4	21.0	21.5	19.7	n.s.
<b>Married before age 18 (%)</b>						
Men	1.1	1.6	4.0	3.6	0.0	***
Women	9.0	9.3	20.2	13.9	28.6	***
<b>Number of times married (%)</b>						
Men						
Once	76.3	68.8	58.8	57.1	52.6	
Twice	19.1	23.4	31.3	35.7	42.1	
Three or more times	4.6	7.8	9.9	7.2	5.3	*
Women						
Once	75.4	69.4	65.2	77.8	48.3	
Twice	20.4	20.4	23.9	16.7	31.0	
Three or more times	4.2	10.2	10.9	5.5	20.7	***
<b>Procreative history</b>						
<b>A birth before first marriage (%)</b>						
Men	4.8	7.1	7.9	10.7	6.7	n.s.
Women	5.5	12.9	5.1	12.9	14.8	*
<b>Average number of children reared</b>						
Men	2.2	2.2	2.2	2.7	3.0	n.s.
Women	2.4	2.7	2.4	2.5	3.2	n.s.

<sup>a</sup> Anova *f* for average age at first marriage and average number of children reared. All others  $\chi^2$ .

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

procreative histories of men and women from each of the family of origin types.

Respondents who grew up in intact families compared to the non-traditional families show the following characteristics: they are *more* apt to be married than single, separated, or divorced; they are *less* apt to have married before their eighteenth birthday or to have had a birth before marriage; and they are *more* likely to have been married only once. Respondents who were reared by neither biological parent present the most extreme contrast to intact families, especially women reared under such circumstances. Women in this family structure report the highest rate of very early marriages (29%, vs. 9% in intact families), represent the highest proportion with a birth before marriage (15%, vs. 5% for intact families), and suffer from the highest levels of marital instability, as indicated by the 21% who have married *three or more* times (compared to only 4% for those from intact families). Women reared by neither biological parent are particularly prone to marry at an early age (19.7%) and represent the *lowest* proportion married at the time of the survey (44%). The overall implication of these profiles is that nontraditional family structures impact on the subsequent marital and procreative experiences of women to a much greater extent than they do on men.

One other comparison worth noting is that between intact families and solo-mother families: although no more likely to marry at a young age, women reared by solo mothers are *twice* as likely to have had a first birth before marriage and *twice* as likely to have never married at all, compared to those from intact families (13% vs. 6% and 17% vs. 9%, respectively). The implication is that such women have followed a pattern similar to that of their mothers. On the other hand, neither men nor women who grew up with solo mothers have had more children than those from intact families.

There are, of course, many intervening experiences between family structure in childhood through adolescence and adult decisions to marry or not, to divorce or not, or to have a child or not. We turn now to the affective and disciplinary experiences associated with growing up in these different family structures.

#### Childrearing Patterns in Families of Origin

We begin with the two primary measures on childrearing, affection and discipline. The affection scale is based on seven items, ranging from an overall rating of the quality of the respondent's relationship to

mother and to father while growing up, to the extent of love and affection the respondent received from each parent, to the amount of time and attention received, to the extent to which the respondent felt he or she could confide in each parent. The discipline scale is based on four items: how consistent and how strict each parent was regarding rules for the respondent's behavior, how harsh in punishment, and how restrictive in curbing the respondent's conformity to peers. (See table 7.1 for the psychometric properties of the family of origin measures.)

Figure 7.1 shows the case distribution of the affection and discipline

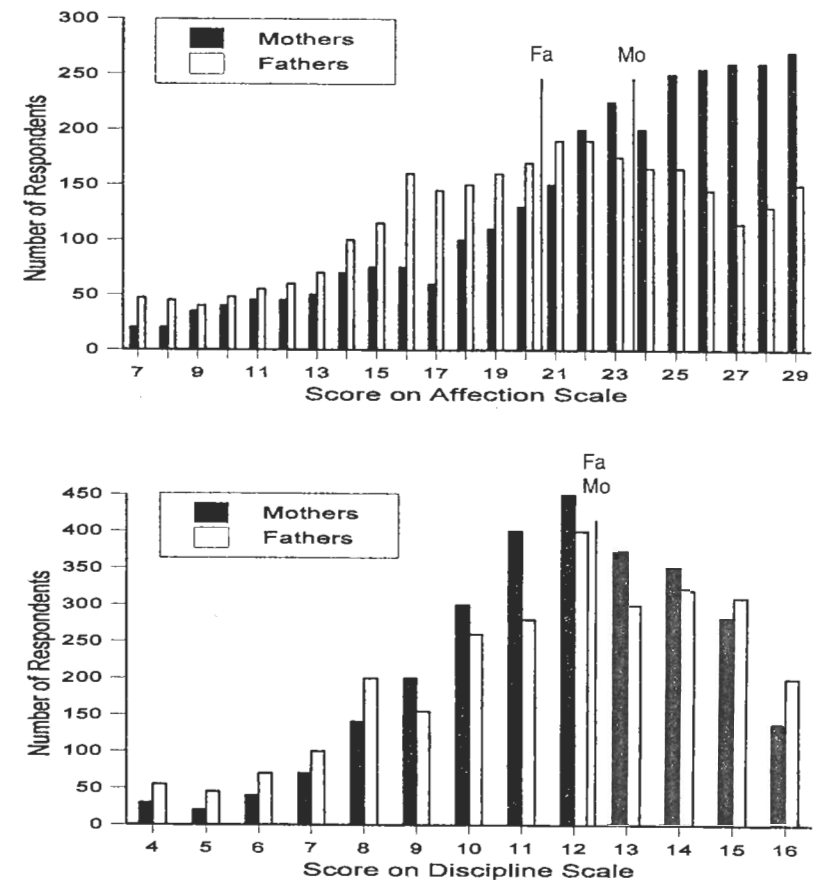


FIGURE 7.1. Case distribution and median scores on affection scale (top panel) and discipline scale (bottom panel): mothers versus fathers. Vertical lines show median scores.



scales, differentiated by maternal and paternal roles. The histogram on the affection scale is highly skewed toward the positive, whereas the discipline scale shows a more normal distribution. We believe the contrast between the two scales reflects several factors. The affection scale likely reflects a combination of social desirability reports (parents *should* show love to their children) and a biogenetic predisposition to nurturance of the young. Social norms for child discipline are far from being universal, subject as they are to changes in the recommendations of childrearing experts and pediatricians, resulting in a greater degree of variation on our scale. Comparing the distribution of cases for maternal and paternal affection, the histogram also shows more cases of *low* affection from fathers than from mothers, and an even sharper sex difference at the high end of the scale, with far more cases of *high* affection from mothers than from fathers; hence the significantly higher mean scores on the maternal affection scale than on the paternal. There are no differences between mothers and fathers in the mean discipline scores, but more fathers than mothers fall at both the low and high ends of the scale.

Table 7.6 provides evidence for the relationship between family of origin composition and seven dimensions of childrearing: in addition to reporting means from the affection and discipline scales, the table shows the effect of family structure on levels of harsh punishment and parental generativity (both dimensions reported separately for the maternal and paternal figures in the families), the importance of religion, and a scale on the chores and time use rules respondents were subjected to when they were growing up (for which data refer to the family generally rather than to each parent specifically). The major differences among the results shown in table 7.6 are as follows:

1. Unique profile of stepparents compared to biological parents. Respondents who grew up with a stepparent report *lower* levels of affection and parental generativity and a *higher* incidence of harsh punishment from the stepparent than respondents report from biological parents in any type of family structure.

2. Biological parents in intact families compared to biological parents who remarried. No differences are reported on affection or discipline, but the families formed by remarriage provided a *less* religious and *more* punitive environment.

3. Unique profile of families including neither biological parent, in particular the maternal role in such families. Grandmothers are reported to have provided *lower* affection, *higher* discipline, and a *higher*

TABLE 7.6 Dimensions of Childrearing, by Family of Origin Composition

	Intact	Mother Only	Mother/Stepfather	Father/Stepmother	Grandparent(s)	Statistical Significance <sup>a</sup>
Affection (mean) <sup>b</sup>						
Maternal	23.1	21.9	22.2	19.0	21.9	***
Paternal	20.5	—	17.3	20.3	18.6	***
Discipline (mean) <sup>c</sup>						
Maternal	11.8	11.3	11.5	11.6	13.0	***
Paternal	11.7	—	11.1	11.3	11.0	**
Frequency of harsh punishment (%) <sup>d</sup>						
Maternal	6.1	10.6	11.2	15.1	10.4	***
Paternal	7.9	—	16.3	12.8	7.1	**
Parental generativity (% high) <sup>e</sup>						
Maternal	62.4	61.3	55.6	40.0	57.2	***
Paternal	54.2	—	31.0	53.7	39.9	***
Religiosity (% high) <sup>f</sup>	81.7	75.5	71.1	63.6	87.2	***
Chores/time use rules (% high) <sup>g</sup>	31.7	35.1	33.5	32.8	56.3	***

<sup>a</sup> Significance level of anova *f* statistic for mean scores on scales (affection and discipline) and  $\chi^2$  significance on percentage distributions on all other measures.

<sup>b</sup> Scale range = 7–29.

<sup>c</sup> Scale range = 4–16.

<sup>d</sup> % report “sometimes” or “often” in response to questions regarding experiencing harsh punishment (kicked, bit, hit with fist, beat up, choked/burned/scalded) in the family when they were growing up.

<sup>e</sup> High = 7 or 8. Scale range = 2–8.

<sup>f</sup> High = “somewhat” or “very” important. The measure refers to the family generally, not to a specific parent.

<sup>g</sup> High = 7 or 8. Scale range = 2–8. Two items in the scale were “How many regular chores did you have during the time you were growing up?” and “How many rules did you have about how to spend your time?” The measure refers to the family generally, not to a specific parent.

\*\*\*  $p < .001$ . \*\*  $p < .01$ .

incidence of harsh punishment. The grandparental family type also represents the *highest* proportion with a highly religious atmosphere and the *highest* emphasis on assigning regular chores to the respondents in their youth and controlling how respondents spent their time.

4. Solo mothers compared to mothers in intact families. No major differences were reported by respondents, only a slight tendency for solo mothers to show less affection and impose less regular discipline and supervision, but to give slightly more harsh punishment and to have slightly more control over chores and time use. Solo mothers also placed less emphasis on the importance of religion compared to the profile shown for intact families. None of these differences are as sharp as those between intact families and families involving grandparents or stepparents.

Up to this point, our analysis has been largely bivariate descriptions of family composition and its correlates in childhood experiences. We turn now to a multivariate analysis of the characteristics that predict the level of affection and discipline our respondents' experienced in their childhood and adolescence. In doing so, we necessarily constrict the definition of family composition to a dummy variable that differentiates only between intact families and all other family composition types.

#### DETERMINANTS OF PARENTAL AFFECTION AND DISCIPLINE IN FAMILIES OF ORIGIN

In the introduction to this chapter, we differentiated between characteristics the parents of our respondents were likely to have had *prior* to their marriages and the characteristics and experiences that likely developed *after* their marriages. Most adults complete their education before they marry, and marriage per se does not change adult values and personality in any fundamental sense. Parents' religious views and their personal qualities of sociability and generosity toward other people are also largely in place before marriage and may in fact have played a role in courtship and the decision to marry. We therefore begin our analysis with the effects of these premarital characteristics—parental educational attainment, generativity, and importance of religion—upon the affection and discipline indicators of their relationships to respondents when the respondents were growing up (model 1 in tables 7.7 and 7.8), followed by a second test (model 2) that supplements the parents' premarital characteristics with an array of measures tapping what transpired during the respondents' childhood and adolescence. Model 2

TABLE 7.7 Regressions of Maternal Affection and Maternal Discipline  
(beta coefficients)

Variable	Maternal Affection		Maternal Discipline	
	Model 1	Model 2	Model 1	Model 2
Mothers' premarital characteristics				
Generativity	.458***	.441***	.046**	.033
Religiosity	.126***	.103***	.200***	.189***
Educational attainment	.011	-.024	-.055**	-.045*
Sex of respondent <sup>a</sup>	-.129***	-.119***	.017	.024
Family of origin structure				
Family composition <sup>b</sup>	—	.060***	—	.018
Sibship size	—	-.045**	—	.035
Respondent oldest child <sup>c</sup>	—	.010	—	-.017
Respondent youngest child <sup>d</sup>	—	.026	—	-.078***
Family resources				
Mother's health when respondent at age 16 <sup>e</sup>	—	.119***	—	.042*
Relative financial standing <sup>f</sup>	—	.069***	—	.001
Welfare dependency <sup>g</sup>	—	-.019	—	-.026
R <sup>2</sup>	.273***	.309***	.051***	.062***
N	2,989	2,806	2,989	2,806

Note: Model 1: Premarital predictors only; Model 2: Premarital predictors plus family events/characteristics during childhood and adolescence of respondents.

<sup>a</sup> 1 = male; 2 = female.

<sup>b</sup> 1 = both biological parents; 0 = other.

<sup>c</sup> 1 = yes; 0 = no.

<sup>d</sup> 1 = yes; 0 = no.

<sup>e</sup> Poor to excellent.

<sup>f</sup> Much worse off to much better off.

<sup>g</sup> For a period of six months or longer. 1 = yes; 0 = no.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

therefore tests two things: (1) how much of the variance in parental affection and discipline is explained by family of origin structure and resources; and (2) the extent to which parents' premarital characteristics retain their predictive significance when structural and resource variables are added to the equations.

Over the long stretch of years devoted to childbearing and rearing, families change as they grow in size and as they encounter economic problems and health-threatening experiences. Accordingly, the model 2 variables include family size, birth-order position, parents' health during respondents' adolescence (pegged at "sixteen" years of age, when almost all respondents were still living with their parents or parent surrogates), and two indicators of economic well-being—relative

TABLE 7.8 Regressions of Paternal Affection and Paternal Discipline  
(beta coefficients)

Variable	Paternal Affection		Paternal Discipline	
	Model 1	Model 2	Model 1	Model 2
Fathers' premarital characteristics				
Generativity	.506***	.463***	.075***	.062**
Religiosity	.116***	.107***	.124***	.103***
Educational attainment	.057***	.011	-.008	.013
Sex of respondent <sup>a</sup>	-.030*	-.019	-.090***	-.084***
Family of origin structure				
Family composition <sup>b</sup>	—	.038*	—	.052**
Sibship size	—	-.049**	—	.092***
Respondent oldest child <sup>c</sup>	—	.008	—	-.006
Respondent youngest child <sup>d</sup>	—	.009	—	-.090***
Family resources				
Father's health when respondent at age 16 <sup>e</sup>	—	.107***	—	.030
Relative financial standing <sup>f</sup>	—	.086***	—	-.014
Welfare dependency <sup>g</sup>	—	-.058***	—	-.035
R <sup>2</sup>	.298***	.321***	.032***	.053***
N	2,807	2,519	2,807	2,519

Note: Model 1: Premarital predictors only; Model 2: Premarital predictors plus family events/ characteristics during childhood and adolescence of respondents.

