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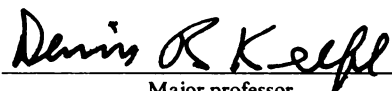
FACTORS AFFECTING FERTILITY :
A PATH ANALYTIC APPROACH FOR PARENTS
AS DECISION MAKERS

presented by

JANINE SINNO JANOUDI

has been accepted towards fulfillment
of the requirements for

Ph.D degree in FAMILY ECOLOGY


Major professor

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**FACTORS AFFECTING FERTILITY:
A PATH ANALYTIC APPROACH FOR PARENTS
AS DECISION MAKERS**

By

JANINE SINNO JANOUDI

A DISSERTATION

Submitted to

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ABSTRACT

FACTORS AFFECTING FERTILITY: A PATH ANALYTIC APPROACH FOR PARENTS AS DECISION MAKERS

By

Janine Sinno Janoudi

Delayed parenthood has been frequently observed among members of the baby boom generation. The literature agrees that the decision making process to control fertility is conscious and rational. Several efforts have been made in order to understand fertility decision making from different perspectives, and to develop theoretical models that relate to it. There is a need to create a model that is theoretically informative and practically applicable to parents as decision makers. Therefore, this research studied some factors affecting the fertility pattern among 166 employees at Michigan State University. A combination of two research methodologies, induction and deduction were used. A survey research design was followed using self administered questionnaire in 1988. Respondents were mostly white, married, white collar female professionals with a mean age of 34.5 years. Two theoretical models were developed in relation to the two dependent variables: Desired family size, and present parenting readiness. Correlational analyses, regression and path analyses were used for testing the hypotheses related to each dependent variable. Results indicate that the



perceived benefits and costs of children and the current number of children are direct predictors of the desired family size. Resources of cohesiveness, family finances, health, and community support are direct predictors of present parenting readiness. This study contributed to the human ecology perspective in the merging of various disciplines, the development of resources concepts related to parenting readiness, and in the bridge built between theory, research and practice.



To my parents, who nurtured me
with love, education, and the freedom of choice
when many children were deprived of these rights
during the lengthy times of war in Beirut.

To my husband, who believes in my
professional potentials and patiently leads me to
success. To my son, Kareem who is a prime reason
initiating this study.



ACKNOWLEDGEMENTS

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CHAPTER I

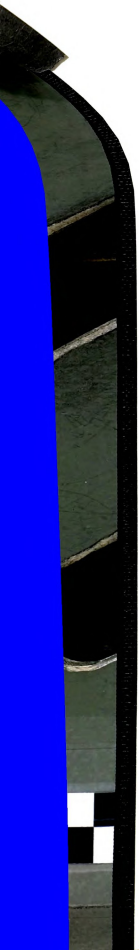
Introduction and Statement of the Problem

Declining Fertility

An important element in any economic system is the quantity and quality of its human resources (Nerlove, 1974). The baby boom generation of U.S. citizens contributed to the expansion of the post war economy. Presently, however, a decrease in the size of the labor force is anticipated. This decrease is the result of an aging labor force and a declining fertility rate.

The baby boom generation is entering the 45 to 54 year age group, whose participation rates in the labor force are lower than those of younger people. Additionally, a potential shortage of young people in the near future is predicted, as a consequence of the decrease in the annual birth rate. According to the U.S. census, the annual birth rate in 1955 was 25/1000 women but has since declined to 15/1000 women in 1985 (Statistical Abstract of the US, 1990).

The decrease in the birth rate is associated with a significant decrease in the number of third live births. Only 20% of today's families include three or more children, compared with 40% in 1970 (Pollack, 1990). An increase in the incidence of childlessness and in delayed parenthood are also associated with the decrease in the birth rate. In 1986, 25% of women 30 to 34 years were



childless compared with 12% in 1970 (Vantura, 1989). According to Vantura (1989), delayed parenthood is most prominent among women in their 20s, particularly college graduates.

At the national level, the Social Security system is expected to be severely affected by the decrease in the size of the labor force. Today, 3.4 workers are available to support each retiree. Because of the low fertility rates of the baby boom generation, the ratio of workers to retirees could decrease to less than two by the year 2030 (Longman, 1986).

Another indirect effect of low birth rates is the potential negative effect on the educational system. Fewer elementary schools will be needed for the smaller number of children and, consequently, fewer teachers will be employed. This effect will probably reach the university level in the future. Already, several universities are facing decreasing enrollment in freshman classes because of the decrease in the number of high school graduates.

The declining fertility rate explains the need to understand fertility decisions. The following is a brief discussion of theoretical models of fertility decisions from various disciplines.

Theoretical Models of Fertility Decision Making

Fertility decision making is a subject of interest to many social science disciplines (Burch, 1980).



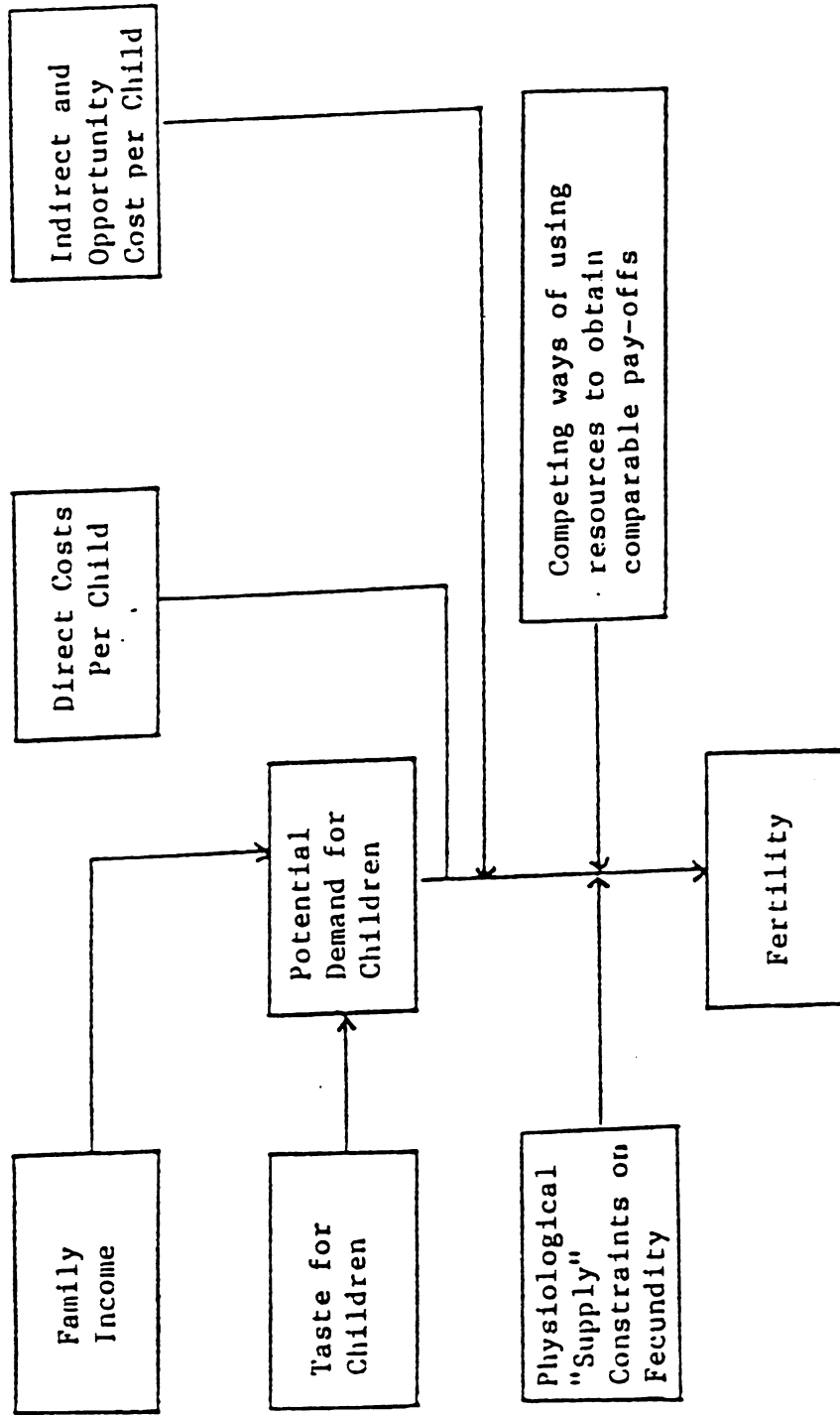


Figure 1. A Composite Model of Fertility: Economic Perspective
Robinson and Harbison, 1980 . p.220



