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MATERNAL WELL-BEING AND ADOLESCENT BEHAVIOR AND DEVELOPMENT: A LONGITUDINAL STUDY OF BIDIRECTIONAL PROCESSES

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MATERNAL WELL-BEING AND ADOLESCENT BEHAVIOR AND DEVELOPMENT: A LONGITUDINAL STUDY OF BIDIRECTIONAL PROCESSES

By

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ABSTRACT

MATERNAL WELL-BEING AND ADOLESCENT BEHAVIOR AND DEVELOPMENT: A LONGITUDINAL STUDY OF BIDIRECTIONAL PROCESSES

By

Domini Rose Castellino

Framed by ideas brought to the fore by developmental contextualism, the current study examined a reciprocal model of mother-adolescent relations both within- and across time. Specifically, the present investigation examined direct and mediated relations between maternal well-being, adolescent behavior and development, and the mother-adolescent relationship.

Participants in the present study were young adolescents and their mothers from the Replication and Extension of the Pennsylvania Early Adolescent Transitions Study (REPEATS). The findings indicated that the within-time relations between mothers and adolescents were significantly mediated through the mother-adolescent relationship. However, only a direct relationship emerged when the constructs were examined across time.

By focusing on the multiple levels of analysis in the bidirectional relations between mothers and adolescents, the present investigation demonstrated the usefulness of adopting a developmental contextual framework when examining person-context relations during this period of life.

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Chapter I

PROBLEM STATEMENT

Within the last two decades, the philosophical models used to frame the study of human development have evolved significantly. The earlier philosophical hegemony of organicism and mechanism has disappeared, primarily because neither perspective provided a sufficiently comprehensive framework from which to understand the dynamic interrelatedness of organism and environment: Neither model adequately captured the interrelated levels that comprise human life (Baltes, Reese & Nessleroade, 1977; Lerner, 1991; Schneirla, 1957; Tobach, 1981). As a consequence, many scholars have begun to explore the idea--predicated on contextual (Pepper, 1942) and general systems (von Bertalanffy, 1933, 1965) metamodels of human development--that an active organism and a multilevel and changing environment interact reciprocally (or are "fused"; Tobach & Greenberg, 1984) to produce development (Lerner, 1991, 1992). Developmental systems notions (Ford & Lerner, 1992), such as developmental contextualism (Lerner, 1986), epitomize the translation of this philosophical point of view into a theory of human development. The stress in developmental contextualism--on the importance of the multiple levels of organization that comprise the environment, or context, of human development--results in an emphasis on a multidisciplinary and integrated approach to the study of human development.

This developmental, multilevel, and integrated approach to the study of human development may be applied across all portions of the life span. However,

developmental contextualism may provide an especially useful framework within which to study adolescence, and particularly the initial portions of this period of life. Through the pioneering efforts of Hamburg (1974), early adolescence has been recognized as a time of biological, psychological and socioemotional changes. This period is also characterized by changes in the adolescent's context, such as the transition from elementary to middle school, and by an alteration in primary social group (i.e., there is a change in social emphasis from parents to peers). Thus, " . . . early adolescence can be a challenging time for the adolescent experiencing this phase of life, for the parents who are nurturing the adolescent during progression through this period, and for the adult charged with enhancing the development of youth during this period of life" (Lerner, 1993, p. 3). As such, the multiple individual and contextual changes of the early adolescent period legitimates a multidisciplinary, developmental, and contextual approach to the study of development.

Adolescents, although engaged actively with peers, are nevertheless also typically embedded within their family context (Bronfenbrenner, 1979; Lerner, 1993); as such the family, as a "proximal" context, has been a major focus in the study of adolescent development (Allison & Lerner, 1993). While fathers have been given increasing attention in the literature (Lamb, 1980, 1986, 1988), mothers have been the predominate focus of most research on family influences on adolescent development (Ambert, 1992; J. Lerner, 1994). This emphasis may be due to the fact that mothers of adolescents--more so than fathers--still spend the most parental time with their children, even in light of changing family roles and the increased rate of mothers entering the labor force (Hernandez, 1993). While the importance of the

father is not denied, the predominance of maternal influences during adolescence has led the focus of the present investigation to be on the influences of the mother on adolescent development.

The present research tests a structural model of mother-adolescent relations, one associated with the developmental contextual perspective, to focus on how a mother's satisfaction with her caregiving role (as well as with her other roles, e.g., as a spouse and/or worker) affects young adolescent behavior and development. The model uses a construct termed "maternal well-being"--which is a composite of family satisfaction, family cohesion, and role satisfaction variables--to test ideas derived from extant research (e.g., Lerner & Galambos, 1986); this information stresses that mothers' satisfaction with their roles influences the quality of the mother-child relationship which, in turn, can influence adolescent development. Accordingly, the present research tests a "process of influence" model (Lerner & Galambos, 1985) which stresses that role satisfaction, as indexed by maternal well-being, influences mother-child relations which, in turn, influences adolescent developmental outcomes. That is, the present research tests the idea that maternal well-being is the key variable affecting mother-child relations and, in turn, adolescent behavior and development.

Research on young adolescent behavior and development has emphasized the importance of assessing academic achievement, adolescents' concepts of self, and family functioning during this transitional period of development (e.g., Montemayor & Clayton, 1983; Simmons & Blyth, 1987). Thus, adolescent developmental outcomes will be indexed by the variables of family satisfaction, family cohesion, self-worth, and academic achievement.

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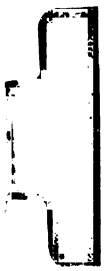
Moreover, given the dynamic, or reciprocal, relations stressed in developmental contextualism, the present investigation will also address the mutual influence between mothers and their adolescents. This focus will occur through examining the within and across time relations between maternal well-being and adolescent outcomes. Accordingly, to test the key hypothesis of this study--that maternal well-being predicts mother-child relations and, in turn, adolescent behavior and development--and to appraise the reciprocal nature of maternal well-being and adolescent outcomes (i.e., it is possible that adolescent behavior and developmental level at one point in time influences subsequent feelings of maternal well-being), structural equation modeling will be used to assess the relationships between mothers and young adolescents over three times of testing.

Data will be derived from the Replication and Extension of the Early Adolescent Transitions Study (REPEATS; e.g., Jovanovic, Lerner, & Lerner, 1989; Jovanovic & Lerner, 1994; Ohannessian, Lerner, Lerner, & von Eye, 1994; Ohannessian, Lerner, Lerner, & von Eye, 1995). The REPEATS is a short-term, cohort comparative longitudinal study which examined young adolescents from a semi-rural community in central Pennsylvania. Adolescents were first tested at the beginning of sixth grade and tested twice each year until the end of eighth grade. Information was also obtained from parents, teachers, and school records. The initial wave of data collection was conducted in October 1989. The present investigation will examine the first three waves of data, from Fall 1989, Spring 1990, and Fall 1990. These waves of data were selected in order to both assess developmental change and to maximize the number of participants available for study. These data



will allow the testing of the above-noted ideas pertinent to the utility of the process-of-influence model in accounting for the ways in which relations between mothers and their children influence outcomes in adolescent development.

Further details about the methods of this study are presented in Chapter 3. However, prior to a discussion of the methodology of this research, it is useful to review the literature pertinent to the process-of-influence model to be tested in this research. This review is presented in Chapter 2.

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Chapter II

REVIEW OF THE LITERATURE

Over the last thirty years, conceptual frameworks from which to study the course of human development have evolved significantly. The period preceding the 1970s was characterized by a shift away from the descriptive and normative study of development to a focus on process and explanation (Bronfenbrenner, 1963; Mussen, 1970) and a call "for studies of developmental processes and mechanisms" (Lerner, 1983, p. 11).

Moreover, throughout this period, the emerging emphasis on developmental process was embedded in discussions of the idea that the concepts and theories that one adopts regarding the nature of human developmental change depend to a large degree on one's metatheoretical orientation (Lerner, 1978; Overton & Reese, 1973; Riegel, 1973, 1975). This concern with these philosophical bases of developmental theories involved discussions regarding two major world views, paradigms, or metamodels: Organicism and mechanism (e.g., Lerner, 1976, 1978, 1979; Overton & Reese, 1973; Riegel, 1975, 1976a).

The organismic metamodel characterizes humans as *active organisms*. Within this framework, the organism is viewed as inherently and spontaneously active, acting on its environment rather than passively responding to it (Overton & Reese, 1973). Development is characterized by qualitatively discontinuous changes (i.e. stage-like) leading toward a final end state (Nagel, 1957). This view is exemplified in Piaget's (e.g., 1952, 1970) theory of cognitive development and in Freud's (e.g., 1949, 1954)

stages of psychosexual development.

In contrast, the mechanistic metamodel views the organism as a reactive machine. The organism is inherently at rest, and active only as a result of external forces (Overton & Reese, 1973). Thus, in this position an active environment is the focus, rather than an active organism. Development occurs as a result of exposure to environmental stimulation. This view is illustrated in Behaviorism (Watson, 1913, 1918) and social learning theory (Bandura, 1965).

These paradigms provided an important basis for theory and research in human development. However, during the 1970s, several scholars argued that neither perspective was able to adequately capture the relationship between the organism and the multiple levels of organization that comprise the environmental context of human development (e.g., Bronfenbrenner, 1979; Lerner, 1978; Riegel, 1975; Sameroff, 1975).

For example, attempts to use an organismic model to account for age-related changes in the adulthood and aging years were not completely successful (Baltes, Reese, & Lipsitt, 1980). This was because organismic theorists viewed the adulthood and aging years as universal and inevitable periods of decline. However, such unidirectional change was not evident in all data sets. Rather, interindividual differences in intraindividual change were seen, and this was linked to birth cohort membership, and thus the historical level of the context of human development (Baltes, 1979; Baltes & Schaie, 1974). On the basis of these data, Brim and Kagan (1980) note that, "humans have a capacity for change across the entire life span . . . there are important growth changes across the life span from birth to death, many

individuals retain a great capacity for change, and the consequences of the events of early childhood are continually transformed by later experiences, making the course of human development more open than many have believed (p. 1)."

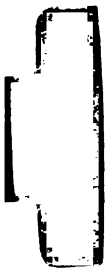
Further, variables related to birth cohorts and/or with events occurring within particular historical periods seemed to exert greater influence on behavior change than did influences associated with age (Baltes, et. al., 1980). For example, Nesselroade and Baltes (1974), in their longitudinal-sequential study of adolescents from 1970-1972, suggested that the primary basis of personality changes for these adolescents over this three year period might have been the type of social change patterns that comprised the adolescents' environmental milieu during these times of measurement. For example, the historical events which characterized this period--including youth activism in conjunction with the Vietnam War, preoccupation with ethical, moral, and political issues rather than cognitive achievement, and a decline in respect for, and confidence in, public and educational leadership--may have been reflected by the declines in adolescent superego strength and achievement, and in increases in independence across the adolescents studied.

Further, Elder's (1974) study of children and adolescents developing during the Great Depression of the 1930s is an illustration of the impact of historical events on development. Elder's assessment of a cohort of children and adolescents born between 1920 to 1921 suggested that the economic hardship and subsequent family deprivation experienced during the Great Depression produced alterations in the life course of these individuals. For example, deprived children were more likely to be involved in adult-like tasks within the family, and to enter marriage and/or work roles

at an early age. Further, in adulthood, these individuals were more likely to stress family activity, and to place a higher value on children and parenthood than those individuals from nondeprived families.

Thus, variables in the context associated with markers other than age, i.e., with markers such as birth cohort and time of measurement, seem linked to changes that individuals undergo across their ontogeny. While the import of the role of such contextual markers is to diminish the strength of the organismic viewpoint, the data pertinent to these markers also weaken the mechanistic position, at least as the position is represented by extant environmentally reductionistic Behavioristic theories found in developmental psychology (e.g., Bijou, 1976; Bijou & Baer, 1961). This weakening of the mechanistic viewpoint occurs because there is no empirical evidence that contextual effects associated with cohort or time of measurement can be reduced to the simple environmental phenomenon (i.e., stimulus-response connections) involved in these Behavioristic positions.

As a result of these problems with organicism and mechanism and, as well, because of continuing interest in the metatheoretical bases of human development theory and research, scholars began to move away from solely organismic or mechanistic paradigms. They began to explore ways to integrate ideas from the organismic and mechanistic models and to consider new paradigms--such as contextualism (Pepper, 1942)--as frames for developmental theories (Dixon & Lerner, 1992; Lerner, 1986, 1992). For example, Riegel's (1973, 1975, 1976a) dialectic theory of development was representative of both of these conceptual trends. This view attempted to integrate key components of both organism and mechanism by



considering the *reciprocal relations* between the active organism and the active environment. Riegel's view stressed the continual interplay between multiple levels of analysis, including inner-biological, individual-psychological, outer-physical, and sociocultural. His dialectical model views developmental changes "as a consequence of reciprocal (bidirectional) relations between the active organism and the active context" (Lerner & Busch-Rossnagel, 1981, p. 3). Thus, Riegel (1975, 1976a, 1976b) "developmentalized" and "contextualized" the study of the person by "embedding the individuals within an integrated and changing matrix of influences derived from multiple levels of organization" (Ford & Lerner, 1992, p. 6).

Thus, Riegel's dialectical theory can be viewed as consistent with that of Pepper's (1942) contextual world hypothesis. That is, both dialecticism and contextualism assume constant change of all levels of analysis and embeddedness of these levels; both views promote broadened interest in the developmental implications of active organisms being engaged in relations with their active context. In fact, several scholars have noted that Riegel's (1975) theory was indeed an instance of a more general concern in the 1970s and 1980s with the role of the context of human development, and of the dynamic nature of the person-context relation (Dixon & Lerner, 1992; Dixon, Lerner, & Hultsch, 1991; Lerner, Hultsch, & Dixon, 1983).

There were several instances of theoretical statements developed during this period that both reflected and advanced this interest in understanding the dynamic role of the context in human development in general, and in adolescent development in particular (e.g.,Baltes, 1987; Brooks-Gunn, 1987; Bronfenbrenner, 1979; Petersen, 1987; Lerner, 1982; Lerner & Busch-Rossnagel, 1981; Lewis & Rosenblum, 1974;

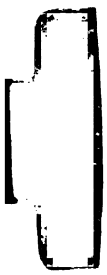
Magnusson, 1988). Indeed, because adolescence was an ontogenetic instance of major biological, psychological, and social change, it was often used as the "sample case" for these theoretical discussions of person-context dynamic interactions.

For instance, one influential theoretical position that arose during this period was developmental contextualism (Lerner, 1986; Lerner & Kauffman, 1985). In fact this viewpoint has been used quite extensively to frame research in the field of adolescent development (e.g., Lerner, 1992; Lerner & Foch, 1987).

Accordingly, because developmental contextualism provides a key example of the emerging interest within developmental theory in the role of the context in human development, and because this view's use in the field of adolescence will be particularly useful in framing the current study's focus on adolescents and their contexts (e.g., their families), it is appropriate to now discuss this position and its role in developmental theory in general and in the study of adolescence in particular.

The Developmental Contextual View of Person-Context Relations

Developmental contextualism rests on two major ideas. First, this perspective asserts that variables from multiple, *qualitatively distinct*, levels of analysis comprise human development (Lerner, 1992, 1993). While most scholars would not disagree with this view, some scholars would adopt a reductionistic approach, attempting to interpret variables from multiple levels in terms of one level (Lerner, 1992, 1993). Rejecting this reductionistic orientation, developmental contextualists would adhere to a nonreductionistic orientation, focusing on the relations--or, better, the "fusions" (Tobach & Greenberg, 1984)--among variables from multiple, qualitatively distinct



levels.

This notion is linked to the second key idea of developmental contextualism, that variables from any level one level influence, and are influenced by, variables from other levels of analysis (Lerner, 1992, 1993). That is, the multi-level variables that comprise human development exist in reciprocal relation (Lerner 1992, 1993). Within the developmental contextual perspective, this reciprocal, or bidirectional relation of variables, is termed *dynamic interactionism* (Lerner, 1978, 1979). As a consequence of the dynamic interactions that occur between multiple levels of organization, "changing relations among levels constitutes the basic process of human developmental change" (Lerner, 1992; p. 377). That is, development involves the changing relations between the developing individual and its changing context.

Several other ideas emerged in the 1980s consistent with the stress in developmental contextualism on the potential for change across life and on the embeddedness of change at multiple levels of organization. The life-span perspective (Baltes, 1979, 1987), in its stress on the entire life course, and the ecological perspective (Bronfenbrenner, 1979), with its emphasis on the contextual systems that impinge on human development, are representative of these ideas. It is useful to note in more detail the relationship between developmental contextualism and these other perspectives.

The Life-Span Developmental Perspective

The life-span view of human development (Baltes, 1979, 1987) represents a set of interrelated ideas about the nature of human development and change (Lerner & Foch, 1987). This perspective has two principle assumptions or propositions. The

first proposition, labeled *embeddedness* (Lerner, Skinner, & Sorell, 1980) suggests that the key phenomena of human life exist at multiple levels (e.g., the inner-biological, individual-psychological, dyadic, social network, community, societal, cultural, outer physical-ecological, and historical) (Lerner, 1987). At any given time, variables from any of these levels may influence individual functioning. Moreover, these levels do not function independently of one another, but rather variables at one level can influence and are influenced by variables at other levels (Lerner, 1987). Consequently, there is a *dynamic interaction* among the levels of analysis, which is the second proposition or assumption of the life-span developmental perspective. This dynamic interaction implies that each level may be both a product and a producer of functioning and change at other levels (Lerner, 1987). The life-span developmental perspective, then, suggests that changes across life are a product and producer of the multiple levels of context within which the individual is embedded (Lerner & Busch-Rossnagel, 1981).

Thus, the developmental contextual perspective is consonant with propositions made by the life-span developmental perspective in regard to both the embeddedness of levels of analysis and the dynamic interaction among these levels. Similar comparability exists between developmental contextualism and the ecological developmental perspective (Bronfenbrenner, 1979).

Ecological Developmental Systems Theory

Bronfenbrenner's (1979) ecological developmental systems theory views the child as a developing organism embedded within a complex system of relationships affected by multiple levels of the context. This theory views the environment as a

series of "nested structures," or systems, each contained by the next. Bronfenbrenner referred to these structures as the micro-, meso-, exo-, and macrosystem (Bronfenbrenner, 1979).

The microsystem refers to the immediate environmental settings in which the individual is embedded. These immediate settings include the home, school, the neighborhood, and the peer group. The connections, or interrelationships among microsystems, for instance the relationship between home and school, constitute the mesosystem. The exosystem refers to settings which do not directly contain the individual, but in which events occur that can affect, or are affected by, events within the microsystem. For example, a child is not part of a mother's work environment, but the mother's experiences at work may affect the way she interacts with her child. Finally, the last of the four systems, the macrosystem, contains the most broad environmental influences such as policies, laws, cultural beliefs, and values.

Ecological developmental systems theory, consonant with developmental contextualism and the life-span view of development, maintains that these systems reciprocally influence each other. That is, change in one system bidirectionally influences change in other systems. Thus, both ecological developmental systems theory and the life-span developmental perspective stress ideas associated with developmental contextual notions of human development. The stress in these perspectives, on dynamic interactions among the multiple levels of organization that comprise the context of development, emphasizes the importance of a multidisciplinary and integrated approach to the study of human development.

Conclusions

As illustrated by the life-span and the ecological developmental systems views, developmental contextualism emphasizes a set of ideas that bring to the fore a focus on the study of human development as it is dynamically embedded within a changing context. As emphasized by Dixon and Lerner (1992) and Dixon, Lerner, and Hultsch (1991) the need to focus on the changing processes of individual development and the development of his/her changing context are critical for an understanding of organism-context relations across life. Moreover, the bidirectional relationship--or "fusion" (Tobach & Greenberg, 1984)--between an active organism and a changing context must be the focus of developmental analyses in order to allow scientific data to adequately reflect the broad range of individual differences in development that exist across human ontogeny and, therefore, to represent the individual and cultural diversity that comprises the context of human life (Lerner, 1991). Moreover, since these "changing organism-context relations constitute the basic process of development" (Lerner, 1991, p. 28), scientific studies which incorporate these relations are essential for an adequate understanding of the change processes that characterize human development across the life-span (Lerner, 1991). In fact, considerable research has demonstrated the usefulness of such developmental contextual ideas (e.g., Baltes, 1987; Brooks-Gunn, 1987; Bronfenbrenner, 1979; Lerner, 1982; Lerner & Busch-Rossnagel, 1981; Lewis & Rosenblum, 1974; Magnusson, 1988; Petersen, 1987). To a great extent, much of this research pertains to the study of early adolescence.

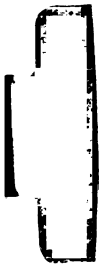
Developmental Contextualism and the Study of Early Adolescence

Early adolescence has been chosen as the focus of the present study since it is a period in which both individual and contextual changes are markedly evident. Moreover, early adolescence is an excellent ontogenetic period in which to appraise the usefulness of developmental contextualism for understanding such change. In fact, the period has been termed a "natural ontogenetic laboratory" for evaluating the usefulness of such ideas (Lerner, 1981). For example, the period of early adolescence has been recognized as one of not only change within the individual (i.e., biological), but also of change within the adolescents' context (i.e., school transitions) as well.

Given that the organism and the multiple contexts in which it is embedded are dynamically interactive (Lerner, 1978, 1979), development involves the relations between the active organism and its changing context. Thus, the "study of early adolescence exemplifies the theoretical and empirical issues involved in the use of a developmental contextual perspective" (Tubman, Lerner, & Lerner, 1991, p. 216). Accordingly, it is now useful to discuss the period of early adolescence with a focus on both individual and contextual changes, and further, a focus on how developmental contextualism both (a) frames existing information about individual and contextual change, and (b) brings to the fore important questions which must be addressed to further understand this period of development.

Features of the Period of Early Adolescence

The period of early adolescence is one of pronounced physiological, psychological, and social changes (Hamburg, 1974). For instance, not only are



adolescents faced with the biological changes that accompany puberty (Petersen, 1987) but, in addition, adolescents are faced with challenges regarding school transitions and achievement (Simmons & Blyth, 1987), increasing independence from parents and, subsequently, changing parent-adolescent relations (Hoffman, 1986).

Research on young adolescents may, in fact, reveal findings in areas pertaining to academic achievement, to parent-adolescent relations, and to self-esteem that are very different from earlier periods of development. Existing research has emphasized the importance of assessing these variables during the young adolescent period (e.g., Blyth, Simmons, & Carlton-Ford, 1983; Lord, Eccles, & McCarthy, 1994; Ryan, Stiller, & Lynch, 1994). Therefore, the next sections discuss the existing literature pertinent to these aspects of young adolescent development.

Academic Competence

The period of early adolescence marks the transition between elementary and middle school for most American adolescents. This transition is an important one for the adolescent in many ways. In many cases, the young person experiences changes in school structure and, often, this requires adjustment to a larger school, to different grading procedures, to more stringent teacher expectations, and to a less personal overall school environment (Feldlaufer, Midgley & Eccles, 1988; Simmons & Blyth, 1987). These school-related changes can subsequently have an impact on adolescents' academic functioning. For example, the transition between elementary and middle school has been found to influence adolescents' grades in school. Blyth, Simmons and Carlton-Ford (1983), as well as others, have found a decline in grade point average (GPA) for both boys and girls following a school transition during

adolescence. This decline may be the result of higher teacher standards of performance as well as greater demands being placed on the adolescent within other key contexts (Crockett, Petersen, Graber, Schulenberg & Ebata, 1989). For example, the adolescent may be faced with greater responsibility at home (involving more or different chores, e.g., the care of a younger sibling). Therefore, he or she may have less time for academic tasks.

The early adolescent period is also a time when the child begins to spend a greater amount of time with friends and peers, and thus their potential influence on academic performance is also important to consider. Ryan, Stiller, and Lynch (1994), found that emulation of friends was negatively related to school adjustment and motivation in grades seven and eight; in turn, emulation of parents and teachers resulted in more positive outcomes on these variables for young adolescents.

A large amount of research pertaining to adolescents' academic performance has examined the importance of both parents and teachers on school achievement and adjustment. Studies assessing parenting styles in relation to academic achievement report that children with authoritative parents have higher grades and have more positive attitudes toward school as compared to children with authoritarian or permissive parents (Baumrind, 1971; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Maccoby & Martin, 1983). Authoritative parents also tend to be more involved in their children's education, for instance through participation in activities and helping with homework (Paulson, 1994). The more parents are involved in their children's education, the better children do in school (Gottfried, 1991; Stevenson & Baker, 1987). These findings may suggest a mediated effect of parenting style on

academic performance through parental involvement.

In addition to parenting style, other parental characteristics have been reported to be related to academic achievement. Gottfried (1991) found that school achievement in adolescence was positively correlated with the parents' educational aspirations for their children. Similarly, positive parental beliefs and attributions about their adolescent's capabilities have been reported to be positively related to adolescent academic achievement (Holloway & Hess, 1982). Paulson (1994) found that high levels of parental control and high parental responsiveness were related to positive achievement outcomes for adolescents. This study also reported that school achievement was more positively related to adolescents' own perceptions of parental involvement and parenting rather than parents' perceptions.