<sup>a</sup> 1 = male; 2 = female.

<sup>b</sup> 1 = both biological parents; 0 = other.

<sup>c</sup> 1 = yes; 0 = no.

<sup>d</sup> 1 = yes; 0 = no.

<sup>e</sup> Poor to excellent.

<sup>f</sup> Much worse off to much better off.

<sup>g</sup> For a period of six months or longer. 1 = yes; 0 = no.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

financial standing and welfare dependency. Our predictions were that increasing family size would *reduce*, however modestly, the degree of affection shown to any particular child and *increase* the discipline imposed on the children, hypotheses grounded in the sociological assumptions that increases in group size typically involve diminished time with and investment in any one member and necessitate greater adherence to rules in the delegation of group tasks. On birth order, we test the common assumption that the youngest child is spared the degree of discipline and close supervision parents impose on their first-born child. Behind the image of the spoiled and indulged "baby of the family" are parents who have become more skillful and confident of themselves with each subsequent addition to the nest, with the result

that they are more relaxed and less demanding in rearing the youngest child than they were in rearing a firstborn. Our findings, reported separately for mothers (table 7.7) and fathers (table 7.8), are summarized as follows:

1. Respondents' parents' premarital characteristics. Mothers and fathers who rate high in helpfulness to and sociability with others *outside the family domain* (i.e., generativity) provide the most affection. This variable retains its significance when family structure and resource variables are added to the equations, although with a slightly lower net effect as gauged by the size of the standardized beta coefficients in model 2 compared with those in model 1. Second, parents (mothers and fathers) who made religion an important feature of family life are shown to have higher levels of both affection and discipline. The religious ambience of the family remains significant in model 2 with the addition of family structure and resource characteristics. Third, better-educated fathers show higher affection than less well educated fathers, but this seems to be largely due to their ability to provide relatively good financial circumstances and to their having been in good health (as indicated by the statistical significance of father's education in model 1 but not in model 2). Mother's education is significant only on discipline: better-educated mothers impose *less* discipline than do mothers with less education and continue to do so independent of family resources or traumatic events over the years of childrearing.

2. Sex of respondent. Men report more affection from their mothers than women do, but only slightly more affection from their fathers than women do. There is no significant sex difference in maternal discipline, but sons clearly report more discipline from their fathers than daughters do. Another of our analyses (data not shown) finds that men report a much higher incidence of harsh punishment by their fathers than women do, with fathers being particularly indulgent toward daughters who are their only child. Note that such findings reflect the sex differences of the children as much as of the parents themselves; that is, as boys and adolescents, males engage in more socially deviant and disruptive behavior than females do and hence are the recipients of more paternal discipline.

3. Family structure. Respondents reared by both biological parents report higher levels of affection from both mothers and fathers than do respondents whose parents remarried or cohabited with a second partner. The multivariate analysis thus confirms the findings reported in the preceding section on family composition effects. Second, on paren-

tal discipline, the coefficient is significant only for fathers: in families with both biological parents, fathers impose more discipline than do fathers in reconstituted families including stepfathers or grandfathers. Third, our predictions are confirmed on the effects of family size and birth order: the larger the family, the lower the affection and the higher the discipline; and respondents who are the youngest children in their families report having been spared the level of discipline imposed on firstborn children.

4. Family Resources. Poor health of either mother or father *reduces* the affection shown to children and *increases* discipline only from mothers. Economic hardship takes a particular toll on fathers' affection: families who have been on welfare or worse off than the average family show reduced paternal affection. Economic hardship has no similar effect on parental discipline. These findings reflect the primary aspect of the maternal role compared to the paternal role: Women have traditionally carried the major burdens of child supervision on the homefront. If they are in poor health, they may be less affectionate and more strict in relating to their children than if they are in excellent health. Fathers' decreased affection in times of economic hardship reflects their traditional importance as the most significant breadwinners: if a father does so poorly in economic support that the family has some period of welfare dependence, he may withdraw psychologically and be seen as distant and uninvolved by his children.

5. Overall, family structure and resources have less impact on parental affection and discipline than do the qualities parents brought into their marriage in the first place, as indicated by the relatively small increment in  $R^2$ s in model 2 compared to model 1 in all four equations. Last, the battery of predictor variables explains more of the variation in parental affection than in parental discipline.

The discipline scale taps the strictness, consistency, and harshness of punishment in response to the child's wrongdoing. A rather different but related measure is provided by the chores/time use rules scale, which taps parental assignment of chores to their children and the extent to which parents controlled how their children used their time. Typically the chores children are assigned are not limited to the care of their own possessions, rooms, or clothing, but involve doing things that contribute to the larger family and home setting (e.g., laundry, household cleaning, meal preparation, or cleanup after meals). These are potentially significant means for teaching collective responsibility for others than the self, and being routinized on some regular basis may pave

the way for the acquisition of good work habits, pride in the skills acquired early in life, and an internalized commitment to service by doing for others. That may seem a weighty interpretation to place on a single two-item scale, but we have found in an earlier study that domestic chore involvement as children encourages a general tendency toward greater expressivity and nurturance in adulthood (Rossi and Rossi 1990), and we shall see below a similar contribution of this aspect of childrearing to the personality traits of MIDUS respondents. Thomson, McLanahan and Curtin (1987, 104) also report (with data from NSFH-I) that a smaller proportion of solo-mom families than of two-parent families assign chores to their children and have rules about TV watching.

As previously noted, the chores/time use rules scale items are not specific to each parent, but refer to the early family generally. Hence in a multivariate analysis of this scale, we use a composite measure of parents as generativity models by adding together the maternal and paternal generativity scores. Table 7.9 shows that the most significant predictors of chores/time use rules are those in the family structure cluster: the larger the family, the higher is the parental emphasis on chore assignment and time use supervision. Not only are youngest children supervised less and given fewer chores to do, but being the oldest child increases the scores on this measure, suggesting more focused training of the firstborn child in service to others and by inference, attentiveness to a wise use of time—qualities that capture the role of oldest children as helpmeets to their parents in caring for younger children and in handling greater assignments of household chores. Families that enjoy relatively good financial circumstances place less emphasis on chores and time use than those in poor financial circumstances, a finding consistent with the greater permissiveness of better-educated parents, as well as their ability to purchase labor saving appliances or hire help. By contrast, families worse off than an average family are more dependent on the labor children can contribute to home maintenance; consequently, the children learn to value time and internalize the importance of service to others.

#### FAMILY INFLUENCES ON EDUCATIONAL ATTAINMENT

A long tradition of social science research has traced the contribution of individuals' early family life to their educational attainment (e.g., Alwin and Thornton 1984; Blake 1989; Blau and Duncan 1967; Clausen and Clausen 1973; Duncan, Featherman, and Duncan 1972;

TABLE 7.9 Regression of Chores/Time-Use Rules on Parental Characteristics, Family of Origin Structure, and Family Resources among Two-Parental Figure Families (beta coefficients)

Variable	Chores/Time-Use Rules
Parents' premarital characteristics	
Generativity	-.002
Religiosity	.172***
Averaged educational attainment <sup>a</sup>	-.024
Sex of respondent <sup>b</sup>	-.006
Family of origin structure	
Family composition <sup>c</sup>	-.054**
Sibship size	.117***
Respondent oldest child <sup>d</sup>	.050**
Respondent youngest child <sup>e</sup>	-.087***
Family resources	
Mother's health when respondent at age 16 <sup>f</sup>	-.024
Father's health when respondent at age 16 <sup>g</sup>	.022
Relative financial standing <sup>h</sup>	-.067**
Welfare dependency <sup>i</sup>	-.024
R <sup>2</sup>	.077***
N	2,403

Note: In combining maternal and paternal childrearing scales, cases of respondents whose families of origin did not contain a male parental figure are missing values. Hence base *N*s of these equations exclude respondents reared by mothers alone. Consult the text for results based on mother-alone cases.

<sup>a</sup> Educational attainment of mother and father are highly correlated (.58); here we use the 'average' years of schooling of the two parental figures in the family as a single predictor variable.

<sup>b</sup> 1 = male; 2 = female.

<sup>c</sup> 1 = both biological parents; 0 = other.

<sup>d</sup> 1 = yes; 0 = no.

<sup>e</sup> 1 = yes; 0 = no.

<sup>f</sup> Poor to excellent.

<sup>g</sup> Poor to excellent.

<sup>h</sup> Much worse off to much better off.

<sup>i</sup> For a period of six months or longer. 1 = yes; 0 = no.

\*\*  $p < .01$ . \*\*\*  $p < .001$ .

Easterlin 1980; Espenshade, Kamenske, and Turchi 1983; Heer 1985; Mare and Chen 1986; Sewell, Hauser, and Featherman 1976). It has been a sociological truism that parental social class is a major predictor of children's educational attainment, a general finding that has been interpreted largely in socialization terms: higher social classes include better-educated parents, who produce high achieving children because of their childrearing practices and because of the additional financial

and intellectual resources they can put to use in enriching their children's knowledge of the world. Until recent years, when public debate has focused on the poor quality of public education, there was agreement that the different success rates among children in different schools are attributable to the qualities the children bring to these institutions, not to a variation in what the schools have to offer (Blake 1989, 297), thus highlighting the importance of what families do in rearing their children.

Since educational attainment is largely completed by early adulthood and thereafter contributes in significant ways to socioeconomic status, this is an appropriate point in the developmental trajectory to explore the contribution of numerous early family life characteristics to the educational attainment of our respondents, including socioeconomic status, family structure, and childrearing patterns, supplemented by assessments of the health of the parents and of the respondents themselves when they were adolescents. A major expectation, based on accumulated prior research (cited above), is that parents' education and family size will be the two major determinants of how far children go in the educational system. Research over the past decade and more has shown the ill effects of growing up in non-intact families. For example, children in one-parent families are far more likely than those in two-parent families to be high school drop-outs (Featherman and Hauser 1978; Furstenberg and Cherlin 1991; Garfinkel and McLanahan 1986; McLanahan and Sandefur 1994).

Note, however, that the educational attainment of parents is an index not merely of financial well-being and availability of resources to invest in providing a variety of growth-enhancing experiences for children, but also serves as an important proxy for a critical variable of which we have no direct measure: the presence of genetic predispositions to intelligence that permitted the parents to succeed educationally and which they have passed on to some extent to their children, an issue we will discuss later in this chapter. In keeping with a dynamic approach that assumes intricate linkages between genetic and environmental influences on human development, we assume that those reared in intact families have both genetic and socioeconomic advantages over children reared in nontraditional families and that they will therefore attain higher educational levels.

The results of our analysis, shown in table 7.10, support expectations grounded in prior social research. As in numerous other studies, the MIDUS data show that father's education and family size are the

TABLE 7.10 Regression of Respondents' Educational Attainment on Parental and Family of Origin Characteristics, Total and by Sex (beta coefficients)

Variable	Total	Men	Women
Socioeconomic status			
Father's educational attainment	.251***	.273***	.244***
Mother's educational attainment	.120***	.049	.187***
Welfare dependency <sup>a</sup>	-.054**	-.058*	-.060*
Family structure			
Family composition <sup>b</sup>	.104***	.118***	.086***
Sibship size	-.127***	-.183***	-.063**
Respondent oldest child <sup>c</sup>	.046*	.008	.086**
Respondent youngest child <sup>d</sup>	.012	-.026	.054
Childrearing patterns			
Parental affection	-.022	-.046	-.003
Parental discipline	-.054**	-.033	-.078**
Chores/time-use rules	.008	-.002	.020
Health <sup>e</sup>			
Father's health	.055**	.067**	.042
Respondent's health	.059**	.089***	.028
$R^2$	.198***	.200***	.216***
$N$	2,393	1,194	1,199

Note: Prior analysis showed that mother's health and the relative financial standing of the family of origin had no significant net effect on respondents' educational attainment.

<sup>a</sup> For a period of six months or longer. 1 = yes, 0 = no.

<sup>b</sup> 1 = both biological parents; 0 = other.

<sup>c</sup> 1 = yes; 0 = no.

<sup>d</sup> 1 = yes; 0 = no.

<sup>e</sup> When respondent at age sixteen, poor to excellent.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

two strongest predictors of respondents' educational attainment, followed closely by growing up with both biological parents. Independent of father's education, mother's education contributes significantly to female respondents' years of schooling, but not to that of male respondents. The greater intimacy of the mother-daughter relationship, compared to the three other sex-specific parent-child dyads, may facilitate the transmission of interests and life goals of well-educated mothers to their daughters, interests and goals shaped in part by the mother's education as well as her genes.

Difficulties in early and middle adulthood that parents experienced

during their childrearing years are tapped by having been on welfare for some period of time in the past and by poor health of either the fathers or the respondents themselves. Both of these factors depress the educational attainment of the children, especially sons. Regardless of a father's education, poor health or short-term dependency on welfare curbs the educational attainment of the child. Welfare dependence affects both sons and daughters, but the depressive effect of poor health on educational attainment holds only for sons: both their own and their fathers' poor health when they were adolescents have negative effects on the sons' educational success. (Unfortunately we did not gather any detail on the nature of the health problems of respondents when they were adolescents or of their parents in midlife, hence we cannot explore the possibility of some sex-linked genetic factor that may explain this pattern). Firstborn children have a slight edge in educational attainment, net of all other predictors in these equations, but in this data set, being a firstborn child provides an edge only to daughters' educational attainment.

Over and above the contributions of socioeconomic and family structural factors, our chosen childrearing measures have few direct effects: neither parental affection nor the extent to which parents emphasized chores and time use rules contribute any significant effects, and parental discipline is modestly but significantly *negative* in its impact on educational attainment. That this applies more to daughters than to sons suggests that daughters have more leeway to explore the outside world if they enjoy a more permissive atmosphere at home, with fewer restrictions and less punishment for breaking parental rules. Earlier findings to the effect that economics, family size, and family composition affect parental affection are no doubt relevant here—parental affection may be of crucial significance in early childhood—but family structural characteristics are more significant for educational attainment because they either enhance or restrict the opportunities families can provide to their adolescent children.