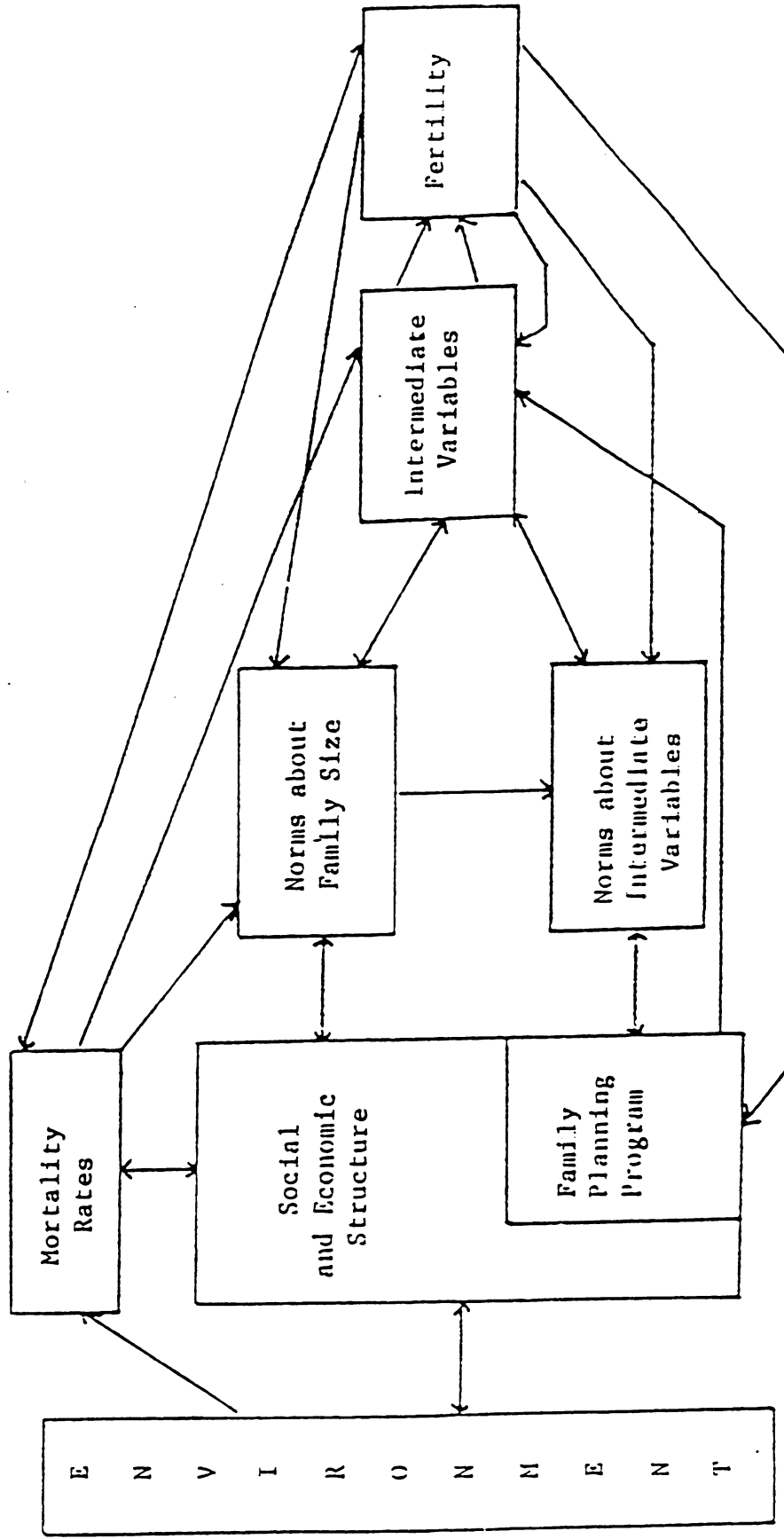


Figure 2. A Sociological Model of Fertility.
Robinson and Harbison, 1980 . p 223



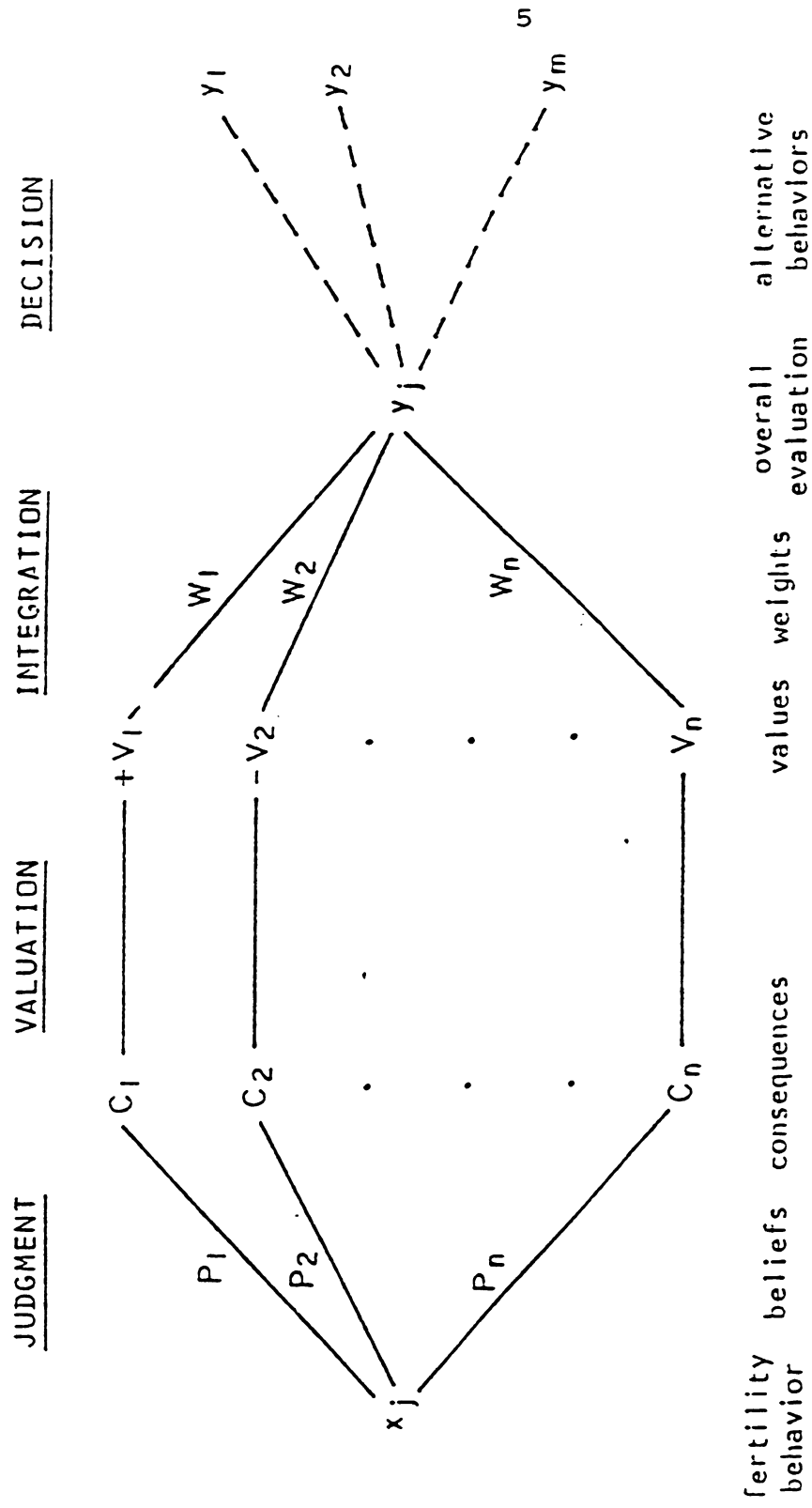


Figure 3. A General Framework for Fertility Decision-making:
Psychological View. McLelland, 1980. p48



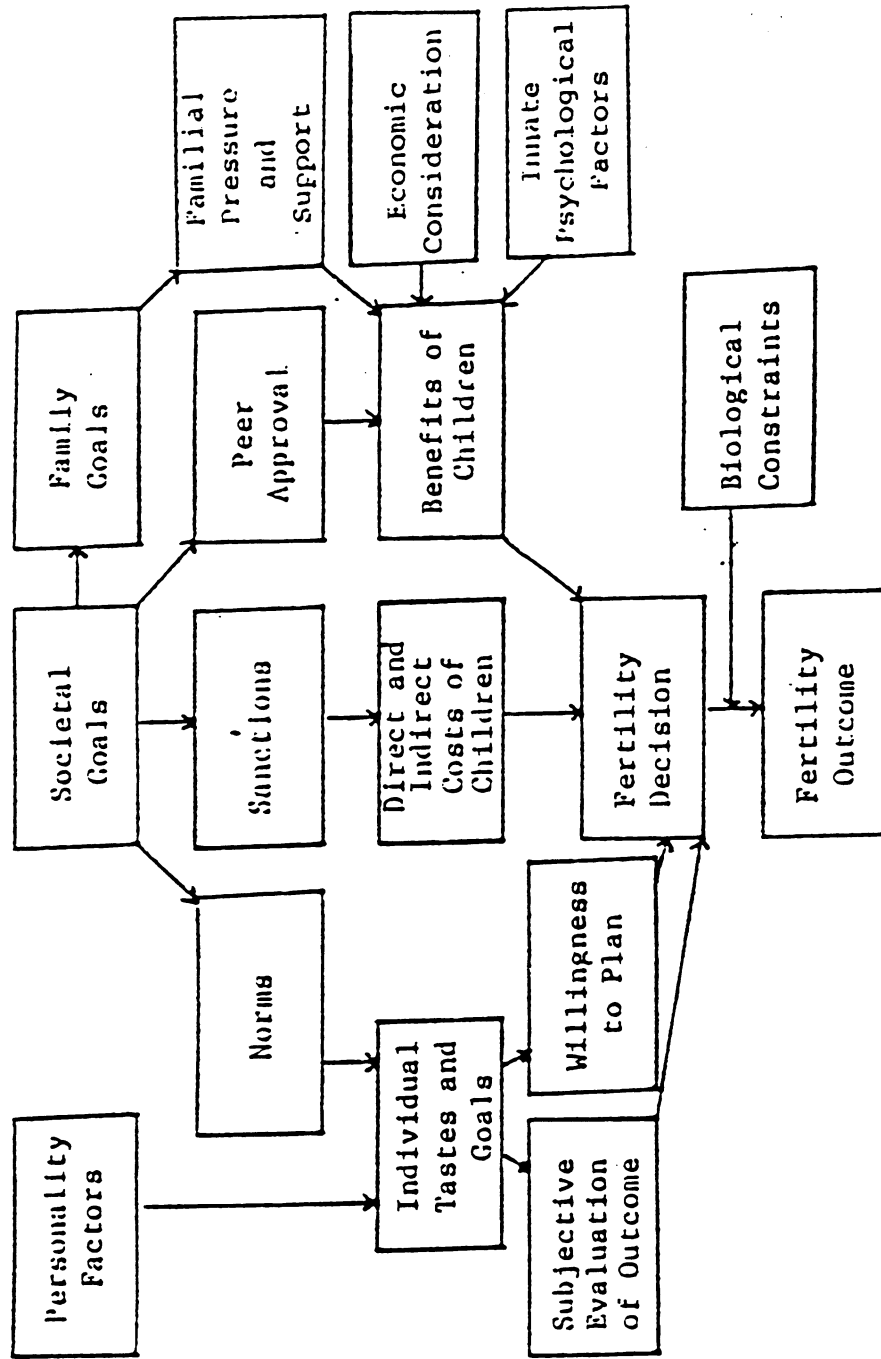


Figure 4. An Integrated Model of Fertility.
Robinson and Harblson, 1980. p.226

In making the decision to add a child to the existing family, prospective parents deal with economic, social, and psychological factors. Burch uses models of fertility decision making from various disciplines in an attempt to develop one integrated, theoretical model. The models are presented graphically as they appeared in Burch (1980).

The model illustrating the economic perspective, (Figure 1), deals with children as a consumption or utility good. There is a potential demand for children, but this demand is subject to the constraints of family income and physiology.

The sociological approach, (Figure 2), is oriented toward the effect of the macro-environment on fertility. This could include societal and economic structures, mortality rates, inter-generational influences, and general cultural norms. The psychological analysis of fertility decisions, (Figure 3), gives more weight to the concept of values, beliefs and decision making that involves a comparison of alternative behaviors.

All of these perspectives assume that fertility decisions are rational and conscious. These assumptions may be becoming more valid over time with the improvement and expanded adoption of birth control measures in the United States.

The differences between the disciplines lay in their unit of analysis and in their treatment of time. In



psychological research on fertility, the individual is the unit of analysis, while sociological research focuses on the group. Economists focus on either the individual or the family/household as decision makers. With regard to time, economists and psychologists tend to deal with decision making problems that occur in the immediate or short term time frame; sociologists take a longer run time perspective. Each discipline includes some decision making variables; none of them incorporate the adequacy of resources for fertility decision making, as perceived by individuals.

There is a need for an inter-disciplinary model that combines concepts from various disciplines, for use in analyzing fertility problems. The model developed by Robinson and Harbison and reviewed by Burch (1980), (Figure 4), responds only partially to this need. One weakness of this model is that it includes some vague concepts, such as "economic considerations", "innate psychological factors", and "personality factors". These make the model difficult to operationalize, and impractical to apply at the family level.

Purpose of the Study and Research Questions

This study was designed to develop a more complete fertility model that integrates concepts from several disciplines. An additional goal was to develop a model that was practical and easy to use by individual decision



makers. Finally, this study attempts to evaluate the model and the relative importance of the economic, social and psychological factors as determinants of decisions to have children.

The following research questions were addressed by this study: a) Which resources are associated with parenting readiness? b) How are these resources related to other factors affecting desired family size and parenting readiness? c) What are the independent and total effects of each factor in the model, on desired family size and on present parenting readiness?