Teachers' characteristics have been found to contribute also to adolescent academic competence. For instance, adolescents' experiences of the "interpersonal climate" of the classroom may be related to school functioning (Ryan et. al., 1994). Specifically, perceived teacher support has been associated with intrinsic interest and perceived competence in young adolescents (Goodenow, 1992). Similar findings have been reported in other research. Ryan and Grolnick (1986) found that adolescents who viewed their teachers as warm and supportive of autonomy were more apt to feel competent, to be intrinsically motivated, and to have higher self-esteem than those students who perceived their teachers more negatively. Subsequently, students who experienced high levels of teacher support, and who were moved to classrooms where perceived teacher support was low, showed decrements in interest and attitudes toward learning (Midgley, Feldlaufer, & Eccles, 1989).

In essence, then, adolescent academic competence can be influenced by multiple factors, including parental characteristics, teacher expectations and attitudes, adolescents' ability, motivation, and effort (Paulson, 1994), as well as adjustments to school transitions (Blyth et. al., 1983). Since the present study examines young adolescent behavior and development and maternal well-being following the transition to middle school, academic competence will be assessed as it contributes to overall adolescent behavior and development and how it affects and/or is affected by maternal characteristics. Key variables involved in this relationship are one's linked to the adolescent's concept of self (Simmons & Blyth, 1987), e.g., overall self-concept, general self-esteem, perceived self-competence, or self-worth.

Adolescents' Concepts of Self

Several constructs pertinent to the adolescent's concept of self have been forwarded in the literature (e.g., see Harter, 1983; Lerner & Spanier, 1980; Simmons & Blyth, 1987). For instance, self-concept refers to the general knowledge a youth maintains about himself or herself, e.g., I am a male, I like tuna fish salad, and I am good at tennis (Lerner & Spanier, 1980). In turn, the construct of perceived self-competence pertains to one's knowledge/beliefs about one's abilities, e.g., I am good at tennis and I am a bad bowler (Harter, 1983). General self-esteem is a construct that pertains to the overall affective valence one maintains about one's knowledge/beliefs about the self (Lerner & Spanier, 1980; Simmons & Blyth, 1987). Self-worth is a construct reflecting the value one associates with one's knowledge/beliefs; it is conceptually different than self-esteem since it is believed possible that there is not a linear correspondence between levels of positive, negative,

and neutral affect and the value one places on one's self (e.g., high levels of neutral affect may be judged by some youth as of low value, since such attributes do not promote positive affect; in turn, high levels of neutral affect may be judged by other youth as of high value, since such attributes do not promote negative affect).

Self-esteem has been the focus of a considerable amount of adolescent research (e.g., Block, 1976; Constantinople, 1969; Maccoby & Jacklin, 1974; Matteson, 1974; Simmons & Blyth, 1987). Perhaps this focus is due, in part, to the key developmental issue concerning this period of the life-span, the formation of one's identity. According to Erik Erikson (1959, 1963), the most important task of the adolescent period is that of achieving an identity. The knowledge that the adolescent has gained thus far, of who he or she is, is challenged by the changes which begin during the early adolescent period: Changes in physical, psychological, cognitive, and social dimensions. Thus, the adolescent is forced to evaluate him or herself in light of these changes, and is faced with the question, "Who am I". This is basically a question that requires information (knowledge) about the self and is thus an issue of self-concept development. In addition, if this development allows the youth to find a socially approved role in society then, Erikson (1968) argues, positive self-esteem will accrue.

The family, and the interactions that occur within the family, are considered of primary importance for the development of one's self-concept (Demo, Small, & Savin-Williams, 1987). Adolescent self-esteem and well-being have been related to supportive, close family relationships (Grotevant & Cooper, 1985; Marcia, 1983; Matteson, 1974). Demo, Small, and Savin-Williams (1987) found that adolescents'

perceptions of intrafamilial communication and participation with parents were correlated with adolescent self-esteem. Parental control was reported to have an inverse relationship to adolescent self-esteem. Further, sons' self-esteems, more so than daughters', were related to dimensions of the parent-child relationship, including communication with parents and with youth participation in joint activities with them. Openshaw, Thomas, and Rollins (1984) found that adolescents' perceptions of parents' supportive behaviors were related to positive self-esteem in the mother-daughter dyad. Parental coercive behavior was negatively related to self-esteem in the father-daughter dyad.

Recent research derived from the Replication and Extension of the Pennsylvania Early Adolescent Transitions Study (i.e., from the REPEATS) has begun to examine the relationship between adolescents' self-worth and familial characteristics and behaviors. Ohannessian, Lerner, Lerner, and von Eye (1994) reported that young adolescents who perceived their families as better adjusted had higher levels of self-worth than adolescents whose perceptions of their family adjustment was low. Further, adolescents' self-worth was negatively related to their emotional adjustment, as indexed by levels of depression and anxiety. That is, adolescents with lower self-worth scores were more likely to report being anxious and depressed in comparison to adolescents with higher levels of self-worth (Ohannessian, Lerner, Lerner, & von Eye, 1994). Additional research conducted on the REPEATS sample by Ohannessian, Lerner, Lerner, and von Eye (1995) has examined gender in relation to adolescents' self-worth and parental acceptance and emotional adjustment. In general, boys reported higher levels of self-worth than did girls. Further analyses

revealed that, for girls, self-worth was positively predicted by both perceived maternal and paternal acceptance. In addition, self-worth negatively predicted trait and state anxiety for girls. For boys, only perceived paternal acceptance predicted self-worth. In turn, self-worth negatively predicted depression for boys (Ohannessian, et al., 1995).

The above-noted research suggests the importance of assessing covariation between adolescent-parent relations and adolescents' concepts of self. Within the REPEATS data set, which will be used in the present investigation, the construct of self-worth seems to be a particularly salient instance of adolescents' concepts of self. Thus, the covariation between the adolescent-parent relationship and adolescent self-worth will be a focus of the present investigation.

Family Functioning and the Mother - Adolescent Relationship

A considerable amount of literature has demonstrated the influence of familial characteristics and parental behaviors on adolescent development (Demo, Small, & Savin-Williams, 1987; Kurdek & Fine, 1994; Lerner & Galambos, 1985, 1986; Ohannessian, Lerner, Lerner & von Eye, 1994; Paulson, Hill, & Holmbeck, 1991; Wentzel, 1994). However, despite the ubiquitous influence of the family in general, and parents more specifically, on youth behavior and development across the adolescent period, there is generally a decrease in the amount of time that adolescents spend with their parents. Often this change is predicated on pressure put on these youth to achieve autonomy from parents during this period (Koski & Steinberg, 1990; Steinberg, 1981, 1990; Steinberg & Hill, 1978). These gains in autonomy can alter the parent-adolescent relationship, and typically, heighten family conflict

(Montemayor, 1983; Steinberg, 1981). In turn, families with adolescents are more likely to be less cohesive and more chaotic than families with either younger or older children (Olson, 1986).

In addition, the biological, social, and psychological changes that accompany puberty may also influence the parent-child relationship. Anderson, Hetherington, and Clingempeel (1989) found that throughout puberty, warmth and involvement between mothers and sons declined. Heightened conflict was also apparent, but appeared to decline as boys passed the pubertal apex. Acting-out and noncompliant behaviors increased as well. This finding was not evident in pubertal girls, although mothers did become less involved and monitored their daughter's behaviors less effectively as they progressed through puberty. Similar results have been reported in other studies, indicating that pubertal development is associated with increased conflict and tension, ineffective discipline and control, and decreased warmth and involvement by parents (Hill et. al., 1985; Steinberg, 1981).

In essence, then, past research indicates that, despite quantitative and qualitative changes in the parent-child relationship, parents still play an important role in the socialization of their adolescents. Thus, the parent-child relationship is still important to evaluate during this period. Indeed, given the multiple quantitative and qualitative changes in this relationship, changes that include negotiations regarding supervision, activities, and decision making in general, such assessment is vital for understanding this period. The quality of the parent-adolescent relationship should play a role in how these negotiations and the overall corregulation between parent and adolescent are carried out. Consequently, this relationship is meaningful to evaluate

not only because it influences adolescent behavior and development but, as well, because it can impact maternal well-being, and thus become a moderator of the person-person bidirectional relations stressed in developmental contextualism (Lerner, Castellino, Terry, Villarruel, and McKinney, 1995).

Reciprocal Influences Evaluated in the Present Study

Psychological research relating to child socialization has primarily focused on the parental influences exerted on children and youth. The characteristics of children that may affect parents, either positively or negatively, have rarely been evaluated (Ambert, 1992). However, the idea that children influence the behaviors, ideas, and expectations of their caregivers is not new. Bell (1968), as well as others, has suggested that child socialization is a process of parent-child reciprocal influence (Bell & Harper, 1977; Lerner & Spanier, 1978; Lewis & Rosenblum, 1974; Sameroff, 1975; Thomas, Chess, Birch, Hertzig, & Korn, 1963). Moreover, since mothers continue to be the primary caregivers, child characteristics may affect them more than they affect fathers (Kasak & Marvin, 1984; Williams, 1988). Indeed, research has demonstrated that children report greater closeness with their mothers than with their fathers (Youniss & Smollar, 1985; Paulson, Hill, & Holmbeck, 1991).

Young adolescents, in particular, can pose an additional challenge for mothers. As discussed previously, the increasing amounts of time spent away from parents, as well as the changes associated with puberty, can lead to heightened parent-adolescent conflict. As noted above, most research has focused on parental causality of adolescent outcomes. However, based on the concept of reciprocal influence stressed in developmental contextualism (Lerner, et. al., 1995), the affect of this conflict, and

the characteristics of adolescents themselves, can, in turn, affect the mother.

While not extensive, some research exists that informs us about this link. Barnes (1984), and Maccoby and Martin (1983), found that parents report closer parent-child relationships when children display behavioral competence, high academic performance, high self-esteem, and a lack of negative characteristics such as depression, drug use, and deviant behaviors. Closeness in family relationships has predicted parental satisfaction and childrens' participation in family activities (Paulson, Hill, & Holmbeck, 1991). Child conduct problems have been found to have a negative impact on parents (Cook, 1988; Kazak & Marvin, 1984). In a study of young adolescents, high levels of self-worth and academic performance, and low levels of behavior problems, were associated with high reports of maternal role and family satisfaction and family cohesion (Lerner, Castellino, & Perkins, 1993).

While research has supported the link between child to mother, the lack of comprehensive studies has limited our understanding of this relation. What research does exist primarily focuses on extreme child characteristics such as delinquency, severe behavior problems, and physical handicaps (Ambert, 1992). Further research on more normative populations in necessary to assess this relationship more fully.

Conclusions and Overview of the Present Investigation

The present study, predicated on the notion of reciprocal socialization, and framed by ideas brought to the fore by developmental contextualism, attempts to assess a reciprocal model of mother-adolescent relations that focuses on how a mother's satisfaction with her role affects young adolescent behavior and development; in turn, the influence of adolescent behavior and development on the

mother is assessed also. Specifically, a "process of influence" model (Lerner & Galambos, 1985), which stresses that a mothers' role satisfaction influences the quality of the mother-adolescent relationship which, in turn, influences adolescent development, will be used to frame this research.

More specifically, the present research tests a structural model of mother-adolescent relations, one associated with the developmental contextual perspective, to focus on how a mother's satisfaction with her caregiving role (as well as with her other roles, e.g., as a spouse and/or worker) affects young adolescent behavior and development. The model uses a construct termed "maternal well-being"--which is a composite of family satisfaction, family cohesion, and role satisfaction variables--to test ideas derived from extant research (e.g., Lerner & Galambos, 1986); this information stresses that mothers' satisfaction with their roles influences the quality of the mother-child relationship which, in turn, can influence adolescent development. Accordingly, the present research tests a "process of influence" model (Lerner & Galambos, 1985) which stresses that role satisfaction, as indexed by maternal well-being, influences mother-child relations which, in turn, influences adolescent developmental outcomes. That is, the present research tests the idea that maternal well-being is the key variable affecting mother-child relations and, in turn, adolescent behavior and development, specifically, adolescents' feelings of self-worth, their family satisfaction, their ratings of family cohesion, and their academic achievement (Figure 1).

Moreover, given the dynamic, or reciprocal, relations stressed in developmental contextualism, the present investigation will also address the mutual

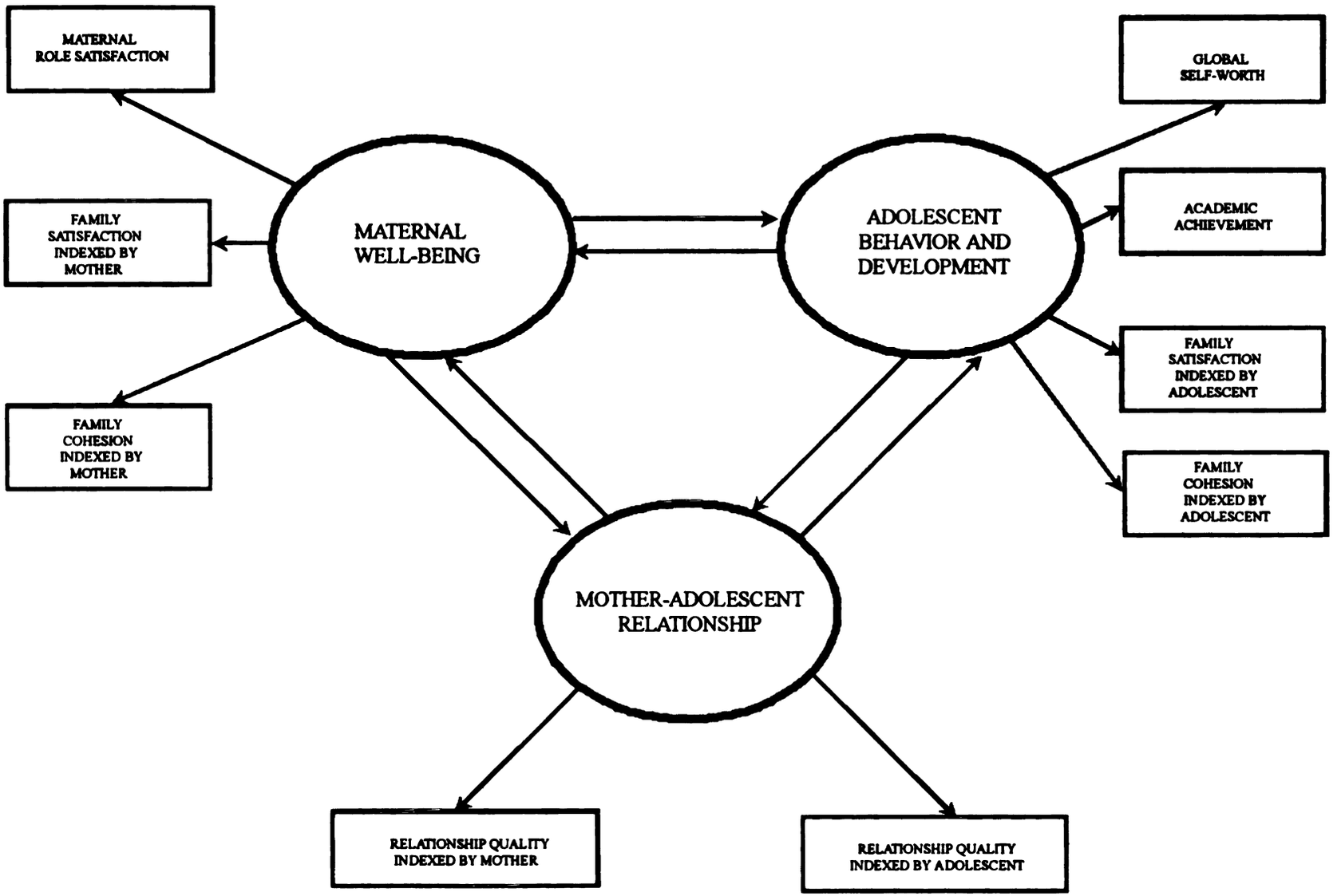


Figure 1. Structural model of maternal well-being, adolescent behavior and development, and the mother-adolescent relationship.

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influence between mothers and their adolescents. This focus will occur through examining the within and across time relations between maternal well-being and adolescent behavior and development (Figure 2). Accordingly, to test the key hypothesis of this study--that maternal well-being predicts mother-adolescent relations and, in turn, adolescent behavior and development --and to appraise the reciprocal nature of maternal well-being and adolescent outcomes (i.e., it is possible that adolescent behavior and developmental level at one point in time influences subsequent feelings of maternal well-being), structural equation modeling will be used to assess the relationships between mothers and young adolescents over three times of testing.

In regard to specific expectations to be tested in this study, the following hypotheses will be addressed through structural equation modeling: 1. The constructs of maternal-well-being and adolescent behavior and development are expected to positively and reciprocally influence each other both within and across time. Specifically, maternal well-being is expected to significantly predict adolescent behavior and development, and, adolescent behavior and development are expected to significantly predict maternal well-being; and 2. The relationship between maternal-well-being and adolescent behavior and development is expected to be significantly mediated by the quality of the mother-adolescent relationship.

Data used to address these questions will be derived from the Replication and Extension of the Early Adolescent Transitions Study (REPEATS; e.g., Jovanovic, Lerner, & Lerner, 1989; Jovanovic & Lerner, 1994; Ohannessian, Lerner, Lerner, & von Eye, 1994). The REPEATS is a short-term, cohort comparative longitudinal

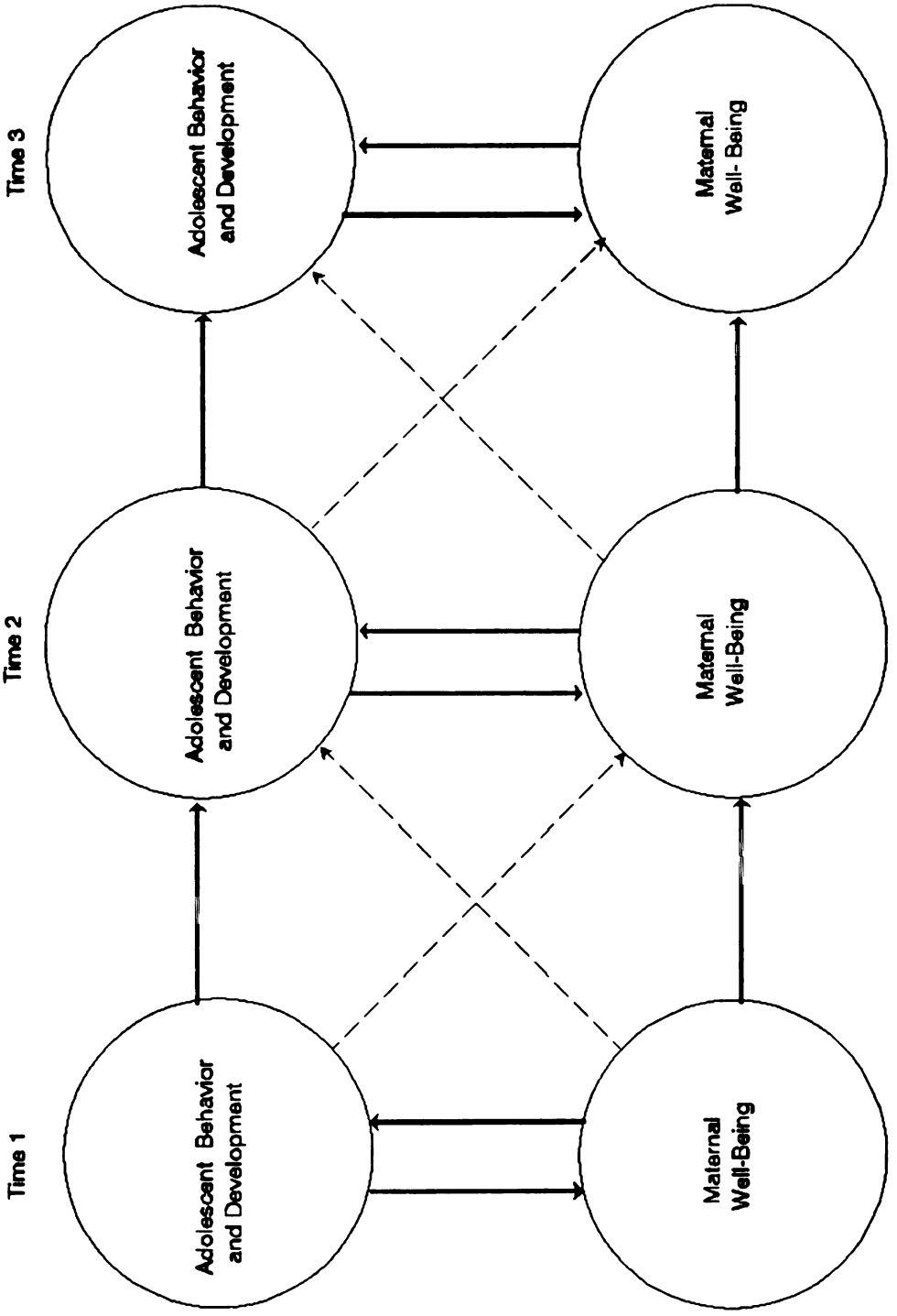

Figure 2. Within- and across-time model of the relationships between adolescent behavior and development and maternal well-being. Time 1 = Beginning of sixth grade, Time 2 = End of sixth grade, and Time 3 = Beginning of seventh grade.

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study which examined young adolescents from a semi-rural community in central Pennsylvania. Adolescents were first tested at the beginning of sixth grade and tested twice each year until the end of eighth grade. Information was also obtained from parents, teachers, and school records. The initial wave of data collection was conducted in October 1989. The present investigation will examine the first three waves of data, from Fall 1989, Spring 1990, and Fall 1990. These waves of data were selected in order to both assess developmental change and to maximize the number of participants available for study. These data will allow the testing of the above-noted ideas pertinent to the utility of the process-of-influence model in accounting for the ways in which relations between mothers and their children influence outcomes in adolescent development. Further details about the methods of this study are presented in Chapter 3, Methods.

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Chapter III

METHOD

Participants and Design

Participants in the present study are young adolescents and their mothers from the Replication and Extension of the Pennsylvania Early Adolescent Transitions Study (REPEATS; e.g., Jovanovic, Lerner, & Lerner, 1989; Jovanovic & Lerner, 1994; Ohannessian, Lerner, Lerner, & von Eye, 1994; Ohannessian, Lerner, Lerner, & von Eye, 1995). The REPEATS sample consists of two cohorts (1989-90 and 1990-91) of sixth-graders from three middle schools within a central Pennsylvania semi-rural school district. The REPEATS is a short-term, cohort-comparative longitudinal study which was designed to follow each of the two cohorts of sixth-graders across their middle school years. The initial wave of data collection, involving the 1989-90 cohort of sixth-graders, was conducted in October, 1989.

Data were collected once in the fall and once in the spring of each school year. At the completion of the study, six waves of data were collected on cohort one, and four waves of data were collected on cohort two. However, the present study focuses only on the first three waves of data--data pertinent to the first cohort only. The adolescents were from lower-middle class backgrounds with a mean age of 11.8 years (SD=.45) at the beginning of the study. One hundred and sixty young adolescents (44% male; 99% European American), from a total of 454 students (and therefore representing 35% of the total population), in the three middle schools participated at the first wave of testing. In addition, 249 parents (89% of the mothers and 67% of the fathers) participated at this time as well. Table 1 presents the

Table 1

Participation Rates for Girls, Boys, and Mothers in the REPEATS Across Three Times of Testing for the 1989-90 Cohort

	Beginning of Sixth Grade		End of Sixth Grade		Beginning of Seventh Grade	
	N	% of Total N	N	% of Total N	N	% of Total N
Girls	88	55%	87	55%	41	49%
Boys	72	45%	70	45%	43	51%
Total Boys and Girls	160	100%	157	100%	84	100%
Mothers	142	___	103	___	57	___

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Measures

The primary objective of the present study was to examine the reciprocal relationship between mothers' well-being and their adolescents' behavior and development both within and across time. Further, this relationship was hypothesized to be mediated through the quality of the mother-adolescent relationship. Several measures were used to assess the variables of interest in the present study. These measures are presented in Tables 2 and 3.

Indicators of Maternal Well-Being

The construct of maternal well-being was indexed by measures of the mothers' ratings of maternal role satisfaction, family satisfaction, and family cohesion. Detailed information regarding the measures used to assess these variables is presented below.

Mother's Life Situation Survey (MLSS)

The Life Situation Survey for the mother (MLSS) is a closed-ended questionnaire developed by Lerner et al. (1986). Constructs assessing the important domains of the mother's employment and family situation were included based on reviews of the literature (e.g., Lerner & Galambos, 1985). Items measure such constructs as the mother's employment history throughout the child's life, her educational status and job type, her role satisfaction with her spouse's employment situation, her perceptions of the child's satisfaction with her employment situation, the division of labor for child care and housework, and her satisfaction with this division of labor.