Our results are consistent with a decades-long tradition in the social sciences that was premised exclusively on the grounds of environmental influence. Researchers took the finding that social class differences in young people's backgrounds affect their adult achievement as evidence that differences in the family environment during the childrearing years enhance or impede the intellectual, educational, and occupational achievements of the offspring for a lifetime. From that

interpretation followed the policy recommendation that educators and parents should try as much as possible to rear children the way upper-middle-class, well-educated parents do.

If working-class parents cannot or will not follow such advice, then the schools should provide compensatory experiences for these children. In recent decades, similar compensatory opportunities have been attempted for preschool children also, through Head Start programs and educational TV programs like Sesame Street. This optimistic can-do line of reasoning assumes that most of the variation in behavior—by social class, race, or sex—is environmentally produced, or “socially constructed” in the language of today’s postmodernist theories. The consequence has been that social scientists and childrearing “experts” have promised more than they can deliver.

The missing variables that challenge “family socialization effects” are the genetic contributions of parents to their biological children. We transmit many primary individual characteristics to our children that have little to do with our childrearing practices, including skin color, hereditary predispositions toward numerous diseases, eventual height and weight, temperament, and personality. A fundamental error in studies of family effects is not giving due consideration to the fact that the family “environment” includes these and other genetic contributions. Genetic characteristics place limits on the extent to which childrearing practices per se can produce significant departures from the inherent predispositions of a child. As Sandra Scarr explains: “Feeding a well-nourished but short child more and more will not give him the stature of a basketball player. Feeding a below-average intellect more and more information will not make her brilliant. Exposing a shy child to socially demanding events will not make him feel less shy. The child with a below-average intellect may gain some specific skills and helpful knowledge of how to behave in specific situations, but their enduring intellectual and personality characteristics will not be fundamentally changed” (Scarr 1993).

To suggest that shared genes may play an important role in the influence of parents’ educational attainment on children’s educational attainment does not mean that better-educated parents’ financial ability to assure high quality schooling and other cultural advantages such as books and travel are not important contributors to the intellectual curiosity and social skills of children. Studies based on the Wisconsin Longitudinal Study (WLS) have shown that even when the IQ of high school students (tested when they were still in school) is controlled in

an analysis of adult occupational status attainment, parents’ education and their encouragement of their children’s aspirations remain important contributors to their children’s success in life (Sewell, Hauser, and Featherman 1976). Our intent here is only to suggest that a desirable degree of caution is appropriate in the interpretation of family socialization effects as purely due to environmental influences; to the extent that parental genes contribute to children’s characteristics, there are limitations to the effectiveness of any social or educational program to narrow social class differences or to compensate for the lesser educational performance of children born to poorly educated, less genetically endowed parents. In a later section of this chapter we will return to a discussion of the role of genes in intelligence and personality.

But for now, we turn to the next empirical step in the sequential unfolding of the developmental trajectory—the personality characteristics of our respondents.

#### DETERMINANTS AND CORRELATES OF PERSONALITY TRAITS

The MIDUS survey included thirty self-ratings of “how well each of the following describes you” (not at all, a little, some, a lot). Factor analysis yielded six scales similar to those found in personality trait literature. The descriptors for each of the six scales are as follows (see table 7.1 for the psychometric properties of the scales):

- Agency: self-confident, forceful, assertive, outspoken, dominant
- Communion (agreeableness): helpful, warm, caring, soft-hearted, sympathetic
- Conscientiousness: organized, responsible, hardworking, (not) careless
- Extroversion: outgoing, friendly, lively, active, talkative
- Openness to experience: creative, imaginative, intelligent, curious, broad-minded, adventurous, sophisticated
- Neuroticism: worrying, nervous, moody, (not) calm

As discussed in the introduction to this chapter, these personality traits are known to become established by early adulthood and to show little variation across the life course until very old age. In the MIDUS sample, the only significant correlation of a personality trait with age is neuroticism, which declines with age, but at a modest  $r$  of  $-.16$ . Preliminary analysis of the scales in our survey shows significant sex and educational differences: men score higher than women on agency and

openness to experience; women score higher than men on communion, conscientiousness, and neuroticism. Better-educated adults score higher than those with less education on agency and openness to experience. In an analysis focused on predicting adult social responsibility, we have particular interest in agency, communion, and conscientiousness: communion has priority because it taps nurturant and empathic characteristics that would predispose to caring for others in both private and public life, and agency and conscientiousness tap drive and motivation to perform as responsible actors.

A long history of research on sex differences in personality traits has shown significant tendencies for men to score higher than women on agency, and for women to score higher than men on communion (or agreeableness). Several decades ago these two traits often carried the labels of masculinity and femininity rather than agency and communion (e.g., Bem 1981; Spence and Helmreich 1978). Contemporary preference is for the agency/communion labels, in part to avoid reliance on sex stereotypes, and in part to bypass any confrontation with the questions of whether or the extent to which innate biological sex differences are reflected in these personality scales. In today's political climate, charged as it is with sex and gender issues, to speak of men high on communion or women high on agency carries a less pejorative tone than to speak of men high on femininity or women high on masculinity. By the same token, to argue that social responsibility is most likely to be prevalent if adults are high on both communion and agency (nurturance combined with a drive to act upon that nurturance) may be more politically palatable than to argue in favor of androgyny defined as high femininity combined with high masculinity.

For reasons we will explore in the next section, our preference for labeling the scales agency and communion does *not* imply any assumption that sex differences on these personality scales are purely the effect of differential parental socialization of sons versus daughters or broader societal pressure for girls to be nurturant and empathic and boys to be agentic and aggressive.

But let us begin with empirical evidence from the MIDUS survey. There are clearly highly significant sex differences on the two scales, with  $\chi^2$ s of 65.2 (significant at the .001 level) on the agency scale, and 229.5 (significant at the .001 level) on the communion scale. If we examine the full range of scores on these scales, separately for men and women, another point becomes very clear. As seen in the histograms in figures 7.2 and 7.3, there is far more variation *within* sex than *between*

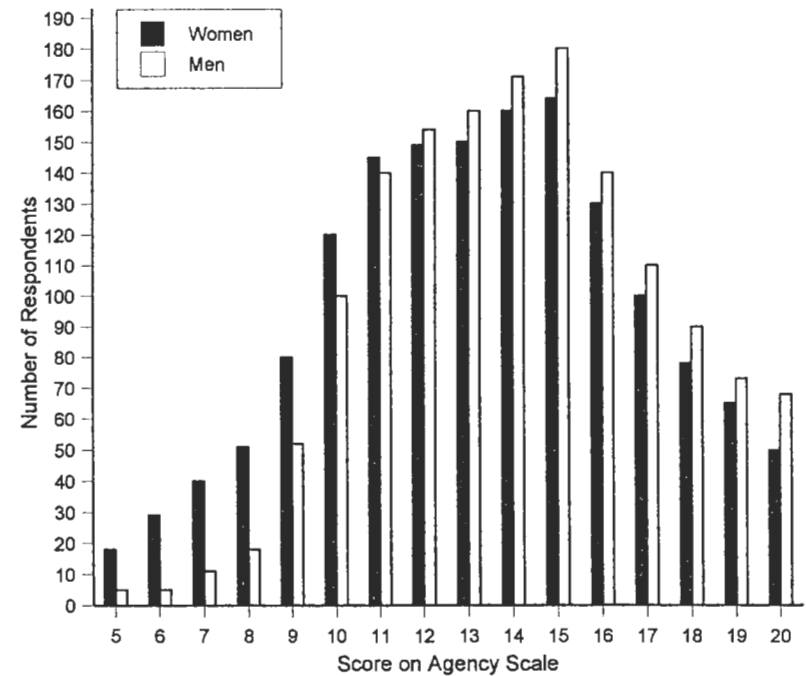


FIGURE 7.2. Case distribution of scores on agency personality scale, by sex. Sex difference is highly significant ( $p \leq .001$ ); mean score for men is 14.0 (SD = 3.1), for women, 13.3 (SD = 3.5).

the sexes. The overwhelming majority of both men and women show a wide distribution of similar scores on both scales. It is at the tails of both distributions that sex differences are most apparent: women exceed men at a ratio of 2:1 at the *low* end of the agency scale and at the *high* end of the communion scale. Note too, that agency scores approximate a normal distribution, whereas scores on the communion scale are heavily tipped to the high end for both sexes. Like parental affection, which we earlier noted was heavily skewed to the high end of that scale (see figure 7.1), the communion scale taps the general tendency of our species toward sociality and empathic concern for others. Love and trust laid down in childhood by parental affection and care have long-term consequences for similar qualities in adulthood. We will test this empirically by positing that high parental affection in childhood and adolescence will be a significant predictor of adult personality traits, in particular communion and conscientiousness.

The fact that there is more variation within sex than between the



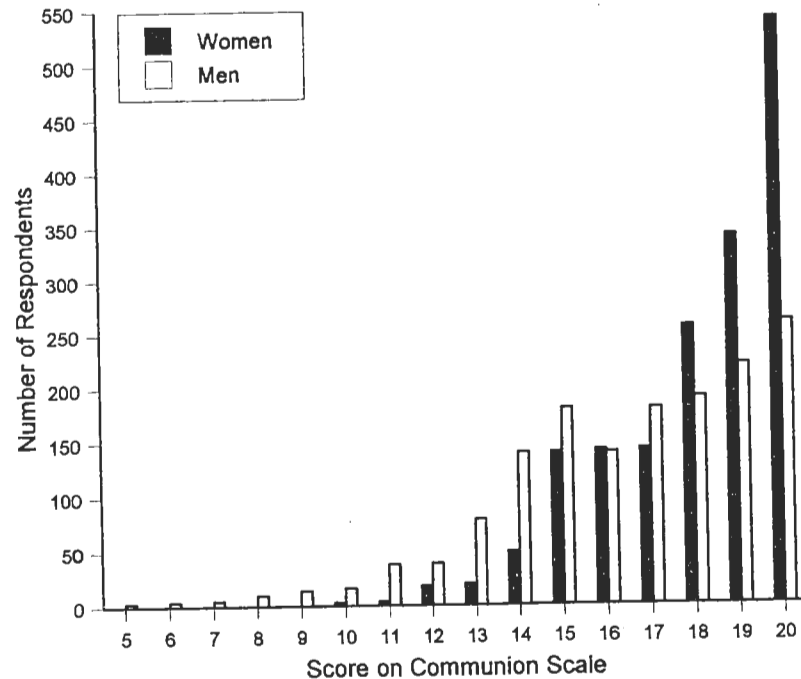


FIGURE 7.3. Case distribution of scores on communion personality scale, by sex. Sex difference is highly significant ( $p \leq .001$ ); mean score for men is 16.7 (SD = 2.6), for women, 18.1 (SD = 2.1).

sexes does not mean small sex differences on a scale are not important in a larger social context. It is a well-known law of normally distributed traits that moderate mean differences may translate into huge differences at the extremes. At issue is a confusion between a population mean and the proportion of that population at selective cutoff points. In many life choices, the extremes are what matter. For example, if a trait is very important for a highly selected occupation, say science or engineering, the pool of potential applicants is at the extremes of measures such as agency, spatial rotation, or mathematical ability, with the result that far more men than women will qualify for engineering or scientific training.

The module on early family life in the MIDUS survey did not include any measures on parental differences in socializing their children along sex-stereotypic lines. That we did not include such measures was not an oversight, but was based on a review of the research on this issue. There is no solid empirical evidence that parents treat sons and

daughters differently. A major meta-analysis of 172 studies of differential socialization of boys and girls (Lytton and Romney 1991) failed to show any pervasive and significant differences. In samples from North America and other parts of the world, which involved methods varying from direct observation to parent reports and child reports, and with significant variance in the year of publication (with some being unpublished), no differences were found by sex of child across a number of socialization dimensions, including parent-child interaction, encouragement of achievement, warmth, restrictiveness, discipline, or emphasis on clarity and reasoning.

The major significant difference Lytton and Romney found was in studies on the encouragement of sex-typed activities: dolls and art supplies were more frequent choices for daughters, trucks and trains for sons. However, this sex differentiation in parental choice of children's toys may be due to parental compliance with their children's requests far more than any parental imposition of sex stereotypes. An interesting cartoon in an issue of the *New Yorker* magazine a few years ago captured this point in an amusing way: in the cartoon a father observes a daughter cooing to her doll as she beds it down; he urges her to play with a new battery-operated truck he bought for her, only to find her later cooing to the truck as she tucks it into her doll's crib! The only other pattern Lytton and Romney report from a few studies is for sons to receive harsher physical punishment than daughters do. Here too, however, as we noted earlier, harsher punishment of sons than of daughters may reflect greater infraction of rules and more deviant behavior by boys than by girls.

The implication of the meta-analysis results is that personality trait differences between men and women may reflect characteristics they have had from birth, first in infancy as temperamental characteristics, later in development as personality traits. This means that some significant proportion of the personality differences between adult men and women is rooted in biology rather than parental socialization practices. To the extent this is the case, we predicted that any model of family influences on personality traits of children will explain only a small proportion of the variation on such traits, and that despite an array of family variables—parental characteristics, family structure, and child-rearing styles—the sex of respondents will remain an important and significant net predictor of personality trait variation. We will return to this issue in a section to follow on genetic and environmental effects on development.

This is *not* to say that parents have no predictable effects on children's personalities, only to say that the effects will be modest. There is every reason to expect that parents' own qualities of caring and generosity toward others will be mirrored in greater empathy and nurturance on the part of the children they rear. A review of the literature on this topic by Nancy Eisenberg (1992) reports numerous studies showing that parental modeling of altruism and generosity is mirrored in comparable qualities in children. For example, the adults who rescued Jews in Nazi Europe (Oliner and Oliner 1988) and the activists involved in the Freedom Riders movement in the South in the 1960s (Rosenham 1970) described their parents as having unusually high commitments to service and caring for others, as being parents who stood as moral exemplars for their own tendencies. One Freedom Rider activist reported that his father had carried him on his shoulders during the Sacco-Vanzetti parades, another that his father had fought on the side of the Loyalists in the Spanish Civil War, yet another that his mother "felt close to Jesus" and devoted her life to Christian education (Eisenberg 1992, 89). Similarly, the Oliners found that the rescuers of Jews in Europe reported that their parents had preached the universality of ethical standards, which they then incorporated into their own value system and acted out as rescuers of Jews (Oliner and Oliner 1988). John and Beatrice Whiting reported similar findings from cross-cultural analyses to the effect that cultures in which children are routinely assigned responsibilities for others are particularly prosocial societies (Whiting and Whiting 1973, 1975). Based on the findings of studies like these, we predicted that parental generativity and an early family life marked by the importance of religion would be significantly related to high scores on communion among our MIDUS respondents.

