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PARENT AND EARLY ADOLESCENT COMMUNICATION IN TWO-PARENT FAMILIES: AN ECOLOGICAL STUDY

BY

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ABSTRACT

PARENT AND EARLY ADOLESCENT COMMUNICATION
IN TWO-PARENT FAMILIES:
AN ECOLOGICAL STUDY

By

Christine Joyce Thompson

This study examines communication between parents and their early adolescent children from an ecological perspective to determine the relative influence of specific variables on communication between parents and early adolescents in two-parent families. The impact of selected physiological, sociological and psychological variables on intrafamily communication ratings was examined. The independent variables examined were: gender and pubertal age of child, work status of parents, educational level of mother and father, family income, parents' perceptions of family stress and job-parent role stress, and the early adolescents' perceptions of acceptance by mother and father. The outcome variables were parents' and early adolescents' ratings of each other using the Parent-Adolescent Communication Scale (Olson, 1982), including problems and openness subscales.

The sample used consisted of 74 two-parent families--mother, father and early adolescent (10 to 14 years old), who participated in a state-wide survey in 1987. Youths were interviewed in their homes while parents completed a questionnaire. Subjects were selected using a stratified multi-stage cluster sampling technique.

Ordinary Least Squares multiple regression was used to examine the relative importance and direction of influence of the independent variables on communication ratings. Of the eight regression equations examining mothers' and fathers' ratings of early adolescents and the youths' ratings of their parents on both the openness and problem-free subscales, six were statistically significant. In general, physiological variables were important factors in early adolescents' ratings of parents on openness. Pubertal age was negatively related to the early adolescent ratings of both mother and father on openness. Psychological variables were important factors in both early adolescent and parental ratings. The early adolescents' perception of acceptance by mother and father was found to be positively and significantly related to communication ratings in six of the eight equations. Fathers' parent-job role stress had a negative impact on parent-child communication, whereas mothers' parent-job role stress was not found to be significant in this sample of two-parent families. Family stress was found to be negatively related to communication ratings; stress was found to be a greater factor in mothers' ratings than in fathers' ratings of children. Fathers' education was positively related to communication ratings in the father-child dyad; mothers' education was not significant to ratings in the mother-child dyad. Family income was not statistically significant in explaining differences in communication ratings.

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CHAPTER 1

INTRODUCTION

BACKGROUND OF PROBLEM

Communication, the symbolic, transactional process of creating and sharing meanings, is central to family functioning and human development within the family. Communication between parents and adolescents is important to the psychosocial development of the adolescent. Parental behaviors of enabling (communicative behaviors exhibiting warmth, support and problem solving) have been found to be positively related to adolescent ego development whereas constraining behaviors (judging, devaluing, blaming) have been found to be negatively related to ego development (Hauser, Powers, Noam and Jacobson, 1984).

Communication has been shown to be a facilitator of other important family systems characteristics. Communication, adaptability and cohesion are major components of family interaction. In their Circumplex Model of Families, Olson,

Russell and Sprenkle (1983), show that communication is a facilitator of cohesion and adaptability within the family system.

Communication within families is a dynamic process, changing over time as the children grow from dependent newborns to autonomous adults. Families differ with respect to the nature of their interpersonal relationships, depending upon individual needs, desires and expectations as well as members' interpretation of cultural values and norms. Communication is essential to the negotiation processes families use to meet the developmental changes dictated by the growth of individual members.

Early adolescence has been identified as problematic with respect to parent-child relations. Parents report that ages 12 and 13 are the most difficult in terms of parenting (Offer, 1969). Longitudinal studies have found that there is improvement in parent-adolescent relations in grades 10 and 11, suggesting that early adolescence is a low point in the relationship (Hill and Holmbeck, 1987; Hill, Holmbeck, Marlow and Lynch, 1985; Steinberg, 1987; Collins, 1990). Montemayor (1983) found that conflict is normal between parents and early adolescents, even in reportedly "close" relationships. As children grow toward adulthood, parallel changes are needed in their relationship with their parents to facilitate this transition, or at least to remove obstacles to the demands of the developmental tasks faced by early adolescents.

Difficulties in the communicative relationship between parents and early adolescents is due, in part, to the adolescents' need for autonomy. Early adolescents seem to have a need to engage in conflict with parents over seemingly unimportant

issues (Hill, 1980; Montemayor, 1983). There is evidence, however, that parents also play an important role. Early adolescence is a transitional time, with parents gradually moving from controlling their children to granting their emerging adolescents more autonomy (Offer, 1969; Hill, 1980). Some parents may exert too much control for too long, adversely affecting the parent-adolescent relationship, and, in some cases pushing the adolescent into antisocial behavior (Hill, 1980; Baumrind, 1968). In view of the importance of the parent-child relationship to the psychosocial development of the adolescent and the changing nature of the parent-child relationship beginning in early adolescence, it is important to understand the communication patterns between early adolescents and their parents. An ecological approach to the study of family communication, can help families identify environmental factors that impact communication.

Despite the recognized importance of communication to family relationships, research into the nature of family communication presents some challenging difficulties. One of the main difficulties is the complexity of family communication resulting in a variety of aspects upon which researchers might focus. Communication has been studied in the following ways: as a general construct; as self-disclosure; as a skill-learning process during therapy; in terms of different styles or patterns of interaction; in terms of specific components such as empathy, congruence, and regard; and in terms of couples' hesitancy to communicate within the context of a close interpersonal relationship (Olson, Portner and Bell, 1982).

Most studies in the area of communication have focused on communication in the spousal relationship as opposed to intra-family communication (Olson, Portner and Bell, 1982). The literature in the area of communication between parents and children most often focuses on adolescence as opposed to early adolescence. Differences between mothers and fathers in terms of their communicative roles with their children have been examined, as have differences in patterns of communication and closeness between mother and child versus father and child. However, there is a dearth of research which attempts to identify the relative contribution of environmental factors to the communicative relationship between parents and early adolescents.

Clearly, the communicative relationship is not unidirectional, that is, with adolescents creating problems for their parents, but rather, a bidirectional, interactive relationship and should be studied as such. It should also be recognized that the relationship is complex; physiological changes in early adolescence bring about changes in the parent-child relationship, but consideration of social-psychological issues are important for total understanding (Montemayor, Adams and Gullotta, 1990). A systems approach is most effective in studying this relationship.

PURPOSE OF THE RESEARCH

The purpose of this study is to examine communication between parents and their early adolescent children from an ecological perspective to determine the

relative influence of specific physiological, sociological and psychological variables. The questions to be addressed are as follows:

What is the role of early adolescent characteristics of pubertal age and gender in the parent-child communicative relationship?

What is the role of family employment typologies (i.e., dual earner--both full time, dual earner--one full time, one part time, and traditional--single earner and homemaker) in the parent-child communicative relationship?

What is the role of stress associated with balancing work and family demands--for both parents and early adolescents?

What is the role of family income and educational levels of both mother and father in the parent-child communicative relationship?

What is the extent of influence of parental perceptions of family stress on the parent-child communicative relationship?

What is the extent of influence of the early adolescents' perceived level of acceptance by their mothers and fathers in the parent-child communication relationship?

Are the relative influence of the specified variables different for communication between adolescents and fathers versus adolescents and mothers?

CONCEPTUAL FRAMEWORK

The human ecological approach to the study of the family provides the conceptual framework for this study. Human ecology is concerned with the interaction and interdependence of humans (as individuals, groups and societies) with the environment (Bubolz and Sontag, 1990). An ecological approach to the study of any living thing has three major components: the system (or organism), the environment, and the interactions between the two (Bronfenbrenner, 1979). The ecosystems perspective views families, as well as individual human beings, as organisms interacting with their total environment. This environment is multilevel and includes human as well as nonhuman elements. This study considers biological, sociological and psychological factors.

THEORETICAL FRAMEWORK

The theoretical framework for this study is that of the developmental contextual view of human development (Lerner, Lerner and Tubman, 1990). This theory is also referred to as "probabilistic epigenetic" and refers to the interacting of biological, psychological, and sociological factors in human development and behavior.

Traditionally, developmental psychology has focused on a biological model of change. A strong link between personality configurations and physiological

functioning has been stressed by organismic theorists (Erickson, 1959 & 1968; Sigmund Freud, 1949; and Piaget, 1970). In this type of theory, which as also been labeled "predetermined epigenetic," biology is seen as the prime mover of development. These organismic theorists' views fit with what has been termed a "direct effects" model of the influence of organismic variables on adolescent and early adolescent psychosocial functioning (Lerner *et al.*, 1990). This model specifies that the changes associated with early adolescent biological change influence directly psychosocial characteristics. The influences are unidirectional; that is, inevitable biological changes bring about developmental disturbances that have psychosocial repercussions.

In contrast, probabilistic epigenetic theory, which has also been labeled "dynamic interactional" or "developmental contextual", assumes that organismic changes both affect and are affected by the context in which they occur (Lerner *et al.*, 1990). The term "probabilistic epigenetic" was used by Gottlieb (1970):

> to designate the view that the behavioral development of individuals within a species does not follow an invariant or inevitable course, and, more specifically, that the sequence or outcome of individual behavioral development is probable (with respect to norms) rather than certain. (p. 123).

A basic tenet of probabilistic epigenetic theory is that characteristics of organismic individuality influence and are influenced by the psychosocial context within which they are expressed. Thus, the examination of directional relationships among biological, psychological and social processes is important in understanding development and behavior.

Bronfenbrenner (1979) can be viewed as a developmental contextual theorist in that his human ecological theory specifies that the developing organism (individual) is influenced by the environments that surround him or her; the biological, sociological, psychological, physical and economic characteristics of the environment all impact the developing individual.

Family ecological theory (Bubolz and Sontag, 1990) is also a developmental contextual theory; however, the family as opposed to the individual is specified as the "organism" which interacts with a dynamic environment. Family ecological theory assumes that the properties of families and the environment, the structure of environmental settings, and the processes taking place within and between them must be viewed as interdependent and analyzed as a system.

The Developmental Contextual Model of Person-Context Interaction (Lerner *et al.*, 1990), depicts a dynamically interactive, multilevel, model of human behavior and development. The authors point out that it would not be possible or even useful to engage in research that would test the model as a whole; however, it does provide a framework for looking at the contextual influences on the adolescent as well as the "adolescent effects" on the social context. The developmental contextual model was used as a guide for this study in the selection of variables from the individual and contextual levels depicted. In Figure 1-1 the model used for this study of the relative influence of contributing factors to communication between parents and early adolescents is shown.

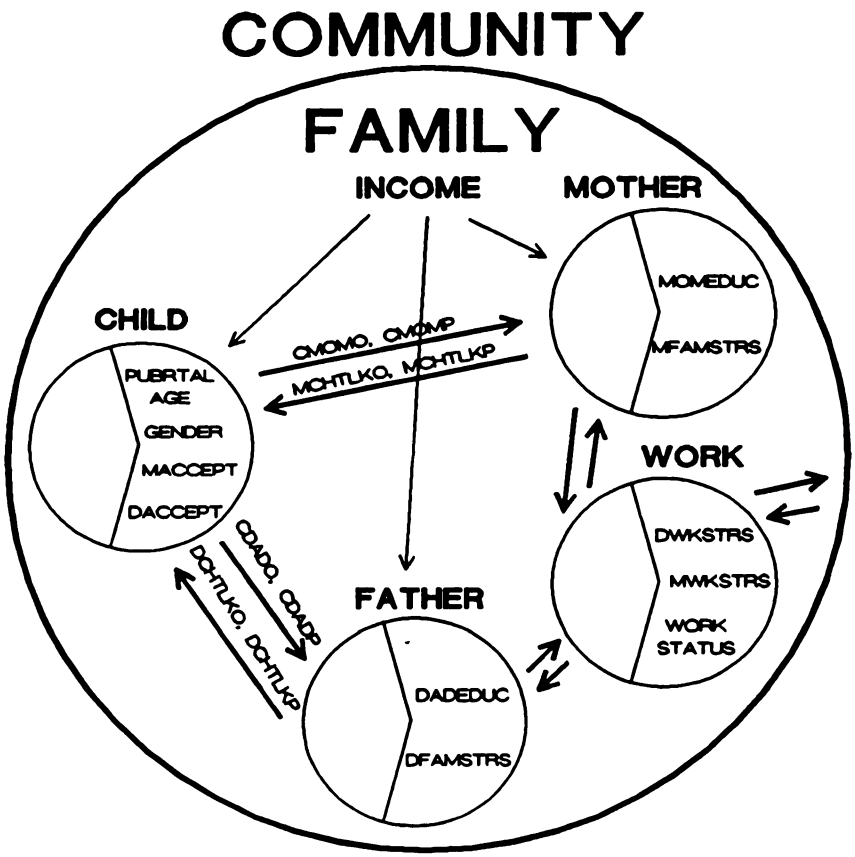


Figure 1-1. Variables and Levels of Analysis Examined in Parent-Child Communication Study.

Dependent Variables

CMOMO = Early adolescents' ratings of mother (openness)
CMOMP = Early adolescents' ratings of mother (problem-free)
MCHTLKO = Mothers' ratings of child (openness)
MCHTLKP = Mothers' ratings of child (problem-free)
CDADO = Early adolescents' ratings of father (openness)
CDADP = Early adolescents' ratings of mother (problem-free)
DCHTLKO = Fathers' ratings of child (openness)
DCHTLKP = Fathers' ratings of child (problem-free)

Independent Variables

INCOME = Family income
PUBRTAGE = Pubertal age of child
GENDER = Gender of child
MACCEPT = Child's perceived acceptance by mother
DACCEPT = Child's perceived acceptance by father
MOMEDUC = Mother's education
DADEDUC = Father's education
MFAMSTRS = Mother's perceived family stress
WORKSTATUS = Parental work status, FF, FN, FP
DFAMSTRS = Father's perceived family stress
MWKSTRES = Mother's job-parent role stress
DWKSTRES = Father's job-parent role stress

The current study focuses on family communication as reported by each of three different family members--mother, father, and their early adolescent child. When applied to the present study, the model calls for an examination of the relative influence of specific physiological, sociological and psychological variables on communication between parents and their early adolescent children. Communication is measured by reports of mothers, fathers and early adolescents on communication openness or self-disclosure between parent and child, and the extent of problems or barriers to family communication, including the degree to which family members are selective in their discussion with other family members.

The model specifies consideration of the following influencing or independent variables: gender and pubertal age of the child (physiological); work status and education of parents as well as family income (sociological); parents' perceptions of family stress and job-parent role stress; and adolescents' perception of acceptance by mother and father (psychological). The outcome variables are those of parents' and early adolescents' ratings of one another on openness and problem-free communication (see Chapter 3 for operational definitions). A multilevel approach is utilized including: individual variables (e.g., gender of early adolescent); family variables (e.g. family income); and, variables outside of the immediate family system which impact the family, e.g., the workplace. A bidirectional approach considers the influence of the adolescent's characteristics on parent-child communication as well as the influence of specific parental variables, such as the stress involved in combining work and parenting responsibilities. Psychological factors (i.e., the youths'

perception of acceptance by mother and father) are examined from the standpoint of their contribution to adolescent ratings of parents as well as parental ratings of adolescents.