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Table 2

The Constructs and Measures from the REPEATS used to Assess the Relationship between Maternal Well-Being and Adolescent Behavior and Development

Construct	Measure Used	Measured By
1. Global Self-Worth	1. Harter (1983) SPP: Subscale for Global Self-Worth	Adolescents
2. Academic Achievement	2. Academic Grades (GPA)	Student Grade Report
3. Family Satisfaction	3. Family Satisfaction Scale	Mothers and Adolescents
4. Family Cohesion	4. Family Adaptability & Cohesion Evaluation Scale (FACES III)	Mothers and Adolescents
5. Mother-Adolescent Relationship Quality	5. Parental Acceptance & Rejection Questionnaire	Mothers and Adolescents
6. Maternal Role Satisfaction	6. Mothers' Life Situation Survey	Mothers

Table 3

The Constructs, Measures, and Scores from the REPEATS Used to Assess the Relationship between Maternal Well-Being and Adolescent Behavior and Development

Table 3

The Constructs, Measures, and Scores from the REPEATS Used to Assess the Relationship between Maternal Well-Being and Adolescent Behavior and Development

Construct	Measure Used	Score	Range
1. Maternal Well-Being	a. Mother's Life Situation Survey	Role Satisfaction Single Item	1=low to 5=high
	b. Family Satisfaction Scale	Sum Score of all Items	1=low to 6=high
	c. Family Adaptability and Cohesion Evaluation Scale	Family Cohesion Subscale Score	1=low to 5=high
2. Adolescent Behavior and Development	a. Harter Self-Perception Profile	Global Self-Worth Subscale	1=low to 4=high
	b. Academic Grades	Course Grades	0="E" to 4="A"
	c. Family Satisfaction Scale	Sum Score of all Items	1=low to 6=high
	d. Family Adaptability and Cohesion Evaluation Scale	Family Cohesion Subscale Score	1=low to 5=high
3. Mother-Adolescent Relationship	a. Parental Acceptance and Rejection Questionnaire	Sum Score of All Items	1=low to 4=high

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More specifically, mothers provided information on the following major areas: (a) Their current marital status--i.e., single, married, separated, divorced, remarried--and the duration of their status; (b) their parental status in regard to their relation to their young adolescent--i.e., natural parent, step parent, adoptive parent--and length of their parental status; (c) their educational status; and (d) their employment history with reference to when their young adolescent was less than 2 years old, was 2-5 years old, was 5-10 years old, and from age 10 to the present.

Mothers also (e) select one of 15 job type categories chosen from The Dictionary of Occupational Titles (U.S. Department of Labor, 1977). The jobs that are listed are based on the type of jobs that were expected to be present in the sample, given the demographic characteristics of the participants (predominantly European American, lower-middle class, semi-rural). Mothers also respond to items assessing: (f) the pattern of division of the household chores and child care activities, and their satisfaction with the arrangement; (g) the role-difficulty experienced by them in balancing all their roles as spouse, parent, employee, volunteer worker, etc.; (h) their degree of satisfaction with their role; (I) their degree of satisfaction with various aspects of their own and their spouse's employment situation; and (j) their perceptions of their children's satisfaction with their employment situation.

The ratings of the division of labor for child care and household work are ordered so that higher scores indicate that the mother does most of the work. The satisfaction items are rated on a five-point Likert-type scale, with high scores indicating greater satisfaction. Perceived role difficulty is rated similarly, with increasing scores corresponding to an increase in experienced difficulty.

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In the Pennsylvania Early Adolescent Transitions Study (PEATS), a short-term longitudinal study assessing the transition to junior high school, two subscales were formed through use of the MLSS items (Lerner, et al., 1986). Both subscales were formed during the period of the PEATS when the participants were in the middle of seventh grade. The first subscale, which pertains to satisfaction with one's own employment situation, consisted of five items involving the respondent's ratings of her satisfaction with the following aspects of employment: The job, the salary, the hours, the responsibility, and the status. This subscale had a Cronbach alpha internal consistency coefficient of .83 for mothers (N=28). The second subscale pertained to satisfaction with one's spouse's employment situation, and measured satisfaction with the same five aspects of the spouse's employment (job, salary, hours, responsibility, and status). This subscale had a Cronbach alpha of .82 for mothers (N=28). For the present study, only the mothers' report of their role satisfaction was utilized. This construct is indexed by one item: "Please circle the number which most closely represents how satisfied you are with being employed or with not being employed." The response alternatives for this item ranged from "1"="very dissatisfied" to "5"="very satisfied."

Family Adaptability and Cohesion Evaluation Scale III (FACES III)

The FACES III is the third version of the Family Adaptability and Cohesion Evaluation Scale developed to assess the two major dimensions of the Circumplex Model of Marital and Family Systems; family cohesion and family adaptability (Olson, Portner, & Lavee, 1985). Olson et al. (1985) define family cohesion as the emotional bonding that family members have towards one another. Family

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adaptability is defined as the ability of a marital or family system to change its power structure, role relationships and relationship rules in response to situational or developmental stress.

Within the Circumplex Model, there are four levels of family cohesion, ranging from extreme low cohesion to extreme high cohesion: disengaged, separated, connected, and enmeshed. The two moderate or balanced levels of cohesion have been labeled separated and connected. There are also four levels of family adaptability, ranging from extreme low adaptability to extreme high adaptability: rigid, structured, flexible, and chaotic. The two moderate or balanced levels of adaptability have been labeled flexible and structured. For each dimension, the balanced levels (the two moderate levels) are hypothesized to be most viable for healthy family functioning, whereas the two extreme areas are generally seen as more problematic for families.

FACES III is a 20-item self-report inventory containing 10 cohesion items and 10 adaptability items. FACES III items were developed to be readable and understandable by both adults and adolescents (as young as 12 years of age). Adolescents and parents are asked to indicate how often each statement is true for their family, using a Likert response format ranging from 1=almost never to 5=almost always. Representative items include: "Family members ask each other for help," "Our family changes its way of handling tasks," and "Family togetherness is very important."

The Cohesion and the Adaptability scores are calculated by summing all the odd items and even items, respectively. Olson and his colleagues report a non-significant

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relation between these two orthogonal subscales (r=.03; Olson, Portner, & Lavee, 1985).

The internal consistency of the two dimensions is also adequate. Based on a sample of 2,412 people, the Cronbach alpha's for FACES III are .77 for Cohesion and .62 for Adaptability (Olson, Portner, & Lavee, 1985). In addition, test-retest reliability coefficients for FACES III, with a four to five week lag between times of testing, are .83 for Cohesion and .80 for Adaptability (Olson, Portner, & Lavee, 1985). For the present investigation, as previously discussed, mothers' and young adolescents' scores on the Cohesion subscale only were used.

As noted in Tables 4 and 5, the Cronbach alpha coefficients in the REPEATS sample for the first three times of measurement for the adolescents' Cohesion scale were .86 (N=156), .90 (N=152), and .88 (N=83), respectively. The corresponding coefficients for the mothers' Cohesion scale were .87 (N=135), .83 (N=100), and .88 (N=56).

Family Satisfaction Scale

The Family Satisfaction Scale (FSS) was utilized to measure perceived family satisfaction. Items on the Family Satisfaction Scales were adapted from Spanier's Dyadic Adjustment Scale (DAS; Spanier, 1976). The items in the original DAS measure were recast to pertain to satisfaction with all family relationships, instead of just satisfaction with one dyadic relationship. All items were re-written so that they could be easily read and understood by both young adolescents and their parents (Hess, 1985).

Students and parents were asked to respond to the first eight items of the FSS

Table 4

Scales, Chronbach Alpha Coefficients, and Participation Rates for Adolescents in the REPEATS Acc... the 1989-90 Cohort

Table 4

Scales, Chronbach Alpha Coefficients, and Participation Rates for Adolescents in the REPEATS Across Three Times of Testing for the 1989-90 Cohort

	Time 1		Time 2		Time 3	
Scale	Alpha	N	Alpha	N	Alpha	N
Global Self-Worth	.75	155	.80	154	.78	83
Family Cohesion	.86	156	.90	152	.88	83
Family Satisfaction	.81	147	.79	150	.85	82
Mother-Adolescent Relationship	.91	149	.93	146	.94	82

Note. Time 1 = Beginning of sixth grade, Time 2 = End of sixth grade, and Time 3 = Beginning of seventh grade.

Table 5

Scales, Chronbach Alpha Coefficients, and Participation Rates for Mothers in the REPEATS Across Three Waves of Testing for the

1989-90 Cohort

Table 5

Scales, Chronbach Alpha Coefficients, and Participation Rates for Mothers in the REPEATS Across Three Waves of Testing for the 1989-90 Cohort

	Time 1		Time 2		Time 3	
Scale	Alpha	N	Alpha	N	Alpha	N
Family Cohesion	.87	135	.83	100	.88	56
Family Satisfaction	.82	137	.88	99	.83	51
Mother-Adolescent Relationship	.87	133	.86	90	.87	55

Note. Time 1 = Beginning of sixth grade, Time 2 = End of sixth grade, and Time 3 = Beginning of seventh grade.

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according to how often each situation occurs in the family. For example, representative items included: "How often do you or another family member leave the house after a fight?," and "Do you hug and/or kiss people in your family?" The response scale for these items was a six point Likert scale, ranging from 1=all the time to 6=never. In addition to these items, two additional items were included that assess the degree of happiness with the family in general and how the subject feels about the future of his or her family relationships.

Factor analyses revealed that the ten items on the original Dyadic Adjustment Scale that were hypothesized to be indicators of Dyadic Satisfaction had their highest loading with that factor. Factor loadings of the 10 items on the Satisfaction dimension ranged from .32 to .82, while the same items on the other three dimensions of the DAS (Consensus, Cohesion, and Affectional Expression) had loadings that ranged from .01 to .28 (see Spanier, 1976). Therefore, the present study utilized one general factor to index the subjects' satisfaction with the relationships within the family. Separate family satisfaction scores from mothers and young adolescents, to index both mothers' and adolescents' own ratings, were utilized for the present investigation.

As noted in Tables 4 and 5, the Cronbach alpha coefficients for the adolescents in the REPEATS sample for the first three times of testing were .81 ($\underline{N}$=147), .79 ($\underline{N}$=150), and .85 ($\underline{N}$=82), respectively. The corresponding coefficients for the mothers were .82 ($\underline{N}$=137), .80 ($\underline{N}$=99), and .83 ($\underline{N}$=51).

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The Hypothesized Mediating Variable: The Mother-Adolescent Relationship

The variable hypothesized to mediate between maternal well-being and adolescent behavior and development was the mother-adolescent relationship. Both mothers and adolescents provided ratings of this variable. In both cases the score for this variable was derived from the Rohner (1980) Parental Acceptance and Rejection Questionnaire.

Parental Acceptance and Rejection Questionnaire (PARQ)

The Parental Acceptance and Rejection Questionnaire (PARQ; Rohner, 1980) was used to measure the adolescents' and mothers' perceptions of the quality of their relationship. A 34-item modified PARQ, constructed and validated by McHale, Bartko, Crouter, and Perry-Jenkins (1990), was used in the present study. This 34-item measure consists of four subscales (warmth and affection, hostility and aggression, indifference and neglect, and undifferentiated rejection). In addition, the items may be summed to reflect a total perceived acceptance score. This was the score used in the present investigation.

The response scale of the PARQ is a four-point Likert-type scale where 1="almost always true" and 4="almost never true." Sample items from the adolescents' PARQ include: "Treats me gently and with kindness"; and in the mothers' PARQ items include: "I say nice things about my child".

The PARQ has been found to be a valid and reliable indicator of perceived parental acceptance (Rohner, 1980). Internal consistency estimates have been reported to range from .72 to .90 for the four scales (Rohner, 1980). As noted in Tables 3 and 4, the internal consistency coefficients in the REPEATS sample for the

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adolescents' version were .91 (N=149), .93 (N=146), and .94 (N=82) at the beginning of sixth grade, the end of sixth grade, and the beginning of seventh grade, respectively. The corresponding coefficients for the mothers' version of the PARQ were .87 (N= 133), .86 (N=90), and .87 (N=55).

Measures of Young Adolescent Behavior and Development

Measures of adolescent behavior and development consisted of adolescents' ratings of family satisfaction, family cohesion, global self-worth, and a measure of academic achievement. Measures used to index adolescents' ratings of family satisfaction and family cohesion were the same measures given to the mothers, and have been presented above. As such, the measures used to index global self-worth and adolescent academic achievement are presented below.

Harter's Self-Perception Profile (SPP)

The SPP is a revised version of the Harter (1982) Perceived Competence Scale for Children. The questionnaire provides several separate scores that asses an individual's evaluation of his or her own scholastic competence, physical appearance, social acceptance, athletic competence, behavioral conduct, and global self-worth.

The SPP was designed for third to ninth grade students to measure their competence and adequacy of psychosocial functioning. The response format of the SPP is a four-point structured alternative format where 1 = low perceived competence and 4 = high perceived competence. Each scale includes six items. Scale scores are calculated as the mean of these items.

The SPP has good psychometric characteristics. When Harter (1983) examined a sample of sixth-graders, she found Cronbach alphas coefficients for

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physical appearance, scholastic, social, athletic, conduct/behavior, and self-worth subscales of .81, .80, .81, .82, .77, and .83, respectively. In addition, when the PEATS data were examined across six times of measurement, Schwab (1990) found Cronbach alpha coefficients to exceed .72 on all of the SPP subscales.

In the present study, only the global self-worth subscale was utilized. As noted in Table 3, the Cronbach alpha coefficients in the REPEATS sample for the SPP subscale of global self-worth were .75 ($N=155$), .80 ($N=154$), and .78 ($N=83$), respectively, for the first, second, and third waves of testing.

Academic competence based on grade point average (GPA)

As a means to index academic competence, one based on the teachers' judgements of the students' classroom performance, the grade card of each subject was used to determine an overall grade point average (GPA), which had a possible range from a high of 4.0 to a low of 0.0. Information on the student record card included grades for all academic subjects and all nonacademic subjects (e.g., physical education). In addition, information about school absences and tardiness was included. GPA was calculated through a unit weighing and averaging of each academic subject. The grades contributing to the GPA scores were assigned to the students at the close of the academic year. All grades were converted to a five-point scale where 0 = F and 4 = A.

Procedure

Informed parental consent forms were obtained for all of the participants prior to their participation in the study. Data collection involved group testing in each of the three middle schools. Each school was visited across two consecutive days within

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a span of ten days. All of the subjects, within their respective schools, were tested in small groups of approximately 10 adolescents accompanied by one or two group leaders. Across the two days of testing, subjects completed several self-report questionnaires, including the questionnaires described above. Shortly after the testing within the schools was completed, the adolescents' parents were sent questionnaires to complete and return to the REPEATS investigators.

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Chapter IV

RESULTS

To test ideas derived from developmental contextualism, about bidirectional relations between developing persons and their significant others being central in the process of development, the present investigation examined the relationship between maternal well-being (as indexed by mothers' ratings of maternal role satisfaction, family satisfaction, and family cohesion) and adolescent behavior and development (as indexed by adolescents' ratings of family satisfaction, cohesion, and global self-worth, as well as by their academic achievement). In addition, both the mothers' and the adolescents' ratings of the mother-adolescent relationship were assessed to determine whether these variables mediated the relationship between maternal well-being and adolescent behavior and development.

Accordingly, using the REPEATS data set, the following two questions were addressed:

1. Do the constructs of maternal-well-being and adolescent behavior and development positively and reciprocally influence each other both within and across time? Specifically, do maternal well-being and adolescent behavior and development significantly predict one another or is the relationship unidirectional?; and

2. Is the relationship between maternal-well-being and adolescent behavior and development significantly mediated by the quality of the mother-adolescent relationship?

Several sets of statistical analyses were conducted in order to address these questions. First, to increase power of analyses, missing data were prorated in order

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to obtain equal sample sizes for each variable. This prorating was done by taking the score of the items to which responses existed for a given scale, relative to the total number of items responded to in the scale, and substituting that value for the missing value. However, data for participants were excluded if more than 10 percent of the item responses for any scale were missing. Second, descriptive statistics were calculated for each variable of interest, to assess (a) mean levels of functioning for the sample; and (b) if, based on past research with normal samples of youth, the measures were behaving as expected. In addition, correlations were calculated to assess the interrelationships among the variables of interest.

To address Questions 1 and 2, structural equation modeling was used to examine whether maternal well-being predicted adolescent behavior and development within and across time; whether adolescent behavior and development predicted maternal well-being within and across time; and/or whether the predictive relationship between maternal well-being and adolescent behavior and development both within and across time was significantly mediated by the mother-adolescent relationship. Based on unrotated, principle components analyses, the mother-adolescent relationship variable, indexed by mothers' responses, and the mother-adolescent relationship variable, indexed by adolescents' responses, were collapsed to form a single indicator of the mother-adolescent relationship construct. The command file presented in Appendix B illustrates the procedure used to collapse this variable.

Detailed descriptions of all the analyses, as well as the results obtained from these analyses, are presented below.

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Descriptive Analyses

Means and standard deviations were calculated for all measures. The means and standard deviations for the maternal well-being measures (role satisfaction, family satisfaction, and family cohesion) are presented in Table 6. The means and standard deviations for the adolescent behavior and development measures (global self-worth, academic achievement, family satisfaction, and family cohesion) are presented in Table 7. In addition, the means and standard deviations for the hypothesized mediating variables (mother-adolescent relationship quality as reported by mothers and as reported by adolescents) are presented in Table 8.

Pearson product-moment correlation coefficients were calculated both within and across time for all maternal and adolescent variables. These data are presented in Tables 9-14. For replication purposes, the variance/covariance matrix for the data set is presented in Appendix C.

Relationships between Adolescent Behavior and Development and Maternal Well-Being

A series of structural equation models were estimated with linear transformations performed on the raw data to counteract problems of heteroskadasticity (see Raykov, Tomer, & Nesselroade, 1991). In order to provide information about these procedures, Appendix D illustrates the command file used to transform the data. LISREL 8 (Joreskog & Sorbom, 1988) was used to estimate the structural equation models; these models used maximum likelihood estimation of the structural equation parameters to address Questions 1 and 2--whether the relationship between maternal well-being and adolescent behavior and development positively and

Table 6

Means and Standard Deviations of the Maternal Well-Being Variables at the Beginning and End of Sixth Grade and the Beginning of Seventh Grade

Table 6

Means and Standard Deviations of the Maternal Well-Being Variables at the Beginning and End of Sixth Grade and the Beginning of Seventh Grade

Maternal Measure	Score Range	Begining of Sixth Grade		End of Sixth Grade		Beginning of Seventh Grade	
		Mean	SD	Mean	SD	Mean	SD
Role Satisfaction	1 - 5	4.0	1.2	4.0	1.1	4.2	0.7
Family Satisfaction	10 - 60	48.6	5.5	48.9	5.0	48.2	6.2
Family Cohesion	10 - 50	38.7	6.7	38.6	5.5	38.7	6.7

Note. N=142 when the adolescents were at the beginning of sixth grade, N=103 when the adolescents were at the end of sixth grade, and N=57 when the adolescents were at the beginning of seventh grade.

Table 7

Means and Standard Deviations of the Adolescent Behavior and Development Variables at the Beginning and End of Sixth Grade and the Begi

Table 7

Means and Standard Deviations of the Adolescent Behavior and Development Variables at the Beginning and End of Sixth Grade and the Beginning of Seventh Grade

Adolescent Measure	Score Range	Beginning of Sixth Grade		End of Sixth Grade		Beginning of Seventh Grade	
		Mean	SD	Mean	SD	Mean	SD
Global Self-Worth	1 - 6	3.0	0.6	2.9	0.6	2.9	0.5
Academic Achievement	1 - 4	3.0	0.6	----	----	3.0	0.6
Family Satisfaction	10 - 60	42.0	8.9	42.2	8.7	43.0	8.3
Family Cohesion	10 - 50	30.4	7.6	26.8	8.4	29.2	7.6

Note. N=160 when the adolescents were at the beginning of sixth grade, N=157 when the adolescents were at the end of sixth grade, and N=88 when the adolescents were at the beginning of seventh grade. Academic achievement was not measured at the end of sixth grade.

Table 8

Means and Standard Deviations of the Hypothesized Mediating Variables at the Beginning and End of Sixth Grade and the Beginning of Seventh Grade

Table 8

Means and Standard Deviations of the Hypothesized Mediating Variables at the Beginning and End of Sixth Grade and the Beginning of Seventh Grade

Mediating Variable	Score Range	Beginning of Sixth Grade Mean	Beginning of Sixth Grade SD	End of Sixth Grade Mean	End of Sixth Grade SD	Beginning of Seventh Grade Mean	Beginning of Seventh Grade SD
Mother-Adolescent Relationship:							
Adolescent	34 - 136	109.8	14.9	108.8	16.4	114.8	16.1
Mother	34 - 136	113.1	10.9	115.2	9.4	115.1	10.1

Note. N=160 adolescents and N=142 mothers when the adolescents were at the beginning of sixth grade, N=157 adolescents and N=103 mothers when the adolescents were at the end of sixth grade, and N=88 adolescents and N=57 mothers when the adolescents were at the beginning of seventh grade.

Table 9

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Sixth Grade

	Adolescent Behavior and Development (ABD)				Maternal Well-Being (MWB)			Mother-Adolescent Relationship (MAR)	
Measure	GPA	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
ABD:									
GPA	1.00	.18*	.24**	.20**	-.06	-.02	.02	.17*	-.06
Self Worth		1.00	.33***	.22**	-.06	-.04	-.12	.27***	.05
Family Satisfaction			1.00	.54*	.05	.03	.05	.55***	.01
Family Cohesion				1.00	.02	.02	-.01	.52***	.01
MWB:									
Role Satisfaction					1.00	.28***	.40***	-.12	.19*
Family Satisfaction						1.00	.54***	.02	.57***
Family Cohesion							1.00	.05	.49***

Table 9 (Continued)

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Sixth Grade

Table 9 (Continued)

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Sixth Grade

	Adolescent Behavior and Development (ABD)				Maternal Well- Being (MWB)			Mother-Adolescent Relationship (MAR)	
Measure	GPA	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
MAR:									
Child Relation								1.00	.05
Mother Relation									1.00

Note. N = 160 for adolescents and N = 142 for mothers. GPA = Grade Point Average; Child Relation = Mother-Adolescent Relationship reported by Adolescent; Mother Relation = Mother-Adolescent Relationship reported by Mother.
*p < .05; **p < .01; ***p < .001.

Table 10

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the End of Sixth Grade

Table 10

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the End of Sixth Grade

	Adolescent Behavior and Development (ABD)			Maternal Well- Being (MWB)			Mother-Adolescent Relationship (MAR)	
Measure	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
ABD:								
Self Worth	1.00	-.07	.23**	.06	.17	.05	.31***	.08
Family Satisfaction		1.00	.50***	.09	-.08	-.02	.58***	.06
Family Cohesion			1.00	.01	-.01	-.18	.51***	-.01
MWB:								
Role Satisfaction				1.00	.26**	.17	-.01	.15
Family Satisfaction					1.00	.45***	-.08	.49***
Family Cohesion						1.00	-.12	.27**

Table 10 (Continued)

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the End of Sixth Grade

Table 10 (Continued)

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the End of Sixth Grade

	Adolescent Behavior and Development (ABD)			Maternal Well- Being (MWB)			Mother-Adolescent Relationship (MAR)	
Measure	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
MAR:								
Child Relation							1.00	-.02
Mother Relation								1.00

Note. N = 157 for adolescents and N = 103 for mothers. GPA = Grade Point Average; Child Relation = Mother-Adolescent Relationship reported by Adolescent; Mother Relation = Mother-Adolescent Relationship reported by Mother.
*p < .05; **p < .01; ***p < .001.

Table 11

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Seventh Grade

Table 11

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Seventh Grade

	Adolescent Behavior and Development (ABD)				Maternal Well- Being (MWB)			Mother-Adolescent Relationship (MAR)	
Measure	GPA	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
ABD:									
GPA	1.00	-.10	.10	.07	-.07	-.11	.13	-.02	.13
Self Worth		1.00	.17	.23**	-.01	-.03	.16	.33**	-.08
Family Satisfaction			1.00	.52***	-.04	.07	-.01	.58***	.06
Family Cohesion				1.00	-.18	-.10	-.10	.48***	-.10
MWB:									
Role Satisfaction					1.00	.01	.10	-.03	.16
Family Satisfaction						1.00	.43***	-.02	.54***
Family Cohesion							1.00	.01	.41**

Table 11 (Continued)

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Seventh Grade

Table 11 (Continued)

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Seventh Grade

	Adolescent Behavior and Development (ABD)				Maternal Well- Being (MWB)			Mother-Adolescent Relationship (MAR)	
Measure	GPA	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
MAR:									
Child Relation								1.00	.00
Mother Relation									1.00

Note. N = 88 for adolescents and N = 57 for mothers. GPA = Grade Point Average; Child Relation = Mother-Adolescent Relationship reported by Adolescent; Mother Relation = Mother-Adolescent Relationship reported by Mother.
*p < .05; **p < .01; ***p < .001.