Table 7.11 brings together the relevant array of parental and early family characteristics as predictors of four personality traits—agency, communion, conscientiousness, and openness to experience. The major findings from these multivariate regression analyses are as follows:

1. Communion versus agency. Both personality traits are affected by the extent to which the respondents' parents were models of generosity and generativity themselves, showed high affection to their children, and placed a strong emphasis on how the children used their time and contributed to domestic chores. Beyond these shared predictors, however, a different set of factors significantly predict the two personality traits: Agency is enhanced by education, whereas communion is more typical of those with less education. Men are higher on agency, women

TABLE 7.11 Regression of Selected Personality Scales on Family of Origin Characteristics, Respondents' Sex, and Education (beta coefficients)

Variable	Agency	Communion	Conscientiousness	Openness to Experience
Premarital parental characteristics				
Generativity	.064**	.183***	-.004	.097***
Religiosity	-.016	.046*	.050*	.006
Averaged educational attainment	.018	-.025	-.036	.098***
Family structure				
Family composition <sup>a</sup>	-.024	-.053**	.018	-.035*
Sibship size	-.024	.026	-.019	-.019
Respondent oldest child	.015	-.010	.037*	.005
Respondent youngest child	-.063**	-.007	-.029	-.046*
Childrearing patterns				
Parental affection	.066**	.103***	.122***	.032
Parental discipline	.005	-.010	.007	.007
Chores/time-use rules	.131***	.072***	.081***	.102***
Respondent's characteristics				
Sex <sup>b</sup>	-.117***	.260***	.122***	-.072***
Educational attainment	.108***	-.046*	.117***	.180***
R <sup>2</sup>	.066***	.155***	.059***	.089***
N	2,610	2,614	2,614	2,607

Note: Base is two-parental figure families of origin.

<sup>a</sup> 1 = both biological parents; 0 = other.

<sup>b</sup> 1 = male; 2 = female.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

on communion, and judging by the size of the standardized coefficients, sex is *the* strongest predictor of communion, second only to chores/time use rules as a predictor of agency. The importance of religion in the early family predisposes to communion but has no significant relationship to agency.

Birth order has no effect on communion, but those who were the youngest children in their families are slightly less apt to be high on agency. As previously noted, youngest children are less apt to report high levels of discipline and supervision by their parents, with the possible result of less motivation to succeed than oldest children have, as indicated by the higher educational attainment of firstborns. Both John Modell (1997) and Judith Harris (1998, 365–78), among many others, have been highly critical of any claims of birth order effects on personality unless an analysis includes measures on family size and socioeco-

conomic status. Since both measures are included in these equations, and results are consistent with previous tables including birth order, even this modest result on the effect of youngest child status is of interest. Note as well, that youngest children are significantly *less* apt to be high on openness to experience, just the reverse of Frank Sulloway's (1996) claim that lastborn children tend to have rebellious natures and often become creative pursuers of new ideas. In our data set, lastborn children are *less* curious, adventurous, and imaginative than children of other birth order positions.

2. Conscientiousness. A good childhood foundation of parental affection, exposure early on to the religious beliefs of parents, being female, and being an oldest child are the significant predictors of adult conscientiousness. Work habits acquired from carrying responsibility for domestic chores as children combined with high levels of schooling add to the profile of highly conscientious adults. To some, this profile may project an image of the Protestant work ethic, but religious affiliation does not show any relationship to scores on the conscientiousness scale in our data set (data not shown).

3. Openness to experience. Educational attainment is the most significant predictor of high scores on this personality trait, and interestingly both parental educational attainment and respondents' own attainment contribute independently to high scores on this scale. Educated parents who are generous and sociable themselves may provide children with a wider array of social contacts, more sharing of books and ideas, and encouragement of originality, all of which would predispose to the child's motivation in school work and subsequent status attainment. The fact that men score higher on this trait, coupled with the relevance of educational attainment of both parent and child, suggests some genetic predisposition is also a factor in producing high scores on openness: "intelligent" and "curious" are self-descriptors in this scale, proxies in some sense for the high heredity component in intelligence. Across numerous studies, at least *half* of the variation in IQ scores are due to inherited genes. (An excellent review of this literature is a special 1997 issue of the journal *Intelligence*. See especially essays by Plomin and Petrill and by Rowe.)

Despite the inclusion of twelve predictor variables in these equations on personality traits, the amount of explained variance is modest, with  $R^2$ s ranging only from .06 to .16. The equations contain some degree of genetic contamination because they are based on biological families only. Even assuming the effects reported are environmental, it

is clear from the small amount of variance explained that more than family structure and child socialization is involved in personality development. In the section to follow, we summarize some of the major contributions behavioral genetics has made to understanding the influence of genes on intelligence and personality.

#### GENETIC AND SOCIALIZATION EFFECTS ON INTELLIGENCE AND PERSONALITY

It is ironic that the amount of behavioral genetics research to show environmental effects *net* of genetic effects exceeds the total of all the social science research presuming to show the great importance of family environmental effects alone (Rowe 1997). Optimal child development clearly depends on an exposure process that provides *opportunities* to learn, but children do not gain equally with each exposure because their genetic endowment affects their *capacity to learn*. What follows is a necessarily brief overview of major findings from thirty years of research in behavioral genetics that illustrates why an adequate theory of development should embrace both genes and environment. (For a useful technical primer on behavioral genetics, see Plomin 1990; for a general overview for the nonspecialist, see Gallagher 1996 and Wright 1998; for detailed overviews of findings relevant to childrearing and personality, see Eaves, Eysenck, and Martin 1989, Rowe 1994, Scarr 1992, Scarr and McCartney 1983, and Wright 1998; and for selected special studies on siblings, adopted children, and twins, see Heath et al. 1992, Hetherington, Reiss, and Plomin 1994, Plomin and Petrill 1997, and Waller et al. 1990.)

The most significant research areas that demonstrate the relative contribution of genes and family environment are twin and adoption studies. If asked whom adopted children are most like in intelligence and personality—their adoptive parents or their biological parents—most sociologists would likely claim that adopted children are "obviously" more like their adoptive parents than the biological parents they have never known. The evidence, however, is just the reverse: adopted children share more characteristics with their biological parents than with their adoptive parents. So too, identical twins reared in separate adoptive families are more like each other than they are like their genetically unrelated siblings.

It is particularly interesting to note that genetic contributions to many individual characteristics *increase* with age. For example, studies of young adoptive siblings, that is, unrelated children brought up to-

gether by the same adoptive parents, show a correlation in IQ of about .30, suggesting that almost a third of the variance in IQ is attributable to their shared family environment. But follow-up studies of the same adoptive children years later show a steady *decline* in these correlations. In one such study, the IQ correlation of unrelated children in the same family was .26 at age eight, but ten years later (at age eighteen) the correlation was  $-.01$ , suggesting that family environmental effects on IQ decline to negligible levels by late adolescence (Plomin and Petrill 1997). The reason for this decline taps a general developmental process behavioral geneticists have traced: beyond early childhood, individuals actively seek out peers and social environments more to their liking and in accord with their own personality characteristics, a process behavioral geneticists call "niche selection" (Scarr and McCartney 1983). We are all familiar with this phenomenon in a geographic sense, illustrated, for example, by the congregation of beatniks in Greenwich Village in the 1950s, hippies in San Francisco or the backwoods of Marin County in the 1960s. Since the 1960s' Age of Aquarius, thousands have been drawn each year to southwestern meccas in Sedona and Sante Fe (Gallagher 1996). In the 1990s the Northwest began to draw numerous armed survivalists to its sparsely populated mountains and canyons.

Niche selection is also dramatically illustrated in child development. As a preschooler, the young child's social circle is largely restricted to family members and neighborhood playmates, hence limiting the possibility for the child to freely choose with whom to interact and play. Upon school entry, the number of peers expands permitting the child far more ability to select congenial friends. Niche selection that is most apparent among young schoolchildren is their increasing preference for same-sex playmates and friends. Between four and six years of age, there is a sharp increase in the percent of playtime that children spend with children of their own sex, a growing apart of male and female that persists until pubertal changes stimulate a renewed interest in the other sex (Maccoby 1998; Maccoby and Jacklin 1987).

There have been numerous theories to explain this prolonged period of same-sex segregation: different metabolic rates such that boys prefer rougher, more active play; the developmental needs of boys to draw away from mother at an earlier age to acquire a male identity; possibly some genetic programming shared with other primates to prefer different types of play activity. Like other primates, the young human male engages in activity away from the core of the family or troop

to engage in male play that prepares him for aggressively seeking a place in the social hierarchy, while the young female remains closer to the core of the family or troop, which prepares her through practice for her distinctive reproductive role in caring for the young. However much kindergarten teachers urge boys and girls to play together, they typically face opposition: the boys try to exclude girls from their fortress building or rough competitive play, whereas girls try to exclude boys from disrupting their dollhouse corners. It has often puzzled observers to note that males and females who grow up in intimate physical association with each other are rarely sexually attracted to each other when they enter adolescence, whether they be siblings in Western societies, unrelated children on an Israeli kibbutz, or affianced young girls in southern China, who live in close contact with their betrothed in their future parents-in-law's household for years before their marriages (Wolf 1995). In the latter example, Arthur Wolf found that this lack of sexual interest at pubescence sometimes resulted in the couple resisting consummation of the marriage and often in low rates of fertility and higher rates of extramarital sex, if not divorce. Eleanor Maccoby extrapolates from such examples to suggest that children's spontaneous avoidance of the other sex and their preference for same-sex groups up to adolescence may serve the biological function of keeping the other sex within the pool of potential mates (Maccoby 1998, 94). Gender segregation among children, like the incest taboo that averts inbreeding, may reflect genetic as well as cultural influences.

Adoption studies have been extremely useful as a corrective against narrowly defined theories of family socialization effects on children. (See Rowe 1994 for a review and critique of studies that presumed to show family socialization effects.) But it is twin studies that permit some actual calculation of genetic contributions to personality traits. In the MIDUS analysis reported above, social variables explained only a small proportion of the variance in personality, leaving room for the influence of genetic factors in some part of the unexplained residual. Estimates of the contribution of heredity in twin studies are premised on the fact that monozygotic (MZ) twins share 100% of their genes, whereas dizygotic (DZ) twins on average share 50% of their genes. Hence, if the correlation between scores on a trait is higher for MZ twins than DZ twins, the difference is probably due to genetic effects (assuming common environmental sources are roughly the same for the two types of twins). A widely used estimate of the heredity compo-

ment ( $h^2$ ) in many personality and behavioral traits is calculated by doubling the difference in intraclass correlations between MZ and DZ same-sex twins (Falconer 1981).

A number of twin studies have found that 40–60% of the variance in personality is explained by heredity. (See Rowe 1994 for an overview and summary of such studies). We do not have to rely merely on other studies, however, because our research network obtained a very large sample of adult twins who completed the same instruments as all our MIDUS respondents. The sample was developed through cooperation with a national polling organization that added one question to each weekly survey they conducted: Are you or is any member of your family a twin? When a twin was located, the interviewers asked for the name and location of the other twin and permission to approach each for a special study. Over the course of only a few months, a large number of twins were identified from such surveys; a short screening questionnaire designed by a behavioral geneticist confirmed zygosity; and cases were selected to provide a balanced age and sex distribution of twins, each of whom responded to the same telephone and self-administered instruments as had all other MIDUS respondents. As a result, we can calculate the heredity component of the personality traits we have been analyzing with identical scales provided by monozygotic and dizygotic twins. Table 7.12 shows the results of the heredity calculations for four personality traits—agency, communion, conscientiousness, and openness to experience—using the data from close to one thousand cases of twin pairs.

TABLE 7.12 Heredity Component ( $h^2$ ) of Selected Personality Scales from MIDUS Twin Sample

Scale	Monozygotic	Dizygotic		$h^2$ (%)
		Same Sex	Opposite Sex	
Communion	.35***	.12*	.07 n.s.	46
Agency	.45***	.24***	.01 n.s.	42
Conscientiousness	.47***	.20***	.15*	42
Openness to experience	.41***	.24***	.18**	34
N	330–67	307–52	214–62	

$h^2$  = two times the difference in intraclass correlations between monozygotic and same-sex dizygotic twins,  $2x(MZr - DZr)$ . Base Ns vary because correlations were computed using pairwise deletion.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Thus, for example, we can determine that monozygotic twins show a significant intraclass correlation on the agency scale of .45, but same-sex dizygotic twins only .24, with a difference between them of .21. Since monozygotic twins share *all* their genes, but dizygotic twins only *half* their genes, the heredity component estimate is two times that difference, or 42%. As shown in the last column of table 7.12, the heredity component to all four personality scales ranges from a *third* to *almost half*. Note too that the two scales with the greatest sex difference—agency and communion—are precisely the two scales on which *opposite* sex fraternal twins do not show any significant intraclass correlation.

Not shown in table 7.12 are even higher heredity components to the extroversion and neuroticism scales, with an estimated  $h^2$  of 70% for extroversion, 56% for neuroticism. These estimates are very close to those found in other twin studies (e.g., Heath et al. 1992; Rowe 1994; Rushton et al. 1986). For example, Heath and his associates (1992) reported 73% heritability for extroversion, 63% for neuroticism, in a study of special interest because it relied not only on each twin's own self-ratings but ratings of their co-twins, with good agreement between self reports and co-twin reports on both personality measures.

Rushton and his colleagues (1986) provide particularly interesting data on the genetic component to personality traits based on analysis of adult twin pairs from the University of London Institute of Psychiatry Volunteer Twin Register. Their measures include many multi-item scales from numerous standardized personality trait inventories. Item selection was dictated by their desire to measure several dimensions of two primary constructs, altruism and aggression. Analogous to our communion scale are several of the scales they used to measure prosocial factors: for example, sixteen items on nurturance from the Jackson Personality Research Form (Jackson 1974) (e.g., a positively keyed item, "I often take young people under my wing," or a negatively keyed item, "I don't like it when friends ask to borrow my possessions"); a twenty-item altruism scale based on specific behaviors (e.g., "I have donated blood" or "I have given directions to a stranger"); and a thirty-three-item emotional empathy scale (a typical item being "I like to watch people open presents"). The two major measures selected to tap the broad construct of aggression were twenty-three items on aggressiveness from the Interpersonal Behavior Survey (Mauger and Adkinson 1980) (e.g., "some people think I have a violent temper") and a twenty-four-item assertiveness scale, also drawn from the Interpersonal Behavior Survey (a typical positively keyed item "I usually say

something to a person who has been unfair" and a typical negatively keyed item "I rarely criticize other people").