Rationale and Assumptions

Human ecology integrates many disciplines and applies knowledge from various fields. Inter-disciplinary or non-disciplinary approaches require a method of analysis that is not determined by specific disciplines. Therefore, grounded theory building was one method used to supplement the deductive process in building a middle range theory of fertility decision making.

The study was based on three important assumptions: The first is that fertility decision making is a rational process that starts within each partner. Each partner in the decision exchanges information about the issue with others in the immediate environment affecting that person. The problem is evaluated by each person, who then takes a position on that problem. The position can then be



discussed with the other partner, leading to a couple's decision on fertility. In some cases the fertility decision may be made by one partner, imposed secretly or openly on the other, and then may not reach the couple or the family level.

The second assumption is that highly educated and employed persons in the U.S. usually assess their resources before making a fertility decision. The third assumption is that the dependent variables chosen, "desired family size" and "present parenting readiness" can be indicators of future fertility and present fertility decisions, respectively. The first variable has been used as a fertility indicator by several researchers. The second variable was developed in this current study. Chapter III includes a definition of present parenting readiness and relates it to the concepts of parenting resources developed during the inductive phase of this study. Desired family size will be defined in Chapter IV and presented in relation to the other variables used during the deductive phase of this study.

Major Analyses and Significance of the Study

Using created variables and other previously defined ones from other fields, regression analyses were used to develop two path models with desired family size and parenting readiness as dependent variables. The five major influences on fertility decisions considered in this study are: a) background demographic variables, b)



perceived benefits, c) perceived costs of children, d) the number of work hours per week, and e) the resources available to the family unit as perceived by respondents.

Family decision making is a very complex process that requires the interaction of family members, each with their unique environments and with each other (Paolucci et al., 1977). The contribution of this study to the development of knowledge about family decision making is only partial because it involves individuals and not families. However, the importance of this model lies in its practicality for use at the level of an individual family and at the level of social programs aimed at aiding families in making a fertility decision. The multidisciplinary model tested in this research may prove useful to educators, policy makers and others who are interested in the fertility decision making process.



CHAPTER II

LITERATURE REVIEW

Research on fertility behavior will be reviewed in this chapter. Specifically, the interdisciplinary approach to the study of fertility behavior and its relation to decision making is examined. Special emphasis is placed upon studies dealing with the benefits and costs of having children and their effect on decision making. First, studies on fertility will be reviewed as a multidisciplinary interest. Then influences on fertility will be presented as they have been used in theory and research. These include the concept of benefits or value of children, the concept of costs of children in addition to some background influences on fertility.

Fertility: A Multidisciplinary Interest

There have been a large number of disciplines and theoretical orientations which have been involved in the study of fertility behavior. For example, as early as 4000 BC in ancient Babylonia, Egypt and China, population censuses were developed and used secretly for war purposes. Confucius and other Chinese scholars attributed to the government the responsibility of moving from overpopulation to underpopulation. They suggested that several factors could act as checks on population growth, including war and insufficient food supply. Plato was more



specific with regard to population size and he set a fixed number of citizens at 5040. These are examples of early attempts for studying fertility from different perspectives. The variety of disciplines which have been involved in the study of fertility behavior and theoretical perspectives will be represented in this chapter.

Demography

Fifty years ago, demographers were the primary scholars studying population and fertility. Census and population registration procedures gathered for non-scientific purposes were the only data collection tools available for the analysis of vital processes in population aggregates (McKenzie, 1934).

Two leading "grand" theories have been followed by demography scholars. McKenzie refers to the approach set by Malthus (1776-1834) on one side and the approach set by Quetlet (1798 - 1874), a Belgian astronomer and statistician, on the other. The main difference between the two historic lines is their focus of interest. The Malthusian view focuses on economic aspects of population growth such as poverty, unemployment, war and standard of living. These were considered as positive checks to control fertility. Malthus also suggested some preventive checks including delaying marriages. He used a geographical orientation when computing the population to food ratio (McKenzie, 1934). No emphasis was placed on statistical analysis. The other approach is statistical and



mathematical focusing on biosocial changes in population groups. This approach eventually became the leading research tradition and was used for years to make inferences on almost every aspect of social relations. Thompson (1929) introduced the first demographic transition model stating that socioeconomic development, including an increasingly complex division of labor and specialization, suppresses fertility because children would lose their economic value (Burch, 1980).

Today demography is greatly changed. The unit of analysis includes individuals and households in addition to nations, states, cities and counties. That advance encouraged the gathering of data for scientific purposes and led to a number of middle-range and micro theories of population change and fertility behavior in various disciplines. Multivariate analyses are now routinely used. Multiple regression, rather than the two or three variable cross-tabulation, is now the standard tool (Burch, 1980). This progress was encouraged by changes in the technology of data collection and processing.

Psychosocial studies

Some scholars of population and fertility have focused on the tendency of societies to reproduce themselves in relation to generally prevailing psychological states. Ibn Khaldun (1332 - 1406), an Arab social philosopher, was the first to generate a psychosocial theory of population



fertility and mortality (Kammeyer, 1971). Kammeyer notes that Khaldun's theory was based on the idea that societies pass through stages of development and optimism or pessimism, which influence the number of births and deaths. Khaldun offered the hypothesis that towards the end of a society's historical lifespan there would be famines, epidemics, rebellion and disorder; these events create pessimism and discourage procreation. His assumption was that procreation is stimulated by high hopes and the resulting heightening of animal energies. That implies consciousness in the decision making process about procreation. This theory makes a major contribution to the study of fertility in psychology and is reflected even in the most recent research stressing rationality in fertility decisions. The bulk of the recent work has been done by cognitive social psychologists focusing on subconscious rather than conscious elements of human behavior in attitudes, values, and preferences (Burch, 1980).

Studying processes of behavior underlying human fertility has been an important contribution of psychologists. The most important contribution of this discipline is the attempt to answer the question of why individuals would want to have children at any point in time? Weighing the satisfactions against the alternatives and costs of having children was applied in cross-cultural research (Arnold & Fawcett, 1976).



Economics

Economists have also studied fertility. Leibenstein (1957) and Becker (1960) applied micro-economics theory to fertility (Burch, 1980). As Burch indicated, that approach brought new light to the topic.

As in psychology, special emphasis was placed on the use of theories of individual human behavior rather than macro analyses. Microeconomic theories have also used the assumption of rationality in fertility choice and decision making. However, economists differ from psychologists in their assumption of utility maximization as a primary criterion for choice.

This basic underlying assumption was criticized by some economists like Easterlin (1975). Easterlin used the concept of taste for children introduced earlier by Becker as an additional factor besides mere demand and costs of fertility control. But whereas Becker described taste as constant, Easterlin used it as variable. Easterlin also added the possibility of environmental factors shaping fertility behavior, such as, adequacy of food supply versus food shortages. (Easterlin, 1978).

Easterlin was criticized by Namboodiri (1980) for his emphasis on the influence of early socialization on "tastes" while neglecting new adult environments and peer pressures. Namboodiri also criticized both Becker and Easterlin for their conceptualization of time as a collapsed single instant. In spite of Easterlin's effort to



use past experiences as a determinant of current behavior he collapsed the future into one instance. Consequently a modification of behavior, resulting from intervening experiences, such as the birth of a first child, is irrelevant in his model (Namboodiri, 1980).

From the collective contribution of various disciplines believing in rationality and choice in fertility behavior, a number of decision-making models were developed to study fertility behavior. Some of these were presented earlier in Chapter I.

Value of Children

The Concept

Hoffman & Hoffman (1973) used the key concept of "value" and defined it as follows: "The value of children refers to the functions they serve for parents, or the needs they fulfill" (p.26). Their scheme lists the following nine basic "values," which they say are all-inclusive ,i.e. capable of describing values in various cultures:

1. Adult status and social identity (woman's major role).
2. Expansion of the self tie to a larger entity ("immortality").
3. Morality; religion; altruism; good of the group; norms regarding sexuality, impulsivity, virtue.
4. Primary group ties, affection.



5. Stimulation, novelty, fun.
6. Achievement, competence, creativity.
7. Power, influence.
8. Social comparison, competition.
9. Economic utility.

Their theoretical framework consists of five classes of variables: a) values, (b) alternative sources of those values, (c) costs, (d) barriers, and (e) facilitators. Barriers include poverty, a shortage of housing, other demands on mother's time, mother's ill-health; facilitators include economic prosperity, adequate housing and help with competing work to free time.

Leone (1986), using data from an in depth study of 38 U.S. couples, reported that emotional rewards in parent-child relations are the predominant motive for having children. Marriage, maturity, and financial stability are cultural prerequisites, and values of fairness, freedom and responsibility all interact to create a dilemma for choice.

Oakley (1986) mentioned other important variables for measuring the value of children. For example, he added the dimensions of new experiences children can provide, and role identity through parenthood.

Neal et al. (1989) reported interesting findings that confirm a generalization previously made by Hoffman & Manis (1979), "There has emerged within the U.S. a fairly high consensus regarding major utilities of children" (p 583). The study by Neal et al. indicates that primary advantages



or values for having children are the necessity for having a real family life, as well as for bringing love and affection. Very few respondents noted the advantages of establishing oneself as a mature person or spiritual fulfillment or sexual fulfillment of love. Neal et al. found great similarity between the answers of husbands and wives.

Clifford (1989) states that value of children is an umbrella term conceptualized in different ways based on the previous contributions of Fawcett (1970, 1973), Hoffman and Hoffman (1973), and Wyatt (1967). Clifford summarized the VOC as the motives which contribute to the desire for children. Clifford also describes that term as used in relation to consumer durables (Espenshade, 1977; Schultz, 1974; Turchi, 1975). For him, small family size is associated with (a) increased companionship and decreased family tension , (b) increased individually oriented child rearing , (c) increased wealth shared among members, and (d) increased husband and wife leisure time. The major finding in the study by Clifford (1989) is that the level of agreement on values between spouses is significantly related to live births, family size expectations, and fertility planning.

The economic benefits of children were also mentioned by Leibenstein (1957). Three basic utilities are considered here:



1. The utility derived from the child as a consumption good or personal pleasure to the parents.
2. The utility desired from the child as a productive agent contributing to family income.
3. Children as a source of financial security in old age and in emergencies.

The assistance may be in the form of income transfers or shared living with the grown children. The economic benefit of income transfers from children to parents is a widely accepted theory because of its logic and application in traditional societies (Cain, 1983).

Turke (1989) however, challenged this theory. Through an in depth study of the relationship between demand for children and modernization, he demonstrated that even under the most traditional societies the net flow of wealth is always from older to younger adults and their dependent offspring. That is when offspring age ten to thirty produce and return resources to their parents, their parents recycle them to produce additional offspring and sooner or later help their children with their own offsprings. Based on his research, Turke suggested that specific details of behavior gathered in interviews may help clear the misconceptions that children are economic assets or old age security to their parents. He criticized the survey methodology used to study fertility in less developed countries. This method does not provide enough information to understand the problem. Though the value of old age security is a belief held by many, Turke's finding shows



that unfortunately it is not a reality.

Leibenstein mentioned a second economic value of children, and that is their household productivity. Espenshade (1977) agrees with this value as long as the setting is a developing society. He argues however that as a society modernizes the economic contribution from children decreases and so does their value as old age security.

Research relating VOC to fertility behavior

It is hypothesized that changes in attitudes toward the value of having children would result in similar changes in desired family size. A review of various sociopsychological studies by Hoffman (1975) confirms this hypothesis.