Table 12

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning and End of Sixth Grade

Table 12

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning and End of Sixth Grade

	Adolescent Behavior and Development (ABD) Beginning of Sixth Grade				Maternal Well- Being (MWB) Beginning of Sixth Grade			Mother-Adolescent Relationship (MAR) Beginning of Sixth Grade	
Measure	GPA	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
ABD: End of Sixth Grade									
Self Worth	-.00	.04	.06	.11	-.10	-.07	-.21**	-.16	-.14
Family Satisfaction	.03	-.00	.01	.07	.03	-.15	-.09	-.11	.06
Family Cohesion	.01	-.01	.13	.19*	-.05	-.05	-.16	.18*	-.01
MWB: End of Sixth Grade									
Role Satisfaction	.17	-.25**	-.11	-.15	-.13	.04	-.01	.04	.12
Family Satisfaction	.00	-.01	-.08	.00	.03	.17	.06	.00	.05
Family Cohesion	-.06	-.08	-.11	-.18	.12	.08	.08	-.08	.06

Table 12 (Continued)

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning and End of Sixth Grade

Table 12 (Continued)

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning and End of Sixth Grade

	Adolescent Behavior and Development (ABD) Beginning of Sixth Grade				Maternal Well- Being (MWB) Beginning of Sixth Grade			Mother-Adolescent Relationship (MAR) Beginning of Sixth Grade	
Measure	GPA	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
MAR: End of Sixth Grade									
Child Relation	.04	.07	.19*	.18*	-.03	-.08	-.09	-.17	-.02
Mother Relation	.07	-.07	-.21*	-.05	.04	.18	-.03	-.11	.02

Note. N = 160 adolescents and 142 mothers at the beginning of sixth grade; N = 157 adolescents and 103 mothers at the end of sixth grade. GPA = Grade Point Average; Child Relation = Mother-Adolescent Relationship reported by Adolescent; Mother Relation = Mother-Adolescent Relationship reported by Mother.
*p < .05; **p < .01; ***p < .001.

Table 13

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Sixth Grade and the Beginning of

Table 13

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Sixth Grade and the Beginning of Seventh Grade

	Adolescent Behavior and Development (ABD) Beginning of Sixth Grade				Maternal Well- Being (MWB) Beginning of Sixth Grade			Mother-Adolescent Relationship (MAR) Beginning of Sixth Grade	
Measure	GPA	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
ABD: Beginning of Seventh Grade									
GPA	-.00	-.13	-.06	-.09	.01	-.17	.02	.09	-.33**
Self Worth	-.02	-.14	-.13	-.11	.02	-.03	.07	-.16	-.00
Family Satisfaction	.04	-.04	.09	.16	.01	-.03	-.04	-.11	-.12
Family Cohesion	.06	-.08	.07	.22*	-.10	-.09	.01	.02	-.14
MWB: Beginning of Seventh Grade									
Role Satisfaction	.17	.10	-.02	.00	-.13	.04	.12	.04	-.08
Family Satisfaction	.22	.10	.06	.08	.23	.00	.02	.00	.03
Family Cohesion	.08	.04	.10	-.10	.27*	-.11	.02	-.08	.00

Table 13 (Continued)

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Sixth Grade and the Beginning of Seventh Grade

Table 13 (Continued)

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Sixth Grade and the Beginning of Seventh Grade

	Adolescent Behavior and Development (ABD) Beginning of Sixth Grade				Maternal Well- Being (MWB) Beginning of Sixth Grade			Mother-Adolescent Relationship (MAR) Beginning of Sixth Grade	
Measure	GPA	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
MAR: Beginning of Seventh Grade									
Child Relation	.12	-.06	.01	.01	.02	.03	.06	-.17	-.06
Mother Relation	.34**	-.05	.06	.06	-.10	-.16	-.17	-.11	-.15

Note. N = 160 adolescents and 142 mothers at the beginning of sixth grade; N = 88 adolescents and 54 mothers at the beginning of seventh grade. GPA = Grade Point Average; Child Relation = Mother-Adolescent Relationship reported by Adolescent; Mother Relation = Mother-Adolescent Relationship reported by Mother.

*p < .05; **p < .01; ***p < .001.

Table 14

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the End of Sixth Grade

Table 14

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the End of Sixth Grade and the Beginning of Seventh Grade

	Adolescent Behavior and Development (ABD) End of Sixth Grade			Maternal Well- Being (MWB) End of Sixth Grade			Mother-Adolescent Relationship (MAR) End of Sixth Grade	
Measure	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
ABD: Beginning of Seventh Grade								
GPA	-.10	-.18	-.29**	.02	.00	.14	-.40***	.09
Self Worth	.15	.36***	.06	.01	-.06	-.02	.08	-.03
Family Satisfaction	-.17	-.16	-.09	.01	-.03	.05	-.08	-.12
Family Cohesion	-.07	-.13	-.05	.03	.02	-.04	-.17	-.17
MWB: Beginning of Seventh Grade								
Role Satisfaction	.00	.13	.26*	-.17	.14	-.14	.11	.08
Family Satisfaction	.09	.19	.03	.02	.00	-.11	.10	-.02
Family Cohesion	.09	.16	.03	-.08	.21	.09	.01	.07

Table 14 (Continued)

Correlations between Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the End of Sixth Grade and the Beginning of Seventh Grade

	Adolescent Behavior and Development (ABD) End of Sixth Grade			Maternal Well- Being (MWB) End of Sixth Grade			Mother-Adolescent Relationship (MAR) End of Sixth Grade	
Measure	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
MAR: Beginning of Seventh Grade								
Child Relation	.06	-.03	.01	-.13	-.13	.07	.09	-.12
Mother Relation	-.13	.04	.01	-.01	-.01	-.21	.11	-.02

Note. N = 157 adolescents and 103 mothers at the end of sixth grade; N = 88 adolescents and 54 mothers at the beginning of seventh grade. GPA = Grade Point Average; Child Relation = Mother-Adolescent Relationship reported by Adolescent; Mother Relation = Mother-Adolescent Relationship reported by Mother.
*p < .05; **p < .01; ***p < .001.

reciprocally influence each other both within and across time, and whether the relationship between maternal well-being and adolescent behavior and development is significantly mediated by the mother-adolescent relationship. At each time of measurement (the beginning of sixth grade, the end of sixth grade, and the beginning of seventh grade) the following relationships were tested: 1. The direct path between adolescent behavior and development and maternal well-being; 2. The indirect path between adolescent behavior and development and maternal well-being mediated by the mother-adolescent relationship; and, to assess the reciprocity of these relationships; 3. The direct path between maternal well-being and adolescent behavior and development; and 4. The indirect path between maternal well-being and adolescent behavior and development mediated by the mother-adolescent relationship. Thus, within each time of measurement, four structural equation models were tested (see Figure 3).

Direct Paths between Adolescent Behavior and Development and Maternal Well-Being within Time

As shown in Figures 4, 5, and 6, the direct path from adolescent behavior and development to maternal well-being was non-significant at each time of testing. Similarly, the direct path from maternal well-being to adolescent behavior and development was also non-significant at each time of testing (see Figures 7, 8, and 9). The following sections detail the results for each model at each of the three times of testing.

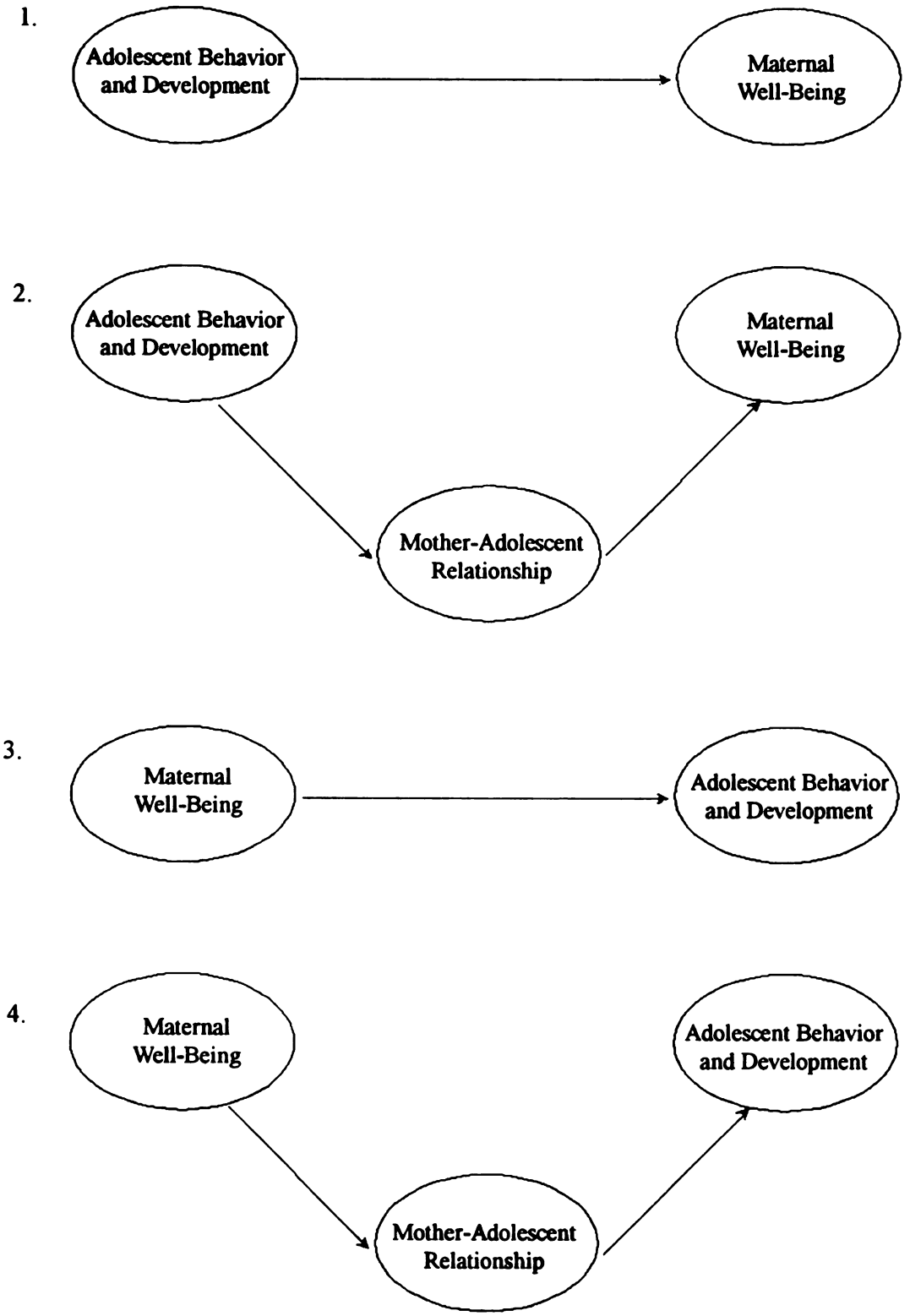

Figure 3. Direct and indirect paths tested at the beginning and end of sixth grade and the beginning of seventh grade.

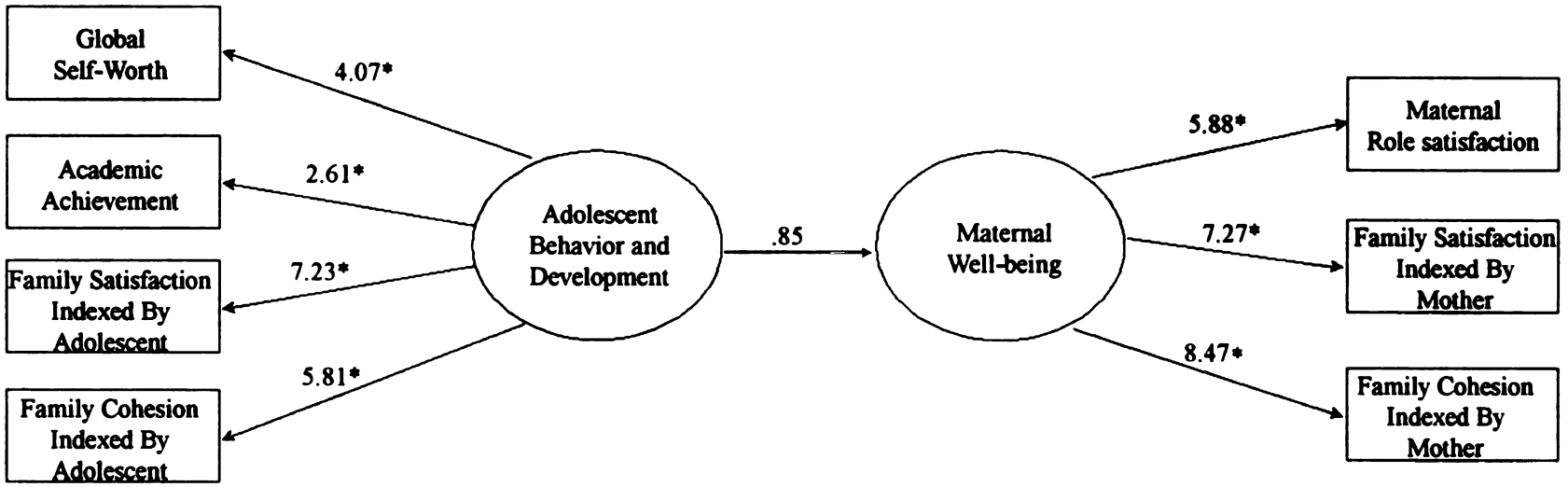

Figure 4. The t-values indicating significant paths for adolescent behavior and development and maternal well-being at the beginning of sixth grade. Significant paths are indicated by an "*."

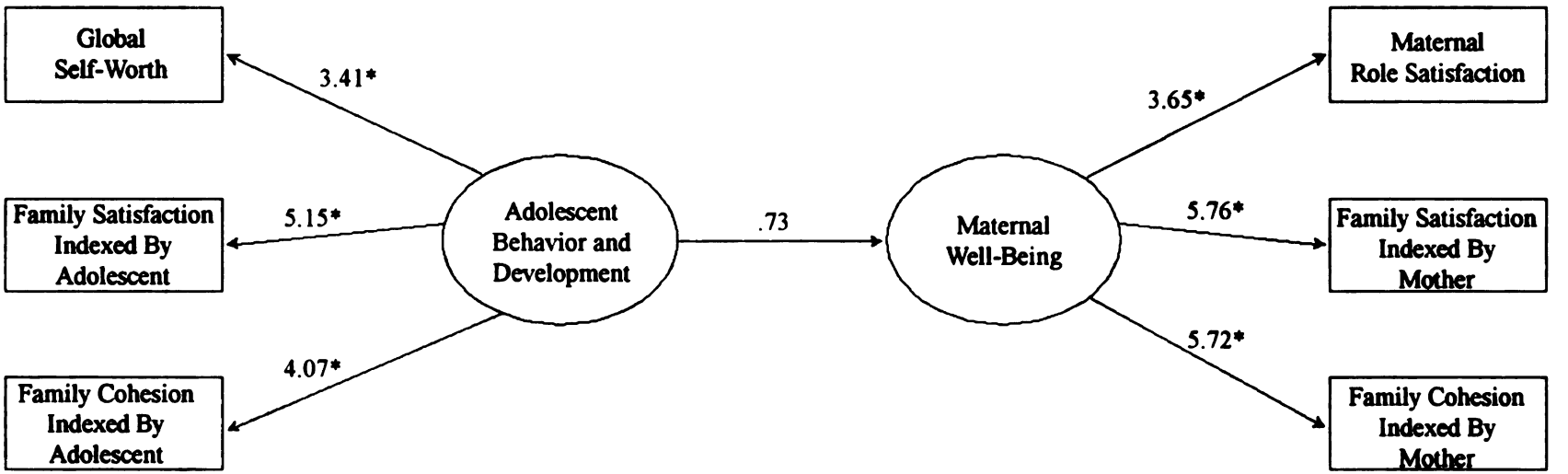

Figure 5. The t-values indicating significant paths for adolescent behavior and development and maternal well-being at the end of sixth grade. Significant paths are indicated by an "*."

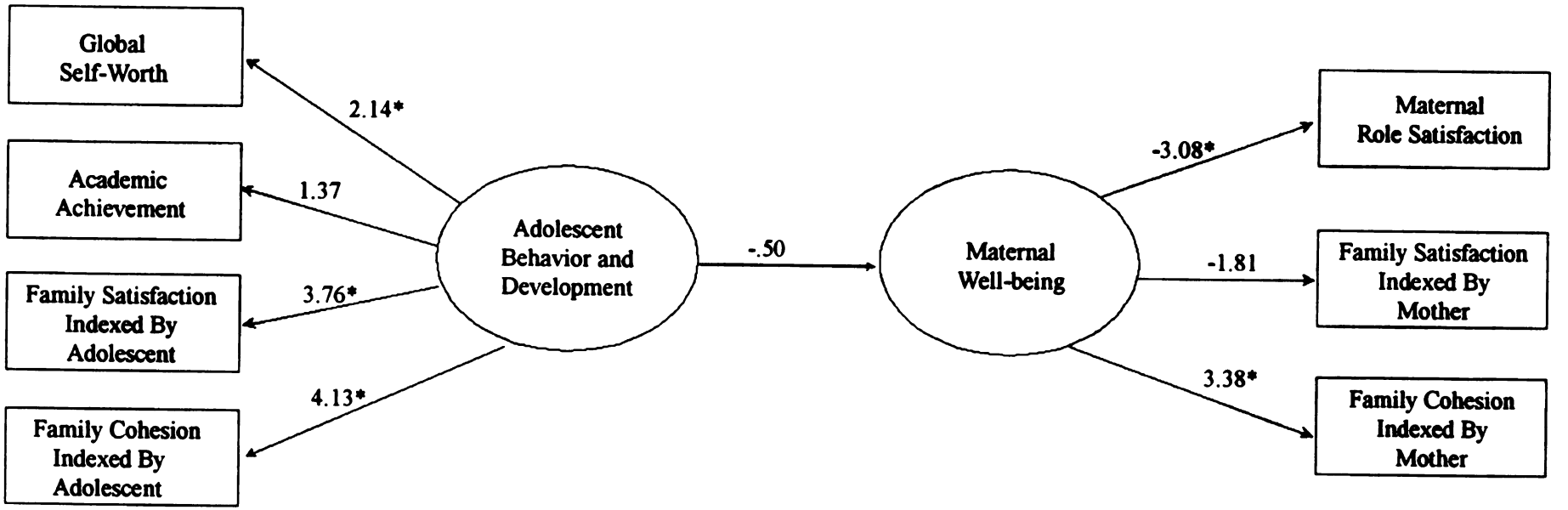

Figure 6. The t-values indicating significant paths for adolescent behavior and development and maternal well-being at the beginning of seventh grade. Significant paths are indicated by an "*."

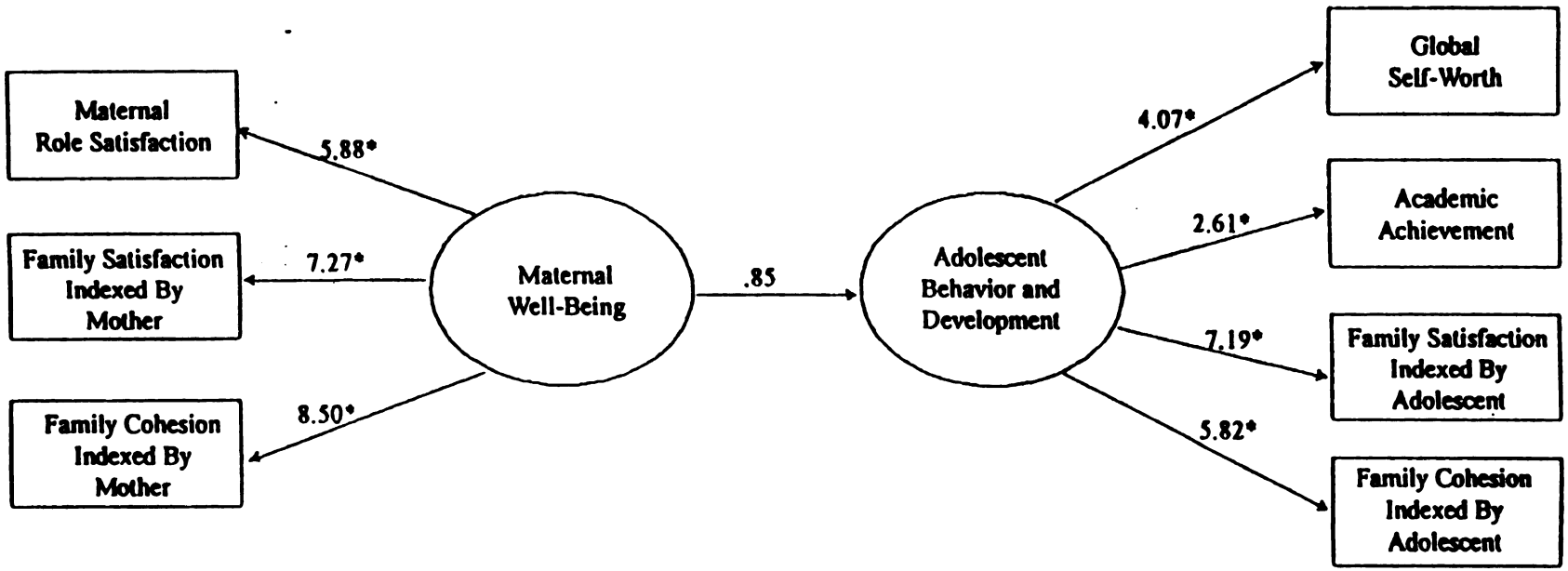

Figure 7. The t-values indicating significant paths for maternal well-being and adolescent behavior and development at the beginning of sixth grade. Significant paths are indicated by an "*."

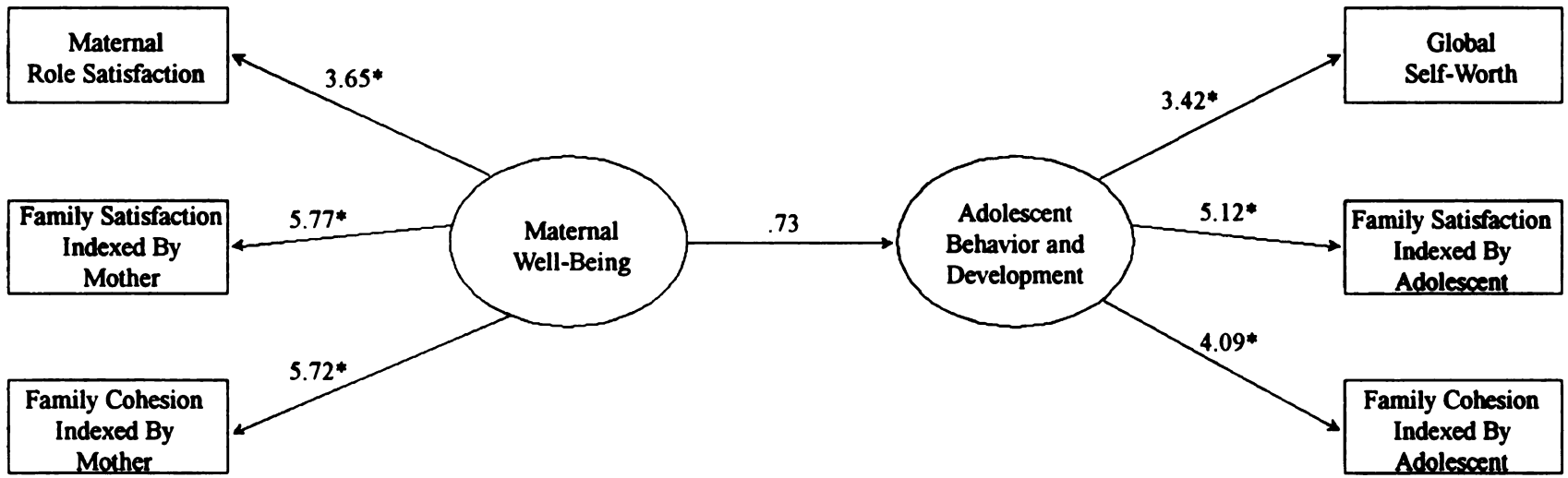

Figure 8. The t-values indicating significant paths for maternal well-being and adolescent behavior and development at the end of sixth grade. Significant paths are indicated by an "*."