The three prosocial scales are significantly *positively* correlated (e.g.,  $r = .43$ , significant at the .001 level, for altruism and nurturance), somewhat more strongly than the two scales on aggressiveness and assertiveness ( $r = .26$ , significant at the .001 level). Significant *negative* correlations were reported between the aggressiveness scale and all three prosocial scales ( $r$ 's of  $-.23$ ,  $-.37$ , and  $-.27$ ), but much weaker negative correlations between assertiveness and empathy ( $-.10$ ), and actually *positive* correlations between assertiveness and nurturance (.07) and altruism (.30). The positive correlations are of particular interest because our scale on communion is most closely matched with nurturance, and agency, with assertiveness. The MIDUS scales do not tap anything close to the "violent temper" and interpersonal hostility measured by the aggressiveness scale in the British study. By contrast, the combination of assertiveness and altruism is a profile close to that of the rescuers in the Oliner study (Oliner and Oliner 1988) and to that of moral exemplars in Anne Colby and William Damon's study (1992), findings relevant to our hypothesis that individuals who are particularly outstanding in socially responsible behavior in adulthood draw on a combination of warmth and a caring disposition (the communion scale in our MIDUS study, nurturance in the British study), and forceful, purposive action (the agency scale in MIDUS, assertiveness in the British study).

At issue here, however, is the extent to which Rushton and his colleagues found significant evidence of heritability in their five measures of altruism and aggression. Comparing the intraclass correlations of MZ twins with same-sex DZ twin pairs, Rushton reports the following broad heritability estimates: 56% for altruism, 68% for empathy, 70% for nurturance, 72% for aggressiveness, and 64% for assertiveness. These are higher estimates than in the MIDUS personality scales, perhaps due to the far greater number of items in each of the British scales than in the MIDUS scales, and the inclusion of actual social behavior in the British scales (e.g. reports in the British study of actual blood donations or frequency of criticizing other people compared to the self-ratings on descriptive adjectives, e.g., assertive, helpful, outspoken, in MIDUS).

Note, too, that in research on the heritability of personality traits, the amount of variance in individual differences that is explained (40–70%) is far in excess of most published research in professional social science journals, where studies explaining less than 10% of the variance

in the phenomenon under study are often considered important contributions to knowledge. To identify the extent to which intelligence, social behavior, or personality traits reflect a genetic predisposition is an important achievement, but much remains to be explored in research on the neurophysiological pathways through which genes operate. Genes only code for the production of proteins. A given genotype has no necessary one-to-one correspondence with a resulting observed phenotype; there is great variation in phenotypes depending on nongenetic influences in the course of human development. One of the tasks of genetic analysis is to explore the probabilistic *limits*, or *reaction range*, in the natural environment and to discover the specific environmental agents that affect position within a given reaction range (Scarr 1992; Scarr and McCartney 1983). Geneticists also warn us that studies of adopted children are limited by the fact that such children are carefully screened before placement, with the result that there has not been sufficient research on the low and high ends of intelligence or personality, extremes at which the environment may play a much larger role (Plomin and Petrill 1997).

The underlying paradigm in behavioral genetics is *not* biological determinism, but rather gene-environment interactions and mutual influences one on the other, a paradigm yet to be accepted by most human developmental scientists, nowhere more so than in studies of parental influence on children. Unlike most social sciences, the biological sciences take an evolutionary perspective. In seeking to understand human behavioral traits, biologists do not limit their focus to the history of just a single ontogeny. In speaking to this point, David Rowe draws a helpful analogy: "One might seek the source of the Nile at the Aswan Dam, forgetting entirely the more than 3500 miles of river upstream reaching into the African continent into what the colonial explorers named the Mountains of the Moon and Lake Victoria. The fallacy [in developmental psychology] is in believing that what forms human nature is the 14-year period of rearing, rather than a heavier weight of cultural history, and ultimately human evolutionary roots" (Rowe 1994, 163).

There is some solace to contemporary parents in this perspective, if they were to realize that evolution has not left the development of our species to the easy mercy of variations in their environments, or to any specific set of rules for human parenting. Humans are adaptive organisms who seek out "niches" congenial to their particular requirements and temperaments. We select environments that suit our predispositions (assuming there are social opportunities to do so) and avoid those

that are not suited to us or are too difficult for us. Furthermore, the *upside* of high heritability is that ordinary parents probably have similar effects on their children's development as culturally defined super-parents have. While it is true that the brightest parents are more likely to have brighter children, most of the brightest children in any generation come from parents with average intelligence, for the simple reason that there are so many more average parents, and even with a high degree of assortative mating for ability, husband-wife correlations on IQ show an average correlation of only .35 (Johnson, Ahern, and Coles 1980). In fact Ronald Johnson and his colleagues claim there has been a secular *decline* in assortative mating for ability: spouse correlations on IQ averaged .47 calculated from fourteen samples in the 1928–46 period, but decreased to .29 when calculated from nineteen samples reported in the 1962–79 period. Beyond the genes parents transmit to their children, how children turn out will depend on loving them and providing them with plentiful social opportunities “in a good enough environment that supports children's development *to become themselves*” (emphasis added), as Sandra Scarr urged in her presidential address to the Society for Research in Child Development (Scarr 1992, 15). Our species, after all, would not have survived for long if children were so vulnerable that they could be led off a normal developmental track by slight variations in parenting.

As yet we know relatively little about just how genes work in terms of the neurophysiological processes through which they affect behavior. Genes, after all, do not themselves contain any blueprint for behavior. Through the production of proteins, genes lead to structures in the brain and nervous system, which in turn affect behavior; hence the focus in much recent genetic and neurological research is on hormones and neurotransmitters, neuropeptides that serve as key modulators within the genetically provided emotional operating systems of the brain that coordinate behavioral, physiological, and psychological responses to life events.

In our analysis of the determinants of personality traits, we noted the persistence of sex as a major determinant net of all family and resource characteristics, which raises the question of what it is about the genetic component of sex that produces higher scores for women on communion and for men on agency. The full answer to this question is yet to be revealed, but there are some hints in recent research. A key hormone differentiating men from women is testosterone: adult males have five times the level of free testosterone that women have: on aver-

age 99 pg/ml for men, 19 pg/ml for women (Dabbs and deLaRue 1991). In a study of 306 university students that measured aggression and prosocial nurturance and took samples of salivary testosterone, Harris and her associates (1996) report two interesting results: first, for both sexes, testosterone level is positively correlated with aggression (+.32) and negatively correlated with prosocial nurturance (−.39); second, *within each sex*, the higher the testosterone, the higher the aggression and the lower the prosocial nurturance. This in no sense means it is *only* testosterone that plays such a role in the behavior and personality of women and men, because the study could not reveal whether it is testosterone alone or some metabolite of testosterone that is important in mediating these relationships, though it is interesting that both testosterone level and aggressive behavior decline with age, particularly in men. The study more modestly suggests that a multifactorial view of aggression is more appropriate, because both aggression and nurturance are also influenced by prior learning, other developmental influences, and probably other hormones as well.

Two possible supplementary neuromodulators may be serotonin and oxytocin, which evoke positive, warm feelings of comfort and have higher secretion levels in women than in men (Panksepp 1992). Thomas Insel, a psychoneuroendocrinologist, claims that oxytocin (OT) is an important neuropeptide that predisposes to affiliative behavior. It has long been known that a key function of OT is for uterine contractions during childbirth and for milk ejection afterward. Insel extends the involvement of OT to yet another function, mediated within the central nervous system, *social affiliation*. His research evidence is largely from experiments and comparative analyses of mammals other than humans, but he points out that human sexual interactions are also associated with increased OT secretion: for example, OT increases as much as *fivefold* with male ejaculation (Carmichael et al. 1987; Murphy et al. 1987), and lactating women often experience milk ejection during coitus (Fox and Knaggs 1969; Newton 1973). From different streams of research covering behavior, receptor regulation, and comparative neuroanatomy, Insel claims such results “provide a composite picture of OT's role in a variety of mammalian processes that appear behaviorally discrete but are functionally all aspects of social affiliation” (Insel 1992, 4). Whether behavior involves two adults, as in sexual intercourse or other intimate interaction, or an infant and an adult, the end result is that individuals are brought together to form social bonds. One interesting implication is that higher levels of OT in

women than in men stimulates women to be strongly motivated to seek intimate social ties with parents, friends, and children, intimate ties that in turn increase OT secretion—an interactive loop between hormones and behavior that is often found in neuroendocrinology.

Animal research has shown that when young mammals are kept in isolation, they show numerous signs of acute distress and separation anxiety which can be alleviated by injection of OT. Mihaly Csikszentmihalyi (1997) reports that being alone is a “downer” for most humans, with apathy, aversive motivation, and sadness increasing with prolonged social isolation. In studies using an Experience Sampling Method (ESM) that involves randomly beeping buzzers to which subjects respond by recording *where* and *with whom* they are and *how they feel* at that moment, people feel *best* when they are with close friends, next best with family, and *worst* when by themselves. It remains for future research to determine the role of OT in sex differences in the extent of nurturance and prosocial affiliative behavior and to determine the effects of social integration versus isolation on women compared to men. Sociality is so fundamental and persistent a characteristic of human and most other primates, it would be surprising not to find that it is influenced and reinforced by numerous biological factors.

One final cautionary note about genetic effects. Properly used, genetics refers very narrowly to DNA differences among individuals that are inherited from generation to generation. It does *not* refer to the vast majority of DNA that is the same for all of us, or to many DNA events that are *not* inherited, such as mutations in DNA in cells other than the sex cells. An organism’s phenotype, from behavior to personality to physical appearance, depends on the way its genotype has been expressed in environments that may vary considerably. Environmental change can trigger changes in one’s phenotype, just as one’s cumulative life history can, so that along with genetic legacy, one’s history is encoded in the wiring of the nervous system (Gallagher 1996, 124), not merely in the conscious memories of the past.

We return now to the sequential ordering of predictors of adult social responsibility. In doing so, we first give attention to the effects of early family life and personality traits on religiosity and generativity. Following that we analyze the determinants of normative obligations (obligations to family and close friends, civic obligations, and a general scale on altruism). The last step in our sequential analysis focuses on socially responsible behavior in the domains of family and community. At each stage, we bring forward significant predictors from previous

steps in the analysis so that we can test whether there are *direct* or *indirect* effects of the early determinants in the model on actual behavioral indices of social responsibility.

#### EFFECTS OF EARLY FAMILY AND PERSONALITY ON CURRENT RELIGIOSITY AND GENERATIVITY

In chapter 3 we found that generativity is the most important intervening variable between the demographic variables of age, sex, and education and the several dimensions of social responsibility in the domains of family and community. Now we explore what lies behind these findings as we pose the question of whether early family characteristics make their own contributions to the level of generativity and religiosity reported in adulthood. Because we have already found that religiosity increases in linear fashion with age whereas generativity peaks in midlife, we use an open age code in the multivariate analysis of religiosity, but a dummy age variable for the analysis of generativity, differentiating between middle-aged respondents and the combination of young and old respondents.

Table 7.13 shows two sets of regression equations each for religiosity and generativity: Model 1 is limited to early family variables and respondents’ age, sex, and education. Model 2 expands the predictor variables to include personality traits, so we can test whether early family characteristics have *direct* or *indirect* effects on adult religiosity and generativity. If family of origin characteristics have only *indirect* effects, their significance will be minimal when personality traits are introduced in model 2, but if their effects are *direct*, their significance will remain in the model 2 equations.

One primary result of this analysis is readily seen by comparing the coefficients in the model 1 and model 2 equations: the general tendency is for a retention of significance for the effects of early family characteristics on adult religiosity and generativity. In no case does any early family variable lose statistical significance in model 2 compared to model 1. Parental generativity, affection, religious salience, and chore assignment and time use supervision all have direct effects on the level of religiosity and generativity of adult respondents. Adding personality traits increases the overall amount of explained variance modestly for religiosity, with an increase from an  $R^2$  of .237 to .250, and more significantly for generativity, from an  $R^2$  of .107 to .256. Other major findings are as follows:

1. The level of cross-generational transmission of religiosity is strik-



TABLE 7.13 Regressions of Religiosity and Generativity on Family of Origin Characteristics (Model 1) and Family of Origin plus Personality Traits (Model 2) (beta coefficients)

Variable	Religiosity		Generativity	
	Model 1	Model 2	Model 1	Model 2
Parents' premarital characteristics				
Averaged educational attainment	-.087***	-.086***	.030	.033
Religiosity	.352***	.350***	.022	.012
Generativity	.005	-.018	.113***	.049*
Early family life				
Sibship size	.029	.023	.047*	.043*
Parental affection	.107***	.097***	.103***	.054**
Chores/time-use rules	.080***	.077***	.142***	.088***
Demographic characteristics of respondent				
Sex <sup>a</sup>	.159***	.126***	.059**	.011
Educational attainment	-.005	.007	.197***	.176***
Age <sup>b</sup>	.060***	.058**	.072***	.050**
Personality traits of respondent				
Communion	—	.126***	—	.250***
Agency	—	-.025	—	.252***
Conscientiousness	—	-.020	—	.071***
<i>R</i> <sup>2</sup>	.237***	.250***	.107***	.256***
<i>N</i>	2,653	2,636	2,652	2,652

<sup>a</sup> 1 = male; 2 = female.

<sup>b</sup> Because generativity has a curvilinear relationship to age, a dummy variable was created for the generativity equation, in which 1 = middle aged (40–59) and 0 = young (25–39) or old (60–74).

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

ing. In model 2, as in model 1, the religious emphasis of parents in early family life is the strongest predictor of current religiosity, as assessed by the size of the standardized beta coefficients.

2. Personality traits are the strongest predictors of respondents' generativity, especially the contributions of agency and communion, slightly less so for that of conscientiousness, thus confirming our prediction that generativity draws on the qualities of a warm and caring personality (indexed by the communion scale) and those of a motivated and driven one (captured by the agency scale). Parental modeling of generativity is highly predictive of adult generativity of respondents in model 1, but much reduced in its contribution once personality traits are entered in model 2. In light of our finding in the previous section that communion has a significant heredity component, it may also be the case that the measure of parental modeling of generativity con-

tains a comparable genetic component. There is undoubtedly a socialization factor involved here as well: if parents are generally helpful, friendly, and sociable toward people outside the family, the probability is strong that their children will be exposed to many family, friends, and kin and as a result will early on acquire social skills plus an interest and ability to be helpful toward other people.

3. In previous bivariate analysis, we found that religiosity increases with age, whereas generativity peaks in midlife; the same age effects are shown in multivariate analysis. Net of all other predictors shown, these age effects remain strong and significant.