Thornton (1989) reviewed changing attitudes towards family issues using a broad range of data sets from 1950 to the middle 1980s. He observed a psychological weakening in norms to have children. He noted that changes in values and attitudes were particularly striking in the 1960s and 1970s but less dramatic in the 1980s. Eighty-five percent of the people interviewed in 1962 said that all American families who can have children ought to have them. That percent fell to 43% in 1980. No further decline occurred in the following period. Consistent with this trend in attitudes, Thornton indicated that a similar trend in family fertility behavior is evident. This finding is consistent with the expected positive relationship between



attitudes regarding the benefits of children and fertility behavior.

On the other hand, Chen (1984) found that the relationship can also be reversed in that attitude towards family size affect attitudes towards the value of children more than any other sociodemographic and socioeconomic characteristics examined.

Perceptions about the value of children (VOC) were the basis of several studies. Arnold and Fawcett (1976) conducted cross-cultural personal interviews with couples in six countries: Japan, Taiwan, Philippines, Thailand, South Korea and Hawaii in the U.S. In each country 400 couples with at least one child were interviewed, using the VOC instrument developed for the purpose of this study. Wives' age ranged between 20 and 34 while husbands were between 20 and 40. Two socioeconomic groups were identified: urban and rural. Motivations for parenthood and parents' perceptions about the pros and cons of having children were to be related to fertility and family planning behavior. The Hoffman & Hoffman theoretical scheme discussed previously was used for open ended and structured questions. They were first developed in English, then translated to various languages or sometimes dialects, and administered by local investigators.

Despite certain differences from country to country, the relationships between demographic variables and responses are quite similar for each country. In all



countries, rural respondents cited economic-utility advantages more than urban respondents. In the U.S. however, this relationship was only true when race was controlled . Black Americans found more economic utility than did whites even though they lived in cities.

Hoffman and Manis (1979), replicated the study but limited it to the United States. They found that primary group ties and affection are most commonly mentioned values of children, and this is particularly true for women. Adult status and social identity were mentioned by employed women much less frequently than by non-working women. Achievement, competence and creativity are values mentioned more frequently by non-parents. Economic utility and old age security were mentioned by less than 10% of respondents. The religious significance of children was cited infrequently. In general Hoffman found that blacks have more children than whites; Protestants have fewer children than Catholics and Jews have even fewer.

In summmary, Hoffman found that economic utility, religion and morality were the least endorsed values. Primary group ties and affection, stimulation and fun were most highly endorsed as important. All other categories fell in the middle. Hoffman noted, however, that while empirical relationships between fertility behavior and various social, economic and demographic variable are fairly well understood, the causal mechanisms which produce those correlations are still obscure.



In a recent study, however, Kristen and Morgan (1989) found minimal differences between Protestants and Catholics on ideal family size. Working women have fewer children than those who do not work. Specifically, the more educated respondents considered children more important for strengthening the marital bond than for companionship and affection. Blacks are different from non-blacks on several values. On religion, Jews and those with no religious denomination were more likely to rate immortality as an important value. Catholics rated religious value as a more important reason for having children than others.

In sum, research on perceptions about benefits or values of children were consistent with the theoretical importance of this concept in studying fertility. Studies agreed that individual items used as indicators of the benefits of children are not equally important to respondents of different socio-economic backgrounds; however, trends of changing attitudes towards the value of children were found to be identical to trends in fertility behavior.

Costs of Children

The three concepts of costs, disvalues or disadvantages have been used somewhat interchangeably. They all suggest a negative dimension in the fertility decision. Direct costs and opportunity costs or indirect costs are mentioned most frequently.



Leibenstein (1957) referred to direct costs as the conventional or current expenses to maintain the child, such as feeding or clothing. He referred to indirect costs as the opportunities foregone due to the existence of an additional child. Examples of these include the inability to work because of time allocated to rearing children, lost earnings during the gestation period, or even the decreasing mobility of parents. These definitions were later adopted by several scholars in the area.

Easterlin added to this the cost of fertility regulation, both psychic and objective costs. The concept negative value replaces the concept of cost in the psychological literature. This primarily refers to direct expenses and the presence of alternative sources of satisfactions to having children (Hoffman and Hoffman 1973, Hoffman 1978). Those alternatives are comparable to opportunity costs found in the economic literature.

Direct Costs

Espenshade and Calhoun (1986) reported that dollar costs of expenditures for children vary with income level of the parent. However, he mentioned that the percentage breakdown of family finances among families with the same number of children remains very similar across socioeconomic status. Among families with one child, 30% of total family finances go for child expenditures. The percentage goes up to 40-45% for two children families and



50% for three children families. Evident here is the concept of economies of scale repeatedly mentioned by Espenshade. Included in what he calls direct maintenance costs are items of food, housing, transportation, clothing, and medical care (Espenshade, 1988). The 1980 figures for total costs of children from birth to 18 years amounted to \$85,000 per child for the moderate income families in urban areas with 33.9% going to housing, 24.6% to food, 16.5% to transportation, 7.8% to clothing, 5.1% to medical care, 1.4% to education and 10.6% to "all other" expenses.

Opportunity Costs

Opportunity cost is defined by Espenshade as the value of the lost work time that mothers experience if they reduce their labor force participation to bear and rear a child. It was beleived that women's employment provides an alternative satisfaction which decreases perceived advantages from children (Hoffman, 1978). Considering both the number of hours lost and the dollar value per hour, Espenshade was also able to generate some interesting inferences. The opportunity cost associated with staying home to raise children depends on the educational level. Figures in 1980 varied from \$93,000 for least well educated to \$189,000 for those with post graduate education. Calhoun & Espenshade (1988) found that opportunity expenses on children are related to race, number of births and number of years following birth. Forgone earnings are approximately five times greater for white than for black



women from age 15 to 55. Figures estimated are \$24,000 for white compared with \$5,000 for black women. This is primarily due to the proportion of forgone hours of market work, which are two to three times more for white women. Opportunity costs are roughly proportional to number of births for women with similar background and experience. Labor supply reductions immediately following birth have the greatest impact on opportunity costs. On this issue, Robinson (1987) found that the difference in time spent by working and non-working wives on child care are modest except for the first year of life.

McGrath (1988) found that wives' expected opportunity cost of additional children decreases the probability that families desire additional children. He also found that families with younger wives are more affected by increased opportunity cost. A third finding is that the decision to remain childless is positively influenced by the wife's potential earnings.

Other costs or barriers to fertility include employment plans and concerns with over population. Thomson (1984) found that employment plans are strongly related to parental leave costs and that plans for a second child directly affect plans for full time employment but this becomes no longer true for the third child. Callan (1983) found that among factors affecting voluntary childlessness are coming from smaller families and concerns with over-population.



Other Influences on Fertility

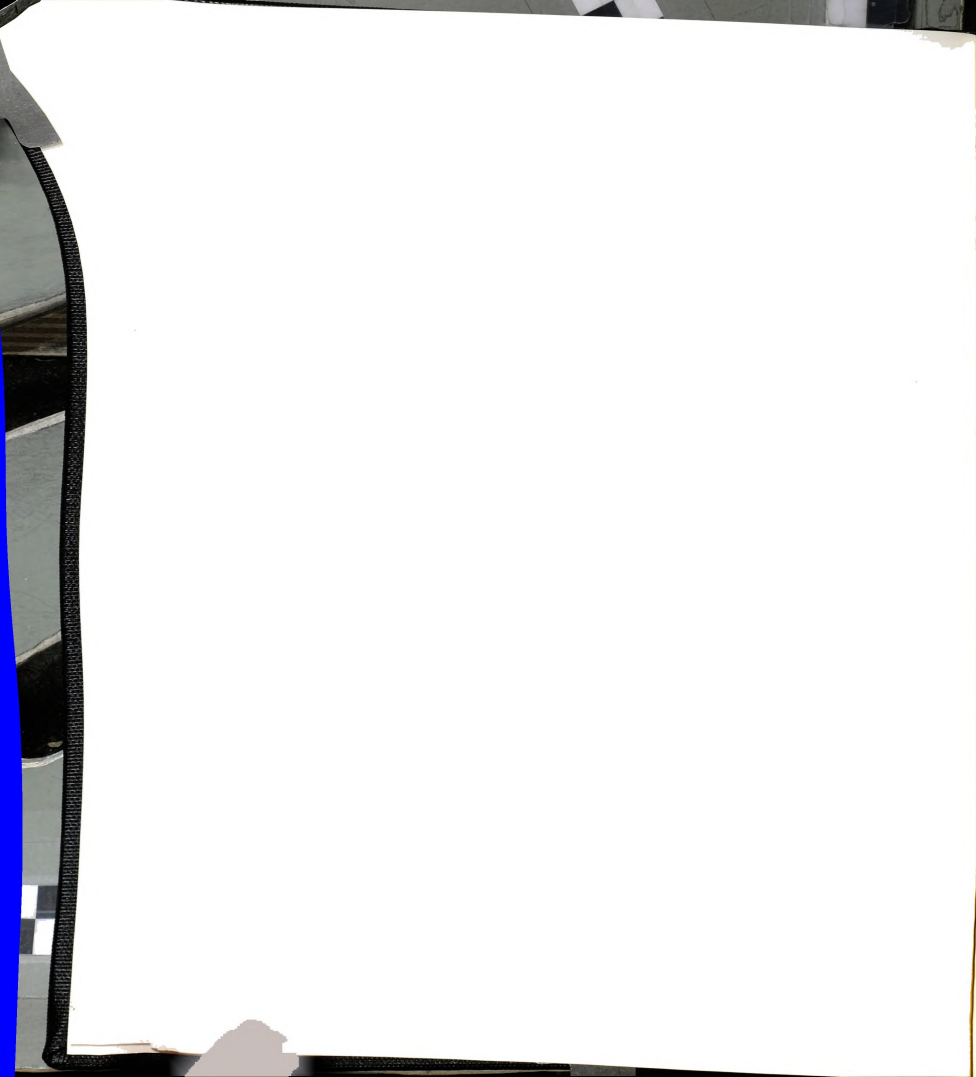
Impact of existing family size and cultural norms

In a longitudinal study of young married couples, Beckman & Haiser (1979) found that motivation to have children varied systematically over time. The change was influenced by attainment of fertility norms and the impact of a birth. Among those who experienced a birth between time one and time two, couples who already had a child showed a much greater drop in motivation for a future child prior to time one than did initially childless couples. Hofferth (1983) also reported that consequences of each additional birth vary depending on initial family size.

A similar argument was presented by Bulatao (1981). He found that different values and disvalues for families at various stages of the life cycle suggest a multistage model of family formation, with perceptions of successive children linked to periods in family development. Those findings are related to the framework developed from social exchange theory that suggest a multicausal process in the fertility decision (Bagozzi and Van Loo, 1980).

Socio-economic factors and Ethnicity

In a study by Vliet (1979) a larger percentage of nonwhite wives indicated they would not have children again, as compared to white wives. Middle income families seemed to feel less satisfied with children than those with



low or high income.