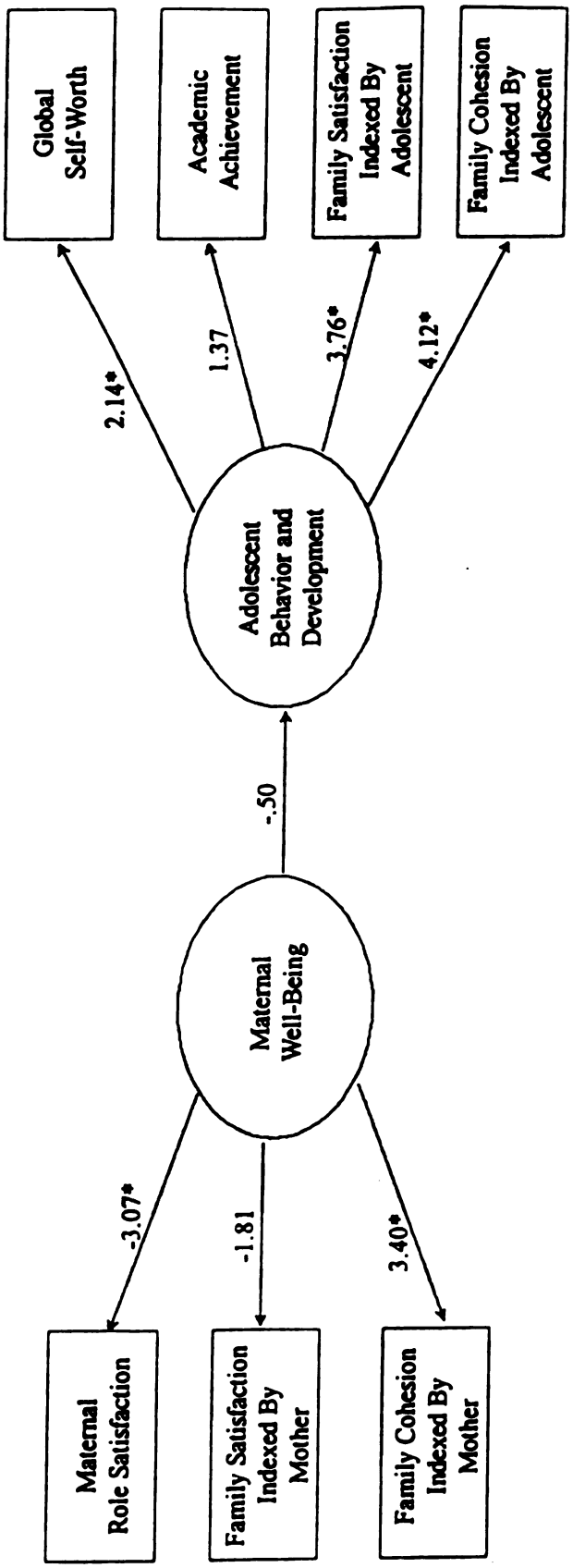

Figure 9. The t-values indicating significant paths for maternal well-being and adolescent behavior and development at the beginning of seventh grade. Significant paths are indicated by an "*."

Direct Paths between Adolescent Behavior and Development and Maternal Well-Being at the Beginning of Sixth Grade

Based on the results of the LISREL analyses, the fit of the model appears to be quite good, $\chi^2(13, N=147)=7.67$, $p < .86$, GFI=.99, CFI=1.00, standardized RMR=.04. The structural parameter of interest, the direct path from adolescent behavior and development to maternal well-being, was not significant, indicating that a direct relationship between these constructs is not evident at the beginning of sixth grade.

Similarly, the reciprocal, direct path from maternal well-being to adolescent behavior and development was not significant (see Figure 7). Again, the model fit the data well, $\chi^2(13, N=147)=7.67$, $p < .86$, GFI=.99, CFI=1.00, standardized RMR=.04.

As shown in Figure 4, the observed variables appeared to be significant indicators of their respective latent constructs. Specifically, maternal role satisfaction, family satisfaction, and family cohesion were significant indicators of maternal well-being, and adolescent global self-worth, academic achievement, family satisfaction, and family cohesion were significant indicators of adolescent behavior and development. The significance of each of the paths may be examined by reference to the t-values presented in Figure 4. Since the mother-adolescent relationship construct was assessed by a single indicator, this parameter was fixed at 1.0 and therefore was not estimated.

Direct Paths between Adolescent Behavior and Development and Maternal Well-Being at the End of Sixth Grade.

Based on the goodness of fit statistics, $\chi^2(8, N=103)=8.75$, $p < .36$, GFI=.97, CFI=.99, standardized RMR=.06, this model appeared to fit the data well. As at the beginning of sixth grade, the direct path from adolescent behavior and development to maternal well-being was not significant. Similarly, the reciprocal path from maternal well-being to adolescent behavior and development was also not significant (see Figure 8). The goodness of fit statistics, $\chi^2(8, N=103)=8.75$, $p < .36$, GFI=.97, CFI=.99, standardized RMR=.06, indicated that this model fit the data well.

The measurement model at the end of sixth grade included the same variables as the measurement model at the beginning of sixth grade with the exception of adolescent academic achievement. This variable was measured at the beginning of sixth grade and the beginning of seventh grade only; thus, it was not included as part of the measurement model at the end of sixth grade. Moreover, and as found in prior analyses, the t-values of the paths indicated that all indicators of the latent constructs were significant (see Figure 5).

Direct Paths between Adolescent Behavior and Development and Maternal Well-Being at the Beginning of Seventh Grade

Consistent with analyses from the beginning and end of sixth grade, the direct path from adolescent behavior and development to maternal well-being was not significant. The model did appear to fit the data, $\chi^2(13, N=57)=6.05$, $p < .94$, GFI=.97, CFI=1.00, standardized RMR=.05. However, the small sample size

available for model testing at the beginning of seventh grade means that this consistency must be interpreted cautiously.

The reciprocal path from maternal well-bring to adolescent behavior and development was also not significant, with goodness of fit statistics the same as in the path from adolescent behavior and development to maternal well-being (see Figure 9).

Due to a significant loss in sample size and, therefore, in statistical power at the beginning of seventh grade, the results for these analyses must be interpreted with caution. While the same variables as at the beginning and end of sixth grade were used as indicators for the latent constructs, adolescents' academic achievement was not a significant indicator of adolescent behavior and development and mothers' family satisfaction was not a significant indicator of maternal well-being at the beginning of seventh grade. The non-significant t-values seen in Figure 9 illustrate these non-significant paths.

Conclusions

The measurement models for each of the three times of testing appeared adequate. All of the indicators of the latent constructs at the beginning of sixth grade and the end of sixth grade were significant, indicating that the hypothesized variables were good indicators of the latent constructs. Adolescent academic achievement was not a significant indicator of adolescent behavior and development at the beginning of seventh grade, nor was mothers' report of family satisfaction a significant indicator of maternal well-being at the beginning of seventh grade. Again, the small sample size available at this time of testing may account for the inconsistency between the two sixth grade analyses, on the one hand, and the seventh grade analysis, on the other.

When the structural relations between the latent constructs were examined, all paths were non-significant at each of the three times of testing. Specifically, adolescent behavior and development was not directly predicted by maternal well-being within each time of testing, and maternal well-being was not significantly predicted by adolescent behavior and development within each time of testing. Since a direct relationship does not appear to exist between these constructs, these results suggest that, if there are any links between adolescent behavior and development and maternal well-being, they may be mediated by a third variable. Such a possibility legitimates analyses designed to test a key hypothesis of the present study--that the relationship between adolescent behavior and development and maternal well-being is mediated by the mother-adolescent relationship. Consequently, the results of tests of these indirect relationships will be presented next.

Paths between Adolescent Behavior and Development and Maternal Well-Being Mediated by the Mother-Adolescent Relationship at the Beginning of Sixth Grade

As hypothesized, the relationship between adolescent behavior and development and maternal well-being was significantly mediated by the mother-adolescent relationship. Specifically, adolescent behavior and development significantly predicted the mother-adolescent relationship which, in turn, significantly predicted maternal well-being (see Figure 10). The goodness of fit statistics indicated that the model fit the data well, $\chi^2(19, N=147)=18.78$, $p < .47$, GFI=.97, CFI=1.00, standardized RMR=.06.

The t-values on Figure 11 indicated the structural paths of the reciprocal model were also significant. Having the same goodness of fit statistics as the previous

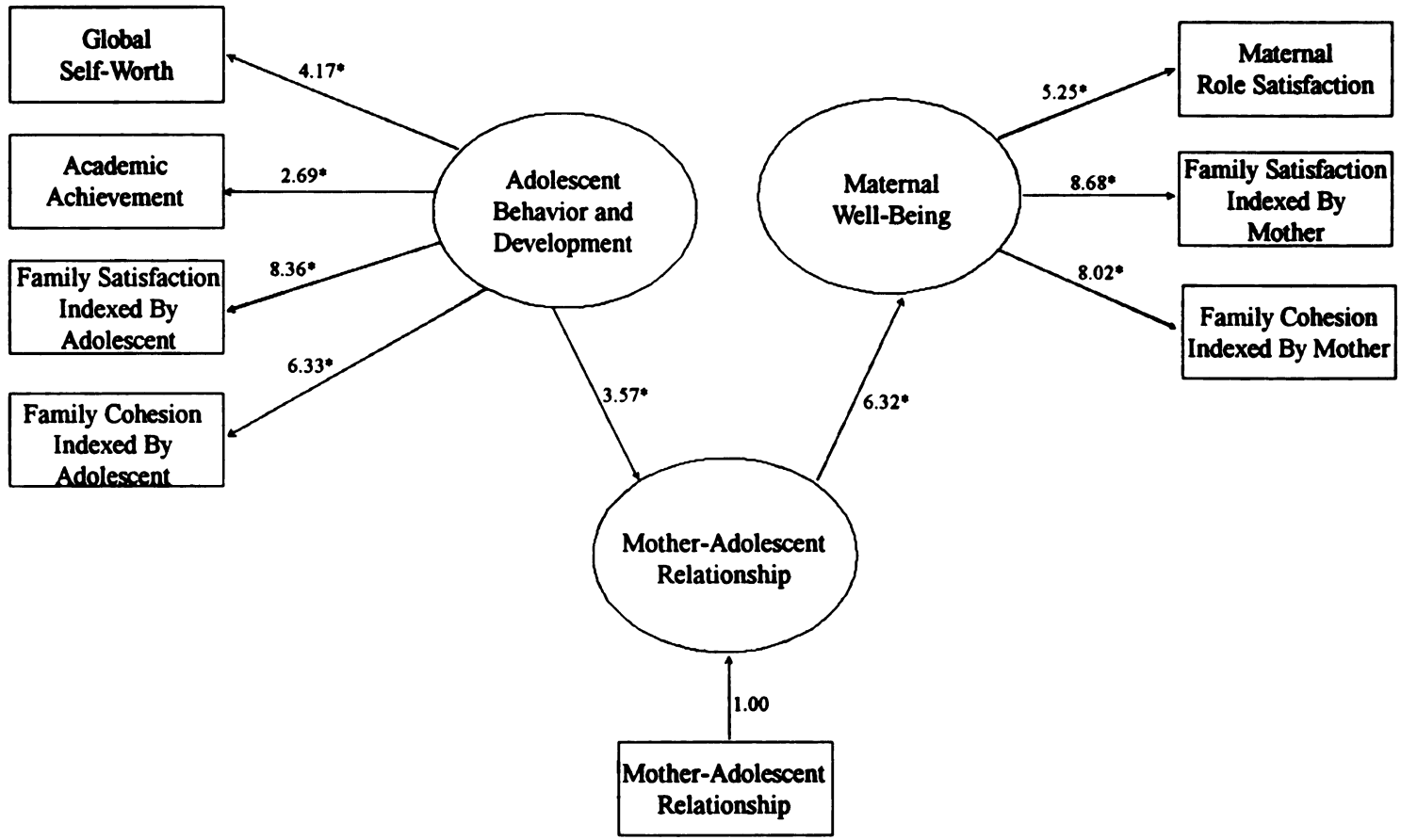

Figure 10. The t-values indicating significant paths for the relations between adolescent behavior and development, maternal well-being and the mother-adolescent relationship at the beginning of sixth grade. Significant paths are indicated by an "*."

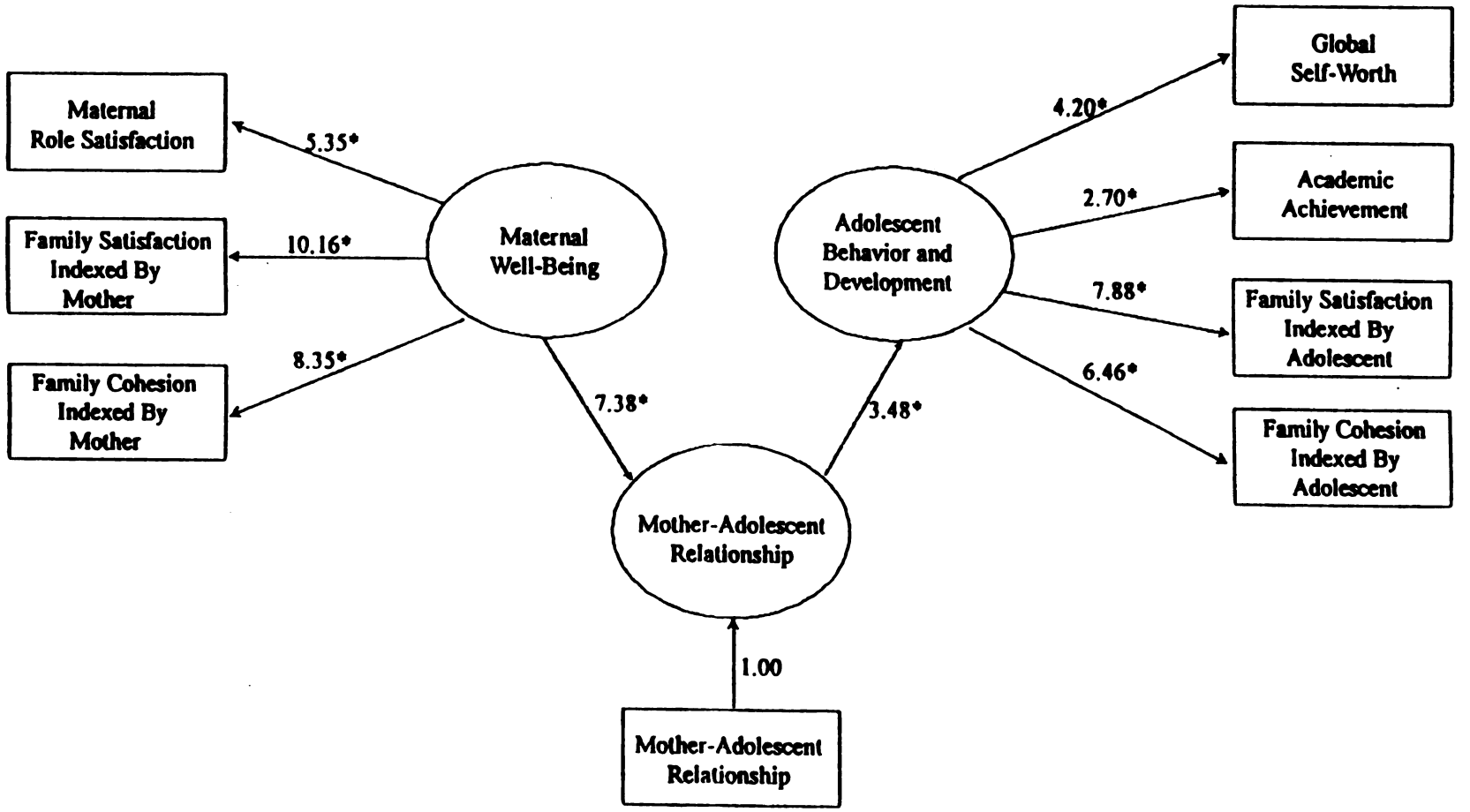

Figure 11. The t-values indicating significant paths for the relations between maternal well-being, adolescent behavior and development, and the mother-adolesent relationship at the beginning of sixth grade. Significant paths are indicated by an "*."

model, this model also appeared to fit the data well.

Paths between Adolescent Behavior and Development and Maternal Well-Being Mediated by the Mother-Adolescent Relationship at the End of Sixth Grade

As shown in Figure 12, the relationship between adolescent behavior and development and maternal well-being was again significantly mediated by the mother-adolescent relationship at the end of sixth grade. The model appeared to fit the data well, $\chi^2(13, N=103)=14.08$, $p < .37$, GFI=.97, CFI=.99, standardized RMR=.06.

The reciprocal model containing the path from maternal well-being to the mother-adolescent relationship and the path from the mother-adolescent relationship to adolescent behavior and development was again significant at the end of sixth grade (see Figure 13). The goodness of fit statistics, $\chi^2(13, N=103)=14.08$, $p < .37$, GFI=.97, CFI=.99, standardized RMR=.06, indicated that this model fit the data well.

Paths between Adolescent Behavior and Development and Maternal Well-Being Mediated by the Mother-Adolescent Relationship at the Beginning of Seventh Grade

As discussed previously, the results from the tests of the models at the beginning of seventh grade should be interpreted with caution due to the small sample size available at this time of measurement. However, goodness of fit indices indicated a fairly good model fit, $\chi^2(19, N=57)=16.88$, $p < .60$, GFI=.93, CFI=1.00, standardized RMR=.06. As well, t-values indicated non-significant paths for both of the structural parameters, in addition to many non-significant t-values for the indicators of the latent constructs (see Figure 14).

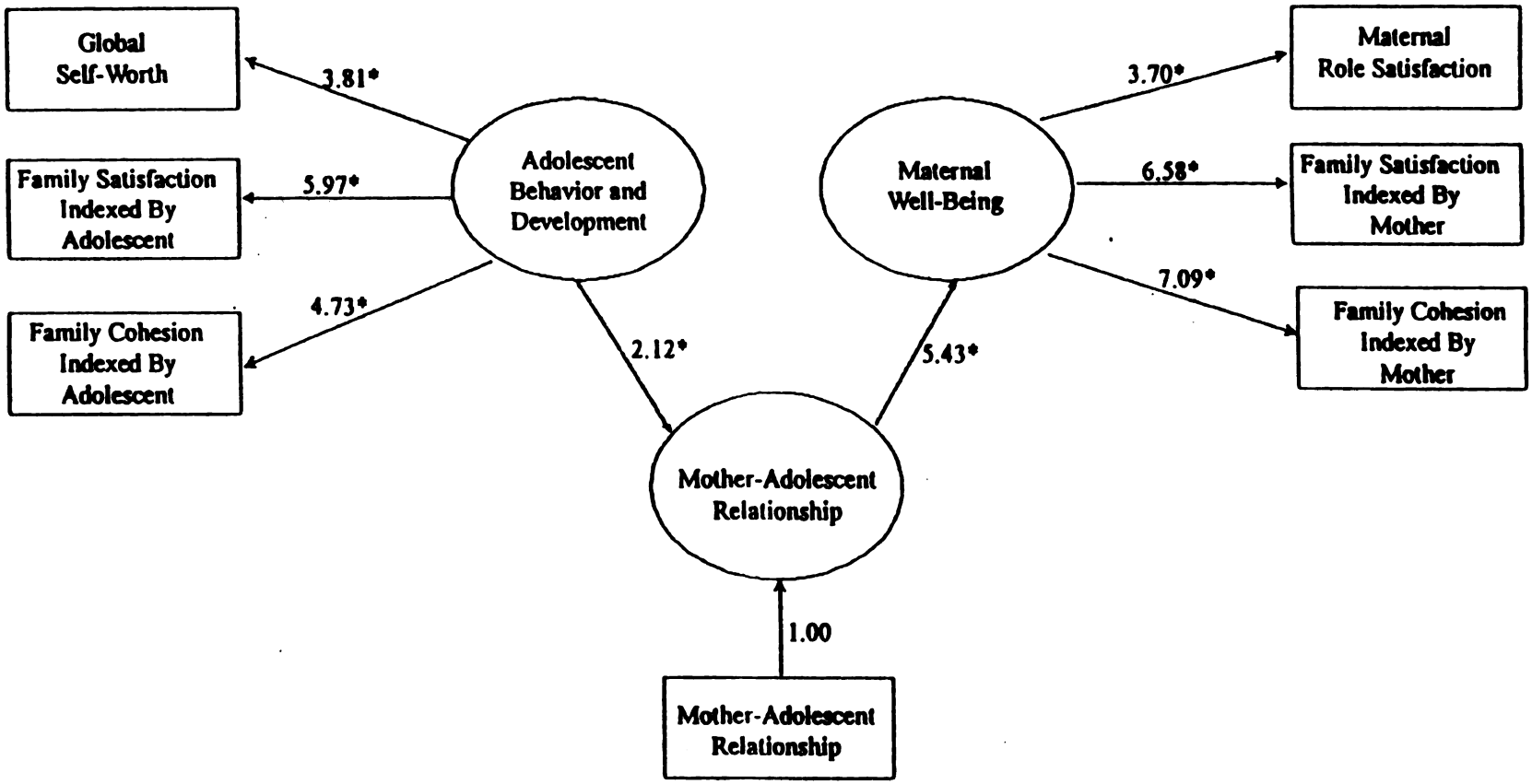

Figure 12. The t-values indicating significant paths for the relations between adolescent behavior and development, maternal well-being, and the mother-adolesent relationship at the end of sixth grade. Significant paths are indicated by an "*."

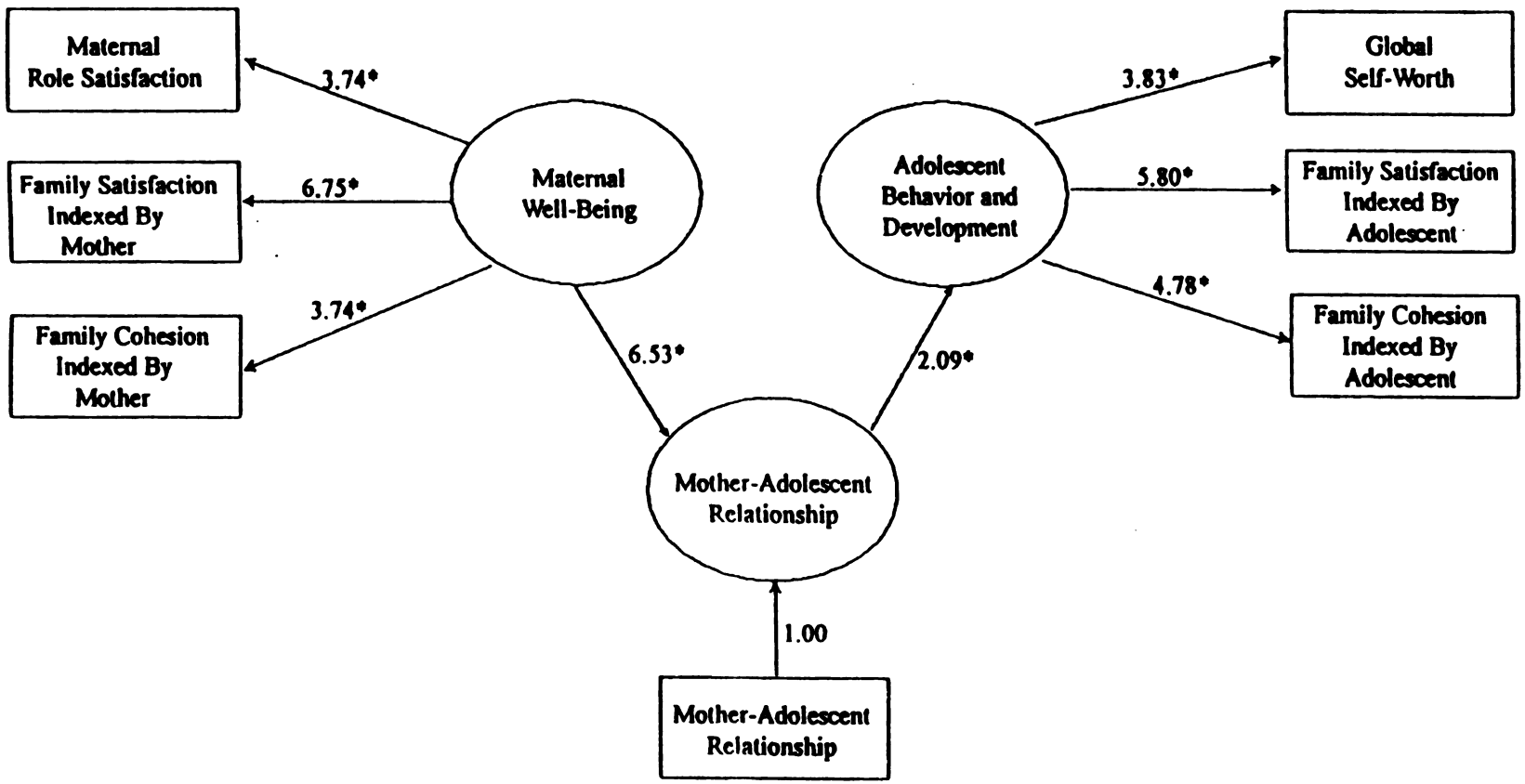

Figure 13. The t-values indicating significant paths for the relations between maternal well-being, adolescent behavior and development, and the mother-adolesent relationship at the end of sixth grade. Significant paths are indicated by an "*."