4. Parental affection and parental emphasis on chores and time use are independent significant predictors of both religiosity and generativity, with or without personality variables in the equations.

5. Women report higher religiosity than men, net of all other predictors of religiosity, and this holds true even when personality measures are taken into account (i.e., the standardized beta coefficient on sex of respondent drops only from .159 to .126, significant at the .001 level, between the two models). By contrast, women score higher than men on generativity only in the model 1 equation. The sex difference in generativity in bivariate analysis is due to women's personality tendency to greater helpfulness and warmth toward others that is caught by the communion scale.

6. Educational attainment plays a different role in predicting religiosity than it does in generativity. Respondents from families with less-educated parents are more religious than those from well-educated families, with no added net effect of their own educational attainment. By contrast, the more education respondents have achieved on their own, the more their generativity is enhanced. Higher education adds to an individual's knowledge base in many subtle and tangible ways that contribute to a sense that one has a lot to offer others as an adult by way of teaching skills, modeling behavior, and providing counseling and advice. Higher education is also a gateway to human service occupations and professions that in turn contribute to an increasing mastery of skills to pass along to others by midlife.

7. Growing up in a large family is more conducive to generativity than growing up in a small family. As noted previously, larger groups require more delegation of tasks, with children from large families routinely contributing to domestic maintenance, which may predispose them to being of help and service to others generally, qualities caught by the generativity scale.

EFFECTS OF EARLY FAMILY, PERSONALITY, AND VALUES ON  
NORMATIVE OBLIGATIONS

Following our model of an expanding circle of predictors of adult social responsibility, the next step in the sequential analysis consists of multivariate analyses of the predictors of our three major normative obligation scales—obligations to family and close friends, civic obligations, and altruism. The best-fitting equations predicting variance in these three obligation scales are shown in table 7.14, the highlights of which are summarized as follows:

1. With only a few exceptions, there are no longer direct effects of early family variables; they have been largely absorbed by the inclusion

TABLE 7.14 Regression of Normative Obligations on Respondent Family of Origin Characteristics, Personality Traits and Values, and Demographic Characteristics (beta coefficients)

Variable	Normative Obligation Scales		
	Family	Civic	Altruism
Family of origin characteristics			
Parents' premarital characteristics			
Religiosity	-.012	-.018	-.038
Generativity	.092***	.034	.060**
Averaged educational characteristics	-.023	.026	-.018
Early family life			
Sibship size	-.014	-.019	.024
Parental affection	.067**	.017	.042*
Chores/time-use rules	-.002	.052**	.019
Personality traits and values			
Communion	.164***	.116***	.138***
Agency	-.016	.053**	.018
Religiosity	.041*	.082***	.098***
Generativity	.134***	.138***	.148***
Demographic characteristics			
Married/cohabiting <sup>a</sup>	.061***	.067***	-.004
Number of children reared/rearing	.015	-.073***	-.005
Sex <sup>b</sup>	.123***	.001	.078***
Age <sup>c</sup>	-.135***	.253***	.102***
Educational attainment	-.022	.100***	.061**
R <sup>2</sup>	.139***	.156***	.131***
N	2,636	2,636	2,636

<sup>a</sup> 1 = yes; 0 = no.

<sup>b</sup> 1 = male; 2 = female.

<sup>c</sup> 1 = middle-aged; 2 = young or old.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

of personality traits and values in predicting variation in normative obligations. For example, the effect of growing up in a family that emphasizes the importance of religion has no direct effect on normative obligations, its influence having been absorbed by current religiosity. By contrast, parental generativity and affection remain significant contributors to two of the three normative obligation scales—family obligations and altruism. Once again, this finding is consistent with the possibility that parents' generativity and affection have a component of inherited tendencies toward close attachment to primary group members and to service to others even when at some expense to themselves (the substantive emphasis of the items in the altruism scale). If despite the time-pressured quality of the childrearing phase of life, parents are seen as generous and helpful toward people *outside the family*, children grow up with numerous examples of parents extending themselves to others despite their own work and family responsibilities, thus blurring the boundary between primary family attachments and other people; such exposure may pave the way for a broad predisposition to altruism as defined by our scale—for example, a willingness to contribute time and money to social causes or to collect contributions for heart or cancer research if asked to do so.

2. The communion scale contributes an increment to felt obligation on all three normative obligation scales, whereas agency is significant only to civic obligations. Exercising civic obligations involves *active* engagement in the community, as indexed by voting, serving on a jury, or testifying in court. Adults low in agency may feel uncomfortable in public settings that require an active role in interaction with strangers and casual acquaintances.

3. Despite the inclusion of many sex-linked variables in these equations, sex of respondent remains a significant predictor of normative obligations: women feel more strongly obligated than men to family and close friends and to contributing to the community at some expense to themselves, but the sexes do not differ in level of civic obligations. Age and education also remain significant predictors: young people and those with less education score higher on family obligations, older and better-educated adults score higher on civic obligations and altruism.

TESTING THE DEVELOPMENTAL MODEL IN CONTRIBUTIONS  
TO FAMILY AND COMMUNITY

We have now reached the final step in the developmental trajectory model: a test of the extent to which the ground we have covered ex-

plains variation in the contributions respondents were making to the two domains of family and community. MIDUS contained six types of variables that are indices of behavioral responsibility to others. Three fall in the family domain: the amount of time devoted to advising and comforting family members, the amount of financial assistance given to nonresident family members, and the amount of time spent in actual hands-on caregiving to nonresident family members. The other three variables fall in the community domain: time devoted to volunteer work, financial contributions made to organizations, causes, or charities, and number of meetings of religious groups, unions or other professional groups, sports or social groups, or any other groups (excluding any required by employers) attended in the course of a month. Hands-on caregiving may be more a function of the need for such help by members of the family and requires living close enough to attend to such needs, which makes it too specialized a measure for our purposes in this analysis. Hence we concentrate on two measures for each of the domains: in the family domain, the time devoted to providing advice or comfort to family members (labeled family support), and the amount of money given to family members; in the community domain, the amount of time spent in volunteer work and the amount of money given to organizations, causes, or charities. Note that only one of these four measures, volunteer work, involves behavior restricted to local residence. Financial aid can be handled by mailing a check to a distant parent or grown child or to an organization or charity, whether local or national. Social and emotional support of a family member can be given by phone or occasional visits; it is not restricted to close proximity of residences.

A few additional words concerning the prevalence of the four behaviors are also appropriate. (See chapter 3 for greater detail.) The most prevalent behavior is providing social support to family members: 96% of the MIDUS respondents report giving *some* support to a family member, ranging from a low of only 84% by old lesser-educated men and a high of 100% by young better-educated women. Financial aid to family members, by contrast, is reported by only 50% of our respondents, the lowest proportion by young better-educated men (37%), the highest by old better-educated men (67%). Social support is twice as prevalent as financial assistance in the family domain.

Just the reverse profile holds for contributions in the community domain: 43% report doing *some* volunteer work, but 71% report making *some* financial contributions to organizations or charities. On vol-

unteer work, the lowest proportion doing some volunteer work is 26% by young lesser-educated men, the highest proportion (55%) by old better-educated women. On financial contributions to organizations or charities, the lowest proportion is by young lesser-educated men (55%), the highest (83%) by old better-educated men. As seen by these figures, men tend to give money more often than women, and women give of their time more than men do. In other analysis (data not shown here) the single instance in which we do *not* find sex differences in social responsibility is in comparing mainline Protestants with Christian fundamentalists. Like the profile shown throughout this chapter, among mainline Protestants, women give more time to both community and family members than men do. Among fundamentalists, by contrast, men are just as likely as women to contribute family support time and volunteer service in the community, a pattern sustained with statistical controls on education and total income. This interesting behavioral pattern is consistent with the teachings of Christian fundamentalist churches that encourage men to be active family members dedicated to service and to the spreading of the gospel to others in their communities (Willmer, Schmidt, and Smith 1998).

There are also differences between the family and community domains in the relationship between giving of time and giving of money: there is a significant correlation between doing volunteer work and contributing financially to organizations or causes ( $r = .24$ ), but in the family domain there is only an insignificant correlation of .05 between giving social support and giving money to family members. The emphasis in our analysis is only on the *giving* of support, not the *receiving* of social support, but it should be borne in mind that those who *give* also *get* in the family domain: the correlation between the two measures of social support is a very high .84. In data analysis not reported here, we found that the profile of predictors of *giving* social support also occurs for *getting* social support from family members. One last point worth noting: there is only a very minor tendency for those who give social support in the family domain to also be active in volunteer work ( $r = .07$ ), but financial assistance is somewhat more likely to characterize both the private domain of family and the public domain of organizations ( $r = .18$ ), the major reason being that giving money is strongly dependent of one's income resources.

The key questions in the analysis to follow are whether and the extent to which early family and personality traits retain any direct effect on socially responsible *behavior* in the domains of family and commu-

TABLE 7.15 Regressions of Time and Money Given in the Family Domain and the Community Domain on Respondent Early Family Characteristics, Personality Traits and Values, Normative Obligations, and Demographic Characteristics (beta coefficients)

Variable	Family Domain		Community Domain	
	Hours per month of support given to family members	\$ per month given to family members	Hours per month of volunteer work	\$ per month given to causes/organizations
Family of origin characteristics				
Generativity	.007	-.001	.005	-.017
Parental affection	.003	.039	.019	-.032
Chores/time-use rules	.002	.005	.024	-.014
Sibship size	.013	-.023	.012	.006
Personality traits and values				
Communion	.024	-.001	-.027	-.034
Agency	.033	.015	.030	.004
Religiosity	-.036	.002	.093***	.283***
Generativity	.069***	.068**	.150***	.086***
Normative obligations <sup>a</sup>	.053**	.084***	.059**	.047**
Demographic characteristics				
Married/cohabiting <sup>b</sup>	.171***	-.005	.044*	.111***
Number of children reared/rearing	.092***	.110***	.050**	.022
Sex <sup>c</sup>	.140***	-.070***	.048**	-.088***
Age <sup>d</sup>	-.231***	.075***	-.006	.073***
Educational attainment	-.114***	.081***	.125***	.210***
R <sup>2</sup>	.125***	.045***	.077***	.170***
N	2,724	2,721	2,724	2,721

<sup>a</sup> For the family domain, the family obligation scale is entered into the equation; for the community domain, the civic obligation scale is entered.

<sup>b</sup> 1 = yes; 0 = no.

<sup>c</sup> 1 = male; 2 = female.

<sup>d</sup> 1 = middle-aged; 0 = young or old.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

nity, or whether their influence is totally absorbed by the intermediary variables of values, norms, and the demographic characteristics of respondents. Table 7.15 provides the four regression equations on time and money contributions in the two domains of life. The most striking point to note in all four equations is that *none* of the family of origin variables and neither of the two personality traits (agency and communion) have any *direct* effects on the four dependent variables involved.

Their influence is totally absorbed by the more proximate variables of values, normative obligations, and demographic characteristics. Other major findings are as follows:

1. High contributions of time in both the family and community domains are given by married women who score high on generativity and normative obligations specific to the relevant domain (family norms and family support time or civic obligations and volunteer time) and who have reared (or are currently rearing) a number of children.

2. The major differences in predictors of time given to family compared to time given to volunteer service are these: in family domain, high supporters are young adults with limited education; by contrast, in the community domain it is better-educated adults and those with high scores on religiosity who engage in significantly more volunteer work than those with lesser education or lower scores on religiosity.

3. Financial contributions show a profile in both the family and community domains similar to time commitments in the effect of religiosity, generativity, and normative obligations. The major differences in financial aid compared to social support are sex, age, and education: in the family domain, men and older adults take the lead in giving money, women and younger adults in giving time to family members; in the community domain, it is the well educated who predominate in *both* volunteer work and financial contributions.

The fact that being married and having a large family are significant predictors of time contributions suggests that an enlargement of other indicators of *social embeddedness* will increase the amount of variance in the time estimates we can explain: this includes frequency of contact with family, kin, and friends and attendance at religious services, all of which involve primary groups and social interaction in the context of which social and emotional support can be expressed. In addition, we add three factors that represent potential *constraints* on helping behavior: the total hours respondents spend on the jobs they held, the hours devoted to domestic chores at home, and since poor health might limit helping behavior, current health status. The results appear in table 7.16.

The addition of the new social embeddedness and constraint variables increases the  $R^2$ s in the equations in table 7.16 compared to those in table 7.15: in family domain, from .125 to .145, and in the community domain, from .077 to .110. The inclusion of contact frequency with family, religious service attendance, and domestic chores—all sex-linked variables—reduces the significance level of respondent's sex from a coefficient of .140 (significant at the .001 level) in table 7.15 to

TABLE 7.16 Regressions of Time Devoted to Family and Friends and Volunteer Work on Values, Social Embeddedness, and Constraints on Helping Behavior (beta coefficients)

Variable	Family and Friends (Hours per month of social-emotional support)	Volunteer Work (Hours per month of volunteer work)
Values		
Generativity	.074***	.141***
Religiosity	.026	-.018
Normative obligations <sup>a</sup>	.056**	.069**
Social embeddedness		
Married/cohabiting <sup>b</sup>	.001	.013
Number of children reared/rearing	.072**	.074**
Frequent contact with family/kin	.084***	-.017
Frequent contact with friends	.027	.101***
Frequent religious service attendance	-.092**	.155***
Potential constraints on helping		
Health status <sup>c</sup>	-.023	-.013
Total hours employed per week	.020	-.075**
Total hours of domestic chores per week	.200***	.041
Demographic characteristics		
Sex <sup>d</sup>	.048*	-.010
Age <sup>e</sup>	-.231***	-.046
Educational attainment	-.094***	.118***
R <sup>2</sup>	.145***	.110***
N	2,886	2,886

<sup>a</sup> Family norms scale in family and friends equation, civic obligations scale in volunteer work equation.

<sup>b</sup> 1 = yes; 0 = no.

<sup>c</sup> Scale range = 1–10 (poor to excellent).

<sup>d</sup> 1 = male; 2 = female.

<sup>e</sup> 1 = middle-aged; 0 = young or old.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

only .048 (significant at the .05 level) in table 7.16; age and education remain essentially the same, with young adults and the less well educated putting in more hours in family support and the better educated doing more volunteer work. Several other findings have special interest because they relate in very different ways to time committed to family compared to community:

1. High frequency of social interaction with family increases time devoted to social-emotional support, but in the community domain, frequency of contact with friends and religious service attendance are the predictors of time devoted to volunteer service. For some adults,

interaction with friends can stimulate becoming involved in community affairs, and providing volunteer service may in turn be a route to enlarging one's friendship circle. In a similar way church attendance can stimulate volunteer service, as Robert Wuthnow's research has shown, and involvement as a volunteer, especially in religious groups, may enhance religious attendance (Wuthnow 1991, 1994).