To summarize, communication within families is generally recognized as crucial to the development of individuals as well as to family dynamics of cohesion, adaptability and problem-solving. For the most part, studies focusing on parent-child relations during the early adolescent (as well as the adolescent) stage of development are not ecological in their approach; they tend to focus on respective roles of mothers and fathers with respect to specific communication constructs. In contrast, the present study, based on developmental contextual theory, focuses on the role of specific environmental factors to communication among family members. For example, the relative impact of father's and mother's education on parent-child communication is examined and compared for mother and father. In addition, self-report ratings of family members are compared in order to determine differences in perceptions of mother, father and early adolescent. For example, early adolescent perceptions of communication or compared with parental perceptions in order to gain a greater understanding of what can be expected during the transitional and sometimes turbulent years of early adolescence. The findings of this study can be used by researchers and family practitioners to help families better understand and facilitate healthy communication with the family.

CHAPTER 2

LITERATURE REVIEW

In Chapter 1, the importance of the role of communication to the psychosocial development of the individual as well as to family interaction processes (i.e., adaptability, cohesion and problem-solving) has been discussed. Communication is generally accepted as one of the most crucial facets of interpersonal relationships. Its prominence in the theoretical construction of human and, specifically, family interactions attests to the great importance attributed to the role of communication.

Notwithstanding its importance, family communication is a difficult and challenging area for research. The multiple and varied aspects of family communication have resulted in a myriad of communication concepts, constructs and theoretical approaches within the literature; few studies are directly comparable. However, a careful review of the literature yields some generalizations which will be addressed in this chapter. The literature review is organized according to the independent variables included in the study: pubertal age and gender of the early adolescent; parental work status; family income and education of parents; parent-job

role stress; parental perceptions of family stress; and, child's perception of acceptance by mother and father. Findings vis-a-vis differences among family members with respect to the way that they view communication in the family is also discussed.

Gender of Early Adolescent

Are there differences between male and female adolescents in communication patterns and perceptions of communication with mothers and fathers? Barnes and Olson (1985) found no differences between adolescent males and females in how they perceived their communication with their mothers and fathers. Some researchers have found that adolescent females disclose more and are disclosed to more than males (Dimond and Munz, 1967; Kraft and Vraa, 1975; Yang and Hwang, 1980). Noller and Callan (1986) found that females of all ages reported talking more often with mothers than did adolescent males. Adolescent males reported talking more often than did females with fathers about interests, sexual issues, and general problems. Davidson (1980) found that females' disclosure scores were high in the areas of general and personal information, whereas males' scores were highest on revealing sexuality to parents. Other investigators have found that male adolescents disclose more to their fathers than do female adolescents (Balswick and Balkwell, 1977; Wiebe and Williams, 1972). Others studies indicate that although there are gender differences in both the amount of disclosure and target of disclosure, specific effects are unclear (Jourard, 1971; Komarovsky, 1974). Richardson, Abramowitz, Asp and Petersen (1986), in examining 12 to 14-year-olds' relationship with their

parents, found that girls in middle-class families reported better relationships with their mothers than did boys. Grotevant & Cooper (1985) found that communication variables related to identity exploration not only differed for males and females, but also were significant for them in different family relationships. For girls, communication patterns in all four relationships were associated with identity exploration, whereas for boys, only father-son interaction patterns were related to exploration ratings. These differences suggest that sources of family influence on identity exploration may be more diverse for female adolescents than for males.

Although differences according to gender have been found for specific communication constructs, patterns and parental roles, it is unclear whether or not the relative contribution of environmental factors affecting communication are different for female and male early adolescents.

Pubertal Age of Early Adolescent

In examining age as an independent variable in parent-child communicative relationships, no clear-cut patterns emerge from previous research. Rivenbark (1971), in comparing children in the fourth, sixth, eighth, tenth, and twelfth grades, found that boys' disclosure to parents decreased significantly around the tenth grade, but returned to earlier levels by the twelfth grade. Girls' disclosure to parents remained about the same throughout adolescence.

In examining adolescent development, as opposed to age alone, an interesting pattern emerges. Rivenbark (1971) has provided data on the developmental trend

of self-disclosure among adolescents to both parents and peers. An inverse, curvilinear relationship was found between the physical development of adolescents and their amount of self-disclosure to parents. The greatest amount of conflict in the parent-adolescent relationship has been found to be at the peak of pubertal growth--for both boys and girls (Steinberg and Hill, 1978; Steinberg, 1981; Norell, 1984). Disclosure to parents by adolescents decreased when the most obvious physiological change--the growth spurt--occurred. This decrease in disclosure was most pronounced for boys. In studying seven-grade boys, researchers found significant relations between pubertal status and family interaction outcome variables for the mother-son but not for the father-son dyad (Hill *et al.*, 1985). These results indicate that temporary perturbations occur in mother-son relations at or near the peak of pubertal growth.

In examining affective family relations, Papini and Selby (1986), found that differences among families according to the pubertal stage of the adolescent may be the result of differences in father-adolescent and mother-adolescent relationships. That is, affective differences between prepubertal and postpubertal families are characterized by: (a) increased concern by the mother about her ability to control the behavior of the postpubertal adolescent relative to the prepubertal adolescent; and (b) increased dissatisfaction by the father with postpubertal adolescent behavior relative to prepubertal adolescent behavior. It was found that relative satisfaction with family relationships decreases during transpuberty relative to prepuberty and postpuberty, suggesting that the differences observed among families across all levels

of adolescent physical maturity are related to dialectic transformations of mother-adolescent and father-adolescent relations. These results suggest that the peak of pubertal growth, which may come at different ages for different children, is especially problematic with respect to parent-child relations.

Parental Employment Status

Although the bulk of the research on parental work and parent-child relations has been concerned with young children, inroads are being made into the area of parental work and parent-child relations in adolescence and early adolescence. This work has focused on maternal employment and on work status and numbers of hours worked as opposed to psychosocial factors. Orthner (1990) suggests that it is insufficient to assess parental work solely in terms of whether the mother is employed or not, or even in terms of the hours of employment, although the latter has usually been ignored. It is also important to look at demands of the work environment, work responsibilities, morale and job stress.

With respect to maternal employment status, an early study (Douvan & Adelson, 1966) reported more positive parent-child relationships in families where mothers were employed part time than in families where mothers were not employed or were employed full time. Mothers employed part time reported greater closeness to children than mothers in any other employment category. Hoffman (1989) has shown that the relationship between amount of time mother spends on the job and her child's adjustment is not a linear one.

In examining the effects of maternal employment status on closeness between parents and their early adolescent children, differences by gender of the adolescent were reported (Paulson, Roman and Hill, 1990). Specifically, sons reported greater closeness with fathers when mothers were employed and daughters reported greater closeness with parents when mothers were not employed or were employed part time. Mothers reported greater closeness to sons when they (mothers) were employed full time or part time (part time was the highest); they reported greater closeness to daughters when they were not employed or were employed part time. Fathers reported no differences in closeness to either sons or daughters regardless of maternal employment status. In a study of 64 tenth-grade adolescents, Montemayor (1984) found that maternal employment status was related to adolescents' relations with both mothers and fathers. Males, but not females, were found to have more arguments, which were of longer duration and greater intensity, with their mothers when mothers worked than when they did not. No relationship was found between maternal employment status and conflicts that females had with mothers or fathers. Also, adolescents of both sexes spent less "free time" with their parents (both mother and father) when their mothers worked, especially when they worked full time, than when they were nonemployed.

In a review of the effects of mothers' employment on marital relations, on parent-child relations and on the mothers themselves, Scarr, Philips and McCartney, (1990), concluded that maternal employment per se was not the major issue in either marital or parent-child relationships. Rather, the circumstances of the family, the

attitudes and expectations of fathers and mothers, and the distribution of time available had important effects.

Little is known about father involvement with school-aged children in different family employment contexts. Crouter and Crowley (1990) examined father's involvement with their fourth and fifth grade boys and girls in two family contexts: dual-earner families in which both parents work outside the home, and single-earner families in which the more traditional division of labor is practiced with fathers employed outside the home and mothers engaged primarily in care of home and children. Results indicated that fathers in single-earner families spent significantly more time in dyadic activities with sons than with daughters; dual-earner fathers spent equal amounts of time with sons and daughters. Controlling for family size, girls with greater dyadic involvement felt closer to their fathers than girls with less dyadic involvement; boys feelings of closeness were not linked to levels of one-to-one involvement with their fathers.

Income and Education

In reviewing the literature concerned with the effects of income and education on parent-child relations, it is clear that these variables are usually considered as part of a socioeconomic (SES) construct. Although there are different measures of SES, it usually includes occupational status, income and education.

Gekas (1979) in reviewing literature in the area of the influence of social class on family relations, reports the following generalizations from research:

SES is positively related to equalitarian relationships between parent and child.

SES is negatively related to autocratic relationships between parent and child.
SES is positively related to parental affection and involvement.
SES is negatively related to parental use of commands and imperatives.
SES is positively related to explanation of rules.

There is not an abundance of research in the area of parent-adolescent relations in which socioeconomic status has been a consideration. The majority of research has been conducted using middle and upper-middle class samples. Although these studies frequently report no differences according to socioeconomic status (SES), the sampling procedures do not adequately address populations of lower SES.

Although much of the research that has examined SES as an explanatory variable in parent-child relations has focused on young children, that which is concerned with parent-adolescent relationships suggests that parents' socioeconomic background may moderate the ways in which transformations in the parent-adolescent relationship affect both parents and children (Jacob, 1974; Silverberg and Steinberg, 1987).

Deficient economic resources have been recognized as an important factor in subjecting American families to excessive stress and children to developmental risk (National Academy of Sciences, 1976).

Garbarino, Schellenbach and Sebes (1986) state:

> Socioeconomics has a well-documented history as a marker variable used as a basis for identifying differences in parenting styles, child-rearing attitudes, parent-child relations and developmental outcomes for children.

In Garbarino's research on parental maladaptive behavior toward adolescents, SES was found to be a key variable. Even when other variables were controlled, the higher the SES the less maladaptive the parenting behavior. SES consisted of maternal education, paternal occupational status and per capita family income.

Kohn (1979) defined social class as "aggregates of individuals who occupy broadly similar positions in a hierarchy of power, privilege, and prestige." The principal components of social class in Kohn's research were education, occupational status and income, with the latter being of "distinctly secondary importance." Education was found to be the more "potent" of the three components of SES (Kohn, 1969).

Education is an important variable to consider because of its relationship to parenting. Education is an important determinant of occupational conditions and powerfully related to parental values (Kohn, 1979). Education has a direct effect on parental values, apart from its indirect effect mediated through job conditions; education provides the intellectual flexibility and breadth of perspective that are essential for self-directed values. Garbarino *et al.* (1986) found an inverse relationship between maternal education and maladaptive parenting; that is, the higher the educational attainment of mothers, the lower was the rating of maladaptive parenting.

With respect to income and parent-adolescent relations, an 1981 National Center on Child Abuse and Neglect study found that 66 percent of the adolescent maltreatment cases had family incomes below $15,000 (Garbarino, *et al.*, 1986). The

adolescent maltreatment families were characterized by paternalistic, harsh, rigid styles of child rearing and denial of feelings within the family. One can conclude that these styles would be reflected in communication between parents and early adolescents.

Although researchers generally combine variables to construct a measure of SES, the distinct and separate effects of the variables such as income and education can only be measured by keeping these variables singular and independent from one another. In studies of the effects of maternal employment on children, it has been shown that mediating factors should be considered (Bronfenbrenner and Crouter, 1982). These authors suggest that indices of social class should be differentiated in order to determine effects specific to such aspects as each parent's occupation, education and contribution to family income. There is evidence that each of these factors (income, education, and occupational status) qualifies the impact of parental work in a different way. We can logically conclude that these variables also have a distinct, and in some cases differential, impact on other outcome variables as well, such as parent-child relations.

More specific to communication within families, differences in self-disclosure are noted (Beebe and Masterson, 1986) between working-class and middle-class families. The research suggests that middle-class men tend to be higher disclosers than lower-class men. While there are many exceptions, children tend to disclose more to their mothers than to their fathers. Middle-class mothers tend to respond verbally to their children more than lower-class mothers. Self-disclosure appears to

play a more pronounced role in the maintenance of family relationships among middle-class families.

Parent-Job Role Stress

Research in the area of work-related stress and the stress involved in the joint parental roles of employment and parenting is limited. Parent-job stress has been found to affect the family (Piotrkowski, Rapoport and Rapoport, 1979; Mortimer, Lorence and Kumka, 1986). It has also been found to exacerbate parent-child conflict (Piotrkowski *et al.*, 1987). However, parental work characteristics did not explain any of the variance in emotional stress among early adolescents in a study of dual-earner families (Bird and Kemerit, 1990). This study was limited to "earner" as opposed to "career" families and included parents who were both employed full-time.

In a review of the literature vis-a-vis role stress experienced by mothers who also pursue careers (Rapoport and Rapoport, 1978), there was evidence to document the position that women experience a proliferation of roles rather than an orderly transition from one role to another, and, therefore, are vulnerable to role stress (also referred to as role strain). Role stress is higher for women than for men, and women are less successful at compartmentalizing their roles than are men.

A "dual-career" family is a particular type of dual-earner family in which both husband and wife pursue active careers and family lives (Rapoport and Rapoport, 1978). Dual-career families are distinct from dual-earner couples in their attitudinal support of the equalization of power and domestic responsibilities, and in their belief

in career advancement. Some studies have shown, however, that in reality these goals are not achieved and that women continue to be responsible for the home in so-called "dual-career" families.

A study of dual-career families found that mothers engaged in careers experience guilt and anxiety over perceived failures in mothering. Their husbands approached the demands of parenting and career from a less emotional perspective and thus, did not experience the role stress so prominent among the wives (Johnson and Johnson, 1977).

There is no evidence that the role stress experienced by mothers in dual-career families results in negative consequences for the children. In fact, there is evidence that employed mothers increase efforts to makeup for the time they work by devising activities directed toward enhancing the environment of the children. (Johnson and Johnson, 1977). Also, these parents were more concerned about the quality of their relationship with their children than with objective behavior. There is also evidence that when children become adolescents, the role stress and anxiety decreases for these working mothers (Hoffman, 1977).

The form that work-family role stress takes is likely to vary by social class (Mortimer and London, 1984). For example, while the most important stress on a single-parent, female-headed household is economic, this source of stress is less important in a professional-managerial, single-provider, married-couple family. However, that family is more likely to be challenged by male work absorption that precludes desired family involvement. The alienating nature of work for blue-collar

men, as well as financial pressures, leave little energy for constructive family involvement. Such conditions promote harsher discipline for children; wives are isolated from men's work roles. In blue-collar families, women remain responsible for almost all domestic tasks. Potentially conflicting demands from two careers and heavy demands for child rearing create pressures in dual-career families. In short, different family employment patterns create different types of job-parent role stress for husbands and wives. It would not appear, however, that one type of family is freer from these stresses than another.

Galambos and Maggs (1990) examined mothers' work-related and global stress to determine the association between stress and changes in mother-adolescent relations across a 6-month period and to determine whether mothers' stress and mother-adolescent relations predicted the adolescents' psychosocial adjustment. Global stress was related to the mother's decreasing acceptance of the child and was negatively related to adolescents' psychosocial adjustment. However, mothers' work-related stress was not associated with mother-adolescent relations or adolescent adjustment. These findings seem to conflict with a study (Piotrkowski, 1979) in which parental job strain was found to negatively affect family relations. These authors report no differences in the relationship between variables according to gender of adolescent or socioeconomic status of the family.

The lack of research and sometimes conflicting findings in the area of parent-job role stress and its affect on parent-adolescent relationships, indicates the need for additional research in this area.