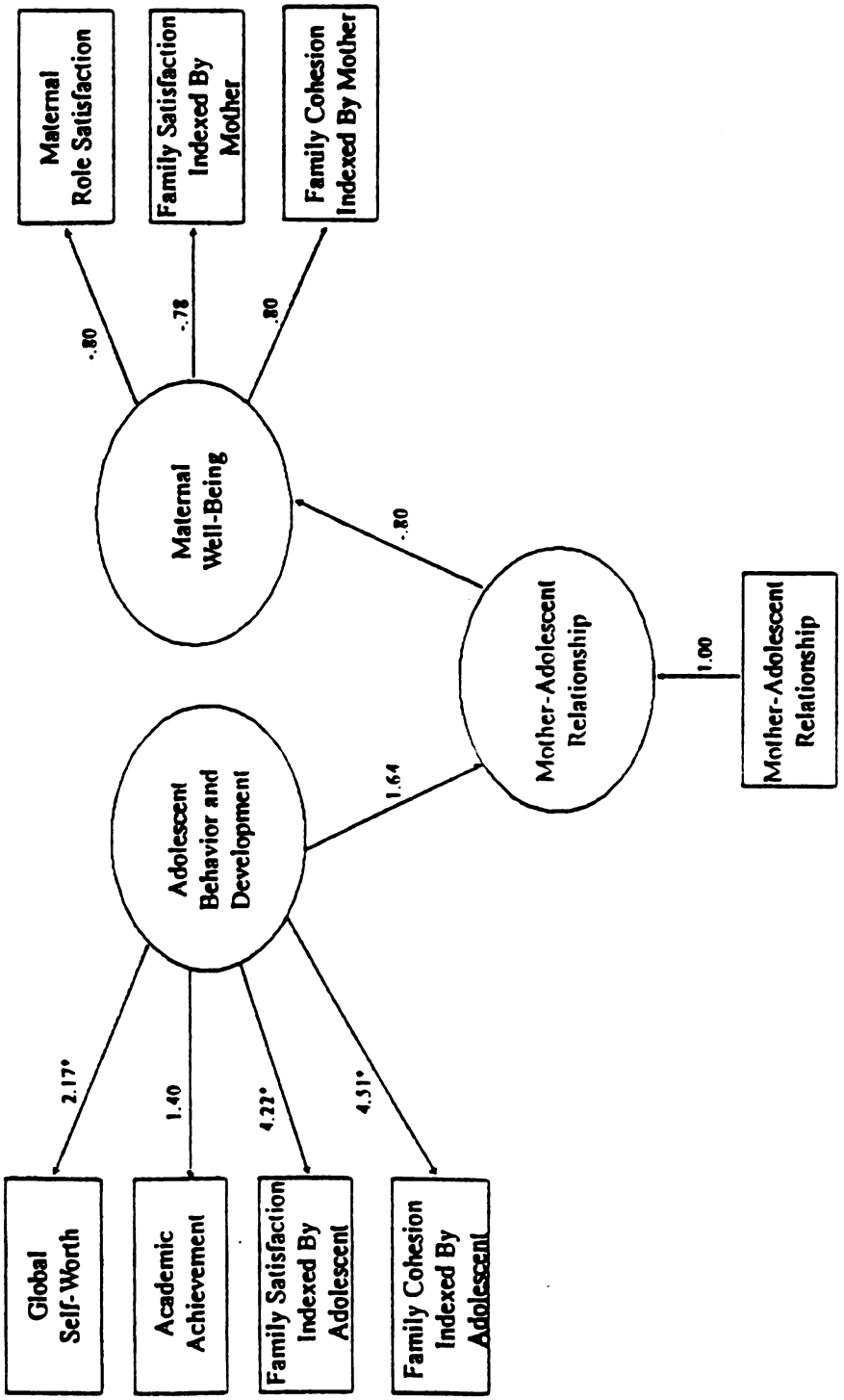

Figure 14. The t-values indicating significant paths for the relations between adolescent behavior and development, maternal well-being and the mother-adolescent relationship at the beginning of seventh grade. Significant paths are indicated by an "*."

Similarly, while model fit was again good for the reciprocal effects model, $\chi^2(19, N=57)=16.88$, $p < .60$, GFI=.93, CFI=1.00, standardized RMR=.06, the path from the mother-adolescent relationship construct to the adolescent behavior and development construct was non-significant (see Figure 15). Although the smaller sample size available in seventh grade could account for the differences in results from the beginning and end of sixth grade to the beginning of seventh grade, these changes might also have been due to developmental changes in the sample. Further discussion of these issues will be presented in the next chapter.

Conclusions

As predicted, the mother-adolescent relationship significantly mediated the relationship between adolescent behavior and development and maternal well-being within time. This mediated relationship was evident when tested in both directions. Thus, these models not only supported the presence of an indirect relationship between adolescent behavior and development and maternal well-being but, as well, they supported a reciprocal effects model of mother-adolescent relations within time. Moreover, given that these models appeared to be stable over time, additional tests were run to further assess the nature of the relationships between the constructs across time. These models are presented next.

Longitudinal Analyses between Adolescent Behavior and Development, Maternal Well-Being, and the Mother-Adolescent Relationship

Structural equation modeling (LISREL; Joreskog & Sorbom, 1988) was again used to examine the hypothesized relationships across-time between adolescent behavior and development and maternal well-being. The following relationships were

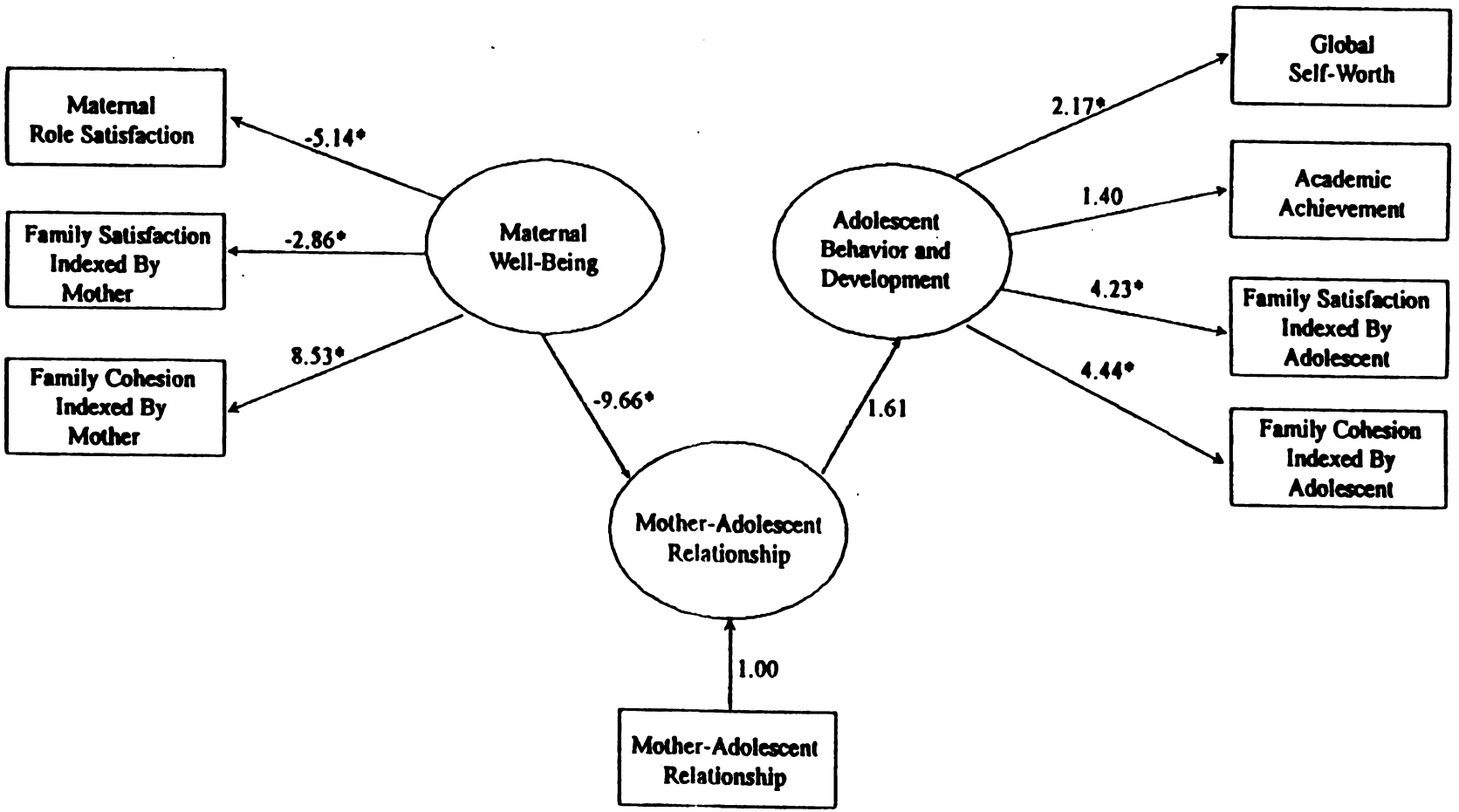

Figure 15. The t-values indicating significant paths for the relations between maternal well-being, adolescent behavior and development, and the mother-adolesent relationship at the beginning of seventh grade. Significant paths are indicated by an "*."

tested: 1. The direct path between adolescent behavior and development at the beginning of sixth grade and maternal well-being at the end of sixth grade; 2. The indirect path between adolescent behavior and development at the beginning of sixth grade and maternal well-being at the end of sixth grade, mediated by the mother-adolescent relationship examined at the end of sixth grade; 3. The direct path between maternal well-being at the beginning of sixth grade and adolescent behavior and development at the end of sixth grade; and 4. The indirect path between maternal well-being at the beginning of sixth grade and adolescent behavior and development at the end of sixth grade, mediated by the mother-adolescent relationship examined at the end of sixth grade (see Figure 16). Due to the decrease in statistical power associated with the small sample size available for testing at the beginning of seventh grade, and in light of the cautions about the interpretation of the results discussed in the previous section, data from the beginning of seventh grade were not included in the longitudinal analyses.

The Direct Path between Adolescent Behavior and Development at the Beginning of Sixth Grade and Maternal Well-Being at the End of Sixth Grade

As illustrated in Figure 17, all indicators of the latent constructs were significant. Contrary to what was found in the within-time analyses, the direct path between adolescent behavior and development at the beginning of sixth grade and maternal well-being at the end of sixth grade was significant. Based on the results of the LISREL analysis, the model appeared to fit the data well, $\chi^2(7, N=103)=5.26$, $p < .63$, GFI=.99, CFI=1.00, standardized RMR=.07.

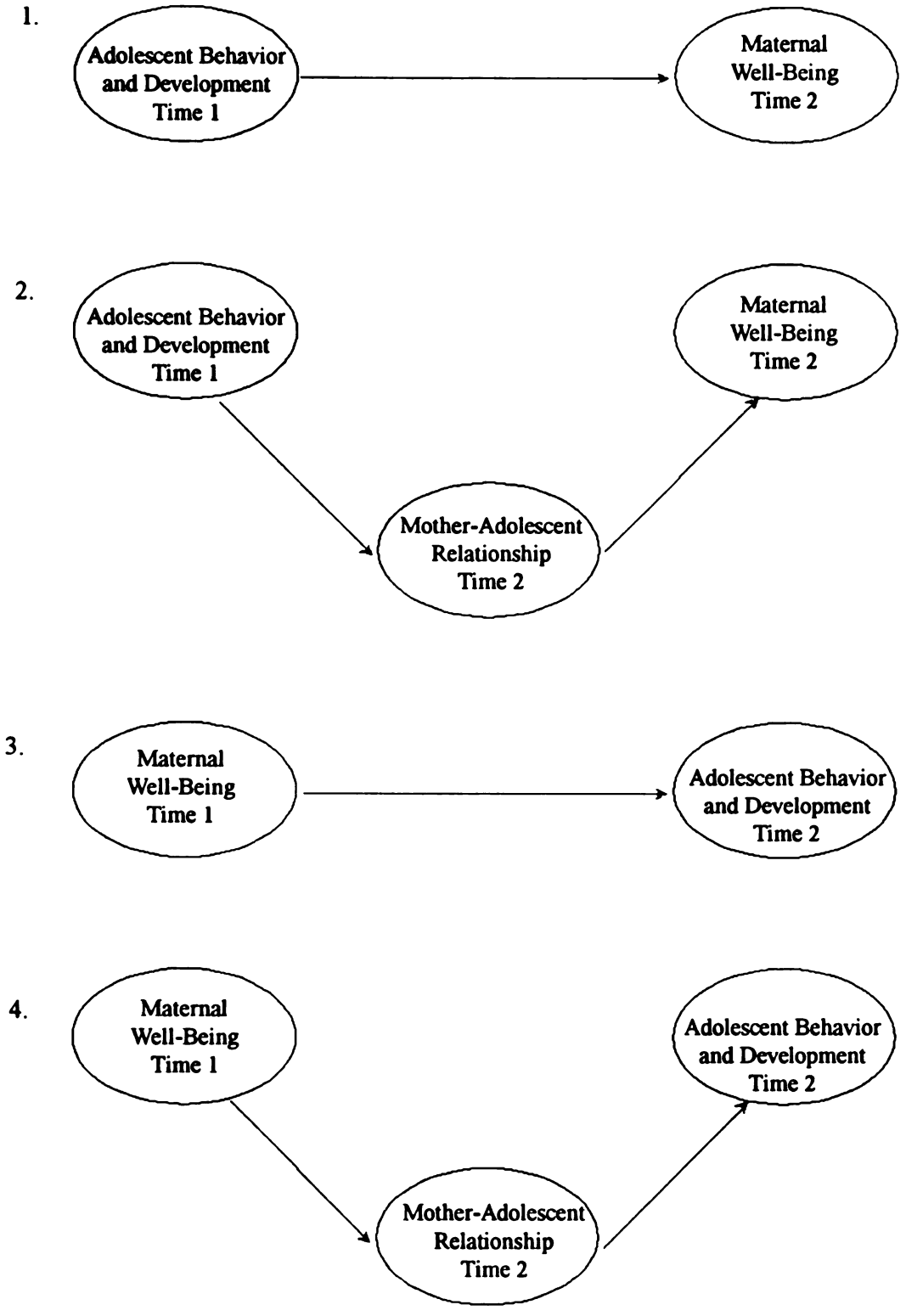

Figure 16. Longitudinal direct and indirect paths. Time 1=Beginning of sixth grade, Time 2=End of sixth grade.

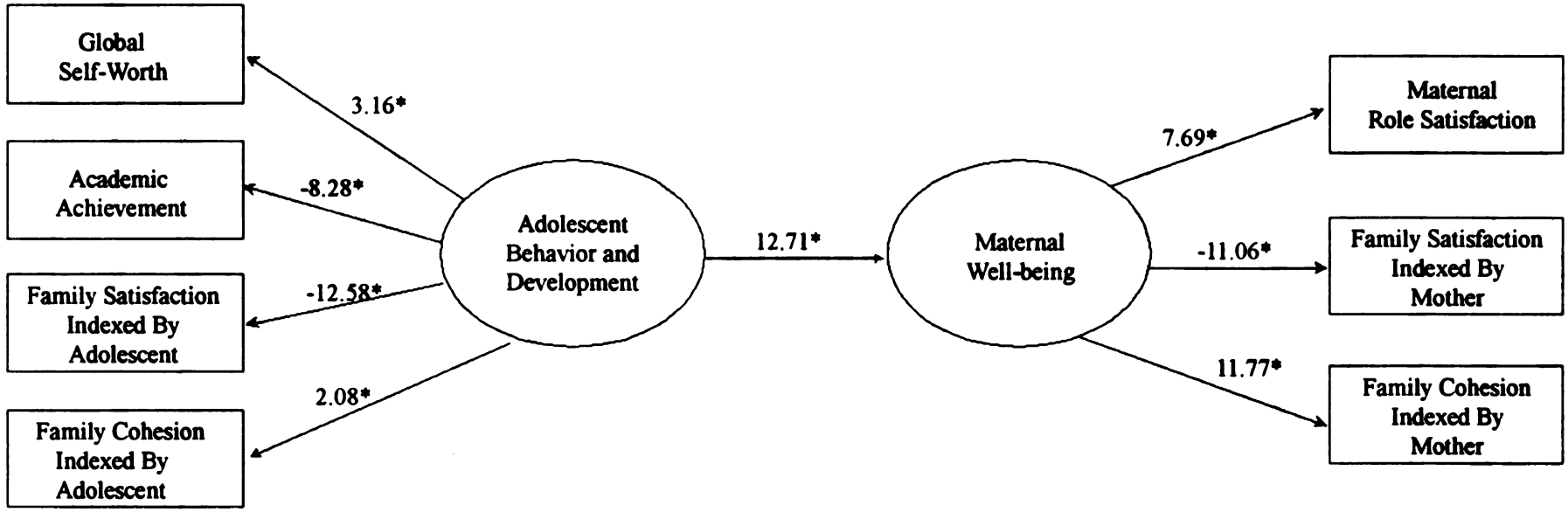

Figure 17. The t-values indicating significant paths for adolescent behavior and development at the beginning of sixth grade and maternal well-being at the end of sixth grade. Significant paths are indicated by an "*."

The Direct Path between Maternal Well-Being at the Beginning of Sixth Grade and Adolescent Behavior and Development at the End of Sixth Grade

The structural path of interest, from maternal well-being at the beginning of sixth grade to adolescent behavior and development at the end of sixth grade, was significant (see Figure 18). Goodness of fit indices for this model indicated a moderate fit, $\chi^2(4, N=103)=24.02$, $p=.00$, GFI=.93, CFI=.93, standardized RMR=.09, although the chi-square was a bit large. However, the model was accepted based on the overall evaluation of the other goodness of fit indices.

Indirect Paths between Adolescent Behavior and Development and Maternal Well-Being Mediated by the Mother-Adolescent Relationship Across Time

Contrary to the within-time analyses, the mediated models of across-time relations were rejected. The model which examined the relationship between adolescent behavior and development at the beginning of sixth grade and maternal well-being at the end of sixth grade, mediated by the mother-adolescent relationship, was rejected based on the goodness of fit statistics, $\chi^2(11, N=103)=66.79$, $p=.00$, GFI=.87, CFI=.93, standardized RMR=.18. Specifically, the chi-square was six times the number of degrees of freedom and the GFI was below the minimum .90 cut-off for acceptance of the model. Therefore, this across time, mediated effects model was rejected.

Similarly, the model which examined the relationship between maternal well-being at the beginning of sixth grade and adolescent behavior and development at the end of sixth grade, mediated by the mother-adolescent relationship, was also rejected. The goodness of fit indices were, $\chi^2(7, N=103)=62.50$, $p=.00$, GFI=.89,

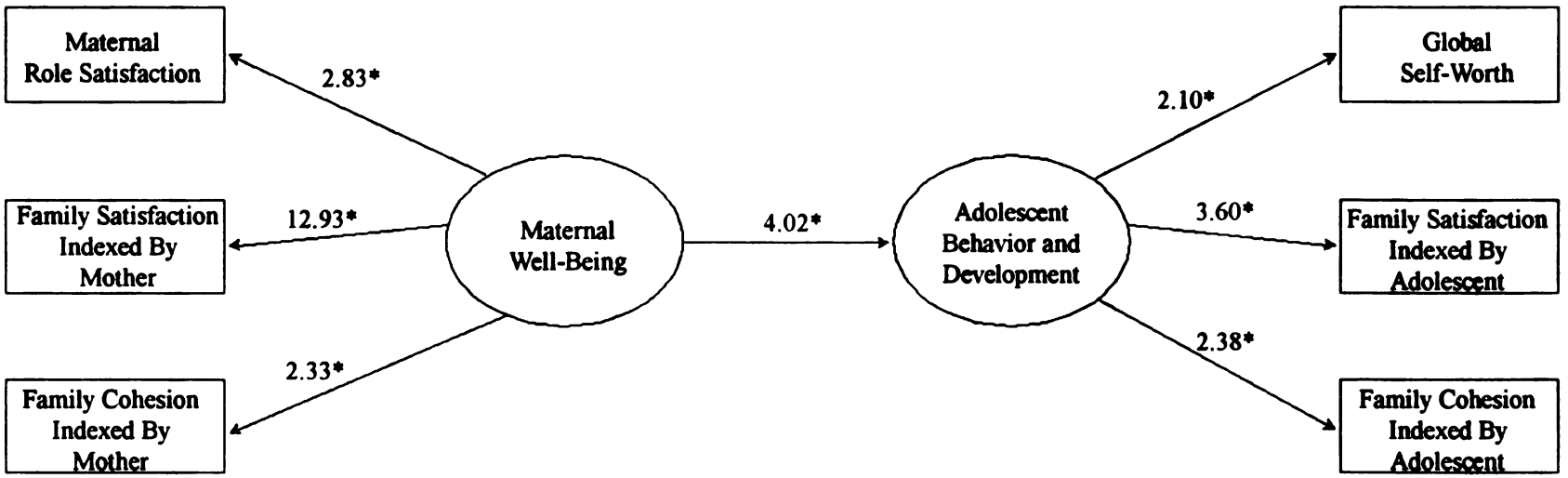

Figure 18. The t-values indicating significant paths for maternal well-being at the beginning of sixth grade and adolescent behavior and development at the end of sixth grade. Significant paths are indicated by an "*."

CFI=.83, standardized RMR=.17. The chi-square for this model was almost nine times the degrees of freedom and the GFI fell below the minimum .90 acceptance level. Thus, this model could not be accepted as fitting the data.

Conclusions

The examination of the direct paths between adolescent behavior and development and maternal well-being within each time of testing revealed no significant relationship between these two constructs. Specifically, adolescent behavior and development did not appear to predict maternal well-being and, reciprocally, maternal well-being did not appear to predict adolescent behavior and development, either at the beginning or end of sixth grade or at the beginning of seventh grade. However, these constructs did appear to be linked by a third, mediating variable: The mother-adolescent relationship. Specifically, adolescent behavior and development significantly predicted the mother-adolescent relationship which, in turn, predicted maternal well-being. In addition, the reciprocal paths were also significant, indicating a bidirectional relationship between mothers and adolescents. This findings is consistent with the emphasis stressed in developmental contextualism regarding the importance of the relationship between the developing individual and his or her changing context (e.g., family context) for psychosocial behavior and development (Lerner, 1991).

In turn, however, the longitudinal analyses resulted in quite different findings. When the across time, direct paths between adolescent behavior and development and maternal well-being were examined, the relationships were significant. Thus, adolescent behavior and development at the beginning of sixth grade significantly

predicted maternal well-being at the end of sixth grade, and maternal well-being at the beginning of sixth grade significantly predicted adolescent behavior and development at the end of sixth grade. This pattern of findings suggests that both adolescents and mothers are influencing each other over time. However, the mediated relationships were not significant when examined longitudinally. This finding suggests that a direct, rather than a mediated, relationship exists across time between maternal well-being and adolescent behavior and development. However, a full discussion of the nature and meaning of these results, especially with respect to a developmental contextual approach to human development, will be presented in the next chapter.

Chapter V

DISCUSSION

The primary goal of the present investigation was to examine the relationships between mothers and children during the early adolescent period. Framed by a developmental contextual perspective of human development (Lerner, 1986, 1991), the current study examined bidirectional relations between mothers and their children. Developmental contextualism stresses that both characteristics of the developing individual, as well as characteristics of his or her changing context, dynamically interact to comprise the basic process of human development (Lerner, 1992, 1993). Therefore, individual characteristics (e.g., academic achievement and global self-worth) and characteristics of the environment (e.g., family satisfaction and family cohesion) that are central to psychosocial behavior and development during adolescence (Lerner & Spanier, 1980; Petersen, 1988) were examined to assess whether adolescent behavior and development and maternal well-being influenced each other both concurrently and longitudinally.

In addition, the role of potential mediating variables is important to consider in order to better understand the process of change involved between the individual and his or her context (Bronfenbrenner, 1979; Bronfenbrenner & Crouter, 1982). Consequently, the mother-adolescent relationship was examined in the present investigation as a potential mediator between adolescent behavior and development and maternal well-being.

The current chapter presents a discussion of the results obtained from the present study. Further, both the strengths and the limitations of the current study will

be presented. Finally, directions for future research involving mothers and young adolescents will be suggested.

Relationships between Adolescent Behavior and Development and Maternal Well-Being Within Time

Past research has demonstrated the influence of familial characteristics and parental behaviors on children's and adolescents' development (e.g., Demo, Small & Savin-Williams, 1987; Kurdek & Fine, 1994; Lerner & Galambos, 1985, 1986; Ohannessian, Lerner, Lerner, & von Eye, 1994; Paulson, Hill, & Holmbeck, 1991; Wentzel, 1994). For example, Gottfried (1991) reported that the more parents were involved in their child's education, the better the child performed academically. Consistent with other research, the present investigation also found that parental characteristics, indexed by maternal well-being, were associated with adolescent behavior and development. However, no direct relationship between maternal well-being and adolescent behavior and development emerged at any time of testing (beginning of sixth grade, end of sixth grade, or beginning of seventh grade). Instead, this relationship was significantly mediated through the mother-adolescent relationship.

While no previous study has examined the mediated relationships between mothers and adolescents in the manner used in the present investigation, past literature does provide evidence for the link between familial relationships and both parental and adolescent outcomes. For example, adolescent self-esteem and well-being have been related to close, supportive family relationships (Grotevant & Cooper, 1985; Marcia, 1983; Matteson, 1974). Similarly, Paulson, Hill, and Holmbeck (1991)

found that close family relationships predicted parental satisfaction. While these findings provide evidence for the importance of the role of the parent-adolescent relationship, in regard to both adolescents' and parents' functioning, these prior studies have not examined the nature by which the parent-adolescent relationship mediates the impact that parents and adolescents have on each other. Therefore, these studies have failed to capture the process involved in person-context (i.e. person-parent) relations. Consequently, the present investigation went beyond this past research and examined how parental characteristics (i.e. maternal well-being) affected the mother-adolescent relationship and, in turn, how this relationship affected adolescent behavior and development. In this way, the current study attempted to capture the process involved in how parents affect their children and how children affect their parents.