Gender Roles

Callan (1985) compared mothers of one child by choice with mothers wanting a second birth. He found that the first group had significantly lower levels of religiosity and feminine sex-typed role. This issue of sex typed role and egalitarianism falls under the umbrella issue of family power. Beckman (1984) found that power in fertility decisions varies depending on the cultural setting and status of women. She found that the more egalitarian roles are, the more social influence a wife has vis a vis the husband in such decisions. Her findings indicated that when spouses disagree about fertility, wives will be less likely than husbands to desire another child in the short run. Another of Beckman's findings is that wives have usually more or equal influence than husbands over fertility outcomes in more egalitarian families. Vliet (1979) found that agreement between husbands and wives regarding their feelings about having children again significantly correlates with satisfaction in the domain of children and family life. Houseknecht (1982) also reported in her study of voluntary childlessness in the 1980s, that while the trend increased relatively little from 1960 to 1978, it has significantly increased in the 1980s, particularly due to egalitarianism within marriage.

Callan (1985) also mentioned a number of other variables including:



1. Availability of child care assistance.
2. Attitudes toward employment
3. Boredom
4. Competence and feelings of personal fulfillment.
5. Perceived impact of children on marriage.

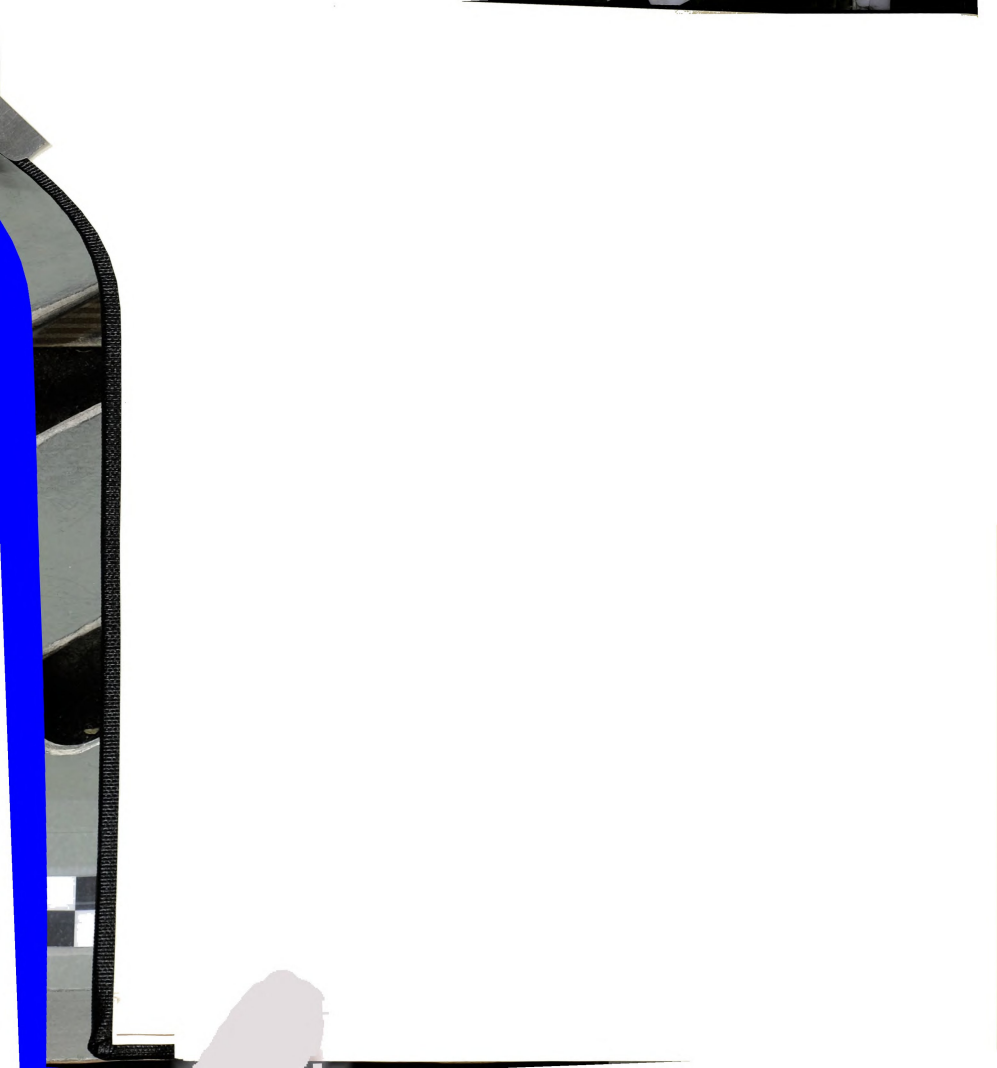
This last point was also mentioned by Kapor (1981) and later by Beaujot (1986). Beaujot found a positive relationship between marital satisfaction and the desire for children especially for persons (male or female) having one or no child.

Cultural norms: Ideal number of children

It is agreed that parents' views on the ideal number of children is a valid indicator of prevalent family size cultural norms, and that the ideal family size is one of the factors influencing fertility behavior (Trent, 1980). Kristen and Morgan (1989) found that the overall mean of ideal size in the U.S. is 2.24 children. The two children ideal is a preference by the majority and three children comes second in preference. Never married people most often preferred extremes in family size, that is more than four or childless.

Family size and quality per child

The "dilution model" developed by Becker on the quality of children was supported by Blake (1981). She found that the more children per family the lower the quality per child based on measures of intelligence, educational attainment among adults and college plans among youngsters. This finding may indicate a negative



correlation between the quality of children desired by parents and their desired family size. However, no literature was found on this correlation.

Summary and Impact of the Literature on this Study

The literature reviewed implies that the problem of fertility behavior is of interest to researchers from many disciplines. A number of variables have been suggested as important determinants of fertility behavior.

In general, all of the studies reviewed have the common base of individuals comparing the value, benefits and rewards of having children with the costs of having children. However slight differences in their assumptions can be noted. Economists emphasize direct and indirect costs, psychologists focus on internal needs fulfillment, and sociologists and social exchange theorists are concerned with the influence of cultural norms, social stratification and roles on fertility. All of these factors work as constraints or facilitators in the decision making process. However, the person's perceived individual readiness to have children was not found as a variable in any of the literature reviewed. This variable can be seen as the most immediate or direct influences on a person's decision to have additional children and is examined in the present research. Individual readiness, in turn, is likely to depend on the respondent's family environment and immediate community resources or near environment. In



addition a number of demographic and socioeconomic factors are likely to have a direct effect on desired family size, and an indirect effect on fertility through the two variables of values and costs of children. The next chapter describes the inductive method used to derive concepts of resources related to parenting readiness.



CHAPTER III

INDUCTIVE METHODOLOGY AND THEORY BUILDING

This chapter will focus on the inductive methodology and conceptualization that were employed in an attempt to develop a middle-range grounded theory of fertility. In grounded theory, the researcher should try to approach the research question without taking a preconceived position on what the findings will be. Selecting a new sample and analysing original data are often recommended for this approach to theory construction. Concepts, propositions and hypotheses for theory building should emerge in the course of the research (Glaser and Strauss, 1967). The grounded theory belongs to the inductive phase of the research cycle, as opposed to the deductive phase in which the researcher starts the investigation with hypotheses based on earlier studies. This chapter will first present the conceptual definition of parenting readiness. The purpose of the inductive phase of this study is to identify factors that are likely to influence present parenting readiness . The inductive methods followed will be discussed next. Thirdly, the derived concepts will be defined.

Parenting Readiness

In this study, "parenting readiness" is one of the two key dependent variables. Whereas desired family size



was only used in the deductive phase of this study, parenting readiness was used in both the inductive and deductive phases. It was assumed that perceived present parenting readiness is a determinant of whether or not an individual decides to have more children in the near future. In this study, parenting readiness is the subjective evaluation by respondents of how prepared they are for parenthood. Presumably, their evaluation is based on the resources available to them in their family and community.

Inductive Methods

Appropriate questions were developed based on the principle of actor-guided contextualization. The two primary questions used for developing the concepts to be used in the deductive phase of this study were:

Q1."What would be for you the best possible conditions for being a parent? Imagine your future in the best possible light."

Q2."What would be for you the worst possible conditions for being a parent? Imagine your future in the worst possible light."

The questions were adapted from Kilpatrick and Cantril (1960). They used a "self-anchoring" scale to study the hopes and fears of people in different countries. In this study, the scale was visualized as a ladder bounded at the bottom by "worst possible conditions" and at the



top by "best possible conditions" to portray parenting readiness conditions. (see Appendix A)

The Sample

The inductive process started in Spring 1988. A convenience sample of 25 respondents who agreed to edit and give some feedback on the pre-test questionnaire were used for this part of the study.. Respondents were employees at Michigan State University who ranged in age from 24 to 37 years. Each subject was asked to respond to the two questions presented in the previous section.

Data Analysis

Preliminary analysis of the data involved checking for the incidence of best and worst parenting conditions reported by each respondent. The respective answers were then grouped into higher level concepts based on the logical and conceptual relationships between the conditions identified by the respondents. For example the response "having a supportive spouse and wanting children too" was combined with "being in a close relationship between members of the immediate family" to form the concept "family cohesion".

The categories of resources developed, based on the data, are indicated in Figure 5. The categories are listed in hierarchical order from the most abstract (resources), through an intermediate level (family or community resources) to a third level (family structure, cohesion,



health, finances, and community support and growth opportunities). The categories chosen fit the data, and are understood both by social scientists and persons knowledgeable in the area. These are important characteristics for generating grounded theories.

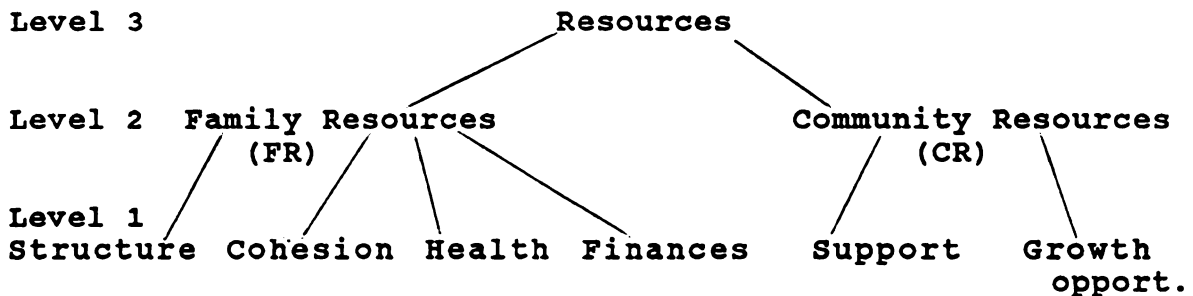
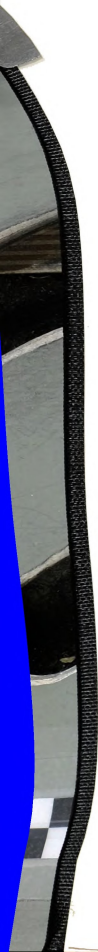


Figure 5. Concepts Arranged by Level of Abstraction

Development of Concepts

Resources

The data from the two open ended questions suggested that family resources and community resources are the two types of resources that respondents believe to directly affect the dependent variables "parenting readiness" and desired family size". Webster's nominal definition of resource is a source of supply or support: an available mean. Foa and Foa defined a resource as "any commodity, material or symbolic, which is transmitted through interpersonal behavior"(1973,p.36). In a simpler way, resources are "means for meeting demands" (Deacon and Firebaugh, 1988). All of these stated nominal definitions share a common notion and that is the availability of "something" to an individual or a group of individuals.