Perception of Family Stress by Mother and Father

In a review of social stress and the family, McCubbin and Patterson (1983) define a stressor as a "life event or transition impacting upon the family unit which produces, or has the potential of producing, change in the family social system. This change may be in various areas of family life such as its boundaries, goals, patterns of interaction, roles, or values." Family hardships are defined as "those demands on the family unit specifically associated with the stressor event." Both the stressor and its hardships place demands on the family system which need to be managed. Family stress (as distinct from stressor) is a state which arises from an actual or perceived imbalance in the family's functioning due to demands for adjustment caused by the stressors and hardships. Stress becomes distress when it is defined as unpleasant or undesirable by the family unit.

The family's ability to cope with stress depends not only on the actual stressor and hardships experienced by the family, but also on the family's resources for dealing with stress (including flexibility and communication skills), and the definition that the family makes of the situation (McCubbin and Patterson, 1983). Thus, family members' perceptions of how difficult things are or have been is important in the examination of the impact of stress of family interaction and coping. Moreover, the family's attempts to cope with stress result in a temporary disturbance in family functioning. Role reorientation occurs with a revision of expectations accepted by family members. Although family relationships will rebound in time, it can be

expected that family relationships may be perceived as more conflictual and perhaps less open as a direct result of stress.

Psychosocial stress has been found to have a negative impact on family relations. In a study of 785 Navy families, (Eastman, Archer and Ball, 1990), higher life-stress families reported lower scores on cohesiveness, expressiveness and organization as well as higher scores on family conflict. Economic stress in family life has been linked to depression and demoralization for both parents--conditions which were related to disruptions in skillful parenting (Conger, Conger, Elder and Lorenz, 1992). In studying stress and relations between mothers and adolescents, Galambos and Maggs (1990) found that global stress was related to the mother's decreasing acceptance of the child and negatively related to adolescent's psychosocial adjustment.

Family ecological theory (Bubolz and Sontag, 1990), assumes that processes taking place between families and their environment, and well as within families, must be viewed as interdependent. Thus, families are interdependent with their environment and family members are interdependent with one another. The systems approach to the study of family stress has shown the reciprocal nature of the impact of stress in the family. In separate studies of families, with early adolescents as well as teens--it was found that distress in some family members was significantly associated with stressors experienced by other family members, thus verifying that distress is transmitted from one family member to another (Thomson and Vaus 1986; Compas, Howell, Phares and Williams, 1989). These studies highlight the importance

of studying stress processes between individual family members. For example, the amount of family stress perceived by the mother impacts the communication relationship between mother and child in a reciprocal fashion. The perceived stress of one family member has an impact on family relations as a whole.

Child's Perceived Acceptance by Mother and Father

Acceptance by the parent of the child is similar to parental warmth (Paulson *et al.*, 1991). Warmth is conceived as the extent to which a positive, benevolent attitude permeates child rearing and is linked to self-disclosure and expression of affection. Interpersonal acceptance has been labeled a "hallmark" of successful family communication (Beebe and Masterson, 1986). Parental warmth has been shown to be positively associated with self-esteem as well as expressiveness among adolescents (Paulson *et al.*, 1991).

The communication literature shows that close, interpersonal relationships are built through self-disclosure, that is the sharing of information about oneself that would not otherwise be known--revealing one's inner world to another (Beebe and Masterson, 1986; Cozby, 1973;). Moreover, the relationship between self-disclosure and acceptance is a spiraling, reciprocal relationship. That is, the more a child feels accepted by his parent, the more he discloses to that parent. The parent, in turn, discloses more to the child, further building trust and intimacy, leading to increasing levels of disclosure by the child. Clearly, acceptance is related to both negative and positive communication behavior within the family. If a child feels rejected by

problematic communication between the parent and child, the parent-child relationship will be negatively affected. Conversely, if the child feels accepted "no matter what", communication openness is facilitated and the effects on the parent-child relationship are positive.

Within Family Differences

A number of studies have found that adolescents have a more negative view of family interaction patterns than parents, reflecting the adolescent's need for control and independence. Dalusio (1972), in examining self-disclosure between parents and adolescents, found that parents reported more disclosure than their children perceived. Barnes and Olson (1985), in comparing communication scores within families, found that adolescents viewed their intrafamily communication with greater negativism than did parents. Callan and Noller (1986) found perceptions of interactions within the family were different for parents and adolescents. Family members were rated as higher in anxiety, less involved and less dominant by adolescents. However, with respect to friendliness of family interactions, adolescent ratings were as high as those of parents. The authors' conclusion from the findings reflects the developmental paradox of adolescence: the perceptions of the adolescents reflect their need for autonomy as well as their desire for closeness within the family.

While research findings regarding differences between male and female adolescents are not conclusive, it is clear that adolescents in general, have closer relationships with their mothers than they do with their fathers. Noller and Bagi

(1985) found that both sons and daughters communicate more, and on a wider range of topics, with mothers than fathers. Barnes and Olson (1985) found that mothers reported better communication with their adolescents than did fathers. In terms of a "target" for disclosure, that is, the person to whom disclosure is made, children and adolescents in grades 4 through 12, regardless of gender, have been found to prefer mothers over fathers (Rivenbark, 1971). A number of additional studies found that adolescents report more disclosure to their mothers than to their fathers (Dalusio, 1972; Jourard, 1971; Komarovsky, 1974). Using an intimacy scale (which included items dealing with empathy disclosure, consensus formation, and companionship), Hunter and Youniss (1982) found that boys and girls reported greater intimacy with their mothers than with their fathers in 4th grade, 10th grade, and in college. Offer (1969) found that adolescent males viewed their fathers as more distant as less understanding than their mothers. Adolescents from two-parent families were found to have separate but coordinated relations with their mothers and fathers, with fathers having a more instrumental role, while mothers are more accepting and open (Smollar and Youniss, 1985).

CHAPTER 3

METHODOLOGY

THE DATA/SAMPLE

The purpose of this study is to examine the influence of selected physiological, sociological and psychological variables on communication between parents and early adolescents. Information was obtained through structured in-home interviews of early adolescents and their parents. The interviews were conducted as part of a larger study, the Michigan Early Adolescent Survey (MEAS)II (1987), designed to obtain information about a wide range of topics concerning youth and their families.

The sample design for the MEAS II was a cross-sectional survey of 245 youths, ages ten to fourteen, and their parent or parents living in Michigan in 1987 (Keith, Hoopfer, Potter and Thompson, 1992). Each youth in the survey was personally interviewed in his or her home by a trained volunteer. During the interview, which lasted approximately one hour, parents (both mother and father, if present)

completed a questionnaire. Each family was assigned an identification number in order to facilitate analysis of the family as a system.

Interviewers were trained in the Spring of 1987 through intensive one-day training sessions in four locations throughout the State of Michigan. The interviewers were volunteers who were recruited by 4-H county program leaders and program assistants in participating counties. During the training, interviewers were given information regarding attitudes and issues of early adolescent children, sensitized to nonverbal cues, given guidelines on the interview process, and provided with the opportunity to critique videotaped interviews. The parent questionnaire was also discussed.

Interviewers were similar in age to the parents of the early adolescents whom they were interviewing; most were between the ages of 31 and 45. They were likely to have had at least some college and to be employed.

Following interviewer training, letters explaining the purpose of the survey were sent to each potential family (those randomly selected through the sampling procedure). The interviewers contacted the families by telephone to determine interest in being participants in the survey and to arrange an interview appointment.

SAMPLE SELECTION

The Michigan Early Adolescent Survey II sample included 245 cases drawn from 24 Michigan counties using a stratified multistage cluster sampling technique.

This sampling procedure ensured that all Michigan early adolescents in public and private schools who lived with their families had an equal chance of being chosen for the study. The three stratum from which the sample was drawn represent the three distinct geographical regions in the state: the southeast metropolitan region (Macomb, Oakland and Wayne counties); southern Michigan (Barry, Barrien, Calhoun, Cass, Genessee, Ingham, Jackson, Kent, Lapeer, Monroe, Montcalm, Saginaw and Washtenaw counties); and northern Michigan and the Upper Peninsula (Alpena, Baraga, Marquette, Mason, Montmorency, Ostego, Schoolcraft and Wexford counties). Equal numbers of individual children and their parents were selected from two school districts in each of these counties.

The sample used in this study was a subset of the larger sample of 245 early adolescents and their parents who participated in the Michigan Early Adolescent Survey II. The cases chosen were those that contained complete data for those aspects of the survey pertaining to parent-child communication. The total number of early adolescents who completed the communication portion of the interview was 224. Mothers who completed the communication portion of the survey numbered 194; communication data was available for 114 fathers. For purposes of multiple regression analysis used in this study, only two-parent families with complete data for the dependent and independent variables were included ($n=74$). The use of this sample enabled a systems approach to data analysis with inclusion of family systems variables (i.e., both mothers' and fathers' parent-job role stress) (see Chapter 4).

SAMPLE DESCRIPTION

Table 3-1 shows a comparison of the subsample (N=74) to the total sample (N=224) on selected demographic variables. The findings of this study cannot be generalized to all early adolescents and their families living in the state of Michigan because of substitutions made during the sampling procedure and self-selection by respondents. Compared to the 1980 State of Michigan census data profile of early adolescents and their families, the families in this sample--the larger sample as well as the smaller subset (N-74)--lived in more rural areas and were less racially diverse (Schlabach, 1989). Parents in this sample were somewhat older and more highly educated than those in the State as a whole. However, the study is generalizable to families of similar composition.

MEASUREMENT PROCEDURES

The major instruments used for data collection included: the Youth Interview Schedule (to be used by interviewer when talking with the early adolescents); and the Parent Questionnaires--one each for mother and father (to be completed by mother and/or father, depending on family composition and availability of parents). Most of the items in the interview schedule and parent questionnaire came from sources used in other studies.

Table 3-1. Total Sample Compared to Multiple Regression Subsample. Selected Demographics.

	Total Sample (N = 224)	Multiple Regression Subsample (N = 74)
	Percent*	Percent
Gender of Child		
Boys	47	50
Girls	56	50
Age of Child		
Ten	9	12
Eleven	21	17
Twelve	28	24
Thirteen	21	27
Fourteen	21	19
Ethnicity (Child)		
White	92	96
Black	3	---
Asian-American	2	---
American Indian	1	---
Other	2	4
Ethnicity (Father)		
White	94	96
Spanish-American	1	---
Black	4	1
Other	1	3
Education (Father)		
8th Grade or less	2	1
Some High School	4	4
High School Graduate	24	28
Some College	35	31
College Graduate	21	22
Graduate or Prof. School	14	14
Source of Employment (Father)		
Employed by Other	82	83
Self-employed	11	13
Unemployed	7	4

Table 3.1 Cont.

	Total Sample (N = 224)	Multiple Regression Subsample (N = 74)
	Percent*	Percent
Employment Status (Father)		
Full-time	96	96
Part-time	3	3
Temporary	2	2
Family Income		
Less that $10,000	7	3
$10,001 - 20,000	14	12
$20,001 - 30,000	25	24
$30,001 - 55,000	42	46
$55,001 - 75,000	9	15
Over $75,001	2	---
Residence		
Farm	6	8
Rural Area	34	35
Small Town (Under 5,000 Pop.)	13	14
Town (5,000 - 25,000 Pop.)	21	26
City (25,000 - 100,000 Pop.)	9	4
City (Over 100,000 Pop.)	9	---
Suburb of Large City	7	13
Ethnicity (Mother)		
White	87	97
Mexican-American	1	1
Black	10	---
American Indian	1	---
Other	1	1
Education (Mother)		
8th Grade or less	---	---
Some High School	5	3
High School Graduate	42	39
Some College	28	30
College Graduate	14	16
Graduate or Prof. School	12	12

Table 3.1 Cont.

	Total Sample (N = 224)	Multiple Regression Subsample (N = 74)
	Percent*	Percent
Source of Employment (Mother)		
Employed by Other	53	74
Self-employed	8	8
Unemployed	3	1
Homemaker	35	15
Student	1	1
Employment Status (Mother)		
Full-time	71	64
Part-time	24	33
Temporary	5	3

* Percent of those responding for each item, excluding missing data.

Parent(s) completed questionnaires while the early adolescents were being interviewed (in a different room). Interviewers left the homes in which families were interviewed with completed Parent Questionnaires and a completed Youth Interview Schedule for the early adolescent. The interviewer left an additional seven-page questionnaire with each early adolescent to be completed and mailed to the researchers. The mail-in questionnaire is not relevant to this study.

INSTRUMENTS

The questions to determine the demographic/sociological variables were developed for the purposes of the MEAS II survey. The question to determine

family income (see Table 3-2) was asked of both mother and father. Mothers' and fathers' responses were highly correlated (r=.834); therefore, mothers' responses were used for the purposes of this study.

Physiological variables included gender of child and pubertal age. Gender was determined by the interviewer. Pubertal age (PUBRTAGE) was determined by the mother's perception of her child's pubertal age. The index used to assess mothers' perceptions of pubertal age was adapted from Tanner's work (Nelson, 1985). This index is an attempt to locate early adolescent females and males on a developmental continuum based upon physical body changes as rated by parents (see Table 3-2). A continuum as opposed to an absolute number was used; since some responses were between whole numbers, (i.e., a mark on a line between numbers) the values (1 to 5) were multiplied by 10 so that responses between numbers could be given whole number values. Fathers were also asked to assess their child's pubertal age. Mothers' and fathers' assessments of their children were highly correlated (r=.794); thus, mothers' responses were used to determine the pubertal age of the early adolescent.

The psychological variables were, for the most part, adapted from other sources. See Table 3-2 for operational definitions, questions as stated and items included in scale formations. The scales that were included in their entirety, as originally developed, were those measuring the eight dependent (endogenous) variables of parent-child communication. All eight of the endogenous variables were

Table 3-2. Overview of Item and Scale Formulations by Variable.

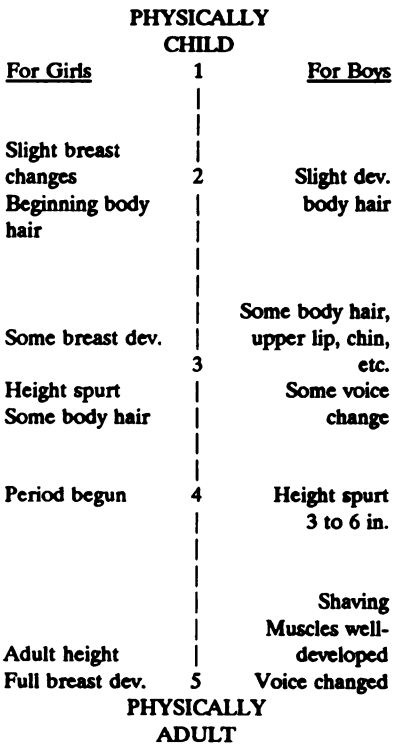
	Operational Definition	Questions as Stated
	Physiological	
Independent Variables		
Gender of child (GENDER)	Male/female; coded as dummy variable: 0 = female 1 = male	Coded by interviewer on page 1 of child questionnaire.
Mothers' assessment of child's pubertal age (PUBRTAGE)	As measured by scale based on Tanner (Nelson, 1985); scored 10 to 50, less mature to more mature.	Puberty, or becoming an adult physically, takes several years; it may begin when a child is 10 or it may not begin until a child is 16. There are some signs parents can notice to indicate where a child may be in this time of change. Think about a 5-point scale: 1 = physically a child 2 = slight changes physically 3 = several noticeable physical changes 4 = many changes 5 = physically an adult Place an X on the line near the number which you think best describes your child. Words written below to give examples of the physical changes you may have observed. 

Table 3-2. (Cont.)