2. The profile of constraint variables shows that the more hours adults spend on the job significantly reduces volunteer time. By contrast, the more hours spent on domestic chores, the *more*, not *less*, time is spent listening to and providing support to family and friends. Since hours on the job is controlled in these equations, time spent at home doing domestic chores means greater accessibility by phone and casual visits from both family members and friends. Health status had no effect.

One last empirical question remains: Are there different clusters of variables that predict one type of volunteer work from other types of service? The MIDUS instrument requested separate time estimates for volunteer work of four types: health-related volunteer work, school- or youth-oriented work, work for political organizations and causes, and any other type of service for an organization or charity. We regressed the same set of predictor variables shown in table 7.16 on each of these four types of volunteer work. Table 7.17 does not produce the full detail of coefficients and their significance for the four equations; rather, we rank the predictor variables by the size of their standardized beta coefficients and describe them in terms of the direction of their effects. This procedure simplifies comparisons across the four types of volunteer service.

High generativity is the only predictor variable that is significant in all four types of volunteer service. Frequent religious service attendance is a significant predictor of all but political volunteer work, a finding consistent with a *U.S. News and World Report* survey on volunteerism that reported 56% of adult volunteers said it was important to them that their services have a "spiritual basis" (Gerson 1997). Both political volunteer work and the residual "other" category clearly recruit participants from among the well-educated members of the community who score high on civic obligations. Age shows an interesting profile familiar to anyone who has visited hospitals or voted at election time: in both contexts, one quickly becomes aware that the volunteers are largely older adults and, in health facilities, largely women. In sharp contrast, the volunteers one encounters at a PTA meeting or youth

TABLE 7.17 Significant Predictors of Time Devoted to Volunteer Work, by Type of Organization or Cause, Ranked by Size of Standardized Beta Coefficients

Hospital or Other HEALTH-Related Volunteer Work	School or Other YOUTH-Related Volunteer Work	Volunteer Work for POLITICAL Organizations or Causes	Volunteer Work for Any OTHER Organization, Cause, or Charity
*** Older adults	*** Younger adults	** High generativity	*** Frequent contact with friends
** Women	*** Large family	** High civic obligations	*** Frequent religious service attendance
** High generativity	*** Frequent religious service attendance	* Older adults	*** Well educated
* Frequent religious service attendance	*** High generativity	* Well educated	*** High generativity
	** High domestic chores		*** Shorter work week
	** Less well educated		* High civic obligations

Note: Variables in the four equations that were not significant in any type of volunteer service: marital status, frequency of contact with family members, and current health status.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

group are apt to be young adults, both men and women, particularly if they have a large family, and among women, if they devote a relatively large amount of time to home care.

### CONCLUSION

We have covered considerable ground (and many pages!) in the analysis of the developmental trajectory of adult social responsibility. We provide an overview of our major findings in figure 7.4, which charts the significant *direct* effects between variables associated with one or another stage of development. This figure highlights only the major substantive variables in the developmental model, excluding any status, family structure, or demographic variables, which are summarized and discussed below. Had the design of MIDUS been limited to concurrent variables, we would have demonstrated that high levels of religiosity, generativity, and family and civic obligations are the primary determinants of the time committed to social support and financial assistance to family members and of the amount of volunteer service and financial contributions to organizations, causes, and charities.

The major contribution of retrospective measures on the family of origin is the provision of considerable *depth* to the developmental model by showing what lies behind and contributes to the concurrent ratings. As highlighted in figure 7.4, there are qualities associated with early family life that contribute to the developmental trajectory of adults who show high levels of social responsibility, including qualities respondents' parents brought to their marriage: high educational attainment, religious commitment, and the capacity for sociability and generosity to others (kin, neighbors, friends). These background characteristics of the parents are conducive to increased capacity to show love for and build trust in their children, to assign some responsibility for domestic chores to their youngsters, to supervise their use of time, and to set standards for their performance at school as at home. Families of origin with these qualities pave the way for the children to enter adulthood with compassionate concern for others, agreeable and nurturant personalities, and self-confidence sufficient to be active and assertive in dealing with the social worlds they participate in and provide service to.

From the demographic characteristics of the MIDUS respondents, we have also shown both status and life course predictors of numerous variables that entered the developmental model. Adults who have had fewer years of schooling tend to limit their contributions to others to

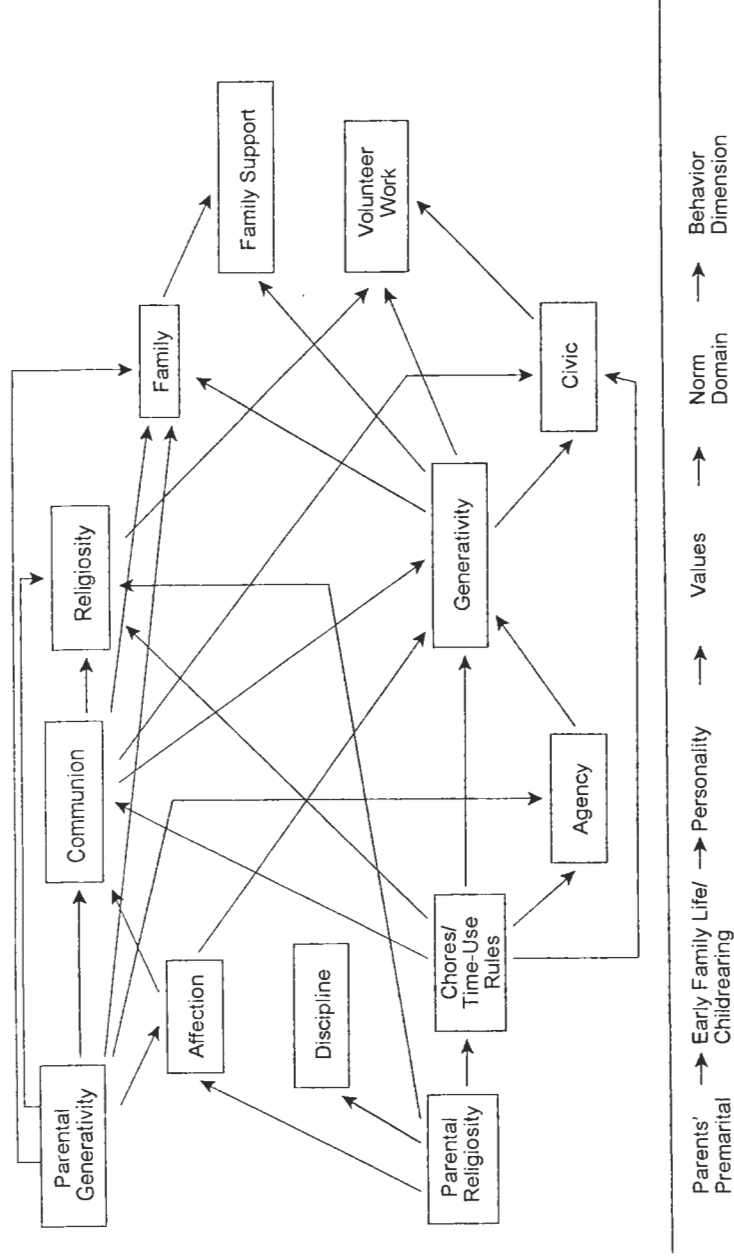


FIGURE 7.4. Developmental trajectory of predictors of adult social responsibility, extracted from tables 7.7, 7.8, 7.9, 7.11, 7.13, 7.14, and 7.15. Only predictor variables with direct effects significant at  $p \leq .01$  or  $p \leq .001$  are shown.

the primary worlds of family, friends, parish, and neighborhood, whereas better-educated adults move in an expanded circle of social contacts that involves inducements to community level participation, reflecting the deeper knowledge of the world and of the obligations of citizenship acquired during their college years. It is also highly likely that the occupations college graduates enter are themselves conducive to concern for the community and to active participation in community organizations. Indeed, numerous corporations and nonprofit organizations require some degree of community participation as part of the job requirements for managers and professional staff. In addition, many better-educated adults work in occupations in which the content of their jobs is more directly experienced as a contribution to society, such as teaching, nursing, social work, and numerous types of human service work in private and governmental social agencies. Paid work that is defined by adults themselves as their major contribution to society is well illustrated in the chapters of this volume by Kathy Newman and Anne Colby.

Sex of respondent has been a major variable at all stages of the developmental analysis. We have suggested that both genetic and social factors are intricately involved in sex differences. On genetic grounds, we noted the large heredity component of personality traits, and interestingly, the lack of any significant correlation between *opposite* sex fraternal twins compared to *same*-sex fraternal twins on the two scales that most sharply differentiate men from women—agency and communion. Even in the final multivariate regression analyses that included many sex-linked variables, respondent's sex remained a significant predictor. The only exceptions to this pattern are Christian fundamentalists, among whom men contribute as much time to social support of family members and community volunteer work as women do.

A systems approach to developmental analysis assumes complex gene-environment interactions, which in this instance suggests that within the range of sex-linked genetic factors, there may still be strong social pressures for women to contribute in different ways than men in both the family and the community. There is room in this perspective for *compulsory altruism* on the part of women who are often subjected to community and family pressure to contribute to caregiving even when that is actually against the grain of their own preferences. If a parent with both a grown son and a grown daughter is terminally ill and requires hands-on caregiving, it is typically the daughter who is expected to provide such care rather than the son; elderly adults who

have a son but no daughters often rely as much or more on their daughter-in-law as on their son.

Men's roles in a community, Carol Heimer suggests, are often *opportunities* to enhance their own social status, whereas women's roles are more often *fates* that preclude individual choice and require specific women to occupy them (Heimer 1996). Men may experience the same social pressure that women do, but it is more likely to be pressure to make financial contributions than to serve as volunteers; recruiters often assume that men's roles as primary breadwinners preclude their serving as volunteers. Then too, many men feel less inclined to serve as an ordinary volunteer because they view such work as relatively low in status; by contrast, they are more likely to respond positively if recruited to serve in some significant capacity as an officer of an organization or as a head of a charitable drive. We set forth many examples of the differences in the responsibilities men and women carry in several chapters in this volume, particularly in chapter 8 on the impact of family problems on social responsibility and in chapter 11 on the effects of work and family on community service.

We have also argued that there are tendencies rooted in our genetic legacy that contribute to adult social responsibility: as a species, humans have evolved to be social and cooperative creatures, more than other primates because our large brains require postponement of much brain and organ development to the vulnerable months of early infancy, which in turn calls for a high order of parental investment in rearing the young on the part of both men and women. In the course of this evolution, we became equipped with emotions that predispose us to feel guilt when we are not cooperative and trustworthy and to be quick to identify those who are *not* trustworthy. (See Ridley 1996 for a detailed exploration of this position on the origins of virtue and cooperation.) The same social predisposition leads us to be concerned that we earn good reputations in the eyes not only of those intimately related to us, but of those we encounter in the workplace and in the larger community as well. This was undoubtedly more readily achieved during the countless millennia during which humans lived in relatively small groups, rarely in excess of 150 individuals. Today the expanded circle of cooperation extending beyond the family is more often found in small communities where everybody knows their neighbors. However, even in today's congested metropolitan areas, it is very likely that we behave in more civil and kindly ways in our residential suburban communities than in the anonymous world of the central city. Matt

Ridley (1996) suggests that no one would drive wildly or make obscene gestures to other drivers on the familiar streets of their suburban neighborhood the way that many do on a highway or on the crowded downtown streets of a large city.

From an evolutionary perspective, the general contours of the developmental trajectory we have shown in this chapter come as no surprise. What this perspective alerts us to is the possibility that we have posed the wrong question. We should not ask what causes socially responsible behavior, but what prevents the flowering of such behavior. If most of our evolution took place in small groups in which cooperative behavior was adaptive, then the question becomes what dampens or damages this innate predisposition of human beings to be cooperative, sociable, compassionate beings? It is doubtful that cross-sectional surveys, even one like MIDUS that included retrospective questions about early family life, are up to the task of answering such a question empirically; the answer may require analysis at a macro-level of societal and historical trends rather than in the life histories of individuals. Had we included measures in MIDUS that tapped antisocial behavior (e.g., arrest history, life-threatening risk taking, unkindly or cruel acts), our interpretation of the survey results would still limit us to individual life histories and therefore would not be adequate to answer macro-level questions such as the one posed above.

Before pursuing this question further, let me be frank to admit that even posing such a question has come hard to someone like myself who was trained in the traditions of sociological survey research, perhaps uncritically assuming that there was not much that a clever survey analyst could not design for and investigate empirically. But a macro-societal level of interpretation is not readily possible with representative samples of a national population. Furthermore, like most social scientists, I have long been of a secular liberal persuasion that tends to exclude any great array of measures on religious beliefs. It was this background that left me unprepared to find how significant religiosity turned out to be in the analysis of the MIDUS data. Indeed I came close to not including even one measure on religiosity in the design of the MIDUS module on the family of origin, because there was no suggestion in my readings on child development that religious and spiritual values might be important precursors of adult social responsibility. Yet now I must be open to the view espoused by William Damon, editor-in-chief of the four-volume *Handbook of Child Psychology* (1998), that the MIDUS findings on the importance of religion in the family of ori-



gin would be “replicated many times over if social scientists were not so leery of including the benighted notion of religiosity as a variable in their research with children” (Damon 1995, 82). Indeed, in one of the rare landmark studies of children’s adaptation to difficult circumstances, religiosity was the *only* nonnegative quality that protected children from risk (Garmezy 1983); all the other protective factors were the “absence” of something—for example, drug use, hormonal imbalance, or parental conflict. It may be as true of research on adults as of that on children that religious bodies are neglected; as Garry Wills puts it, “it seems careless for scholars to keep misplacing such a large body of people” (Wills 1990, 15)

Our finding that religious values held by adults are significantly related to their normative obligation levels and actual behavior in caregiving, social support, and community service provides further evidence of the role played by religiosity in encouraging adult social responsibility. To those with deep religious commitments, our findings may provide empirical confirmation of the social value of their belief in the goodness and dignity of all human beings as God’s creatures, a tradition that carries with it an obligation to love, respect, and serve other human beings. Indeed, many contemporary religious scholars (e.g., Browning 1995) believe that religious traditions not only support a natural moral order that grows out of basic affective ties of humans to their family members but also emphasize the importance of service to others that transcends the family and involves the expanding circle of social networks within which we live out our lives.