The uses and applications of the "resource" concept in social research are several, because of its high level of abstraction. For specific studies, lower-level concepts can be derived from the term "resource". For example, family and community resources are such lower level concepts. In this study, the nature of these resources was determined from the specific family resources identified. They were: a) family cohesion, b) family structure, c) health and d) family finances.

Family Resources

Family resources is a derived concept with an intermediary level of abstraction between the primary core concept of resources and the concrete level categories. It was identified by Kantor and Lehr (1975) as representing time, space and energy available to the family unit. The definition of "family" has been the subject of discussion for several years. Like the concept of "resources", definitions of "family" vary according to the theoretical orientation of the user. For this study, this term was always used in combination with a specific resource (e.g., family finances).

Family cohesion.

Family cohesion was defined by Bubolz (1988) as the degree of emotional bonding which members have toward one another and of individual autonomy that a person has in the family system. Family cohesion is a specific type of family resource. It was identified by the respondents as



a resource that contributed to determining the best time to become a parent. For example a respondent mentioned the "child's feeling and understanding of parents' love" when asked about the best possible parenting conditions.

Family structure.

In this study, family structure was defined by a family's composition in terms of individual members, and the stability of their relationships. This definition was based on the specific data collected in this study. A number of respondents reported "being in a stable marriage" as an indicator of the best possible parenting conditions.

Health.

Health is the third family resource concept at the concrete level. This is the condition of being sound in body, mind and spirit (Websters, 1986). Some other definitions include the state of social well-being as in the World Health Organization statement (Deacon and Firebaugh, 1988), and in the definition proposed by Steinmann (1984). In their answers respondents gave general statements to describe good health. Thus, it was not always clear if the respondents were referring strictly to physical health or if their definition also included psychological well-being as well. This is a limitation associated with using open-ended questions in data collection.

Family finances.

Family finances is another concept related to family resources. Although family resources contributing to the



family's economic well-being include human as well as material resources, the latter was the only aspect mentioned by the respondents, probably because it is the more tangible of the two resources. For example, financial security was one of the most frequently mentioned positive resources for being parents.

Community Resources

From an ecological perspective, the family exists in the context of a broader environment. Based on responses to the open-ended questions, this broader environment was categorized as the "community". When asked about the best possible parenting conditions, respondents mentioned such things as the extended family, friends, neighbors and the local church. Responses were grouped into two categories: a) the support system, represented by the presence of extended family, friends, local church, and neighborhood, and b) growth opportunities, represented by a safe environment and the adequacy of the educational system.

Summary

This chapter described the methodology used in the inductive phase of this study and the inductively grounded concepts obtained from two open ended questions during the pilot study. The theoretical framework and hypotheses developed from this inductive phase of the study will be presented in the following chapter.



CHAPTER IV

DEDUCTIVE METHODOLOGY THEORETICAL FRAMEWORKS AND HYPOTHESES

Chapter III described steps used in the inductive methodology. This chapter includes a description of the research design followed in the deductive process; then, concepts related to previous research found in the literature will be defined for the current study. Operational definitions of the dependent, intervening and independent variables will follow the conceptual definitions. A theoretical framework and a set of hypotheses for each of the dependent variables, desired family size and present parenting readiness, will be presented next in this chapter. Finally the sampling method, and the major statistical analyses adopted will be described.

Deductive Design

The concepts of resources that were developed in the inductive phase will be tested for their relationship with present parenting readiness in the deductive phase. A survey research design was employed. A self-administered questionnaire was developed and mailed to individuals 24 to 40 years of age who were selected in a systematic random sampling procedure that is described later in this chapter. Respondents were employees at Michigan State University. Data for this study were collected between August 1st and



September 10, 1988.

Conceptual Definitions

Desired family size

This concept is one of the two dependent variables, and is defined for this study as the respondent's desired number of children to have in a family.

Present parenting readiness

The second dependent variable was developed in the inductive phase of this study and defined in Chapter III as the time when an individual feels ready to be a parent.

Family and community resources

Family resources include family stability, cohesiveness, family finances, and family health conditions. Community resources include the social support and growth opportunities to families provided by their community. These concepts were developed in the inductive phase and were described in Chapter III.

Benefits of Children

For this study the benefits of having or rearing children include the social, psychological, and economic rewards brought to the nuclear families. These have been grouped to form common reasons for wanting a child. This concept was adapted from Hoffman and Hoffman (1973) who defined the value of children (VOC) as the functions they



serve for parents, or the needs they fulfill.

Costs of Children

The costs of children include economic, social and psychic constraints that would limit the addition of children to a family. This definition is a synthesis of several other definitions presented in the review of literature.

Demographic and socio-economic variables

Demographic variables in this study consist of respondent's age, gender, marital status, current number of children and religious affiliation. Socio-economic variables in this study are indicators of the respondent's education level, family income, and employed hours per week.

Operational Definitions

Dependent Variables

The two dependent variables used were the desired number of children, and the perceived present parenting readiness. To assess desired family size subjects were asked to respond to the following question:

To you personally, what would be the desired family size?

Subjects indicated their response on a four-level scale with responses ranging from zero to three children or more.



Present perceived parenting readiness is the other dependent variable and was measured using a self anchoring scale with scores ranging from 1 as "worst conditions to be a parent" to 5 as "best conditions to be a parent". This is a continuous variable that was treated as an interval level measure.

Independent variables

Parenting Resources.

Family resources included the presence of a stable relationship with a partner, cohesiveness between family members, health and economics. Community resources included support systems and growth opportunities. Each concept was measured by a single item. The general statement that subjects were asked to respond to was:

A pilot study has revealed the following issues as relevant in determining the best and worst possible conditions **for being a parent**. Here are a set of scales for each group of items. On a scale of 1 (worst conditions) to 5 (best conditions), please rate yourself as to where you stand now on the following:

Note: Each of the following categories includes a variety of issues. An approximate summary score is needed for each.

Family stability was measured with the following item:

Being in a stable relationship (5)
Being single or in unstable relationship (1)

Your score from 1 to 5 is: _____

Family cohesiveness was measured with the following item:

Shared closeness, love, and responsibilities between family members, and partner equally wanting children(5)

Unclose, unloving members, no sharing of responsibilities, partner not really wanting to have



children (1)

Your score from 1 to 5 is:_____

Health was measured with the following item:

Good, mentally and physically fit for having/raising children. (5)

Poor, mentally or physically disabled for having/raising children. (1)

Your score from 1 to 5 is:_____

Family finances was measured with the following item:

Good with financial security, acceptable standards of living with enough material possessions or luxury items, job allowing time for self, family and entertainment.(5)

Poor or no financial security, therefore keeping job by necessity; not enough time for family and self. (1)

Your score from 1 to 5 is:_____

Community Resources.

Community resources were measured using the following items for social support and for growth opportunities:

Support system: Good, extended family, friends, local church, good neighborhood. (5)
 Poor, none of the above available (1)

Your score between 1 and 5 is:_____

Growth opportunities: good educational opportunities and safe environment (5)
 Poor educational opportunity and not very safe environment (1)

Your score between 1 and 5 is:_____

100
100
100

Benefits of Children.

A Likert type scale was used to measure the relative importance of a selected number of reasons for having children. The scale was adapted from Hoffman (1978) and modified after the pilot study. The scale included a set of 23 possible reasons for wanting a child. Respondents were asked to indicate the relative importance of each reason for them on a three-point scale: 1) not important, 2) somewhat important, and 3) very important.

An answer of "not applicable" was possible in case the respondent found an item not applicable to him/her. These items were treated as missing and scored as zero for purposes of analyses. Given the small number of subjects who used this option, use of this category had little effect on scores for this variable. However in retrospect, it is clear that it would have been preferable not to include this response category in the questionnaire, or alternatively to use a mean substitution for missing items in the analysis. A reliability test on the scale was conducted and resulted in a coefficient alpha of .88. The results of the reliability analysis indicated that it would be appropriate to include all of the items in one scale rather than create subscales for groups of items.

Costs of Children.

The same Likert type scale that was employed on the variable benefits of children, was used to measure the



total perceived costs of children (Appendix, Question 5). The answer of "not applicable" was also possible for this measure. For purposes of analyses, this response was treated as missing and scored as zero. Given the infrequent use of this response, the missing items had little effect on the total score any subject received for this measure. A reliability coefficient of .82 was obtained with a mean inter-item correlation of .32 . The results of the reliability tests again favored the grouping of items into a total score for the scale rather than creating subscales. For the purpose of this study, this variable was treated as an interval level measure.

Demographic and Socio-economic variables.

As represented in the theoretical models (Figures 6 and 7), major demographic and socio-economic background variables considered as independent variables include marital status, (Appendix p.1, quest. 1), respondent's gender , age, number of children,(Appendix, p.2, quest. 3), religiosity, (Appendix pp. 12-13, quest. 34-36), education level, (Appendix p. 11, quest. 27), employed work hours per week, (Appendix p. 11, quest.28) and income, (Appendix p. 11, quest. 30). Marital status, parenting experience and employment status were transformed after data collection into dummy variables for purposes of analyses.

The measure of marital status was recorded as a dummy variable with a score of (1) for people who were in their first marriage, were remarried, or were cohabiting. A score



of (0) was assigned to people whose answers were none of the above mentioned ones. Gender was also considered a dummy variable with (1) for females and (0) for male respondents. Parenting experience was coded as 0 for those with no experience of having or rearing children and as 1 for those who had any kind of parenting experience.

Another transformation was made on the education level variable. The measure was transformed from education levels (e.g. high school graduates) to years of education (e.g. 12 years). The degree of religiosity was assessed using the measure indicating the frequency of attending religious services. The response categories were a) Not at all, b) a few times per year, and c) two or three times per month. For the purpose of analyses, the religiosity variable was treated as interval level measure.

Hypotheses and Theoretical Frameworks

The theoretical model for desired family size is presented in Figure 6. The theoretical model for present parenting readiness is presented in Figure 7. The specific hypotheses for each dependent variable will be presented before each of the models respectively.

Hypotheses related to desired family size

H1 - Being married is positively related to current number of children, which is, in turn, positively related to desired family size.



H2 - Married respondents are likely to score higher than nonmarried respondents on a measure of the perceived benefits of children. The measure of perceived benefits is positively related to desired family size.

H3 - Married respondents are likely to score higher than nonmarried respondents on a measure of total family income. Family income level is positively related to desired family size.

H4 - There is an indirect relationship between gender and desired family size mediated by the perceived costs of children. Female respondents are likely to perceive greater costs associated with children than male respondents. The perceived cost of children is inversely related to desired family size.

H5 - Respondent's age is negatively related to the desired family size. For individuals in their 30s rather than 20s, career goals are more likely to take priority over other goals. Having children may interfere with their career. Therefore they tend to desire fewer children.

H6 - There is an indirect effect of educational attainment on desired family size mediated by the perceived costs of children. More educated individuals tend to perceive greater opportunity costs associated with children and therefore desire fewer children.

H7 - There is a direct negative effect of the number of paid work hours on the desired family size. The more time that is invested in employed work the less time there is

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available for family production activities including childbearing.

H8 - Religiosity is negatively related to the perceived cost of children.

H9- Perceived cost of children is negatively related to desired family size.