	Operational Definition	Questions as Stated
	Psychological	
Independent Variables		
Mother's parent-job role stress (MWKSTRES)	As assessed by mother's response to one question, four point intensity scale.	To what extent are both being employed and being a parent stressful to you? Circle one number. 1 = Not much at all 2 = Not much 3 = Somewhat 4 = Very much
Father's parent-job role stress (DWKSTRES)	Same as above with father as respondent.	Same as above.
Child's perception of acceptance by mother (MACCEPT)	As assessed by child's response to one question, 5 point intensity.	How much does your mother accept you no matter what your do? 1 = Not at all 2 = A little 3 = Some 4 = A lot 5 = Very much
Child's perception of acceptance by father (DACCEPT)	See above.	Same as above with father as referent.
Mother's perception of family stress (MFAMSTRS)	As assessed by mother's response to one question, four point intensity.	Families often have good times and bad times. Think about your family in the past year or two. Circle the number of the words that best describe how you feel about your family. 1 = It has been a very good time 2 = It has been both good and bad, mostly good 3 = It has been a difficult time 4 = It has been a very difficult time
Father's perception of family stress (DFAMSTRS)	Same as above with father as respondent.	Same as above.
	Sociological	
Independent Variables		
Family income (INCOME)	As determined by mother's response to 6-point scale, low to high income categories; coded as dummy variable, 0 = 1 and 2 1 = 3 through 6.	Please circle the amount that comes closest to your total net income before taxes last year in 1986 (include all forms of income). 1. Less than $10,000 2. $10,001 - 20,000 3. $20,001 - 30,000 4. $30,001 - 55,000 5. $55,001 - 75,000 6. Over $75,000
Mother's education (MOMEDUC)	As determined by mother's response to 6-point scale, low to high education categories.	1. 8th grade or less 2. Some high school 3. High school graduate 4. Some college 5. College graduate 6. Graduate or professional school

Table 3-2. (Cont.)

	Operational Definition	Questions as Stated
Father's education	As determined by father's response to 6-point scale.	See above.
Parental employment status Two-parent family employment typology as follows: 1) 2 full-time employed parents (FF); 2) 1 employed full-time, 1 employed part-time (FP) or temporary; 3) 1 employed full-time, 1 homemaker (FN)	As determined by mother's and father's responses to type and time spent in employment; coded as dummy variable, 0 = FP 1 = FF and FN	Which best describes you major type of employment (circle one). 1. Self-employed 2. Employed by other 3. Unemployed 4. Student 5. Homemaker 1. Full-time 2. Part-time 3. Temporary
Dependent Variables		
Child's rating of father (openness) (CDADO)	Child's response to 10-item openness subscale of Olson's Parent-Adolescent Communication Scale; 1-5 likert scale; mean of 10 items, father as referent.	This next section asks about how you talk with your (child/mother/father). Circle the number of the answer that best describes your relationship with your child. 1 = Strongly disagree 2 = Moderately disagree 3 = Neither agree nor disagree 4 = Moderately agree 5 = Strongly agree • 1. I can discuss my beliefs with my (child/mother/father) without feeling restrained or embarrassed. + 2. Sometimes I have trouble believing everything my (child/mother/father) tells me. • 3. My (child/mother/father) is always a good listener. + 4. I am sometimes afraid to ask my (child/mother/father) for what I want. + 5. My (child/mother/father) has a tendency to say things to me which would be better left unsaid. • 6. My (child/mother/father) can tell how I'm feeling without asking. • 7. I am very satisfied with how my (child/mother/father) and I talk together. • 8. If I were in trouble, I could tell my (child/mother/father). • 9. I openly show affection to my (child/mother/father). +10. When we are having a problem, I often give my (child/mother/father) the silent treatment.

Table 3-2. (Cont.)

	Operational Definition	Questions as Stated
Child's rating of father (Cont.)		[+]11. I am careful about what I say to my (child/mother/father). [+]12. When talking with my (child/mother/father), I have a tendency to say things that would be better left unsaid. [*] 13. When I ask questions, I get honest answers from my (child/mother/father). [*] 14. My child tries to understand my point of view. [+]15. There are topics I avoid discussing with my child. [*] 16. I find it easy to discuss problems with my child. [*] 17. It is very easy for me to express all my true feelings to my child. [+]18. My child nags/bothers me. [+]19. My child insults me when s/he is angry with me. [+]20. I don't think I can tell my child how I really feel about some things. [*] openness subscale [+] problem-free subscale (reverse-scored)
Child's rating of mother (openness) (CMOMO)	Same as above with mother as referent.	See above.
Child's rating of father (problem-free) (CDADP)	Child's response to 10-item problem-free subscale (Olson); mean of 10 items; father as referent.	
Child's rating of mother (problem-free) (CMOMP)	Same as above with mother as referent.	
Father's rating of child (openness) (DCHTLKO)	Father's response to 10-item openness subscale (Olson); mean of 10 items; child as referent.	
Mother's rating of child (openness) (MCHTLKO)	Same as above with mother as respondent.	
Father's rating of child (problem-free) (DCHTLKP)	Father's response to 10-item problem-free subscale (Olson); mean of 10 items; child as referent.	
Mother's rating of child (problem-free) (MCHTLKP)	Same as above with mother as respondent.	

measured using the same instrument. The adolescents, as well as their parents, were asked to complete the Parent-Adolescent Communication Scale (Barnes & Olson,

1982), a 20-item instrument composed of two subscales--one that measures the degree of openness in communication, and one that assesses the extent of problems in communication (see Table 3-2). Respondents (mother, father and early adolescent) used a five-point Likert scale to indicate the extent of their agreement with the items. The scores for items on the problems subscale are reversed in value. Thus, a high score indicates a lack of perceived problems in communication (problem-free). For purposes of analysis, the subscales (problem-free and openness) are examined separately for mothers, fathers and adolescents (see analysis section). The only difference between the parent and adolescent forms of the scale is the referent; adolescents responded to the same items twice--once using their mother as the referent and again with their father as the referent.

Missing data for the scales used in this study (Parent-Adolescent Communication Scales) were handled using a ten percent rule; for scales with ten items (i.e., openness and problem-free communication), when two items were missing, the scale was not created for that person. If only one item was missing, the response for that item was scored as the average of the other nine items in the scale. The result of missing data on a few of the scale items resulted in a slight reduction in the number of subjects in the analysis.

Cronbach's reliability coefficients for the dependent variables on each subscale for this sample are as follows:

	Openness	Problem-free
Early adolescents' rating of mother	.69	.60
Early adolescents' rating of father	.80	.73
Mothers' rating of early adolescent	.72	.75
Fathers' rating of early adolescent	.74	.67

These reliability coefficients indicate that responses of mother, father and early adolescent to the 10 items on the problem-free and openness subscales are sufficiently intercorrelated to demonstrate internal reliability. Alpha reliabilities for other samples, using these same scales with older adolescents (age 12 to 20) have been found to be slightly higher (Barnes and Olson, 1985); the coefficient for the openness subscale was .87 and the problem-free scale was .78 (average for mother, father and adolescent). A separate study showed test-retest reliability to be .78 and .77 for the openness and problem-free subscales, respectively.

THE STATISTICAL MODEL

Multiple regression analysis was the statistical procedure used to estimate the parent-child communication relationships. An overview of the variables included in the model is shown in Table 3-3. A brief description of the exogenous (independent) variables (grouped by ecological type) and the endogenous dependent variables is shown. A system of eight multiple regression equations was used to examine communication within the family system--mother, father and early adolescent. The full specified eight equation statistical model is shown in Table 3-4. Alpha levels

were set at .05; however, precise p-values are reported (see Table 4-2, Chapter 4) for each variable included in the final regression model.

Table 3-3. Overview of Research.

Dependent Variables	
Early adolescents' rating of mother (openness)	Mothers' rating of early adolescent (openness)
Early adolescents' rating of mother (problem-free)	Mothers' rating of early adolescent (problem-free)
Early adolescents' rating of father (openness)	Fathers' rating of early adolescent (openness)
Early adolescents' rating of father (problem-free)	Fathers' rating of early adolescent (problem-free)
Independent Variables	
Physiological Variables	*Sociological Variables*
Gender of early adolescent Pubertal age of early adolescent	Family income Education of mother Education of father Parental work status
Psychological Variables	
Child Variables	
Early adolescents' perception of acceptance by mother	
Early adolescents' perception of acceptance by father	
Parental Variables	
Mothers' job-parent role stress	
Fathers' job-parent role stress	
Mothers' perception of family stress	
Fathers' perception of family stress	

Note: For specific regression model, identifying the independent and dependent variables for each of the eight equations, see Table 3-4.

Table 3-4. Eight Equation Statistical Model of Parent-Child Communication.

1. $Y_1 = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \beta_9X_9 + \beta_{10}X_{10} + e$

Dependent Variable:	Independent Variables:
Y_1 = Child's rating of father (openness)	X_1 = Gender of child X_2 = Pubertal age of child X_3 = Family income X_4 = Education of father X_5 = Job-parent role stress (mother) X_6 = Job-parent role stress (father) X_7 = Parent employment status (ff) X_8 = Parent employment status (fn) (fp is the base) X_9 = Acceptance of child by father X_{10} = Father's perceived family stress

2. $Y_2 = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_{11}X_{11} + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \beta_{12}X_{12} + \beta_{13}X_{13} + e$

Dependent Variable:	Independent Variables:
Y_2 = Child's rating of mother (openness)	X_1 = Gender of child X_2 = Pubertal age of child X_3 = Family income X_{11} = Education of mother X_5 = Job-parent role stress (mother) X_6 = Job-parent role stress (father) X_7 = Parent employment status (ff) X_8 = Parent employment status (fn) (fp is the base) X_{12} = Acceptance of child by mother X_{13} = Mother's perceived family stress

3. $Y_3 = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \beta_9X_9 + \beta_{10}X_{10} + e$

Dependent Variable:	Independent Variables:
Y_3 = Child's rating of father (problem-free)	X_1 = Gender of child X_2 = Pubertal age of child X_3 = Family income X_4 = Education of father X_5 = Job-parent role stress (mother) X_6 = Job-parent role stress (father) X_7 = Parent employment status (ff) X_8 = Parent employment status (fn) (fp is the base) X_9 = Acceptance of child by father X_{10} = Father's perceived family stress

Table 3-4 (Cont.)

4. $Y_4 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_{11} X_{11} + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_{12} X_{12} + \beta_{13} X_{13} + e$

Dependent Variable:	Independent Variables:
Y_4 = Child's rating of mother (problem-free)	X_1 = Gender of child X_2 = Pubertal age of child X_3 = Family income X_{11} = Education of mother X_5 = Job-parent role stress (mother) X_6 = Job-parent role stress (father) X_7 = Parent employment status (ff) X_8 = Parent employment status (fn) (fp is the base) X_{12} = Acceptance of child by mother X_{13} = Mother's perceived family stress

5. $Y_5 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + e$

Dependent Variable:	Independent Variables:
Y_5 = Father's rating of child (openness)	X_1 = Gender of child X_2 = Pubertal age of child X_3 = Family income X_4 = Education of father X_5 = Job-parent role stress (mother) X_6 = Job-parent role stress (father) X_7 = Parent employment status (ff) X_8 = Parent employment status (fn) (fp is the base) X_9 = Acceptance of child by father X_{10} = Father's perceived family stress

6. $Y_6 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_{11} X_{11} + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_{12} X_{12} + \beta_{13} X_{13} + e$

Dependent Variable:	Independent Variables:
Y_6 = Mother's rating of child (openness)	X_1 = Gender of child X_2 = Pubertal age of child X_3 = Family income X_{11} = Education of mother X_5 = Job-parent role stress (mother) X_6 = Job-parent role stress (father) X_7 = Parent employment status (ff) X_8 = Parent employment status (fn) (fp is the base) X_{12} = Acceptance of child by mother X_{13} = Mother's perceived family stress

Table 3-4 (Cont.)

7. $Y_7=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5+\beta_6X_6+\beta_7X_7+\beta_8X_8+\beta_9X_9+\beta_{10}X_{10}+e$

Dependent Variable:	Independent Variables:
Y_7 = Father's rating of child (openness)	X_1 = Gender of child X_2 = Pubertal age of child X_3 = Family income X_4 = Education of father X_5 = Job-parent role stress (mother) X_6 = Job-parent role stress (father) X_7 = Parent employment status (ff) X_8 = Parent employment status (fn) (fp is the base) X_9 = Acceptance of child by father X_{10} = Father's perceived family stress

8. $Y_8=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_{11}X_{11}+\beta_5X_5+\beta_6X_6+\beta_7X_7+\beta_8X_8+\beta_{12}X_{12}+\beta_{13}X_{13}+e$

Dependent Variable:	Independent Variables:
Y_8 = Mother's rating of child (openness)	X_1 = Gender of child X_2 = Pubertal age of child X_3 = Family income X_{11} = Education of mother X_5 = Job-parent role stress (mother) X_6 = Job-parent role stress (father) X_7 = Parent employment status (ff) X_8 = Parent employment status (fn) (fp is the base) X_{12} = Acceptance of child by mother X_{13} = Mother's perceived family stress

HYPOTHESIZED RELATIONSHIPS

Based upon the developmental contextual view of human development as described in Chapter 1 and the review of literature as summarized in Chapter 2, twelve hypotheses are stated. They are grouped according to environmental context: physiological, psychological, and sociological. In addition, the strength of the relationship of communication ratings within the family--mother, father and early

adolescent--were examined using Pearson correlation coefficients; expectations regarding within family correlations are delineated.

Physiological

H1: There is a significant negative relationship between pubertal age and early adolescents' ratings of their mothers and fathers as well as mothers' and fathers' ratings of their early adolescents (openness and problem-free).

H2: The effect of early adolescent gender on each of the dependent variables is not significantly different from 0.

Psychological

H3: There is a significant negative relationship between maternal parent-job role stress and mothers' ratings of early adolescents as well as the early adolescents' ratings of their mothers (openness and problem-free).

H4: The effect of paternal parent-job role stress on each of the dependent measures is not significantly different from 0.

H5: There is a significant positive relationship between the early adolescents' perceptions of acceptance by their mother and their ratings of their mother as well as mothers' ratings of early adolescents (openness and problem-free).

H6: There is a significant positive relationship between the early adolescents' perceptions of acceptance by their father and their ratings of their father as well as fathers' ratings of early adolescents (openness and problem-free).

H7: There is a significant negative relationship between mothers' perceptions of family stress and mothers' ratings of their early adolescents as well as early adolescents' ratings of their mothers (openness and problem-free).

H8: There is a significant negative relationship between fathers' perceptions of family stress and fathers' ratings of their early adolescents as well as early adolescents' ratings of their fathers (openness and problem-free).

Sociological

H9: There is a significant positive relationship between family income and mothers' and fathers' ratings of early adolescents as well as early adolescents' ratings of mothers and fathers (openness and problem-free).

H10: There is a significant positive relationship between the education of the mother and mothers' ratings of early adolescents as well as the early adolescents' ratings of their mothers (openness and problem-free).

H11: There is a significant positive relationship between the education of the father and fathers' ratings of early adolescents as well as the early adolescents' ratings of their fathers (openness and problem-free).

H12: The effect of parental employment status on each of the dependent variables is not significantly different from 0.