The present investigation, in fact, did find support for this process-of-influence model in that all within-time relations between mothers and adolescents were significantly mediated by the mother-adolescent relationship. These results support those of Lerner and Galambos (1985) that found that the relationship between maternal role satisfaction and child outcomes was mediated by mother-child interacton. Barling (1986) also found similar results with fathers and children. Specifically, Barling reported that the father-child relationship significantly mediated the influence of fathers' job dissatisfaction on childrens' levels of hyperactivity and conduct problems.

Both Barling's findings and those of the current investigation support the notion that the influence of parents on children, and of children on parents, is

transmitted through the parent-child relationship, at least when both are assessed at the same point in time. Further, and specific to the present study, the results suggest that adolescents' feelings of self-worth, their academic performance, and their reports of family satisfaction and family cohesion affect mothers' well-being through the quality of the parent-adolescent relationship. Similarly, mothers' role satisfaction, family satisfaction, and family cohesion affect adolescents' behavior and development through the mother-adolescent relationship also.

Given that only the within-time mediated relationships were significant, the current findings suggest that neither the mothers' nor the adolescents' characteristics that were examined in the present study had a direct impact on one another when examined concurrently. Instead, and as already noted, the current findings suggest that the impact that mothers had on their adolescents and, reciprocally, that adolescents had on their mothers, was one that is promoted by the nature of the mother-adolescent relationship. Thus, the quality of the mother-adolescent relationship may be the key factor in determining the impact of mothers' well-being on adolescents' behavior and development and, in turn, of the impact of adolescents' behavior and development on mothers' well-being.

The importance of these findings lies in being able to begin to understand the process by which parents and adolescents influence each other. Moreover, understanding the key role that the mother-adolescent relationship plays in the relations between mothers and adolescents is twofold. First, the mother-adolescent relationship can be a focal point in improving both maternal well-being and adolescent behavior and development. For example, since the current investigation found that

the mother-adolescent relationship directly predicted adolescent behavior and development, perhaps enhancing the quality of the mother-adolescent relationship for an adolescent with low academic achievement may, in turn, enhance his or her academic performance. This idea is supported by past literature that has found that the more parents are involved in their children's education, the better the children do in school (Gottfried, 1991; Stevenson & Baker, 1987). Second, the mother-adolescent relationship may possibly buffer the potential negative effects of maternal characteristics on the youth and, in turn, of adolescent characteristics on the mother. For example, low maternal role satisfaction may not have a negative effect on the adolescent if the quality of their relationship is high. The current study's findings provide some support for this idea in that the only significant relationship found between mothers and adolescents, when their relationship was examined concurrently, was one that was mediated through the mother-adolescent relationship.

In turn, however, when examining longitudinally maternal well-being and adolescent behavior and development, the direct relationship between these constructs becomes the important path to which to attend. Accordingly, these cross-time relationships are discussed next.

Cross-Time Relationships between Adolescent Behavior and Development and Maternal Well-Being

The findings of the analyses of the cross-time relations between maternal well-being and adolescent behavior and development were quite different than those that resulted from the analyses of the within-time relations. Specifically, maternal well-being at the beginning of sixth grade directly predicted adolescent behavior and

development at the end of sixth grade. Reciprocally, adolescent behavior and development at the beginning of sixth grade significantly predicted maternal well-being at the end of sixth grade. However, unlike the within-time findings, adolescent behavior and development and maternal well-being were not significantly mediated across time by the mother-adolescent relationship.

One possible explanation for the difference between the within- and across-time findings may be that both maternal and adolescent characteristics become functionally autonomous as they endure across time. Specifically, within any given point in time, behavioral characteristics that are manifested primarily at that occasion of measurement may be perceived more as transitory, or attributable to situational factors, than as enduring features of the person. In other words, such time-specific behaviors may be viewed as merely "states" of being; for example, the emergence of a low level of self-worth might be interpreted by a parent as a transitory function of the transition to middle school. It may be that when behaviors are viewed as temporary states, specific to a given point in time, the quality of the mother-adolescent relationship--which, presumably is an outcome of the history, to date, of the relationship--may supersede "transitory" behaviors as the key influence on outcomes for the mother or youth.

For example, if the quality of the mother-adolescent relationship is high, low adolescent self worth at the beginning of sixth grade may not impact the mother's well-being because the mother may view this level of functioning as a temporary state. However, if the behavior persists across time, then, it might become a more pronounced influence on outcomes for the members of the dyad; indeed, it may be the

case that this "persistence" may lead to a trait-like attribution by the mother and, if so, such traits may become the major predictor of dyadic functioning, superseding even the quality of the mother-adolescent relationship because, in effect, it would be the traits of the child that "shape" (or set boundaries for) the nature of the relationship.

That is, if behaviors or characteristics endure across time, they may change the perceptions of the mother from being seen as states of being to being viewed as "trait-like." For example, continued, low adolescent academic performance may be attributed by the mother to persistent low motivation or to poor ability, rather than to transitory situational factors such as the transition to middle school. Accordingly, and as noted above, once a behavior is attributed to being a trait of the individual, the role of the mother-adolescent relationship in mediating the relations between adolescent behavior and development and maternal well-being may not be as important, since the traits, as parts of the enduring character of personality, may be salient enough to supersede the relationship or may become, in fact, a basis of the relationship.

The findings of the present study allow the speculation that if and when characteristics are attributed to be trait-like a direct relationship will emerge between maternal well-being and adolescent behavior and development. This state-to trait attribution change process may in fact explain the findings of the current study, in that the relation between adolescent behavior and development and maternal well-being was significantly mediated by the mother-adolescent relationship only within times of measurement. Of course, the present interpretation of the differences between the within- and across time findings of this study can only be tested in future

research, investigations that would need to involve assessment of the hypothesized role of state versus trait attributions by the mother.

Accordingly, both within-time, mediated relations and across-time, direct relations are valuable for future researchers to consider in order to provide additional information regarding the changing dynamics of parent-adolescent relations. Moreover, future research should be conducted in a manner that addresses the limitations of the current investigation.

Limitations of the Present Study

Although the present investigation was conducted over three time periods, additional times of measurement and longer periods of time between measurements would have been advantageous. The present study was only able to examine mothers and adolescents from the beginning of sixth grade through the beginning of seventh grade. Additional times of measurement over a longer period of time would enable one to assess more of the developmental changes that are involved in adolescence. In addition, longer periods of time between testing could diminish the influence of practice effects on the results. In turn, more intensive measurement methods and designs, such as involved in P-technique factor analysis (Cattell, Cattell, & Rhymer, 1947; Nesselroade & Ford, 1985), may provide information about the structure of intraindividual change by examining an individual's behaviors over many closely successive occasions; such an observational frame could be used to ascertain if, and when, maternal attributions of adolescent behavior alter from a state-like to a trait-like status. Thus, intensive measurement designs, such as involved in P-technique, could be used to test the above-noted ideas about the basis of the different role of the quality

of the mother-adolescent relationship in mediating within- and across-time adolescent and maternal outcomes.

Another limitation of the current investigation concerns the sample. Whereas the sample size was large enough to conduct the analyses relevant to the questions of this study, a larger sample size would have provided additional power. This increased power would have been especially important given that structural equation modeling techniques were used in the present study. Because structural equation techniques examine all parameters simultaneously, they require a sample large enough to test, with adequate degrees of certainty, the structural parameters under investigation in a given study. In fact, the inconsistency between the results obtained from the beginning and end of sixth grade, on the one hand, and the beginning of seventh grade, on the other, may be due largely to a substantial drop in sample size (from 142 to 103 to 57 across the three testing times, respectfully). Perhaps with additional power to estimate the parameters of interest at the beginning of seventh grade, additional paths would have been significant.

Moreover, replicating the current analyses with additional populations would also be beneficial in terms of the validity of the study. The current findings are only generalizable to White, semi-rural, Pennsylvania mothers and adolescents of a lower-middle class background. For instance, results obtained from conducting the same study with African-American or Asian-American families, or with families of upper-middle class socioeconomic status, or with urban families, might well be different.

Another limitation of the current study concerns the measures. All measures used in the present investigation, with the exception of the indices for academic grade

point average, were self-report questionnaires; thus, common method variance could have introduced error into the assessment of the functioning of the mothers and of the adolescents. Therefore, measures from additional methods of measurement should be incorporated also into future research in order to ascertain the influence of common method variance and, through triangulation, to better determine the variance due to the substantive nature of the constructs under study. Furthermore, then, use of multiple measures to assess the same constructs as those in the present study may be beneficial in terms of establishing convergent validity.

In addition, the variables used in the present investigation were drawn from an archival data set. Therefore, only a limited number of variables were available for study. However, the variables chosen from the archive were based on prior research and were all significant indicators of their latent constructs.

In sum, several means exist for enhancing the current study. Nevertheless, the results obtained from the present investigation are beneficial in many respects. It is useful to note these assets.

Strengths of the Present Study

A primary strength of the present study was its simultaneous use of both within-time and longitudinal assessments of the relationship between mothers and adolescents. An additional strength of the present investigation was the use of structural equation modeling techniques. These techniques allow for simultaneous solutions to be estimated for the parameters of interest. Further, latent constructs can be examined rather than single variables examined in isolation.

Moreover, by examining both the direct and indirect relations between mothers

and adolescents, both within- and across-time, the current investigation contributed to the existing literature on mother-adolescent relations. Specifically, the present study went beyond previous research, which primarily examined mothers and adolescents at only a single point in time and only examined the direct relationship between mothers and adolescents. The current investigation used three times of measurement and examined both direct and indirect relations between mothers and adolescents.

Finally, the vast majority of prior research focused on the influence of mothers on adolescents. The current investigation examined the bidirectional relationships between mothers and adolescents during this important period of life, and thus provided data pertinent to major, contemporary theoretical interests in the field of adolescence, ones that stress developmental systems theories such as developmental contextualism (Ford & Lerner, 1992; Lerner, 1991, 1995).

Conclusions

The current study examined the relationship between maternal well-being and adolescent behavior and development both within- and across-time. The findings were that the within-time relations between mothers and adolescents were significantly mediated through the quality of the mother-adolescent relationship. In turn, however, only a direct relationship emerged when maternal well-being and adolescent behavior and development were examined across time. In addition, the results supported the existence of bidirectional relationships among maternal well-being, the mother-adolescent relationship, and adolescent behavior and development.

By focusing on the multiple levels of analysis in the bidirectional relations between mothers and adolescents, the present investigation demonstrated the

usefulness of adopting a developmental contextual framework when examining person-context relations during this period of life. This perspective should be of further use as the research reported in this study is extended to chart, in an increasingly more refined manner, the evolving relationships between adolescents and their mothers.

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APPENDIX A

MEASURES USED IN THE PRESENT STUDY

Adolescent Measures:

1. Family Satisfaction Scale (FSS)
2. Family Adaptability and Cohesion Evaluation Scale III (FACES)
3. Parental Acceptance and Rejection Questionnaire (PARQ)
4. Harter's Self-Perception Profile (SPP)

Maternal Measures:

1. Mother's Life Situation Survey (MLSS)
2. Family Adaptability and Cohesion Evaluation Scale III (FACES)
3. Family Satisfaction Scale (FSS)
4. Parental Acceptance and Rejection Questionnaire (PARQ)

ID#: _ _ _ _ _
Wave:
Form: 1 4

HOW I FEEL ABOUT MY FAMILY

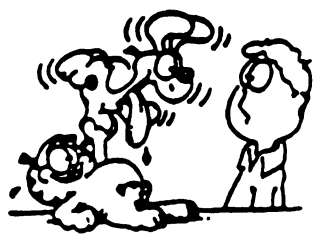
We realize that sometimes families get along well, and sometimes they don't get along so well. We'd like to know how you feel about your family relationships. Therefore, for the questions on the following pages please circle the number which best describes how often these things happen in your family.

For example, if a sentence said:

	All The Time	Most of The Time	More Often Than Not	Occa-sionally	Rarely	Never
1. How often do family members get on your nerves?	1	2	3	4	5	6

PLEASE TURN THE PAGE

YOU MAY NOW BEGIN



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HOW I FEEL ABOUT MY FAMILY

PLEASE CIRCLE THE NUMBER WHICH BEST DESCRIBES HOW OFTEN THESE THINGS HAPPEN IN YOUR FAMILY.

	All The Time	Most of The Time	More Often Than Not	Occa-sionally	Rarely	Never
1. How often have you thought or talked about leaving your family?	1	2	3	4	5	6
2. How often do you or another family member leave the house after a fight?	1	2	3	4	5	6
3. In general, how often do you think that things between you and your family are going well?	1	2	3	4	5	6
4. Do you feel that you can tell people in your family things that are very personal and important to you?	1	2	3	4	5	6
5. Do you ever wish you were not living with your family?	1	2	3	4	5	6
6. How often do you argue with people in your family?	1	2	3	4	5	6
7. How often do family members "get on your nerves?"	1	2	3	4	5	6
8. Do you hug and/or kiss people in your family?	1	2	3	4	5	6

PLEASE CONTINUE . . . .

ID#: _ _ _ _

9. Please circle the number which best describes how happy you are with your family relationships.

Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect
1	2	3	4	5	6	7

10. Think about how you want your family to be in the future. Please choose the sentence which best describes how you feel about your family relationships. Circle ONLY ONE number:

In the future I want very much for my family to get along well, and would go to almost any length to see that we do 1

In the future I want very much for my family to get along well, and will do all I can to see that we do 2

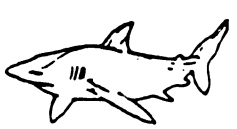
In the future I want very much for my family to get along well, and will do my fair share to see that we do 3

In the future it would be nice if my family could get along well, but I can't do much more than I am doing right now to help us get along . 4

In the future it would be nice if my family could get along well, but I refuse to do more than I am doing right now to help us get along 5

My family can never get along well, and there is no more that I can do to help us get along 6

STOP HERE!!



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WHAT MY FAMILY IS LIKE

The following sentences describe ways in which families can behave at any time. We realize that families behave many different ways and that your family does not always behave the same way. However, we'd like you to think about how your family usually behaves. Think carefully about each sentence, and please circle the number corresponding to the choice that best describes your family.

For example, suppose a sentence said:

	ALMOST NEVER	ONCE IN A WHILE	SOME-TIMES	OFTEN	ALMOST ALWAYS
Our family likes to play games.	1	2	3	4	5

PLEASE TURN THE PAGE

YOU MAY NOW BEGIN

ID#: _ _ _ _ _
Wave:
Form: 1 5

WHAT MY FAMILY IS LIKE

CIRCLE THE RESPONSE THAT BEST DESCRIBES HOW YOUR FAMILY USUALLY BEHAVES.

	ALMOST NEVER	ONCE IN A WHILE	SOME-TIMES	OFTEN	ALMOST ALWAYS
1. Family members ask each other for help.	1	2	3	4	5
2. In solving problems, the children's suggestions are followed.	1	2	3	4	5
3. We approve of each other's friends.	1	2	3	4	5
4. Children have a say in their discipline.	1	2	3	4	5
5. We like to do things with just our immediate family.	1	2	3	4	5
6. Different persons act as leaders in our family.	1	2	3	4	5
7. Family members feel closer to other family members than to people outside the family.	1	2	3	4	5
8. Our family changes its way of handling tasks.	1	2	3	4	5
9. Family members like to spend free time with each other.	1	2	3	4	5
10. Parent(s) and children discuss punishment together.	1	2	3	4	5
11. Family members feel very close to each other.	1	2	3	4	5
12. The children make the decisions in the family.	1	2	3	4	5
13. When our family gets together for activities, everybody is present.	1	2	3	4	5
14. Rules change in our family.	1	2	3	4	5

GO ON TO THE NEXT PAGE

ID#: _ _ _ _

	ALMOST NEVER	ONCE IN A WHILE	SOME-TIMES	OFTEN	ALMOST ALWAYS
15. We can easily think of things to do together as a family.	1	2	3	4	5
16. We shift household responsibilities from person to person.	1	2	3	4	5
17. Family members consult other family members on their decisions.	1	2	3	4	5
18. It is hard to identify the leader(s) in our family.	1	2	3	4	5
19. Family togetherness is very important.	1	2	3	4	5
20. It is hard to tell who does which household chores.	1	2	3	4	5

STOP HERE!!

ID#: _ _ _ _
Wave:
Form: 1 1 6

HOW MY MOTHER ACTS TOWARD ME

Please tell us about the person you live with who acts like a mother to you. Is she your:

natural mother	1
step mother	2
adoptive mother	3
grandmother	4
father's girlfriend	5
other _____	6

_____ There is no person who acts like a mother in my life. If so, please skip this questionnaire.

Here are some statements about the way mothers act toward their children. We want you to think about how each one of these fits the way your mother treats you.

There are four choices after each sentence. Please circle the answer that best describes how your mother treats you. Remember, there is no right or wrong answer to any statement, so be as honest as you can. Answer each statement the way you feel your mother really is rather than the way you might like her to be. For example, if your mother almost always hugs and kisses you when you are good, you should mark the item as follows:

	TRUE OF MY MOTHER		NOT TRUE OF MY MOTHER	
	Almost Always True	Sometimes True	Rarely True	Almost Never True
My mother hugs and kisses me when I am good.	1	2	3	4

PLEASE TURN THE PAGE

YOU MAY NOW BEGIN

ID#: _ _ _ _

Now begin. Please circle only one answer for each question.

	TRUE OF MY MOTHER		NOT TRUE OF MY MOTHER	
My Mother	Almost Always True	Sometimes True	Rarely True	Almost Never True
1. Says nice things about me.	1	2	3	4
2. Nags or scolds me when I am bad.	1	2	3	4
3. Talks to me about our plans and listens to what I have to say.	1	2	3	4
4. Complains about me to others when I do not listen to her.	1	2	3	4
5. Encourages me to bring my friends home, and tries to make things pleasant for them.	1	2	3	4
6. Makes fun of me.	1	2	3	4
7. Makes it easy for me to tell her things that are important to me.	1	2	3	4
8. Treats me strictly.	1	2	3	4
9. Makes me feel proud when I do well.	1	2	3	4
10. Views me as a problem.	1	2	3	4
11. Punishes me severely when she is angry.	1	2	3	4

Please continue. . . .

ID#: _ _ _ _

	TRUE OF MY MOTHER		NOT TRUE OF MY MOTHER	
	Almost Always True	Sometimes True	Rarely True	Almost Never True
My Mother:				
12. Makes sure that I have the right kind of food to eat.	1	2	3	4
13. Is impatient with me.	1	2	3	4
14. Is too busy to answer my questions.	1	2	3	4
15. Is cranky toward me.	1	2	3	4
16. Is concerned who my friends are.	1	2	3	4
17. Says many unkind things to me.	1	2	3	4
18. Ignores me when I ask her to help.	1	2	3	4
19. Tells me that I get on her nerves.	1	2	3	4
20. Pays a lot of attention to me.	1	2	3	4
21. Goes out of her way to hurt my feelings.	1	2	3	4
22. Forgets important things I think she should remember.	1	2	3	4
23. Frightens or threatens me when I do something wrong.	1	2	3	4

Please continue. . . .

ID#: _ _ _ _

	TRUE OF MY MOTHER		NOT TRUE OF MY MOTHER	
	Almost Always True	Sometimes True	Rarely True	Almost Never True
My Mother:				
24. Likes to spend time with me.	1	2	3	4
25. Shames me in front of my playmates when I misbehave.	1	2	3	4
26. Tries to stay away from me.	1	2	3	4
27. Feels other children are better than I am no matter what I do.	1	2	3	4
28. Cares about what I would like when she makes plans.	1	2	3	4
29. Thinks other children behave better than I do.	1	2	3	4
30. Has other people take care of me (for example, a neighbor or relative).	1	2	3	4
31. Tries to make me feel better when I am hurt or sick.	1	2	3	4
32. Tells me how ashamed she is when I misbehave.	1	2	3	4
33. Makes me feel ashamed or guilty when I misbehave.	1	2	3	4
34. Treats me gently and with kindness.	1	2	3	4

STOP HERE!!

ID#: _ _ _ _ _
Wave: _
Form: I O 2

WHAT I AM LIKE

DIRECTIONS:

We are interested in what each of you is like, what kind of a person you are like, and how you think and feel about different things. This is not a test. There are no right or wrong answers. Since kids are very different from one another, each of you will be putting down something different.

First, let me explain how these sentences work. Here is one sample sentence. I'll read it out loud, and you follow along with me. This sentence talks about two kinds of kids.

SAMPLE SENTENCES

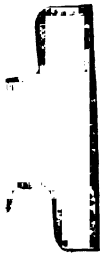
Really True for me	Sort of True for me			Sort of True for me	Really True for me
☐	☐	Some kids would rather play outdoors in their spare time.	BUT	Other kids would rather watch T.V.	☐	☐

(1) First, I'd like you to decide whether you are more like the kids on the left side who would rather play outdoors, or whether you are more like the kids on the right side who would rather watch T.V. Don't mark anything down yet, but first decide which kind of kid is most like you, and go to that side of the page.

(2) Now, decide whether that is only sort of true for you, or really true and mark your answer box with an "X".

BE SURE TO ONLY CHECK ONE OF THE FOUR BOXES FOR EACH PAIR OF SENTENCES.

(3) Now we have some more sentence pairs that we would like you to choose the one that goes with what is true for you, what you are most like.



WHAT I AM LIKE

ID#: _ _ _ _ _
Wave: _
Form: 1 0 2

	Really True for me	Sort of True for me			Sort of True for me	Really True for me	
1.	☐	☐	Some kids feel that they are very *good* at their school work	BUT	Other kids *worry* about whether they can do the school work assigned to them.	☐	☐ _
2.	☐	☐	Some kids find it *hard* to make friends	BUT	Other kids find it's pretty *easy* to make friends.	☐	☐ _
3.	☐	☐	Some kids do very *well* at all kinds of sports	BUT	Other kids *don't* feel that they are very good when it comes to sports.	☐	☐ _
4.	☐	☐	Some kids are *happy* with the way they look	BUT	Other kids are *not* happy with the way they look.	☐	☐ _
5.	☐	☐	Some kids often do *not* like the way they *behave*	BUT	Other kids usually *like* the way they behave.	☐	☐ _
6.	☐	☐	Some kids are often *unhappy* with themselves	BUT	Other kids are pretty *pleased* with themselves.	☐	☐ _
7.	☐	☐	Some kids feel like they are *just as smart* as as other kids their age	BUT	Other kids aren't so sure and *wonder* if they are as smart.	☐	☐ _
8.	☐	☐	Some kids have *alot* of friends	BUT	Other kids *don't* have very many friends.	☐	☐ _

Please continue. . . .

ID#: _ _ _ _

	Really True for me	Sort of True for me				Sort of True for me	Really True for me
9.	☐	☐	Some kids wish they could be alot better at sports	BUT	Other kids feel they are good enough at sports.	☐	☐
10.	☐	☐	Some kids are *happy* with their height and weight	BUT	Other kids wish their height or weight were *different.*	☐	☐
11.	☐	☐	Some kids usually do the *right* thing	BUT	Other kids often *don't* do the right thing.	☐	☐
12.	☐	☐	Some kids *don't* like the way they are leading their life	BUT	Other kids *do* like the way they are leading their life.	☐	☐
13.	☐	☐	Some kids are pretty *slow* in finishing their school work	BUT	Other kids can do their school work *quickly.*	☐	☐
14.	☐	☐	Some kids would like to have alot more friends	BUT	Other kids have as many friends as they want.	☐	☐
15.	☐	☐	Some kids think they could do well at just about any new sports activity they haven't tried before	BUT	Other kids are afraid they might *not* do well at sports they haven't ever tried.	☐	☐
16.	☐	☐	Some kids wish their body was *different*	BUT	Other kids *like* their body the way it is.	☐	☐
17.	☐	☐	Some kids usually *act* the way they know they are *supposed* to	BUT	Other kids often *don't* act the way they are supposed to.	☐	☐
18.	☐	☐	Some kids are *happy* with themselves as a person	BUT	Other kids are often *not* happy with themselves.	☐	☐
19.	☐	☐	Some kids often *forget* what they learn	BUT	Other kids can remember things *easily.*	☐	☐
20.	☐	☐	Some kids are always doing things with *alot* of kids	BUT	Other kids usually do things *by themselves.*	☐	☐

Please continue. . . .

ID#: _ _ _ _

	Really True for me	Sort of True for me				Sort of True for me	Really True for me	
21.	☐	☐	Some kids feel that they are *better* than others their age at sports	BUT	Other kids *don't* feel they can play as well.	☐	☐	_
22.	☐	☐	Some kids wish their physical appearance (how they look) was *different*	BUT	Other kids *like* their physical appearance the way it is.	☐	☐	_
23.	☐	☐	Some kids usually get in *trouble* because of things they do	BUT	Other kids usually *don't* do things that get them in trouble.	☐	☐	_
24.	☐	☐	Some kids *like* the kind of *person* they are	BUT	Other kids often wish they were someone else.	☐	☐	_
25.	☐	☐	Some kids do *very well* at their classwork	BUT	Other kids *don't* do very well at their classwork.	☐	☐	_
26.	☐	☐	Some kids wish that more people their age liked them	BUT	Other kids feel that most people their age *do* like them.	☐	☐	_
27.	☐	☐	In games and sports some kids usually *watch* instead of play	BUT	Other kids usually *play* rather than just watch.	☐	☐	_
28.	☐	☐	Some kids wish something about their face or hair looked *different*	BUT	Other kids *like* their face and hair the way they are.	☐	☐	_
29.	☐	☐	Some kids do things they know they *shouldn't* do	BUT	Other kids *hardly ever* do things they know they shouldn't do.	☐	☐	_
30.	☐	☐	Some kids are very *happy* being the way they are	BUT	Other kids wish they were *different*.	☐	☐	_
31.	☐	☐	Some kids have *trouble* figuring out the answers in school	BUT	Other kids almost *always* can figure out the answers.	☐	☐	_
32.	☐	☐	Some kids are *popular* with others their age	BUT	Other kids are *not* very popular.	☐	☐	_

Please continue. . . .