INDEPENDENT VARIABLES	INTERVENING VARIABLES	DEPENDENT VARIABLE
Marital Status	Current No. Children	Desired Family Size
Gender	Perceived Costs	
Age	Perceived Benefits	
Education	Income	
Employed Hours/wk		
Degree of Religiosity		

Figure 6 : Theoretical Framework with Desired Family Size as Dependent Variable.

Hypotheses related to present parenting readiness

H10 - Married respondents are more likely than nonmarried respondents to indicate more readiness for parenting. The



effect of marital status on parenting readiness is indirect, via family cohesiveness, family income and perceived benefits .

H11 - Female respondents are likely to perceive greater costs associated with having children which is, in turn, negatively related to present parenting readiness.

H12 - The effect of age on present parenting readiness is mediated through the current number of children. Older respondents are likely to have more children, on average. Respondents with more children are likely to have lower scores on a measure of present parenting readiness.

H13 - Family cohesiveness is indirectly related to present parenting readiness. Family cohesiveness influences perceived benefits of children which in turn influences present parenting readiness.

H14 - Perceptions of good health are positively related to present parenting readiness.

H15 - The effect of education on present parenting readiness is mediated through income and financial security. Highly educated respondents are more likely to be financially secure than less educated respondents. Financial security is positively related to present parenting readiness. Although a strong positive correlation is expected between family income and perceived financial security, it is the perception of financial security that is hypothesized to be directly related to the respondent's present parenting readiness.



H16 - The presence of community support has a positive direct effect on present parenting readiness.

H17 - The presence of growth opportunities in the community has a positive indirect effect on present parenting readiness through its effect on perceived financial security. Respondents enjoying a growth stimulating environment are more likely to score high on the measure used for financial security. Financial security has a direct positive influence on present parenting readiness.

INDEPENDENT VARIABLES	INTERVENING VARIABLES	DEPENDENT VARIABLE
Marital Status	Current No. Children	Present Parenting Readiness
Gender	Perceived Costs	
Age	Perceived Benefits	
Education	Community Support	
Growth Opportunities	Income	
Family Cohesiveness	Family Finances	
	Health	

Figure 7 : Theoretical Framework with Present Parenting Readiness as Dependent Variable.



The Sample

Three hundred respondents were selected, using a systematic random sampling procedure. Names were obtained from lists of employees compiled by department from Michigan State University. Employees between the ages of 24 and 40 were identified for this study. Fifty-five percent of the respondents completed and returned the questionnaire within the required period of three weeks. The sample size consisted of 166 cases. The characteristics of the sample are described in the next chapter.

Data Analyses

Correlational analyses were used to test the hypotheses presented in this chapter. As an initial step, the zero-order correlations among the variables of interest were computed. This provided information on whether or not the relations between the independent and dependent variables were in the expected direction (i.e., positive or negative). It also provided an opportunity to detect possible problems of collinearity among the independent variables. Multiple regression analyses were used to determine which of the independent variables contributed uniquely to each of the dependent variables, and to determine the percentage of variance accounted for by each of the models. Path analysis was used to test hypotheses regarding direct and indirect effects of the independent variables on the outcome variables.



CHAPTER V

RESULTS

The results of statistical analyses are summarized in this chapter and are discussed in light of the hypotheses presented in chapter IV. First a description of the sample will be presented. This will be followed by the results from the correlational analyses. Findings from the multiple regression analysis will be presented next. Finally the results of the path analyses will be presented and the degree to which the data are consistent with the conceptual models guiding the research will be discussed. The direct, indirect and total effects of the independent variables on the outcome variables will be presented toward the end of this chapter.

Description of the sample

The respondents in this study were categorized according to several demographic and socio-economic characteristics. Specifically, respondents were asked about their age, gender, marital status, parenting experience, number of children they have, education level, type of employment, paid work hours per week, family income, ethnic background, and their area of residence. Frequency distributions were computed for each of these variables, and the results of these analyses are summarized below.



Table 1. Means and Standard Deviations for Continuous Variables: Age, Number of Children, Years of education, paid work hours per week.

Variable	Mean	Standard Deviation
Age	34.5	13.4
No. children	1.0	.3
Education	12.6	11.6
Work hours/wk	43.1	12.4

Table 2. Percentages for categorical Variables: Gender, Marital Status, Parenting Experience, Employment, Ethnicity, Religious affiliation.

Variable	Percentage
Females	69%
Males	31%
Married	63%
Non-married	36%
Parents	54%
Non-parents	46%
White Collars	63%
Blue Collars	35%
White Descents	89%
Other ethnicity*	11%
Protestants	46%
Catholic	23%
Non-affiliated	17%
Urban residents	75%
Rural/farm residents	25%

Note: N = 166

* 6% African Americans, 3% Asians, 2% Spanish descents

Table 1

Variable

Age

Sex

Education

Work

Table

Table

Table

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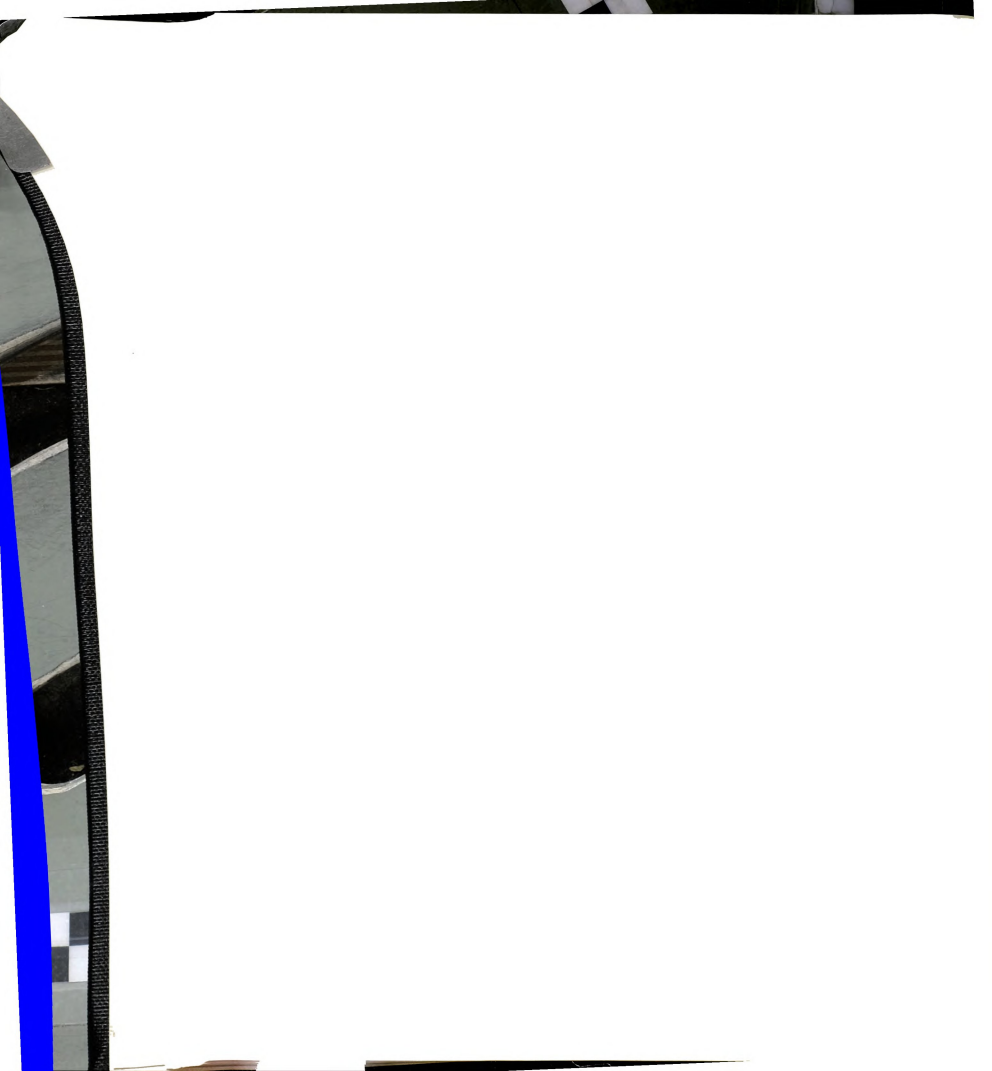
Table

Table 1 and 2 summarize the descriptive statistics on the sample. Several of the variables used to describe the sample were categorical variables. Some of these (e.g., marital status, parenting experience and employment) were recorded to include only two categories as was explained in the previous chapter. Continuous variables included the age of respondents, the current number of children they have, years of education, and paid work hours per week. Total family income and frequency of attending religious services (religiosity), were assessed using interval and ordinal level variables.

As shown in Table 1, the mean age of the respondents was 34.5 with a range from 24 years to 40 years. The typical respondent had one child, but the number of children in the family ranged from 0 to 3. The average level of education was 18.8 years, but there was considerable diversity in the educational levels of the respondents.

Most of the respondents were white, female and married. The majority of the subjects were employed in white collar positions and worked full-time. The median income category for the sample was in the range of \$26,000 to \$45,000. Thirty one percent of the sample had less than \$26,000 and 34% had more than \$45,000 in total family income.

In terms of religiosity, 58% of the sample did not attend religious services at all. Twenty-five percent attended them a few times per year, and 18% participated in



religious services two to three times a month.

Fifty-one percent of the sample lived in an urban area with over 50,000 residents. Another 24% lived in a city with 10,000 to 50,000 residents; sixteen percent lived in areas with less than 10,000 residents and 8% lived on a farm.

Correlational analyses

In Chapter IV the hypotheses guiding this research were presented for each of the dependent variables, desired family size and present parenting readiness. As a preliminary test of these hypotheses, the correlations between the independent variables and the dependent variables were computed. The results of these analyses are presented in Table 3. Consistent with the hypotheses outlined in the previous chapter, perceived benefits of children is negatively related to desired family size. Contrary to expectations, level of income is not significantly related to desired family size. Similarly, the correlation between age and desired family size is in the expected direction but did not reach statistical significance.

As expected, high scores on family cohesiveness, family finances and family health are predictive of present parenting readiness. In addition, perceptions of community support and growth opportunities in the community are positively related to present parenting readiness. Married

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10-10-10

respondents and respondents with higher levels of incomes also indicated greater readiness for parenting than single respondents and less affluent respondents.

Desired Family Size: A Preliminary Test of the Model

In the previous chapter, a conceptual model describing the relations among the variables of interest was also presented for each of the outcomes. As indicated in the model and the hypotheses, some of the independent variables are presumed to have a direct effect on the outcome while others presumably have an indirect effect. To examine the extent to which the data are consistent with those expectations, the model for desired family size is presented in Figure 8 with the zero-order correlations presented on the paths. Of particular interest is the extent to which the exogenous variables are correlated with the mediating variables.

Consistent with the model, married respondents tended to perceive greater benefits from having children than single respondents. As expected, married respondents also had more children than single respondents. The relation between religiosity and perceived costs of children conformed to expectations as well, with high levels of religiosity being negatively related to the perceived costs of children. Females perceived greater cost associated with children than males, but the relation was modest in magnitude.

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Table 3. Intercorrelations between independent and dependent variables.