The above hypotheses will be tested through the application of the model presented in Table 3-4. In addition, the strength of the relationship of communication ratings within the family--mother, father, early adolescent--are

examined using Pearson correlation coefficients. It is expected that early adolescents' ratings of mother and father (openness and problem-free) will not be significantly correlated with parental ratings. It is also expected that early adolescents' ratings of mother will not be significantly correlated with early adolescents' ratings of father (openness and problem-free). Lastly, a significant positive correlation is expected between mothers' and fathers' ratings of their early adolescent (openness and problem-free).

OVERVIEW OF STATISTICAL METHODS

Ordinary least squares (OLS) regression was used to determine the relative influence of each of the independent variables on the dependent variables. Multiple regression analysis is a highly general and therefore very flexible system for data analysis that may be used whenever a quantitative variable (the dependent variable) is to be studied as a function of, or in relationship to, any factors of interest (expressed as independent variables). The form of the relationship between the independent and dependent variables is not constrained; it may be simple or complex, e.g., linear line or curvilinear (Cohen and Cohen, 1975).

Specifically, forced entry multiple regression was chosen as the most appropriate tool for purposes of this study. This procedure has greater validity than stepwise multiple regression in which there can be very serious capitalization on chance (Cohen and Cohen, 1975). In stepwise regression the significance test of the

contribution of an independent variable to multiple R-square proceeds in ignorance of the large number of other such tests being performed at the same time for the other competing variables; thus, neither the statistical significance tests for each variable nor the overall tests on the multiple R-square at each step are valid.

Lewis and Beck (1983) point out that in order to make accurate inferences about the actual population parameter values, OLS regression must meet the following assumptions.

1. No specification error.
   a. No relevant independent variables have been excluded.
   b. No irrelevant independent variables have been included.
   c. Correct functional form

2. No measurement error.
   a. The variables X and Y are accurately measured.

3. The following assumptions concern the error term:
   a. Zero mean: For each observation, the expected value of the error term is zero.
   b. Homoskedacsticity: The variance of the error term is constant for all values of X.
   c. No autocorrelation: The error terms are uncorrelated.
   d. The independent variable is uncorrelated with the error term.
   e. The error term is normally distributed.

Fortunately, assumptions are more likely to be violated with time series data than with cross sectional data as in this study. Cohen and Cohen (1975) point out that even a fairly substantial violation of the assumptions will frequently result in little error of inference.

Although ordinary least squares regression was ultimately used for the analysis, a number of statistical tests and evaluations were performed in order to judge the best model for the purpose at hand. These included testing for

simultaneity and the existence of significant cross-equation correlations. For a description of the tests performed and alternative estimation procedures considered, see Chapter 4.

SPSS-X was the primary statistical package used for data analyses. A second package, SHAZAM, was also employed for testing and procedures not available on SPSS, including testing for simultaneity and the existence of cross-equation correlations.

LIMITATIONS OF THE STUDY

Survey research, utilizing self-report observations, does not always result in accuracy or validity with respect to human behavior. Although a family member's perception is a measure of what he or she believes to be true, it may or may not coincide with what an independent observer would find to be true. Families are often not their own best informants. However, gathering data from several family members, as in this study, is superior to studies which utilize responses from one or two members.

In addition, this study is a cross-sectional as opposed to a longitudinal study; that is, data were collected at one point of time. In order to fully study the dynamic, reciprocal nature of communication processes within the family and the impacts of environmental factors on family communication patterns, changes over time should be considered.

Limitations due to sampling are also evident. The procedure used resulted in self-selection by families, depending on whether or not they decided to participate in the study. As compared to the State of Michigan as a whole, this sample was more highly educated and had higher family incomes; thus, the study is generalizable only to families with similar demographic characteristics. Autocratic parenting styles, inflexibility and the use of commands as opposed to inductive reasoning have been linked to lower socioeconomic families. Thus, interpretations and responses on the Parent-Adolescent Communication Scale may be very different for these families than for those of lower socioeconomic

status. The limited number of low income families in this sample did not enable an adequate assessment of differences for these families.

Finally, the use of multiple regression poses some limitations for this study. Multiple regression assumes a certain structure among response categories; that is, responses are assumed to be continuous measures with equal distances between categories. Although this is not a completely accurate assumption--particularly with respect to the independent variables in this study, imposing this a priori restriction enables the application of a parsimonious regression model. Alternative estimation procedures would likely require more parameters to be estimated and therefore, require additional data. Although analysis variance can be used to test for differences among means, regression analysis reveals the additional information about the nature and extent of the relationship as reflected by the estimated

regression coefficients. Regression results merely show correlation among relationships and not causality.

CHAPTER 4

ANALYSIS AND FINDINGS

OVERVIEW OF ANALYSIS

The overall purpose of the research is to examine the relationship between parent-child communication and selected biophysical and psychosociological variables within the family system. In order to test the twelve hypotheses presented in Chapter 3, ordinary least squares (OLS) regression was employed to examine the relative importance and direction of influence of the independent variables on the parental and early adolescent communication ratings.

The sample used for the eight equation model is a subset of the sample of 245 early adolescents included in the Michigan Early Adolescent Survey II. It consists of 74 families in which the early adolescent lives with both mother and father. If data were missing for any variable under consideration, that family was excluded from the analysis; thus, the final count is 74 families. Since this part of the study focused on the family as a system and included system variables such as family stress

and the job-parent role stress of both parents, it was necessary to exclude families in which data were missing for mother or father. Single parents were excluded from this analyses because in all but two cases, data from fathers were missing for these families.

EXAMINING THE DATA FOR LINEARITY/MULTICOLLINEARITY

It was initially assumed that the data in this study were linearly related. Although a negative relationship between pubertal age and the each of the eight dependent variables was hypothesized, studies with older youth (Steinberg, 1971; Rivenbark, 1981) have found a curvilinear relationship between pubertal age and parent-child relations. Thus, it was important to examine the nature (shape) of the relationship between pubertal age and parent-child communication. In plotting pubertal age with the eight dependent variables, patterns of curvilinearity were not observed. In order to investigate the possibility of curvilinearity with respect to other variables as well as pubertal age, a logarithmic transformation was performed on all the variables (with the exception of the three dummy variables) and the model was re-estimated. The results did not show a better fit between the transformed variables. Thus, it was concluded that the relationship between the independent and dependent variables can be appropriately described as linear.

When two independent variables, or a linear combination of independent variables are highly correlated, the relative effects of an individual variable can be

obscured or masked. Thus, it is important to test for the existence of multicollinearity. A correlation matrix of dependent and independent variables in shown in Table 4-1. Although high correlation between pairs of data suggest multicollinearity, low correlations do not ensure the absence of multicollinearity. Linear combinations of the variables may exhibit high intercorrelations. In such a case, high standard errors of the estimated coefficients relative to the size of the coefficient (low t-ratios) is an indication of high multicollinearity. The individual t-ratios were examined at each stage of the estimation. A number of variables included in the original model (see Table 3-4) were eliminated in the final regression results (reported in Table 4-2) because of low t-ratios suggesting high standard errors of the coefficients.

TEST RESULTS FOR CROSS-EQUATION CORRELATIONS AND SIMULTANEITY

The following section outlines the steps taken to examine the use of ordinary least squares multiple regression as the most appropriate type of least squares regression for this study.

Due to the fact that the eight equations in the model (Table 3-4) are related to one another and can be viewed as a system, the use of seemingly unrelated regression (SUR) was explored. A seemingly unrelated model consists of a system of equations that are considered as a group because they bear a close conceptual

Table 4-1. Pearson Correlation Coefficients Parent-Child Communication Variables.

Correlations:	CDADO	CMOMO	CDADP	CMOMP	DCHTLKO	DCHTLKP	MCHTLKO	MCHTLKP	PUBRTAGE
CDADO	1.0000								
CMOMO	.5910**	1.0000							
CDADP	.3243*	.3798**	1.0000						
CMOMP	.3113*	.4839**	.6892**	1.0000					
DCHTLKO	.1444	.1799	.0539	.1071	1.0000				
DCHTLKP	.1000	-.0484	.0811	.0793	.4137**	1.0000			
MCHTLKO	.1552	.3497*	.2948*	.2703*	.2867*	.1850	1.0000		
MCHTLKP	.2059	.1564	.2387	.2178	.3402*	.4914**	.5452**	1.0000	
PUBRTAGE	-.2722*	-.0312*	-.1644	-.2265	.0752	-.0103	.0034	.0547	1.0000
MOMEDUC	.0573	.1624	.1510	.1554	.1278	.0866	-.0646	.0543	-.0937
DADEDUC	.0256	-.1310	.1088	.1813	.2771*	.2723*	.0339	.2774*	.0108
DWKSTRES	-.0516	-.2059	-.0999	-.0668	-.3084*	-.2109	-.2109	-.2394	-.0785
MWKSTRES	-.0848	-.1452	-.0975	-.0603	-.1372	-.2439	-.0992	-.1942	-.1209
DFAMSTRS	-.1784	.0204	-.0611	.1304	-.2657	-.1232	-.2039	-.1776	-.0550
MFAMSTRS	-.1044	.0314	.0297	.0420	-.2654	-.1234	-.2025	-.4021**	-.1343
MACCEPT	.2176	.2850*	.2032	.1901	-.2252	-.0659	.3344*	.0820	-.1569
DACCEPT	.4705**	.4956**	.1497	.2521	-.1295	-.1230	.2685	.0132	-.1359

N of cases: 74 1-tailed Signif.: * -.01 ** -.001

Table 4-1 Cont.

Correlations:	MOMEDUC	DADEDUC	DWKSTRES	MWKSTRES	DFAMSTRS	MFAMSTRS	MACCEPT	DACCEPT
CDADO								
CMOMO								
CDADP								
CMOMP								
DCHTLKO								
DCHTLKP								
MCHTLKO								
MCHTLKP								
PUBRTAGE								
MOMEDUC	1.0000							
DADEDUC	.4204**	1.0000						
DWKSTRES	-.1720	-.0514	1.0000					
MWKSTRES	-.0013	.0154	.3533*	1.0000				
DFAMSTRS	.0075	-.1000	.1801	.1227	1.0000			
MFAMSTRS	-.1113	-.2461	.1032	.3019*	.5454**	1.0000		
MACCEPT	-.0119	-.1312	.0449	-.1088	.1481	.1999	1.0000	
DACCEPT	.1225	-.1393	-.0322	-.0220	.0671	.1775	.5742**	1.0000

N of cases: 74 1-tailed Signif.: * -.01 ** -.001

Table 4-2. Items Measuring Parent-Child Communication Openness: Percent of Mothers, Fathers and Children Agreeing with Each Statement.*

Items	Children about Parents				Parents about Children			
	Mothers		Fathers		Mothers		Fathers	
	Total	Sub	Total	Sub	Total	Sub	Total	Sub
I can discuss my beliefs with my parents (child) without feeling restrained or embarrassed.	60	66	58	65	88	89	87	88
My parent (child) is always a good listener.	70	81	61	64	52	57	47	49
My parent (child) can tell how I feel without asking.	53	58	36	46	84	82	69	69
I am very satisfied with how my parent (child) and I talk together.	67	70	66	67	84	81	70	70
If I were in trouble, I could tell my parent (child).	68	70	54	55	90	87	78	77
I openly show affection to my parent (child).	59	73	51	58	96	95	82	82
When I ask questions, I get honest answers from my parent (child).	74	77	70	77	78	73	78	78
My parent (child) tries to understand my point of view.	77	87	70	76	73	72	65	68
I find it easy to discuss problems with my parent (child).	58	66	47	45	81	80	68	64
It is very easy for me to express all my true feelings to my parent (child).	50	50	45	46	77	77	57	51

[1] * Moderately or strongly agree response categories were combined to obtain percentages.

[2] Total sample, N = 224 early adolescents, 194 mothers, 114 fathers; total subsample, N = 74 early adolescents, mothers, and fathers.

Table 4-3. Items Measuring Parent-Child Communication Problems: Percent of Mothers, Fathers and Children Agreeing with Each Statement.*

Items	Children about Parents				Parents about Children			
	Mothers		Fathers		Mothers		Fathers	
	Total	Sub	Total	Sub	Total	Sub	Total	Sub
Sometimes I have trouble believing everything my parent (child) tells me.	38	38	37	28	46	43	38	39
I am sometimes afraid to ask my parents (child) what I want.	40	41	41	39	19	24	20	20
My parent (child) has a tendency to say things to me which would be better left unsaid.	36	33	31	27	30	30	26	26
When we are having a problem, I often give my parent (child) the silent treatment.	42	46	35	35	22	26	15	18
I am careful about what I say to my parent (child).	61	61	65	66	55	43	61	62
When talking with my parent (child), I have a tendency to say things that would be better left unsaid.	42	42	36	39	36	37	29	28
There are topics I avoid discussing with my parent (child).	56	60	56	64	31	24	40	42
My parent (child) insults me when he/she is mad at me.	17	12	14	11	30	20	24	24
My parent (child) nags/bothers me.	27	23	18	22	24	32	16	11
I don't think I can tell my parent (child) how I really feel about some things.	39	35	38	34	29	28	24	24

[1] * Moderately or strongly agree response categories were combined to obtain percentages.
[2] Total sample, N = 224 early adolescents, 194 mothers, 114 fathers; total subsample, N = 74 early adolescents, mothers, and fathers.

relationship (Zellner, 1963). If the error terms in each equation are not related (uncorrelated), then there is no relationship among the equations. In such a case, ordinary least squares is appropriate. However, if the error terms among equations are correlated, then the use of SUR will usually yield more efficient estimates of the coefficients; that is, estimates in which there is minimum variance of the parameter estimates. Statistical efficiency gains can be made by taking into account information in the error terms by using a systems estimation procedure, SUR.

In order to determine if SUR was more appropriate than ordinary least squares multiple regression, a Chi-square test for the possibility of cross-equation correlations was performed. The null hypothesis is that all pairwise equation error covariances equal zero. Since the calculated chi-square, 430, (df=28) is greater than the critical chi-square of 41.3 (p=0.05), the hypothesis of zero cross-equation correlation is rejected. This test suggests that it is appropriate to estimate the eight-equation system taking into account the information contained in the error terms of each equation.

According to Zellner (1963), ordinary least squares estimates may still be judged best when small differences between OLS and SUR occur. SUR parameter estimates are shown in Appendix A-1. Since SUR estimates are statistically more efficient than OLS, the standard errors of the SUR parameter estimates are smaller than those in Table 4-4. It should be noted that SUR estimates are sensitive to specification error. For instance, if one of the eight equations is misspecified, it will affect the other seven equations in the SUR model. Thus, the SUR estimates for the

Table 4-4. Parent-Child Communication Statistical Model: Ordinary Least Squares Results.