ID#: _ _ _ _

	Really True for me	Sort of True for me			Sort of True for me	Really True for me
33.	☐	☐	Some kids *don't* do well at new outdoor games	BUT	Other kids are *good* at new games right away.	☐ ☐
34.	☐	☐	Some kids think that they are good looking	BUT	Other kids think that they are not very good looking.	☐ ☐
35.	☐	☐	Some kids behave themselves very well	BUT	Other kids often find it hard to behave themselves.	☐ ☐
36.	☐	☐	Some kids *are* not very happy with the way they do alot of things	BUT	Other kids think the way they do things is *fine*.	☐ ☐

STOP HERE!

ID#: _ _ _ _
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Form: 2 0 1

MOTHER'S LIFE SITUATION SURVEY

Your Birthdate: __ __ (Month) __ __ (Day) __ __ (Year)

Please circle the appropriate number which indicates your relationship to your child participating in our study:

Natural Parent 1
Step Parent 2
Adoptive Parent 3
Foster Parent 4
Grandparent 5
Other 6

If Other, please explain _____

If you are a Step Parent, Adoptive Parent, or Foster Parent, for how long have you been so? __ __ Years __ __ Months

Please circle the appropriate number which indicates your current marital status.

Never Married 1
Married 2
Separated 3
Divorced 4
Remarried 5
Widowed 6

If you are Married, Separated, Divorced, Remarried, or Widowed for how long have you been so?

__ __ Years __ __ Months

DIRECTIONS

Your child's development and behaviors in school are related in important ways to his or her home life. Parents are the primary people who influence the child's life at home. We want to find out about some aspects of your home situation. On the following pages is a list of questions that have to do with your education and employment history, the support and help you have in running your household, and the types of activities in which your family is involved. Finally, we want to learn about how satisfied you might be with various aspects of your home situation.

ID#: _ _ _ _

1. Please circle the number below which describes the final level of education you have obtained:

Elementary school but not high school	1
Some high school	2
High school graduate	3
Some college or technical school	4
College graduate	5
Some graduate school	6
Masters degree	7
M.D., Ph.D., Ed.D., or law degree	8
Other If other, please indicate _____	9

2. This question pertains to your employment history since your sixth grader was born. Please circle the number that best represents your employment for the majority of each time period.

	Not Employed	Part-Time Employed	Full-Time Employed	Laid-Off
Birth to 2-years old	1	2	3	4
2 to 5-years old	1	2	3	4
5 to 10-years old	1	2	3	4
10-years-old to Present	1	2	3	4

ID#: _ _ _ _

3. If you are presently employed, please circle the number below which best describes your job. If your job is not described below, please write it down on the last blank line marked Other. Please circle only one response.

Clerical worker, such as bank teller, bookkeeper, secretary, typist, or mail carrier 01

Craftsman, such as baker, automobile mechanic, machinist, painter, plumber, or carpenter 02

Farmer, or farm manager 03

Laborer, such as construction worker, car washer, sanitary worker, or farm laborer 04

Manager, or administrator, such as sales manager, office manager, school administrator, or restaurant manager 05

Military service worker, such as career officer, or enlisted man or woman in the Armed Forces 06

Operative worker, such as meat cutter, assembler, machine operator, welder, or taxicab, bus, or truck driver 07

Professional worker, such as accountant, artist, registered nurse, engineer, librarian, social worker, actor, actress, athlete, politician, but not including teacher 08

Professional worker, such as clergyman, dentist, physician, lawyer, scientist, or college teacher 09

Proprietor or business owner, such as the owner of a small business, a contractor, or a restaurant owner 10

Protective service worker, such as a detective, police officer or guard, sheriff, or fire fighter 11

Sales worker, such as a salesperson, an advertising or insurance agent, or a real estate broker 12

School teacher, such as an elementary or secondary school teacher 13

Service worker, such as barber, beautician, practical nurse, private household worker, janitor, waiter, or waitress 14

Technical worker, such as draftsman, medical or dental technician, or computer programmer 15

Other 16
(Please describe _____)

ID#: _ _ _ _

4. Please circle the number which most closely represents how satisfied you are with being employed or with not being employed.

Very Dissatisfied	1
Somewhat Dissatisfied	2
Neutral	3
Somewhat Satisfied	4
Very Satisfied	5

5. If you are presently employed, please circle the number which best represents how satisfied you are with the following aspects of your job:

	Very Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Very Satisfied
Salary	1	2	3	4	5
Hours	1	2	3	4	5
Responsibility	1	2	3	4	5
Status	1	2	3	4	5

6. Whether you are employed or not, there are no doubt many tasks that you face each day (for example, those related to being a wife, mother, employee, or community volunteer). We would like you to rate the degree of difficulty you find in trying to balance all of your various roles. Do you find it to be:

Easy all the time	1
Easy most of the time	2
Easy half of the time; difficult half of the time	3
Difficult most of the time	4
Difficult all of the time	5

ID#: _ _ _ _

7. Which response best describes the division of labor in your home with respect to household chores?

Mother does major share of household chores	1
Father does major share of household chores	2
Children do major share of household chores	3
Housekeeper/paid employee does major share of household chores	4
Mother and father share the household chores equally	5
Entire family divides the household chores	6
Other (please indicate _____)	7

8. Which response best describes who usually does the child care activities in your family?

Mother does major share of child care activities	1
Father does major share of child care activities	2
Older child does major share of child care activities	3
Babysitter/paid employee does major share of child care activities	4
Mother and father share child care activities equally	5
Entire family divides the child care activities	6
Other (please indicate _____)	7

9. What do you think about the amount of homework your child gets?

Gets too much	1
Gets the right amount	2
Doesn't get enough	3

ID#: _ _ _ _

10. How often does your child bring homework home?

1-2 nights per week	1
2-3 nights per week	2
3-4 nights per week	3
4-5 nights per week	4
Never	5
Don't know	6

11. When your child brings homework home, where does he/she usually do it?

His/her room	1
Kitchen table	2
Special study area	3
In front of the TV	4
Other (Please specify _____)	5
Don't know	6

12. How often do you help your child (e.g., available for questions, check answers) while he/she is doing homework)?

Always	1
Sometimes	2
Never	3

13. <u>During the school week</u> how often do you eat breakfast with your children?

Everyday	1
Sometimes	2
Never	3

ID#: _ _ _ _

14. Please circle the response which most closely represents how satisfied you are with each of the following aspects of family life:

	Very Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Very Satisfied	Does Not Apply
Division of labor for household chores	1	2	3	4	5	6
Division of labor for child care activities	1	2	3	4	5	6
Husband's employment	1	2	3	4	5	6
Husband's salary	1	2	3	4	5	6
Husband's employment hours	1	2	3	4	5	6
Husband's employment responsibilities	1	2	3	4	5	6
Husband's status at his place of employment	1	2	3	4	5	6
Your child's satisfaction with your employment situation	1	2	3	4	5	6

Comments: If you are dissatisfied with any of the above, please indicate why:

_____

_____

_____

_____

_____

_____

ID#: _ _ _ _

15. The next set of questions are about things that may affect your general health. Please tell us if any of these have applied to you over the last six months.

OVER THE LAST SIX MONTHS:	Yes	No
Have you ever needed a strong cup of coffee first thing in the morning to calm your nerves?	1	0
Have you ever needed to exercise regularly to feel good?	1	0
Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (eye-opener)?	1	0
Have people annoyed you by criticizing your eating habits?	1	0
Have people annoyed you by criticizing your drinking habits?	1	0
Have people annoyed you by criticizing your smoking habits?	1	0
Have you ever felt bad or guilty about your drinking?	1	0
Have you ever felt you ought to cut down on your eating?	1	0
Have you ever felt you ought to cut down on your drinking?	1	0

My overall health is. . . . . (Choose one):

Excellent 1
Good 2
Fair 3
Poor 4

THANK YOU VERY MUCH. Any additional comments about yourself or your family that you would care to provide would be most welcome and appreciated.

_____

_____

_____

_____

_____

ID#: _ _ _ _ _
Wave:
Form: 2 0 3

WHAT MY FAMILY IS LIKE
(Mother)

The purpose of this questionnaire is to find out how different people describe their family. Just as we are all different from one another, so too do our families differ. We'd like you to help us understand some of the characteristics of your family. The following sentences describe ways in which families can behave at any time. We realize that your family does not always behave the same way. However, we'd like you to think about how your family usually behaves. Think carefully about each sentence, and please circle the number corresponding to the choice that best describes your family.

For each of the sentences, circle either:

1 = ALMOST NEVER true for your family
2 = true ONCE IN A WHILE for your family
3 = SOMETIMES true for your family
4 = OFTEN true for your family
5 = ALMOST ALWAYS true for your family.

For example, suppose a sentence said:

	ALMOST NEVER	ONCE IN A WHILE	SOME-TIMES	OFTEN	ALMOST ALWAYS
Our family likes to play games.	1	2	3	4	5

If this sentence were true ONCE IN A WHILE for your family, you would circle 2 as shown.

ID#: _ _ _ _

CIRCLE THE RESPONSE THAT BEST DESCRIBES HOW YOUR FAMILY USUALLY BEHAVES.

	ALMOST NEVER	ONCE IN A WHILE	SOME-TIMES	OFTEN	ALMOST ALWAYS
1. Family members ask each other for help	1	2	3	4	5
2. In solving problems, the children's suggestions are followed	1	2	3	4	5
3. We approve of each other's friends	1	2	3	4	5
4. Children have a say in their discipline	1	2	3	4	5
5. We like to do things with just our immediate family	1	2	3	4	5
6. Different persons act as leaders in our family	1	2	3	4	5
7. Family members feel closer to other family members than to people outside the family	1	2	3	4	5
8. Our family changes its way of handling tasks	1	2	3	4	5
9. Family members like to spend free time with each other	1	2	3	4	5
10. Parent(s) and children discuss punishment together	1	2	3	4	5
11. Family members feel very close to each other	1	2	3	4	5
12. The children make the decisions in the family	1	2	3	4	5
13. When our family gets together for activities, everybody is present	1	2	3	4	5
14. Rules change in our family	1	2	3	4	5
15. We can easily think of things to do together as a family	1	2	3	4	5

ID#: _ _ _ _

	ALMOST NEVER	ONCE IN A WHILE	SOME-TIMES	OFTEN	ALMOST ALWAYS
16. We shift household responsibilities from person to person	1	2	3	4	5
17. Family members consult other family members on their decisions	1	2	3	4	5
18. It is hard to identify the leader(s) in our family	1	2	3	4	5
19. Family togetherness is very important	1	2	3	4	5
20. It is hard to tell who does which household chores	1	2	3	4	5

ID#: _ _ _ _ _
Wave: 2
Form: 2 0 4

HOW I FEEL ABOUT MY FAMILY
(Mother)

We realize that sometimes families get along well, and sometimes they don't get along so well. We'd like to know how you feel about your family relationships. For the questions on the following pages please circle the number which best describes how often these things happen in your family.

For each sentence circle either:

1 = If this happens ALL THE TIME
2 = If this happens MOST OF THE TIME
3 = If this happens MORE OFTEN THAN NOT
4 = If this OCCASIONALLY happens
5 = If this RARELY happens
6 = If this NEVER happens

For example, if a sentence said:

	All The Time	Most of The Time	More Often Than Not	Occa-sionally	Rarely	Never
How often do family members get on your nerves?	1	2	3	4	5	6

If you OCCASIONALLY felt this way, you would circle 4 as shown.

ID#: _ _ _ _

PLEASE CIRCLE THE NUMBER WHICH BEST DESCRIBES HOW OFTEN THESE THINGS HAPPEN IN YOUR FAMILY.

	All The Time	Most of The Time	More Often Than Not	Occa-sionally	Rarely	Never
1. How often have you thought or talked about leaving your family?	1	2	3	4	5	6
2. How often do you or another family member leave the house after a fight?	1	2	3	4	5	6
3. In general, how often do you think that things between you and your family are going well?	1	2	3	4	5	6
4. Do you feel that you can tell people in your family things that are very personal and important to you?	1	2	3	4	5	6
5. Do you ever wish you were not living with your family?	1	2	3	4	5	6
6. How often do you argue with people in your family?	1	2	3	4	5	6
7. How often do family members "get on your nerves?"	1	2	3	4	5	6
8. Do you hug and/or kiss people in your family?	1	2	3	4	5	6

ID#: _ _ _ _

9. On a scale of 1 to 7 (with "1" representing "Extremely Unhappy" and "7" representing "Perfect"), please circle the number which best describes YOUR degree of happiness with your family relationship.

Extremely Unhappy	Fairly Unhappy	A Little Unhappy	Happy	Very Happy	Extremely Happy	Perfect
1	2	3	4	5	6	7

10. Think about how you want your family to be in the future. Please choose the sentence which best describes how you feel about your family relationships. Circle ONLY ONE number:

In the future I want desperately for my family to get along well, and would go to almost any length to see that we do 1

In the future I want very much for my family to get along well, and will do all I can to see that we do 2

In the future I want very much for my family to get along well, and will do my fair share to see that we do 3

In the future it would be nice if my family got along well, but I can't do much more than I am doing now to help us get along 4

In the future it would be nice if we got along well, but I refuse to do any more than I am doing now to help us get along 5

My family can never get along well, and there is no more that I can do to help us get along 6

ID#: _ _ _ _
Wave: _
Form: 2 0 7

HOW I BEHAVE WITH MY CHILD
(MOTHER)

The following pages contain a number of statements describing the way different mothers act toward their children. Read each statement carefully and think how well it describes the way you treat your child. Work quickly; give your first impression and move on to the next item. Please do not dwell on any item.

For each of the sentences, circle either:

1 = ALMOST ALWAYS TRUE about the way you treat your child
2 = SOMETIMES TRUE about the way you treat your child
3 = RARELY TRUE about the way you treat your child
4 = ALMOST NEVER TRUE about the way you treat your child

For example, suppose a sentence said:

	TRUE OF ME		NOT TRUE OF ME	
	Almost Always True	Sometimes True	Rarely True	Almost Never True
I hug and kiss my child when he/she is good.	1	2	3	4

If this is almost always true for you, you would circle 1 as shown.

Remember, there is no right or wrong answer to any statement so be as frank as you can. Respond to each statement the way you feel you really are rather than the way you might like to be.

ID#: _ _ _ _

Now begin. Please circle only one answer for each question. Thank you.

		TRUE OF ME		NOT TRUE OF ME	
		Almost Always True	Sometimes True	Rarely True	Almost Never True
1.	I say nice things about my child.	1	2	3	4
2.	I nag or scold my child when he/she is bad.	1	2	3	4
3.	I discuss general daily routines with my child and listen to what he/she has to say.	1	2	3	4
4.	I complain about my child to others when he/she does not listen to me.	1	2	3	4
5.	I encourage my child to bring friends home, and I try to make things pleasant for him/her.	1	2	3	4
6.	I make fun of my child.	1	2	3	4
7.	I make it easy for my child to confide in me.	1	2	3	4
8.	I am harsh with my child.	1	2	3	4
9.	I make my child feel proud when he/she does well.	1	2	3	4
10.	My child is a burden for me.	1	2	3	4
11.	I punish my child when I am angry.	1	2	3	4
12.	I make sure my child has the right kind of food to eat.	1	2	3	4

ID#: _ _ _ _

		TRUE OF ME		NOT TRUE OF ME	
		Almost Always True	Sometimes True	Rarely True	Almost Never True
13.	I am impatient with my child.	1	2	3	4
14.	I am too busy to answer my child's questions.	1	2	3	4
15.	I am irritable with my child.	1	2	3	4
16.	I am concerned who my child's friends are.	1	2	3	4
17.	I say unkind things to my child.	1	2	3	4
18.	I ignore my child when he/she asks for help.	1	2	3	4
19.	I tell my child that he/she gets on my nerves.	1	2	3	4
20.	I pay a lot of attention to my child.	1	2	3	4
21.	I hurt my child's feelings.	1	2	3	4
22.	I forget events that my child thinks I should remember.	1	2	3	4
23.	When my child does something wrong, I threaten or frighten him/her.	1	2	3	4
24.	I like to spend time with my child.	1	2	3	4
25.	When my child misbehaves, I shame him/her in front of his/her playmates.	1	2	3	4

ID#: _ _ _ _
Wave:
Form: 2 0 7

	TRUE OF ME		NOT TRUE OF ME	
	Almost Always True	Sometimes True	Rarely True	Almost Never True
26. I avoid my child's company.	1	2	3	4
27. I compare my child unfavorably with other children.	1	2	3	4
28. When I make plans, I take my child into consideration.	1	2	3	4
29. When my child misbehaves, I compare him/her unfavorably with other children.	1	2	3	4
30. I leave my child to someone else's care (e.g., a neighbor or relative).	1	2	3	4
31. I try to make my child feel better when he/she is hurt or sick.	1	2	3	4
32. I tell my child I am ashamed of him/her when he/she misbehaves.	1	2	3	4
33. When my child misbehaves, I make him/her feel ashamed.	1	2	3	4
34. I treat my child gently and kindly.	1	2	3	4

Is there anything else you would like to tell us about your relationship with your child?_____

_____

_____

_____

APPENDIX B

PROCEDURE USED TO COLLAPSE MOTHER-ADOLESCENT RELATIONSHIP VARIABLES

PROCEDURE USED TO COLLAPSE

MOTHER-ADOLESCENT RELATIONSHIP VARIABLES

Data from file c:\masters\mergeall.sav

```
Compute collrel1 = mean(momrelc1 + momtot1)
  Execute.

Compute collrel2 = mean(momrelc2 + momtot2)
  Execute.

Compute collrel3 = mean(momrelc3 + momtot3)
  Execute.
```

Note. Momrelc1 = mother-adolescent relationship reported by adolescents at the beginning of sixth grade; momtot1 = mother-adolescent relationship reported by mothers at the beginning of sixth grade; momrelc2 = mother-adolescent relationship reported by adolescents at the end of sixth grade; momtot2 = mother-adolescent relationship reported by mothers at the end of sixth grade; momrelc3 = mother-adolescent relationship reported by adolescents at the beginning of seventh grade; and momtot3 = mother-adolescent relationship reported by mothers at the beginning of seventh grade.

APPENDIX C

VARIANCE/COVARIANCE MATRICES

Table 15

Variance/Covariance Matrix for the Adolescent Behavior and Development Variables, the Maternal Well-Being Variables and the Mediating Variables at the Beginning of Sixth Grade

	Adolescent Behavior and Development (ABD)				Maternal Well-Being (MWB)			Mother-Adolescent Relationship (MAR)	
Measure	GPA	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
ABD:									
GPA	.37	.06	1.3	.92	-.05	-.07	.13	1.5	-.41
Self Worth		.32	1.7	.96	-.04	-.13	-.45	2.3	.30
Family Satisfaction			79.41	36.25	.60	1.61	3.22	72.96	-.82
Family Cohesion				57.78	.16	.88	-.51	59.26	.56
MWB:									
Role Satisfaction					1.53	1.90	3.29	-2.20	2.60
Family Satisfaction						3.39	19.80	1.64	34.33
Family Cohesion							44.42	4.53	35.24

Table 15 (Continued)

Variance/Covariance Matrix for the Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Sixth Grade

	Adolescent Behavior and Development (ABD)				Maternal Well- Being (MWB)			Mother-Adolescent Relationship (MAR)	
Measure	GPA	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
MAR:									
Child Relation								222.73	8.19
Mother Relation									117.85

Note. N = 160 for adolescents and N = 142 for mothers. GPA = Grade Point Average; Child Relation = Mother-Adolescent Relationship reported by Adolescent; Mother Relation = Mother-Adolescent Relationship reported by Mother.

Table 16

Variance/Covariance Matrix for the Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the End of Sixth Grade

	Adolescent Behavior and Development (ABD)			Maternal Well- Being (MWB)			Mother-Adolescent Relationship (MAR)	
Measure	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
ABD:								
Self Worth	.35	1.85	1.15	.04	.49	.17	2.96	.47
Family Satisfaction		75.03	36.18	.87	-3.35	-1.05	82.84	-2.87
Family Cohesion			69.90	.12	-.41	-3.09	69.65	.31
MWB:								
Role Satisfaction				1.25	1.47	1.08	-.18	1.62
Family Satisfaction					24.89	12.35	-6.87	22.91
Family Cohesion						30.61	-10.51	13.81

Table 16 (Continued)

Variance/Covariance Matrix for the Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the End of Sixth Grade

	Adolescent Behavior and Development (ABD)			Maternal Well- Being (MWB)			Mother-Adolescent Relationship (MAR)	
Measure	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
MAR:								
Child Relation							268.31	-3.56
Mother Relation								88.4600

Note. N = 157 for adolescents and N = 103 for mothers. GPA = Grade Point Average; Child Relation = Mother-Adolescent Relationship reported by Adolescent; Mother Relation = Mother-Adolescent Relationship reported by Mother.

Table 17

Variance/Covariance Matrix for the Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Seventh Grade

	Adolescent Behavior and Development (ABD)				Maternal Well- Being (MWB)			Mother-Adolescent Relationship (MAR)	
Measure	GPA	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
ABD:									
GPA	.34	-.00	.47	.30	-.03	-.39	.50	-.18	.77
Self Worth		.28	.78	.91	-.00	-.09	.58	2.80	-.41
Family Satisfaction			68.80	32.64	-.23	3.37	-.58	73.47	7.07
Family Cohesion				56.97	-.87	-4.81	-5.22	58.83	-1.45
MWB:									
Role Satisfaction					.43	.06	.44	-.36	1.06
Family Satisfaction						38.61	18.09	-2.45	33.66
Family Cohesion							45.44	1.31	27.70

Table 17 (Continued)

Variance/Covariance Matrix for the Adolescent Behavior and Development Variables, Maternal Well-Being Variables and the Mediating Variables at the Beginning of Seventh Grade

	Adolescent Behavior and Development (ABD)				Maternal Well- Being (MWB)			Mother-Adolescent Relationship (MAR)	
Measure	GPA	Self Worth	Family Satisfaction	Family Cohesion	Role Satisfaction	Family Satisfaction	Family Cohesion	Child Relation	Mother Relation
MAR:									
Child Relation								260.55	.06
Mother Relation									102.27

Note. N = 88 for adolescents and N = 57 for mothers. GPA = Grade Point Average; Child Relation = Mother-Adolescent Relationship reported by Adolescent; Mother Relation = Mother-Adolescent Relationship reported by Mother.

APPENDIX D

PROCEDURE USED TO TRANSFORM DATA FOR LISREL ANALYSES

PROCEDURE USED TO TRANSFORM DATA FOR LISREL ANALYSES

Raw data from file: c:\masters\mergeall.sav

```
Compute tcohesc1 = cohesc1 * .01.
  Execute.
Compute tfamlyc1 = familyc1 * .01.
  Execute.
Compute tmomrlc1 = momrelc1 * .01.
  Execute.
Compute ttotgpa1 = totgpa61 * .10.
  Execute.
Compute tworth1 = worth1 * .10.
  Execute.
Compute tcohesm1 = cohesm1 * .01.
  Execute.
Compute tfamlym1 = familym1 * .01.
  Execute.
Compute tmomtot1 = momtot1 * .01.
  Execute.
Compute twrksat1 = mwrksat1 * .10.
  Execute.
Compute tcolrel1 = collrel1 * .01.
  Execute.

Compute tcohesc2 = cohesc2 * .01.
  Execute.
Compute tfamlyc2 = familyc2 * .01.
  Execute.
Compute tmomrlc2 = momrelc2 * .01.
  Execute.
Compute tworth2 = worth2 * .10.
  Execute.
Compute tcohesm2 = cohesm2 * .01.
  Execute.
Compute tfamlym2 = familym2 * .01.
  Execute.
Compute tmomtot2 = momtot2 * .01.
  Execute.
Compute twrksat2 = mwrksat2 * .10.
  Execute.
Compute tcolrel2 = collrel2 * .01.
  Execute.
```

```
Compute tcohesc3 = cohesc3 * .01.
  Execute.
Compute tfamlyc3 = familyc3 * .01.
  Execute.
Compute tmomrlc3 = momrelc3 * .01.
  Execute.
Compute ttotgpa3 = totgpa63 * .10.
  Execute.
Compute tworth3 = worth3 * .10.
  Execute.
Compute tcohesm3 = cohesm3 * .01.
  Execute.
Compute tfamlym3 = familym3 * .01.
  Execute.
Compute tmomtot3 = momtot3 * .01.
  Execute.
Compute twrksat3 = mwrksat3 * .10.
  Execute.
Compute tcolrel3 = collrel3 * .01.
  Execute.
```