To those of a secular persuasion, it is difficult to believe that religion is the only possible source of a belief system that honors the dignity of human persons or provides the only basis in terms of which to value generosity, compassion, and an obligation to serve our fellow creatures. Indeed, our Western liberal theories have their origins in the reaction to the terror unleashed in Europe by the religious wars that followed in the wake of the Protestant Reformation. The founding fathers were as concerned for avoiding religious factionalism as for assuring freedom of religious expression. The major three democratic values underlying the American Constitution—freedom, equality, and mutual respect—have their roots in both liberal theory and religious beliefs. But instead of a state religion, what developed in the early days of the American republic was a civic religion and a civic piety, often invoked by language directly from Protestant Christianity, though couched vaguely by reference to “providence” rather than to “Jesus Christ our Lord.” Ronald

Thiemann makes the point that “the peculiar version of civil religion that grew up in American soil was a form of nonchristological theism that relates the history and destiny of the nation to divine providence,” as revealed in the national emphasis on our “manifest destiny” that for so long underlay the self-righteous foreign policy of the United States (Thiemann 1996, 31).

The complex role that religion plays even in our day can be seen in recent East European history. On the one hand, in East Germany, Czechoslovakia, Hungary, and Poland, the churches provided a safe haven within which people could think and act in ways not sanctioned by their Communist governments; the churches were in effect “cells of resistance to the totalitarian regimes” (Thiemann 1996, 153–54). On the other hand, after the collapse of Communism in these East European countries, the Christian churches contributed to the rise of anti-Semitism and anti-Islamic sentiments in the emerging ethnic republics. It is not yet clear to what extent this scapegoating and xenophobia is a result of the inevitable insecurity attending the transition from total dependence on the state to what is for them unprecedented demands for personal economic responsibility, a pattern familiar in our own history as evidenced by the anti-immigrant sentiment that accompanied shrinking job opportunities after World War I, and again in more recent years.

This is in no sense to denigrate the vast array of good works that religious groups continue to engage in, involving hundreds of thousands of individuals dedicated to helping others in need and thereby fulfilling themselves through human service consistent with their understanding of what their religion requires of them. Church membership and attendance among mainline Protestants and Catholics have plummeted since their peaks in 1959, but Christian fundamentalism has spread enormously over the past several decades, not only through formal churches but through a vast network of what are now called *parachurches*, supplementary institutions in the religious domain similar to the paramedical and paralegal supplements to the professions of medicine and law. The presence of four criteria define a parachurch: organized as a nonprofit; espousal of a Christian mission statement; independence of traditional church structures; and fulfillment of one or more specific ministries or services, for example, camps, foreign missions, social services, relief efforts, media, publishing, or private schools (Willmer, Schmidt, and Smith 1998). Scholars who have studied the parachurch movement argue that for centuries Christians were com-

fortable with an understanding that God works in this world only through the traditional church and its numerous denominations, but for the past half-century parachurches have become necessary to meet the challenges of a secularizing postmodern age and do so by moving into the many channels of society. As Wesley Willmer puts it: “No church is able to provide all the resources needed to sustain a Christian in this postmodern age” (Willmer, Schmidt, and Smith 1998, 9).

Numerous indicators of parachurch growth include the distribution by Gideons International of some 38 million Bibles in 70 languages to 158 countries and the Billy Graham crusades that have reached 100 million people in person, 2 billion on television. Included among parachurches are the 19,000 church-affiliated schools and the 8000 to 9000 Christian bookstores in the United States. Many parachurch organizations are large, national, and international such as Youth for Christ or World Vision International. That church attendance has declined is no barometer of a loss of interest in worship, since Christian Broadcasting radio stations and TV channels permit participation, if from a distance, in a worship service before getting on with one’s Sunday morning golf game or work in the garden. Some estimates suggest that almost *half* of the money given to religious bodies in the United States goes to such parachurch organizations rather than to the traditional churches or denominations (Barrett 1997).

Parachurch growth is not just a contemporary phenomenon. The Civic Engagement Project at Harvard University has amassed a large set of archival data tracing the emergence, development, and duration of thousands of voluntary associations and organizations from 1790 to the present time, and analyses now being published report a large proportion of such associations involved religious commitments (Skocpol 1992; Skocpol and Fiorina 1999). Nor were such organizations in the past merely local or totally independent of government, as some contemporary conservatives have claimed (Olasky 1992). Those that lasted for any length of time tended to become three-tier organizations at the local, state, and national levels, often working closely with public agencies and legislatures at the state and national level. The same close working relationship between government and religiously based charitable organizations is characteristic of the national scene today. Unfortunately one of the prices paid by religiously affiliated charities that apply for public funds has often been to shed themselves of precisely the religious aura and program content that motivated their development in the first place because of, for example, federal requirements

that no religious services be conducted on their premises or that they not limit their staff of paid employees and volunteers to those of a particular religious persuasion.

These are impressive achievements by the array of religious organizations and churches even in the most advanced superpower in the world at the turn of the twenty-first century. But the growing edge represented by Christian fundamentalism is premised on four central beliefs difficult for secularists, liberals, and moderate conservatives to accept in light of scientific knowledge: (1) biblical literalism, or *inerrancy*—that is, the idea that every word in the Bible is the voice of God; (2) personal transformation through being reborn—“except a man be born again, he cannot see the Kingdom of God”; (3) evangelical commitment—that is, an obligation to try to convert others to the faith; and (4) apocalypticism, a belief in an “end time,” including evil and destruction attending the premillennium as a stage on the way to a postmillennial era that believers assume will show an enlargement of the human to embrace the divine (Strozier 1994). Only one in four Americans are Christian fundamentalists, but national polls continue to report that four in five Americans believe Jesus is the son of God, that they will appear before God on judgment day, and that God works miracles (Gallup and Castelli 1989). Far fewer—40%—believe in biblical literalism.

Christian fundamentalism in the twentieth century, and in particular as it has grown in the United States, is far more nostalgically oriented than are developments in mainstream liberal Judeo-Christian theology. As far back as the Enlightenment, many liberal theologians sought to accommodate theism with a more rationalist view of the material world and did so by moving away from a view of God as a literal person and toward a conception of God as a transcendent substance or spirit present everywhere in the universe. Such a depersonalization of God has continued steadily into the modern era, moving in a direction foreseen by Baruch Spinoza in the seventeenth century—“*Deus sive natura*”—God and nature are interchangeable. This view, so sharply in opposition to the views of contemporary fundamentalists, suggests even more profound sectarian differences in the domain of religion than exists between liberals and conservatives in the political domain: a “crazy quilt” religious map indeed, as Martin Marty describes the complexity of religion in America (Carroll, Johnson, and Marty 1979).

Christian fundamentalism apart, the major religions have given up ground to science over the centuries since the Enlightenment. Most

American Catholics no longer accept papal infallibility, and their sexual and social attitudes and behavior no longer differ markedly from mainline Protestants, with comparable rates of premarital sex, cohabitation, abortion, and divorce. Indeed, William D'Antonio (1999) has shown that young Catholics today are more prochoice in abortion attitudes than young Protestants are, and three-quarters of young Catholics believe the Pope deserves respect but that individuals should follow their own conscience even if it disagrees with papal teaching. In our national survey, Catholics were just as likely as mainline Protestants or Jews to *agree* that "single parents can rear children just as well as married adults" and that "women can have full and happy lives without marrying" and to *disagree* with the view that "to grow up emotionally healthy, children need to be raised in an intact family with both parents." Only fundamentalists took the more traditional view on such issues in our survey.

A recent book by Stephen Jay Gould, *Rocks of Ages* (1999), claims that there is no need for any acute separation between the magisteria of religion and science, but his argument is based on the assumption that "facts" and "theories" of natural life are solely in the domain of science, while religion is restricted to a search for the "meanings" and "goals" of human lives. To do so on Gould's terms, however, would require that religion be stripped of all traditional meanings, that Christians abandon the genesis story and their beliefs in Jesus as the son of God, the virgin birth, the resurrection, and an afterlife in heaven. But the empirical sciences have already undercut most transcendentalist beliefs and continue to do so at a quickened pace in recent years. As E. O. Wilson puts this point, "the spirits our ancestors knew intimately first fled the rocks and trees, then the distant mountains. Now they are in the stars, where their final extinction is possible" (Wilson 1998, 264). As modern men and women increasingly view our earthly planetary habitat as a tiny "pale blue dot" (Sagan 1994) in a swirling mass of billions of galaxies, in what dimension of time and space can a heaven figure in such a vision?

Though sharing the same background in science, Stephen Gould sees no possibility of a religious answer to such a question, but Edward Wilson does mark the way to one. Wilson argues that we cannot live without a sacred narrative. Humans will refuse to yield to the despair of animal mortality; we need a sense of a larger purpose in one form or other, however intellectualized. But let his words speak for themselves:

If the sacred narrative cannot be in the form of a religious cosmology, it will be taken from the material history of the universe and the human species. That trend is in no way debasing. The true evolutionary epic, retold as poetry, is as intrinsically ennobling as any religious epic. Material reality discovered by science already possesses more content and grandeur than all religious cosmologies combined. The continuity of the human line has been traced through a period of deep history a thousand times older than that conceived by the Western religions. Its study has brought new revelations of great moral importance. It has made us realize that *Homo sapiens* is far more than a congeries of tribes and races. We are a single gene pool from which individuals are drawn in each generation and into which they are dissolved the next generation, forever united as a species by heritage and a common future. Such are the conceptions, based on fact, from which new intimations of immortality can be drawn and a new mythos evolved (Wilson 1998, 265).

Implicit in this perspective is the expectation that an eventual resolution of the competition between science and religion will be not merely the secularization of the human epic and of religion itself, but the development of a sacred ethos and poetry that honor the human story and human interdependence with all other earthbound creatures.

Neither Stephen Gould nor Edward Wilson seem aware of changes already taking place within theological circles in recent years. In both Protestant and Catholic theology, there has been a strong current of new ideas about the Christian life, perhaps best illustrated by changes in the image of God from that of hierarchal lawgiver and judge to a conception of God as spirit, present everywhere like one's own breathe inside oneself, and the wind external to oneself, a nonmaterial reality both outside and within us. In theological terms, God as spirit evokes both transcendence and nearness or immanence. In this view, a Christian life is not about pleasing a finger-shaking and judgmental God or being good for the sake of heaven later, but about entering a relationship in the present, an opening of the heart to a God that is already here.

In my limited reading of this trend in the theological literature, per-

haps best illustrated by the work of Marcus Borg (1994, 1997), “creation” itself looks very different: it is not something that happened once and for all in the past, “in the beginning” as told in Genesis, but an ongoing process, a theological concept fully consistent with evolutionary theory in biology. Also consistent with evolutionary theory is the premise that human beings are fundamentally social creatures, equipped with emotions to feel and show generosity and altruism toward each other. In this view, generosity and acts of giving help to others is not some human invention that shapes and determines our nature. It is our nature to be generous and sociable, an innate predisposition that societies either permit to flourish or attempt to curb in favor of self-serving competition.

Sin also undergoes a fundamental change once the image of God changes from the finger-shaking judge, king, or lord to an image of God as nurturant spirit, friend, or lover: rather than seeking forgiveness or asking for material goods of some kind, prayer and meditation involves basking in a warm relationship and experiencing grace. Consequently, sin becomes not the infraction of rules or commandments, but the absence of compassion in our interaction with others.

I infer from the changes taking place in theology that there is already a head start toward a rapprochement between religion and science within religious circles. This trend is not restricted to theological seminaries. Pressure from the laity for more participation in church decision making is consistent with these changed images, as indexed by the attitudes of young Catholics, the majority of whom support the ordination of women and a greater role for the laity in the selection of priests for their parishes (D’Antonio 1999). Indeed, Marcus Borg argues that the emergence of feminist theology, well illustrated by Elizabeth Johnson’s book *She Who Is: The Mystery of God in Feminist Theological Discourse* (1992), is the single most important development in theology in his lifetime. As Borg puts it, “how can women be in the image of God if God cannot be imaged in female form?” A telling personal anecdote reveals much about the roots of his own revised image of God from patriarchal to a nurturant figure. Borg’s wife is an Episcopal priest, and he watched her in her role distributing the bread of the Eucharist one Sunday morning: “Among the people kneeling at the altar rail was a four-year-old girl, looking up expectantly at my wife’s face as she bent down to give her a piece of bread. My wife has a beautiful face and a wonderful smile. As I watched the little girl, I suddenly wondered if my wife’s face was filling her visual screen and being imprinted in her mind

as an image of God, much as the face of the male pastor from my childhood had been imprinted in mine. And I was struck by the difference: an image of God as a male authority figure shaking his finger at us versus an image of God as a beautiful loving woman bending down to feed us.” (Borg 1997, 71). Concern for relationships, intimacy, and closeness marks not only feminist theology, but work by women scholars in numerous fields—Carol Gilligan (1982) and Jean Baker Miller (1986) in psychology, Nel Noddings (1984, 1989) in moral philosophy, and Carol Heimer and Lisa Staffen (1998) in sociology are prime examples.

There is yet another important point to note: most of the Protestants in the MIDUS sample belong to mainline denominations. We know nothing of what their particular churches are like, who their clergy are, or what the sermons that they have listened to over the years contain. But the sheer overall finding of our analysis that shows how significant religiosity and church attendance is for the extent to which they have been caring adults in their families and participants in community efforts to help others alerts us to the possibility that they have an internal image of God and a religious belief that may be much closer than we can know to the image of God reflected in the work of theologians like Marcus Borg. Church-going Americans are sometimes faulted for not knowing very much about biblical stories, but such knowledge may not be very significant in their religious experiences: they may redefine sacred rituals, prayers, and hymns with meanings special to them, relying on the rituals only as aids to opening the heart, experiencing grace, feeling at peace with themselves and others in their congregations and beyond.

Of far greater concern is the very limited knowledge Americans have of science, in particular the biological and neurosciences and modern evolutionary theory in these fields. We remain as a culture too ill-informed about science, still “Paleolithic thrill seekers preferring *Jurassic Park* to the Jurassic Era, and UFOs to astrophysics” (Wilson 1998, 268). One can hardly predict the emergence and acceptance of a new sacred ethos and new poetry celebrating the mystery and wonder of the universe and of the place of human beings in their biosphere in the absence of an adequate understanding of science. But here, I believe, is the road to travel so that at some future time in the twenty-first century when another MIDUS study is launched, our descendants may draw inspiration and commitment as responsible adults from our own evolutionary past and view their highest priority to be leaving our pale blue dot of an earth in greater health and beauty than they found it in their youth.

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