			CONST	DACCEPT	MACCEPT	PUBRTAGE	DFAMSTRS	MFAMSTRS
Eq. 1	CDADO	=	3.2470	+ 0.3673		- 0.0164	- 0.2419	
			(6.50)	(4.32)		(2.32)	(2.14)	
			p = 0.001	p = 0.001		p = 0.012	p = 0.018	
			R^2 = 0.34; F-Sig. = 0.001; Std. Error of Estimate = 0.66					
Eq. 2	CMOMO	=	4.2698		+ 0.2330	- 0.0220		
			(7.19)		(2.36)	(2.92)		
			p = 0.001		p = 0.01	p = 0.002		
			R^2 = 0.25; F-Sig. = 0.001; Std. Error of Estimate = 0.70					
Eq. 3	CDADP	=	2.3300	+ 0.1256				
			(4.79)	(1.44)				
			p = 0.001	p = 0.078				
			R^2 = 0.04; F-Sig. = 0.24; Std. Error of Estimate = 0.69					
Eq. 4	CMOMP	=	2.4081		+ 0.1515			
			(6.26)		(1.64)			
			p = 0.001		p = 0.052			
			R^2 = 0.04; F-Sig. = 0.10; Std. Error of Estimate = 0.67					
Eq. 5	DCHTLKO	=	4.0275				- 0.1497	
			(12.14)				(1.75)	
			p = 0.001				p = 0.043	
			R^2 = 0.20; F-Sig. = 0.004; Std. Error of Estimate = 0.49					
Eq. 6	MCHTLKO	=	3.6512		+ 0.2534			- 0.1901
			(10.47)		(3.76)			(2.40)
			p = 0.001		p = 0.001			p = 0.010
			R^2 = 0.25; F-Sig. = 0.003; Std. Error of Estimate = 0.47					
Eq. 7	DCHTLKP	=	3.4990				- 0.0465	
			(8.52)				(0.47)	
			p = 0.001				p = 0.321	
			R^2 = 0.19; F-Sig. = 0.03; Std. Error of Estimate = 0.57					
Eq. 8	MCHTLKP	=	4.0613		+ 0.1728			- 0.4580
			(7.69)		(1.63)			(3.72)
			p = 0.001		p = 0.054			p = 0.001
			R^2 = 0.23; F-Sig. = 0.001; Std. Error of Estimate = 0.74					

Numbers in parentheses are estimated t ratios. The p-value is the probability of making a Type I error (i.e. rejecting the null hypothesis when it is true where, H_0: β = 0). The reported p-values are for one-tail tests and are appropriate when there is reason to believe that the sign is either positive or negative, not just different from zero.

Table 4-4 Cont.

			DWKSTRES	MWKSTRES	DADEDUC	GENDER	FF	FN
Eq. 1	CDADO	=					- 0.0623 (-0.33) p = 0.372	- 0.3651 (1.60) p = 0.057
Eq. 2	CMOMO	=	- 0.1495 (1.44) p = 0.078	- 0.0963 (0.98) p = 0.165		- 0.3287 (1.95) p = 0.028		
Eq. 3	CDADP	=			+ 0.0786 (1.12) p = 0.132			
Eq. 4	CMOMP	=						
Eq. 5	DCHTLKO	=	- 0.1564 (2.16) p = 0.017	- 0.0167 (0.25) p = 0.402	+ 0.1137 (2.27) p = 0.013			
Eq. 6	MCHTLKO	=	- 0.1500 (2.19) p = 0.016	+ 0.0660 (0.94) p = 0.176			- 0.1466 (1.13) p = 0.131	- 0.1212 (0.74) p = 0.232
Eq. 7	DCHTLKP	=	- 0.0982 (1.16) p = 0.126	- 0.1094 (1.36) p = 0.089	+ 0.1519 (2.56) p = 0.006		- 0.2164 (1.37) p = 0.088	+ 0.0441 (0.22) p = 0.414
Eq. 8	MCHTLKP	=	- 0.2034 (1.89) p = 0.032	+ 0.0261 (0.24) p = 0.404				

Numbers in parentheses are estimated t ratios. The p-value is the probability of making a Type I error (i.e. rejecting the null hypothesis when it is true where, H_o: $\beta = 0$). The reported p-values are for one-tail tests and are appropriate when there is reason to believe that the sign is either positive or negative, not just different from zero.

remaining seven appropriately specified equations will be influenced by the equation that is misspecified. Although the Chi-square test suggested efficiency gains from the use of SUR, it does not indicate how much or how the results will be affected. Despite the gain in efficiency, a careful comparison between the OLS and SUR results suggests little discernable difference. Therefore, notwithstanding the conceptual advantage of SUR, since the two results show little empirical difference, the OLS results are considered best for describing the parent-child communication relationships.

It was also necessary to test the eight-equation system for simultaneity. An assumption of regression is that the variables on the right side of the equation (independent or exogenous) are independent of the error term. The existence of an endogenous variable on the right hand side of the regression equation results in a violation of one of the assumptions of OLS; that is, the endogenous explanatory variable is not independent of the error term. If simultaneity exists, OLS will generate biased parameter estimates. In the presence of simultaneity, an appropriate alternative statistical estimation procedure two-stage least squares (Zellner, 1963). In this study, the existence of more than one endogenous variable in each of the eight equations necessitated testing for simultaneity. If the test confirms its existence, the model would have to be re-estimated using a more sophisticated estimation procedure.

Two variables (MACCEPT and DACCEPT) that were classified as independent variables were tested to confirm that they were indeed independent

(exogenous) as opposed to dependent (exogenous) with respect to parent-child communication. The assumption that acceptance would be simultaneously determined with the dependent measures of communication (openness and problem-free) is based on research showing the reciprocal, dyadic effect between trust and intimacy and self-disclosure (Beebe and Masterson, 1986; Gilbert, 1986). If the child trusts the parent (as determined by high levels of perceived acceptance), then the child is more likely to self-disclose, that is, communicate openly with the parent. Self-disclosure has a reciprocal effect; if the child is open with the parent, the parent is likely to be open with the child and vice-a-versa. This two-way causal relationship is an empirical question; as such, a statistical test for simultaneity was performed. Specifically, the Hausman (1978) specification test of exogeneity of the variables designated as exogenous was performed; the null hypothesis is no correlation between the exogenous variables and the error terms. The results of the test for each equation in the model was that the null hypothesis could not be rejected. That is, although we suspected simultaneity, the test results supported the existence of no simultaneity and therefore, more sophisticated estimation procedures were not required. Although not reported here, this test was further verified by examining the model estimated by both two-stage (2SLS) and three-stage (3SLS) least squares. Two-stage least squares is a limited information estimation procedure while 3SLS is a full information procedure that allows for the possibility of cross-equation correlations within a simultaneous equations framework. All test results showed no need to use 2SLS or 3SLS; OLS and SUR are sufficient.

In sum, although testing was done for simultaneity, the existence of simultaneity was not confirmed. In addition, the eight-equation system was examined for cross-equation correlation. Although testing confirmed the existence of correlated error terms, SUR estimations showed little discernable difference from estimations using OLS; thus, it was determined that OLS was the most appropriate estimation procedure.

DESCRIPTIVES

The Dependent Variables

Early Adolescents' Ratings of Mom and Dad on Openness (CMOMO and CDADO)

All eight dependent variables were measured using a 10-item subscale of Olson's 20-item parent-child communication scale, one for openness and another problem-free communication (see Chapter 3). Table 4-2 shows the percentages of adolescents moderately or strongly agreeing with each of the ten statements for ratings of mothers and fathers on communication openness. Percentages are shown for the total sample (224 early adolescents, 194 mothers and 114 fathers), as well as the subsample used for purposes of multiple regression (N=74). Nearly two-thirds of the youth reported being "very satisfied" with how they talk with both their mother and father. Areas of strength for both parents were listening skills, honesty, and understanding of the child's point of view. In comparing adolescent ratings of mothers and fathers, early adolescents were more likely to agree that their mothers

were open in communication. Whereas over half of the youth reported that their mother could tell how they feel without asking, only one-third reported that their father could do so. Youths were also less likely to tell their fathers if they were in trouble or to discuss problems with their fathers than with their mothers.

This sample of early adolescents rated their mothers higher on communication openness than they rated their fathers. The potential range of the scale is 1-5. The actual range for the sample of 74 two-parent families in the multiple regression analysis was from 1.70 to 5.00 for both mothers and fathers with a mean of 3.85 for mothers and 3.62 for fathers.

Early Adolescents' Ratings of Mom and Dad on Problem-free Communication (CMOMP and CDADP)

Table 4-3 shows the percentages of adolescents moderately or strongly agreeing with each of the ten statements for ratings of mothers and fathers on communication problems. About 15 to 25 percent of the early adolescents in this study reported that their parent (mother and father) "insults me when he/she is mad at me," or "nags/bothers me." Between one-half and two-thirds of the early adolescents reported being careful about what they say to their parents.

The potential range of the scale for problem-free communication is the same as for openness--1 to 5. The actual range for this sample of 74 two-parent families was from 1.40 to 4.50 for fathers, and 1.00 to 4.50 for mothers. This sample of early

adolescents rated their fathers higher in problem-free communication than their mothers; the mean score for fathers is 3.15 whereas the mean for mothers is 3.02. Bear in mind that the mean for the problem-free scale was computed by reverse-scoring the items. Thus, a higher mean score indicates that communication is more problem-free than does a lower score.

Mothers' and Fathers' Ratings of Early Adolescents on Openness MCHTLKO and DCHTLKO)

Table 4-2 shows the percentages of mothers and fathers moderately or strongly agreeing with each of the ten statements for ratings of early adolescents on communication openness. Items that were rated highly by both mothers and fathers include: discussion of beliefs with the child; openly showing affection to the child; honesty from child; and feeling that the parent(s) could tell the child if he/she were in trouble. More than three-fourths of the parents (mother and father) agreed with statements in these areas. The potential range of the scale for problem-free communication is 1 to 5. The actual range for this sample of two-parent families was 2.60 to 5.00 for fathers, and 2.30 to 5.0 for mothers. Mothers rated their communication openness with their early adolescents higher than fathers rated their relationship with the early adolescents; the mean score for mothers is 4.03 whereas the mean for fathers is 3.80.

Mothers' and Fathers' Ratings of Early Adolescents on Problem-free Communication (MCHTLKP and DCHTLKP)

Table 4-3 shows the percentage of parents (mothers and fathers) moderately or strongly agreeing with each of the ten statements for ratings of early adolescents on communication problems. Those items that the greatest number of mothers and fathers agreed with (approximately one-third to one-half of the parents in this sample) were: being careful about what he/she says to the child; and, sometimes having trouble believing what the child tells him/her. The potential range of the scale for problem-free communication is 1 to 5. The actual range for the sample of 74 two-parent families was 3.43 for mothers and 3.42 for fathers.

As with early adolescent ratings, the items measuring problems were reverse-scored to determine means for the problem-free scale.

Independent Variables

Of the 74 families in each of the eight regression analyses, gender of child (GENDER) was evenly divided; 37 included mother, father and an early adolescent girl and 37 included mother, father and an early adolescent boy. The potential range for pubertal age (PUBRTAGE) was 10 to 50. The actual range was 10 to 50 with a mean score (boys and girls combined) of 28.80.

Perception of acceptance (by mother) of the early adolescent (MACCEPT) was measured on a scale of 1 to 5; the actual range for this sample was 2 to 5. The mean score was 4.07. Of the early adolescents in this subsample, 76 percent reported feeling "a lot" or "very much" acceptance by their mother. Perception of acceptance

(by father) of the early adolescent (DACCEPT) had a potential range of 1 to 5 and an actual range of 1 to 5. The mean score for DACCEPT was 3.99. Of the early adolescents in this sample, 70 percent reported feeling "a lot" or "very much" acceptance by their father.

Family income (INCOME) was coded as a dummy variable for use in the regression analysis. The original range on this scale was 1 to 6, reflecting income categories of: 1) less than $10,000, 2) $10,001-20,000, 3) $20,001-30,000, 4) $30,001 to 55,000, 5) $55,001 to $75,000 and 6) over $75,000. Categories 1 and 2 were combined and coded 0 to include incomes of $20,000 and less. Categories 3 through 6 were combined and coded 1. This recoding was done to differentiate between high and low income levels. Fifteen percent of the sample reported incomes of $20,000 or less; 85 percent reported incomes of more than $20,000.

About one-fourth of both mothers and fathers reported that it had been a "somewhat difficult" or "very difficult" time for the family over the past year or two. The large majority of parents (three-fourths) indicated that it had been a "good" or "mostly good time." Mothers' perceptions of family stress (MFAMSTRS) had a potential range of 1 to 4 and an actual range of 1 to 4. The mean for MFAMSTRS was 2.12. Fathers' perceptions of family stress (DFAMSTRS) had a potential range of 1 to 4 and an actual range of 1 to 4. The mean for DFAMSTRS was 2.14.

The mothers in the study reported greater job-parent role stress than did fathers. Over 60 percent of the mothers in the study reported "somewhat or "very much" when asked about the extent of stress in being both employed and a parent;

only about one-third of the fathers reported "somewhat" or "very much" stress. The potential range for mothers' job-parent role stress (MWKSTRS) was 1 to 4; the actual range was also 1 to 4. The mean for MWKSTRS was 2.64. The potential range for fathers' job-parent role stress (DWKSTRS) was 1 to 4; the actual range was also 1 to 4. The mean for DWKSTRS was 2.12.

The potential range for mothers' education (MOMEDUC) was 1 to 6; the actual range was 2 to 6. The mean for MOMEDUC was 3.96. The potential range for fathers' education (DADEDUC) was 1 to 6; the actual range was also 1 to 6. The mean for DADEDUC was 4.08.

Parental work status was coded as a dummy variable and included three types: 1) both parents employed full-time (FF), one parent employed full-time and the other parent employed part-time (FP), and 3) one parent employed full-time and the other parent not employed outside of the home (FN). Over half of the parents in this sample (53 percent) were both employed full-time. About one-fourth (27 percent) were in families in which the husband worked full-time and the wife worked part-time. About one-fifth (20 percent) of parents were categorized as FN--one parent working full-time and the other not employed outside of the home.

Multiple Regression Results

Early Adolescents' Ratings of Father and Mother on Openness (CDADO & CMOMO)

The ordinary least squares regression results are reported in Table 4-4. The regression equation for the early adolescents' rating of their fathers on openness

(equation 1) explained 34 percent of the variation in the dependent variable and the F-statistic was found to be significant at the .001 level. The equation for early adolescents' ratings of mothers (equation 2) explained 25 percent of the variation in communication openness and was also significant at the .001 level.

Clearly, the most significant variable with respect to the early adolescents' ratings of both mom and dad was the child's perceived acceptance by that parent (MACCEPT & DACCEPT). As hypothesized (H5 and H6), early adolescents were more likely to be open with mom and dad if they feel that their parent will accept them "no matter what." With respect to equations 1 and 2, both DACCEPT and MACCEPT are positive and highly significant. As shown in Figure 4-1, given a one unit increase in DACCEPT, a 0.367 unit increase in CDADO can be expected. Similarly, a one unit increase in MACCEPT will yield a 0.233 unit increase in CMOMO. Father's openness was more responsive (greater slope) to the early adolescent's feeling of acceptance than was mother's openness.

A significant negative relationship was found between pubertal age and the early adolescent's rating of both mother and father; the coefficient for pubertal age was significant at the .002 level of probability for mothers and .01 for child's rating of their father. The mean for pubertal age for this sample, based on mothers' ratings, is 28.8 (on a 50-pt. scale) indicating that these 10-14 year-olds are at the early stages of puberty; thus, the relationship is a linear one as opposed to curvilinear which might be true of later adolescents who are more physically mature (Steinberg and Hill, 1978; Steinberg, 1987).

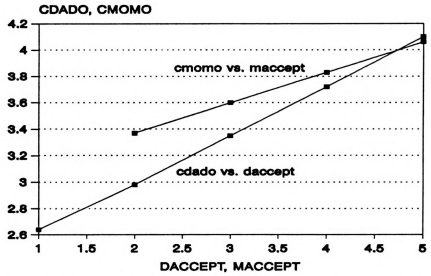


Figure 4-1. The Relationship Between Early Adolescents' Perceived Acceptance by Mother and Father and Communication Openness.

Contrary to hypotheses (H3), mothers' job-parent role stress (MWKSTRES), that is, her perceived stress involved in combining parent and work roles, was not related to the early adolescents' ratings of their mothers or fathers on communication openness. As hypothesized (H4), fathers' job-parent role stress (DWKSTRES) was not found to be a significant contributing variable to early adolescents' ratings of their fathers (CDADO). Interestingly, however, paternal job-parent role stress approached significance ($p = .08$) in children's ratings of their mothers. This suggests that for these children, the father's situation regarding his dual job and parenting roles, affects the mother-child relationship. Mother's job-parent role stress (MWKSTRES) was also negatively related to youth ratings of mother on openness but was not significant, indicating that father's stress in combining these roles is a greater factor in communication ratings than is mothers' work stress.

The early adolescents did not rate their mothers (CMOMO) differently depending on parental work status, i.e., two full-time employed parents (FF), one full-time and one-part-time (FP), and one full-time and one not employed (homemaker). However, the early adolescents' rating of their fathers (CDADO) appeared to be influenced by parental workstatus. Children in families in which mothers were not employed outside of the home, (FN), rated fathers lower than in families in which mothers were employed either part-time or full-time. A negative relationship ($p=.057$) was found for families in which mothers were not employed outside the home and adolescent ratings of fathers on openness. Perhaps in families in which mother stays at home, she is the primary nurturer. Fathers in these families may be cast in the role of breadwinners as opposed to nurturers; thus, children in these families rate their fathers lower on openness than in families where mothers work, reflecting the closer relationship between mothers and children in these families. This finding does not support the hypothesis (H12) which states that work status is not a contributing factor to differences in parent-child communication.

Gender was a contributing factor to the early adolescents' ratings of mothers (equation 2). Boys were significantly ($p=.028$) more negative than girls in their ratings of mothers on communication openness. This is the only equation where gender was found to be statistically significant.

In examining the early adolescents' ratings of their fathers, father's perception of family stress (DFAMSTRS), based upon the question, "how good or bad things have been going in the family over the past couple of years," was significant ($p=.02$)

in explaining early adolescent's ratings of father on openness. With respect to youths' ratings of mothers on openness, mothers' perceptions of family stress (MFAMSTRS) was examined; however, this variable was found not to be significant in explaining early adolescent ratings of mother and omitted from the final equation.

Based on statistical tests, education (mother and father) and family income were consistently insignificant and eliminated from the final regression equations for early adolescents' ratings of mother and father on openness.

Early Adolescents' Ratings of Father and Mother-Problem-free (CDADP and CMOMP)

The multiple regression equation for the early adolescents' rating of fathers (problem-free), shown in equation 3, Table 4-4, explained just 4 percent of the variation in the dependent variable with an F-statistic p-value of .24 (equation 3, Table 4-4). The equation for early adolescents' rating of mothers (problem-free), shown in equation 4, explained 4 percent of the variation in ratings with a significance level of 0.10. As with the child's rating of mother and father on openness, the child's feeling about acceptance was most important; in fact, it is the only variable that approached significance in the examination of the early adolescents' ratings of mothers and fathers on problem-free communication with significance levels of 0.052 for mothers and .078 for fathers. With respect to early adolescents' ratings of their fathers, education of their father ($t = 1.12$) is positively related to problem-free communication.

Mothers' and Fathers' Ratings of Early Adolescents-Openness (DCHTLKO and MCHTLKO)

The regression equation for fathers' ratings of the early adolescent on openness (equation 5) explained 20 percent of the variation in the dependent variable and was signficant at the .004 level. The equation for mothers' ratings of the early adolescent on openness (equation 6) explained 25 percent of the variation in ratings of the early adolescent and was significant at the .003 level.

Family stress (MFAMSTRS and DFAMSTRS) was found to have a strong negative relationship to mothers' and fathers' ratings of their early adolescents on communication openness, with significance levels of .01 for mothers (equation 6) and .043 for fathers (equation 5).

Differences can be seen in comparing mothers and fathers in terms of the variables found to be important in explaining differences in communication ratings of their early adolescents (equation 5 and 6). The extent to which the early adolescent feels accepted by his mother (MACCEPT) was the most important identified variable in explaining differences in MCHTLKO ($t=3.76$, $p=.001$). Even though this is a measure of the child's (not the mother's) perception, it was a significant contributing factor in the mothers' ratings. The extent to which the early adolescent feels accepted by her father (DACCEPT) was not statistically important in explaining fathers' ratings of early adolescents on communication openness (DCHTLKO). This difference reflects the closeness of the mother-child relationship;

mothers are closer to their children than fathers are and therefore are more affected by the attitudes and perceptions of the child.

Paternal job-parent role stress (DWKSTRES) was inversely related to fathers' ratings of children on openness, and inversely related to mothers' ratings as well. Maternal job-parent role stress (MWKSTRES) was negatively related, but not significant in explaining the variation in fathers' ratings; however, mothers' job-parent role stress was found to be positively related to mothers' ratings, although not significant. These findings support the importance of a family systems approach to the study of parent-child communication. Clearly, for this sample of relatively highly educated two-parent families, father's employment had a greater effect on parent-child communication than did mother's employment. Although a greater percentage of mothers reported feeling job-parent role stress than fathers, the stress reported by fathers had a greater effect on both mothers' and fathers' ratings of their early adolescents on openness.

Parental work status was somewhat important as an influencing factor in mothers' ratings of their early adolescents on openness (MCHTLKO). In examining the three parental employment types (FF, FN and FP) mothers in dual-earner families (FF) and families in which the mother was not employed rated early adolescents lower on openness than did mothers who were employed part-time; for dual-earner families, this variable approached statistical significance ($p=.13$).

The effects of gender of child, pubertal age, and family income were all found to be insignificant in explaining differences in parental ratings of early adolescents on communication openness.

Fathers'and Mothers'Ratings of Early Adolescents--Problem-free (DCHTLKP and MCHTLKP)

Recall that this scale is designed to measure problems in communication; it was reverse-scored to be consistent with the openness scale. Thus, a higher score reflects fewer problems in communication.

The regression equation for fathers' ratings of early adolescents on problem-free communication (equation 7) explained 19 percent of the variation in DCHTLKP and was significant at the .03 level of probability. The equation for mothers'ratings (equation 8) explained 23 percent of the variation in MCHTLKP and was significant at the .001 level of probability.

Findings for mothers and fathers were quite different with respect to the factors found to be related to parental ratings of early adolescents on the problem-free scale. The most significant contributing factor to mothers' ratings of children on problem-free communication was that of family stress. Mothers' perceptions of "good and bad" times as a family over the past year or so (MFAMSTRS) was inversely related to mothers' ratings of problem-free communication behavior of adolescents. However, fathers' perceptions of family difficulties or stress

(DFAMSTRS) was not significantly related to fathers' ratings of early adolescents on the problem-free scale (DCHTLKP).

As with fathers' ratings of early adolescents on openness, the educational level of fathers was positively ($p=.006$) related to fathers' ratings of early adolescents on openness; mothers' education is not significant in explaining mothers' ratings. An important factor influencing mothers' ratings of early adolescents on openness was that of perceived acceptance of the early adolescent by the mother (MACCEPT). The extent to which the early adolescent feels "accepted no matter what" by his mother was positively related to mothers' rating of the early adolescent on communication openness. The perceived acceptance of the early adolescent by father (DACCEPT) was not statistically important to the father's rating of the child (DCHTLKP). Again, these differences for mother and father reflect the closeness of the mother-child relationship.

Fathers' job-parent role stress was negatively related to mothers' rating of the child (MCHTLKP) whereas mother's job-parent role stress was positively related, although insignificant, with respect to mothers' rating of these early adolescents on problem-free communication. Mothers' job-role stress appears to be more important in explaining variations in fathers' ratings (DCHTLKP) than the fathers' job-role stress; both are negative.

Parental work status (FF, FN) is a significant contributing factor for the father's rating of his early adolescent on problem-free communication with fathers from dual-earner families (FF) rating early adolescents lower on problem-free

communication (that is, more problematic) than fathers from the other two employment types (FN and FP). On the other hand, parental work status was not important in explaining mothers' ratings of early adolescent on problem-free communication (MCHTLKP).

Gender of child, family income and pubertal age were not found to be important contributors to differences in parental ratings of early adolescents on problem-free communication and were omitted from both equations (DCHTLKP and MCHTLKP).

SUMMARY OF FINDINGS

Nearly all of the hypotheses set forth in Chapter 3 were supported to some extent by the empirical results with the exception of family income which was never found to be important in explaining differences in communication ratings. As hypothesized (H1), pubertal age was negatively related to the child's rating of his mother and father on openness. However, pubertal age was not important in six of the eight equations; thus, in general, the hypothesis was not strongly supported.

For the most part, the hypothesis (H2) that gender of child would not be related to communication ratings was supported; only in Equation 2 was gender a significant contributing variable--girls rated mothers higher on openness than did boys; this finding is consistent with other research (Noller and Callan, 1990)

indicating that females disclose more than males; thus, daughters perceived their mothers more open than sons view their mothers.

The early adolescents' perception of acceptance by father (DACCEPT) was hypothesized (H5) to be positively related to fathers' and early adolescents' ratings on both openness and problems. The hypotheses was supported for early adolescents, but not for fathers. Hypothesis (H6) regarding early adolescents' and mothers' ratings was supported; MACCEPT was significant (or approaching significance) in explaining differences in communication ratings by youth of their mothers as well as mothers' ratings of their children. This finding reflects the closeness of the mother-child relationship and supports the literature findings with respect to the bidirectional influence of communication leading to establishing trust relationships and high degrees of self-disclosure.

Hypotheses regarding parental perceptions of family stress (MFAMSTRS and DFAMSTRS) (H7 and H8) were generally supported; in five of eight equations, family stress was negative and statistically significant in explaining differences in communication ratings. Mothers' ratings were more affected than fathers' by family stress; however, ratings of early adolescents of their mothers (both on openness and problem-free communication) were not significantly influenced by family stress reported by the mother. Fathers' reported stress was a significant contributing factor in the youths' ratings of their father on communication openness. This finding suggests that a father's ability to relate to his early adolescent child may be more

affected by family stress a mother's communication with her early adolescent children.

The hypothesis (H4) that fathers' parent-job work stress (DWKSTRS) would not be a significant explanatory variable in explaining communication differences was generally not supported. In four of the eight equations, DWKSTRS was inversely related to the dependent variable and statistically significant. Differences in communication between mothers and children were influenced by fathers' parent-job role stress more than by mothers' perceived parent-job role stress.

In general the hypotheses (H3) that mothers' parent-job role stress would be negatively related to communication ratings was not supported. In only one of the equations (fathers' rating of early adolescents on problem-free communication) did this variable approach significance. It is possible that for families where mothers experience parent-job role stress, fathers are more involved in parenting and therefore, fathers in this type of family are more aware of problems and rate their children lower in problem-free communication. Maternal parent-job role stress was simply not important in the mothers' or early adolescents' ratings of mothers. In fact, contrary to hypotheses, maternal parent-job role stress was found to be positively related to mothers' ratings of early adolescents, although not statistically significant. The lack of importance of maternal parent-job role stress suggests that employed mothers are successfully handling this dual role. The importance of paternal parent-job role stress, even with respect to the mother-child relationship, indicates that

fathers' work environment influences family relationship to a greater extent than mothers' work situation.

In five of eight regression equations, work status was not a significant explanatory variable; thus, the hypothesis that the influence of work status on parent-child communication would not be significantly difference from zero was, for the most part, supported. However, in three of the eight equations work status was a significant variable. In general, when compared to other employment types, families in which fathers were employed full-time and mother part-time (FP) fared better than those in which both parents were employed full-time or the mother was not employed outside of the home; that is, FF and FN employment status had a negative relationship to the dependent measures in comparison to FP families.

Based on the literature with respect to socioeconomic status, a significant positive relationship was hypothesized between both education and income and the dependent measures. The hypothesis regarding education (H10) was partially supported; in three of the four equations estimating communication differences in the father-child dyad (Equation 3, 5, and 7) the education of the father was positively related to father and early adolescent ratings. For the mother-child dyad (Equations 2, 4, 6 and 8) mother's education was not found to be an explanatory variable. The hypotheses (H11) that income would be positively related to communication ratings was not supported: income was found to be unrelated to differences in parent-child communication.

The independent variables of gender of child, pubertal age, family income and parental work status were all found to be insignificant in explaining differences in parental ratings of early adolescents on problem-free communication.

WITHIN FAMILY CORRELATIONS

Pearson correlation coefficients were used in order to determine the strength of the relationship between communication ratings of early adolescents and their parents within the family (see Table 4-1). As expected (see Chapter 3) early adolescents' ratings of their father (openness and problem-free) were not significantly correlated with fathers' ratings of early adolescents. However, in correlating early adolescents' ratings of mothers with mothers' ratings of early adolescents on openness, it was found that mothers' ratings were moderately correlated ($r=.349$) with those of early adolescents. The correlation coefficient was positive with a significance level of .01.

Contrary to expectations, early adolescents' ratings of mother and father on openness were significantly and positively correlated with a coefficient of .591 and significance level of .001. Early adolescents' ratings of mother and father (problem-free) were positively correlated ($r=.689$). Lastly, as expected, mothers' and fathers' ratings of early adolescents were positively correlated for openness ($r=.287$) with a significance level of .01; for problem-free, the correlation coefficient was .491 with a significance level of .001.

CHAPTER 5

CONCLUSIONS AND IMPLICATIONS

CONCLUSIONS

Communication between parents and early adolescents is a complex process and, therefore, challenging with respect to research. The results of this study demonstrate the importance of an ecological approach to the study of communication within families. Factors from the physiological, sociological and psychological environments of family members and of families as a unit all impact the parent-child communicative relationship. In applying probabilistic epigenetic theory to the study of communication, the results of this study contribute to the growing body of research which addresses issues of context in the study of communicative behavior.

In this chapter, findings will be summarized within the context of the current literature, highlighting the importance of an ecological approach in the study of communication between parents and early adolescents. Although it is difficult to directly compare communication studies, generalizations can be made with respect

to the implications of the findings and directions for further research. The discussion of findings and implications will be organized according to environmental context.

Physiological Factors

Gender of the early adolescent was not found to be an important factor in this study. Only in youths' ratings of mothers on openness was gender a significant factor, with girls reporting more openness on the part of mothers than boys reported. This finding is consistent with the literature indicating that girls report better relationships with their mothers than boys report (Richardson, 1986). Although gender of child has been found to be important with respect to specific communication constructs (i.e., identity exploration, types of information disclosed), it appears that gender of child is relatively unimportant with respect to the general nature or quality of parent-child communication.

This study is also consistent with other studies in that differences were found between mothers and fathers with respect to the parent-child relationship. Early adolescents rated their mothers higher on openness than they rated their fathers, reflecting the closeness of the mother-child relationship. The closeness of this relationship was also apparent in the influence of the child's perceived acceptance by mother and father (MACCEPT and DACCEPT). The fact that mothers significantly affected by their child's perceptions of acceptance, whereas fathers were not, is consistent with other studies indicating that mothers are more affected by perturbations in parent-child relationships than are fathers (Montemayor, 1991).

The negative relationship found between pubertal age and early adolescent ratings of both mother and father is consistent with other studies reporting difficulties in parent-child relations during the early adolescent period--particularly at the peak of puberty. The finding that ratings of mothers and fathers were not influenced by pubertal age of the early adolescent, suggests that the negativism may be one-sided; that is, adolescents' views of parents are negatively impacted by pubertal age, whereas parents' views of their early adolescents are not significantly impacted by the child's extent of physical maturity. Perhaps the view that conflict is inevitable during puberty needs further investigation. It could be that in only a minority of families the negativism on the part of the early adolescent is transmitted to parents, resulting in more negative communication patterns.

This study found that the physiological factors had the greatest impact on early adolescent views and not on parental views. However, only physiological characteristics of the early adolescent were considered. There were many physiological factors not examined in this study; variables such as age and general health of parents, and physical attractiveness of both parents and children should be included in future studies.

A comment regarding the findings for early adolescent and parental ratings of problem-free communication is in order. It is somewhat puzzling, in view of the fact that early adolescence has been found to be problematic with respect to parent-child relations, that pubertal age was not found to be a determining factor in either mothers' and fathers' or early adolescents' ratings on the problem-free scale. This

finding may be attributed to: 1) the restricted range of scores in a sample that was homogeneous and well functioning; and, 2) the reliance on global measures of conflict and problems rather than measures in connection with specific problematic instances. Microanalytic analyses of observed interactions over time with more diverse, heterogeneous samples are needed to address these limitations.

The Sociological Factors

The finding that family income was not statistically important to differences in communication ratings is consistent with findings of studies with families of similar socioeconomic status. It appears that income is not a determining factor in parent-child relationships when it is adequate to meet needs. This study does not in any way negate the findings for lower socioeconomic groups; that is, that socioeconomic status is a marker for maladaptive parenting behaviors (Garbarino, 1986).

A contribution of this study is the finding with respect to parental education. When examined separately from income, education was found to be statistically important to the father-child relationship, but not to the mother-child relationship. It has been suggested (Bronfenbrenner and Crouter, 1982) that indices of social class should be differentiated in order to determine specific effects of each parent's education and contribution to family income. This study differentiated the effects of mother's and father's educational level and found that father's, but not mother's, education was positively and significantly related to differences in communication ratings. Again, this finding reflects the more intense involvement with their children

among mothers as opposed to fathers. It appears that in general, regardless of their education, mothers communicate more positively and are closer to their children than are fathers. The greater impact of education for fathers suggests that education enables fathers to exhibit the flexibility and breadth of perspective important to communicating with their early adolescent children. The relatively homogeneous sample is also a factor in this finding; if this study were repeated with lower socioeconomic families, education of mothers might also be found to be a statistically important factor.

The findings with respect to parental work status suggest that it may be a marker for position-oriented vs. person-oriented families (Beebe and Masterson, 1986). Position-oriented families rely on the authority and structure of a rigid system of family roles for maintenance, whereas person-oriented are more flexible in their role definitions, adjusting and adapting to the growth and change of their members. Families in which the mother is a full-time homemaker and the father is the sole provider are generally more rigid in their role definitions and behaviors than families in which both parents are employed. In this study, fathers in families in which mothers were not employed outside of the home were rated lower in openness by early adolescents than fathers in families in which mothers were employed; this finding supports the theory that child-care is the wife's domain in these families, and that fathers may be limited in how they talk to their children. It appears that work status per se is not a contributing variable to differences in communication ratings, but rather, the differences are due to value systems and role definitions within these

families. The finding that mothers who were employed full-time rated children less open than mothers in other employment categories needs further investigation. This finding may point, again, to the less rigid roles in dual-earner families reflecting their more person-oriented approach to relationships as opposed to position-oriented families; fathers may have a more active parenting role and therefore be closer or as close as mothers to the children in these families. Another possibility--albeit unlikely in the light of previous research--is that mothers who are employed full-time do not have the time necessary to establish as close a relationship as mothers who spend more time at home. Further study involving communication processes and behaviors in families of different employment typologies is needed. If parental work status is a marker for differing values and behaviors, than it is the values, behaviors and processes that need to be studied in order to facilitate understanding of family relationships and avoid stereotyping families by employment typologies.

The Psychological Factors

An important contribution of this study is the results showing a strong relationship between paternal job-parent role stress or strain and parent-child communication--even in the mother-child dyads, paternal job-parent role stress was of greater importance than maternal job-parent role stress. This finding appears to be inconsistent with the literature suggesting that women are more adversely affected by balancing job and family roles than men. (Rapoport and Rapoport, 1978). It is also possible that for this sample of two-parent families, the more traditional view

of the importance of father's employment is reflected in the family interaction patterns. For example, if dad has a bad day at work, it affects the whole family, whereas mom's bad day at work becomes secondary to her role as primary nurturer.

In examining the role of family stress as perceived by mother and father on their respective communication relationships with their early adolescents, it is apparent that general family stress has a significant negative impact on parent-child communication. This finding is consistent with stress theory (McCubbin and Patterson, 1983) and research. Stress was found to be a greater factor in mothers' ratings than in fathers' ratings of children. Perhaps mothers are more affected by family stress, which may involve relationships within the family, than by work-related stress. For fathers, work-related stress appears to be a greater influencing factor in the way they view their children. If the responsibility for nurturing and maintenance of relationships within the family falls to mother, than it is logical that family stressors would have a greater effect on her than on father. It is interesting that stress was a significant factor in the early adolescents' ratings of their fathers, but not of their mothers. This may be due also to mother's role as nurturer; she may strive to maintain a positive communicative relationship with her child in the midst of family stress and thus the child is less negatively affected than she is by the stress that her father is experiencing.

Although the relative contribution of family stress to parent-child communication was examined in this study, types of stressors were not differentiated. Thus, questions of the different impact of one type of stressor over another (e.g.

sociological versus physiological, normative versus crisis) were not addressed. Future studies dealing with global stress and parent-child relations should examine differential impacts depending on the type of stressor; responses of families over time need to be analyzed.

An important, but not surprising, finding was the significance of the early adolescent's perception of acceptance by mother/father in the parent-child communication ratings. MACCEPT or DACCEPT was positively and significantly related to communication ratings in six of the eight equations. The importance of this factor is consistent with the literature linking parental acceptance or warmth to adolescent self-disclosure, expressiveness and self-esteem. This study also links the child's perceived acceptance by the parent to problem-free communication. It appears that, in addition to the facilitation of openness, problems in communication are reduced when the early adolescent feels accepted by the parent.

Within Family Differences

The differences among family members in communication ratings is consistent with previous research. Early adolescents had a more negative view of parents than the parents had of their early adolescent children. Mothers were rated significantly higher on openness than fathers, reflecting the closeness of the mother-child relationship. Fathers' and mothers' ratings of their child were highly correlated.

IMPLICATIONS

Implications for Research

Many studies dealing with communication processes and constructs within families have, for the most part, ignored issues of context, that is, the environment in which communication takes place and the impact of that environment on communication. This study examined a number of environmental influencing factors on the parent-child communicative relationship to determine their relative importance in explaining differences in communication ratings of parents and early adolescents of each other.

In applying the developmental-contextual model to the study of parent-child communication, it was necessary to make choices about which variables to include as predictive or independent variables. This decision was based on previous research findings, theory, and, to some extent, the existing data set. In some instances, the data set resulted in limitations. For example, satisfaction with the work environment was not included as an explanatory variable because of the limited range of responses to the one question dealing with satisfaction with work. The findings of this study vis-a-vis the work environment support other studies showing that work status is not as important as attitudes and values about employment. Future research efforts should concentrate on attitudinal factors.

Repetition of this study or similar ecological studies should be done, either concentrating on families of lower socioeconomic status or including a larger

representation of these families. Although income was not found to be a contributing variable in this study, the inclusion of families with inadequate incomes might yield different results. The skewed sample (toward higher education and income) may have also affected the results for the multiple regression equations estimating problem-free communication. If lower socioeconomic status is correlated with problematic parent-child relations, as other studies have indicated, then the homogeneity of this sample of families may have resulted in the identification of only a few significant variables in the attempt to predict the child's rating of mother and father on problem-free communication. This relatively highly educated, homogeneous sample of parents is less likely to exhibit problematic communication behavior--such as nagging and insulting their children--than a more diverse population. The lack of problems may have made it difficult to identify influencing factors with respect to problem-free communication.

Research examining communication within families of varying composition is also recommended. It is important to obtain data from single-parent families and stepfamilies and compare findings with respect to family relationships within those families to two-parent families. Family composition, including numbers of siblings and spacing of children have also been found to be important in studying family relationships; the inclusion of these factors in future studies examining parent-child communication would facilitate understanding of family dynamics.

It is also possible that communication problems may not be adequately measured using the Olson subscale (problem-free). Some of the items on that scale

deal with issues of openness between parents and children, such as the avoidance of discussing certain topics with a parent or child, as opposed to dysfunctional communication patterns. Additional research methods, including qualitative analyses of communication processes in families may be more useful in identifying problematic communication.

Finally, it is recommended that future studies examine environmental factors not included in this study. Although the developmental contextual theoretical approach recognizes the importance of environmental variables in human and family development and behavior, it is also recognized that it is not feasible to include all potentially influential environments in any one study. Although this study included a community environmental setting that directly affects parents (i.e., parental employment), community influences directly affecting the early adolescent (i.e., school, relationships with peers) were not a part of this study.

Implications for Education

It should be encouraging to educators and parents alike that there are commonalities among families with respect to communication between parents and children during the early adolescent years. For example, if parents realize that pubertal age has a negative relationship to communicative openness, they will be better equipped to understand and cope with perturbations in the parent-child relationships during this time period. Parents also should be encouraged that the most important factors affecting parent-child communication are directly under their

influence (i.e., acceptance of the child by the parent). Parents, especially fathers, need to be aware of the strong relationship between the child's perceived acceptance by parents and positive communication as well as adjustment of the early adolescent. In addition to awareness, they need to build skills in how to convey their unconditional acceptance to their child. The fact that acceptance was not simultaneously determined with the dependent measure of communication, indicates that perceptions of acceptance by the child are established before the child enters early adolescence. Thus, it is important that parents demonstrate acceptance and warmth to their children at early ages.

Educational programs targeted towards early adolescents are also needed. There is an urgent need for building family life skills in young people. Diminishing family time, divorce, age-graded societal structure and the increasing dominance of peers and the media in the lives of children and adolescents has had a detrimental affect on the quality of parent-child relations. Although some religious institutions provide educational programs and counseling to help families through the adolescent years, these programs do not reach large numbers of families and are of varying quality and effectiveness. Early adolescents can be helped to understand their own physiological changes, as well as the stresses that they and their parents typically experience during the early adolescent years. They can be shown how to modify communicative behavior to maintain positive relations with parents and avoid some of the turbulence of the adolescent years.

Implications for Family Policy

The findings of this study indicate that although mothers are the primary nurturers of children, fathers in two-parent families play a critical role with respect to family communication processes. The work environment of the father affects not only the father-child dyad, but the mother-child dyad as well. It is important that as a society we support fathers in spending time with their families. Society expects mothers to put families before employment in terms of time, energies and devotion. Fathers, on the other hand, frequently have these priorities reversed and society expects that this is the case. As policy makers strive to build strong families through legislative and other government efforts, they need to recognize the importance of allowing and encouraging parents--both fathers and mothers--the necessary time to build relationships with their children. Flexible work schedules and time off through family leave policies should be available to fathers and mothers. As a society we need to explore all avenues that have the potential to enhance family communication and relationships--community organizations, religious institutions, parenting classes and support groups, and time spent with extended families. Working together, we can help parents and children communicate in ways that facilitate individual growth and healthy family relationships.

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APPENDIX

Table A-1. Parent-Child Communication Statistical Model: Seemingly Unrelated Regression (SUR) Results.

			CONST	DACCEPT	MACCEPT	PUBRTAGE	DFAMSTRS	MFAMSTRS
Eq. 1	CDADO	=	3.7917	+ 0.2434		- 0.0153	- 0.2603	
			(8.86)	(3.42)		(2.34)	(2.90)	
			p < 0.001	p < 0.001		p < 0.025	p < 0.005	
			R^2 = 0.34; F-Sig. = 0.001; Std. Error of Estimate = 0.66					
Eq. 2	CMOMO	=	3.9343		+ 0.2192	- 0.0170		
			(8.37)		(2.76)	(2.70)		
			p < 0.001		p < 0.005	p < 0.005		
			R^2 = 0.25; F-Sig. = 0.001; Std. Error of Estimate = 0.70					
Eq. 3	CDADP	=	3.3392	- 0.0249				
			(8.81)	(0.36)				
			p < 0.001	p < 0.40				
			R^2 = 0.04; F-Sig. = 0.24; Std. Error of Estimate = 0.71					
Eq. 4	CMOMP	=	2.8437		+ 0.0444			
			(9.09)		(0.60)			
			p < 0.001		p < 0.30			
			R^2 = 0.04; F-Sig. = 0.10; Std. Error of Estimate = 0.67					
Eq. 5	DCHTLKO	=	3.9957				- 0.1594	
			(12.73)				(2.00)	
			p < 0.001				p < 0.025	
			R^2 = 0.20; F-Sig. = 0.004; Std. Error of Estimate = 0.49					
Eq. 6	MCHTLKO	=	3.6466		+ 0.2529			- 0.1915
			(11.33)		(4.12)			(2.73)
			p < 0.001		p < 0.001			p < 0.005
			R^2 = 0.25; F-Sig. = 0.003; Std. Error of Estimate = 0.47					
Eq. 7	DCHTLKP	=	3.8595				- 0.1067	
			(10.52)				(1.21)	
			p < 0.001				p < 0.20	
			R^2 = 0.17; F-Sig. = 0.03; Std. Error of Estimate = 0.57					
Eq. 8	MCHTLKP	=	4.0662		+ 0.1611			- 0.4945
			(8.65)		(1.80)			(4.59)
			p < 0.001		p < 0.05			p < 0.001
			R^2 = 0.23; F-Sig. = 0.001; Std. Error of Estimate = 0.74					

Numbers in parentheses are estimated t ratios. The p-value is the probability of making a Type I error (i.e. rejecting the null hypothesis when it is true where, H_o: β = 0). The reported p-values are for one-tail tests and are appropriate when there is reason to believe that the sign is either positive or negative, not just different from zero.

Table A-1 Cont.

			DWKSTRES	MWKSTRES	DADEDUC	GENDER	FF	FN
Eq. 1	CDADO	=					- 0.0720 (0.47) p < 0.35	- 0.5431 (2.87) p < 0.001
Eq. 2	CMOMO	=	- 0.1633 (2.01) p < 0.025	- 0.0135 (0.18) p < 0.45		- 0.2080 (1.76) p < 0.05		
Eq. 3	CDADP	=			- 0.0217 (0.42) p < 0.40			
Eq. 4	CMOMP	=						
Eq. 5	DCHTLKO	=	- 0.1606 (2.27) p < 0.025	- 0.0046 (0.07) p < 0.45	+ 0.12089 (2.58) p < 0.001			
Eq. 6	MCHTLKO	=	- 0.1348 (2.05) p < 0.025	+ 0.0613 (0.93) p < 0.20			- 0.1453 (1.36) p < 0.10	- 0.1746 (1.29) p < 0.10
Eq. 7	DCHTLKP	=	- 0.0994 (1.19) p < 0.20	- 0.0913 (1.16) p < 0.20	+ 0.0868 (1.72) p < 0.05		- 0.2301 (1.78) p < 0.05	+ 0.0220 (0.13) p < 0.45
Eq. 8	MCHTLKP	=	- 0.1938 (1.88) p < 0.05	+ 0.0639 (0.63) p < 0.30				

Numbers in parentheses are estimated t ratios. The p-value is the probability of making a Type I error (i.e. rejecting the null hypothesis when it is true where, H_0: $\beta = 0$). The reported p-values are for one-tail tests and are appropriate when there is reason to believe that the sign is either positive or negative, not just different from zero.