Independent Variables	Dependent Variables	
	Desired family size	Present parenting readiness
No. of children	.26**	.20**
Marital status	.10	.48**
Gender	-.03	-.08
Age	-.12	.04
Education	-.14*	-.17*
Work hrs/wk	-.18**	-.09
Income	.12	.34**
Religiosity	.20**	.08
Percieved benefits	.35**	.37**
Perceived costs	.39**	-.06
Resource variables		
Family cohesiveness	.14*	.45**
Family finances	-.08	.43**
Family health	.16*	.34**
Community support	.10	.24**
Growth opportunity	.05	.26**

* and ** indicate significance at $P < .05$ and $P < .01$, respectively.

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As indicated in hypothesis 6, it was expected that respondents with higher levels of education would perceive greater costs associated with having children. Contrary to expectations, education was negatively correlated with perceived costs of children, but the correlation was not statistically significant.

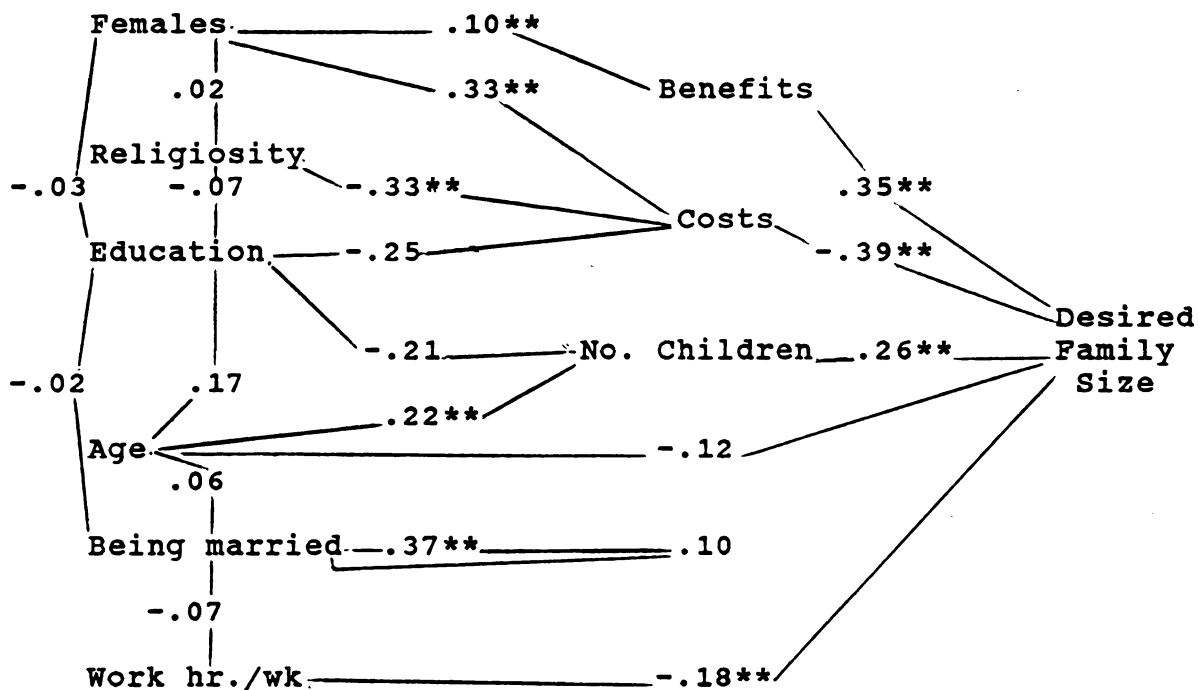


Figure 8: Pearson Correlations with Dependent Variable Desired Family Size. Note: * $p < .05$ ** $p < .01$

Present Parenting Readiness: Preliminary Test of the Model

Figure 9 is a summary of the correlational analyses for present parenting readiness, with zero-order correlations presented on the paths. As indicated in the theoretical model and hypotheses, a number of exogenous variables are presumed to have an indirect effect on present parenting

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variables. Figure 9 is a visual representation of these indirect relationships in addition to the direct relationships that were the focus of discussion in an earlier section.

As expected, married respondents scored higher on the item measuring family cohesiveness than non-married respondents. The positive correlation between being married and family cohesiveness is explained by the fact that the item measuring cohesiveness requires the interaction of at least two family members. Therefore married individuals are likely to score higher than non-married individuals on cohesiveness.

Consistent with past research married respondents tended to report higher family income than the non-married respondents. This is also consistent with the model.

Education is hypothesized to have an indirect effect on present parenting readiness. As indicated in hypothesis 15, the effect of education is presumably mediated through family income. However, the correlation between education and income is small and insignificant ($r = .07$).

As indicated in hypothesis 11, respondent gender was found to be significantly correlated with perceived costs. This positive correlation was associated with being a female. Then hypothesis 11 is accepted.

Consistent with hypothesis 12, older individuals tend to have more children ($r = .23^{**}$). Similarly, the significant correlation between community support and parenting



readiness is consistent with hypothesis 16. In hypothesis 17, a positive correlation between growth opportunities and family financial security was predicted. The data are consistent with the hypothesis.

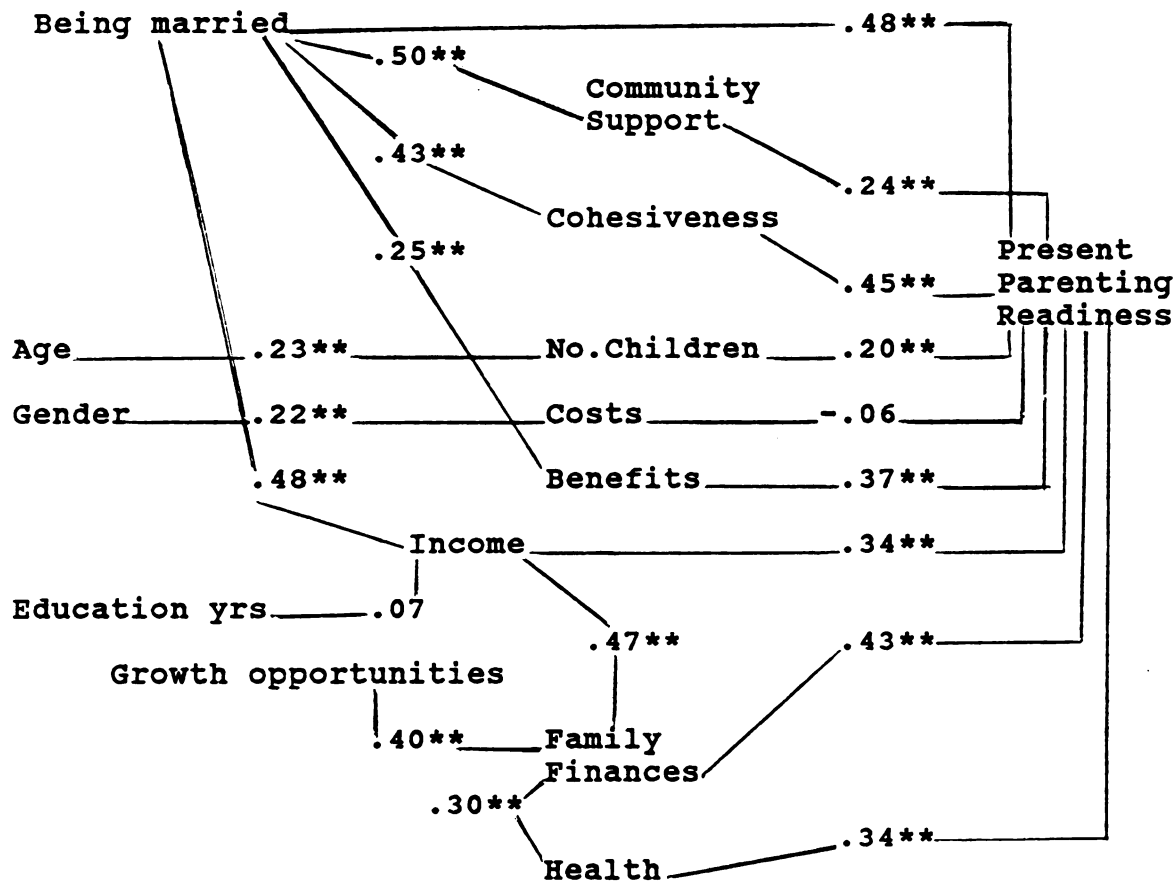


Figure 9: Pearson Correlations with Dependent Variable Present Parenting Readiness. Note: ** $p < .05$

Multiple Regression

The zero-order correlations presented in Table 3 and Figures 8 and 9 indicate that most of the independent variables are related to the two dependent variables, desired family size and present parenting readiness, in ways that are consistent with the hypotheses presented in



Chapter IV. Given that many of the independent variables are correlated with each other, as well as with the outcome measures, multiple regression analysis was used to determine which of the independent variables contributed uniquely to each of the outcomes. Multiple regression analysis was also used to determine the percentage of variance accounted for by each of the models. The methods of entry for each variable was stepwise selection. All independent variables that were hypothesized to have direct or indirect effect on the outcome variables were eligible for entry into the final equation.

The results pertaining to desired family size are presented in Table 4. The percentage of variance accounted by each of the variables when entered alone (i.e., the coefficient of determination) is presented in the first column of Table 4. The percentage of variance accounted for by the model when each additional variable is added to the equation is presented in the second column. The standardized betas for all of the variables that entered the final equation are presented in column 3. The strongest predictor of desired family size was the perceived cost of children, followed by the perceived benefits of children. These two variables are followed by the background variables of the current number of children, age of respondent, and the hours employed each week respectively. Together, these five variables accounted for 35 percent of the variance in desired family size.

Table 4. Coefficients of determination for desired family size vs several independent variables.

Independent variables	Desired family size	
	Independent variables entered individually	Stepwise addition* of variables
	R^2	Adjusted R^2
Perceived costs	.16	.16
Benefits	.12	.28
No. Children	.06	.32
Age	.01	.34
Work hrs/wk	.03	.35

*. Variables added at $P < .05$.

Variables that did not meet the entry criteria:

Marital status
 Gender
 Education
 Paid work hrs/wk
 Religiosity
 Income

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Table 5. Coefficients of determination for present parenting readiness.

	Independent variables entered individually	Stepwise addition* of variables
Independent variables	R^2	Adjusted R^2
Marital status	.25	.26
Financial security	.18	.34
Benefits	.13	.39
Health	.02	.41
Support	.06	.43

*. Variables entered at $P < .05$.

Independent variables that did not meet the entry criteria:

Age
 Gender
 Education years
 Paid work hours/week
 Number of children
 Perceived costs
 Family cohesiveness
 Growth opportunity

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As shown in Table 5, five variables also contributed uniquely to predicting present parenting readiness. The strongest predictor of present parenting readiness was marital status. Married respondents indicated greater readiness than nonmarried respondents. The variable with the second largest standardized beta was perceived benefits of children (the third variable to enter). The other significant predictors of present parenting readiness were perceived financial security, community support and health. Together these five variables accounted for 43% of the variance in present parenting readiness.

Path Analysis

Multiple regression was used to determine which of the independent variables were directly related to each of the outcomes, when other factors were controlled. As indicated in the hypotheses, it was also believed that several of the independent variables would have an indirect effect on the outcomes of interest, via one or more mediating variables. Path analysis was used to test the hypotheses regarding direct and indirect effects on the two outcome variables. The results of these analyses are presented in Figure 10 for desired family size and Figure 11 for present parenting readiness. As a way of organizing the presentation of these results, the extent to which the data support or do not support each of the hypotheses will be considered.

Hypotheses regarding desired family size

At the end of Chapter IV, nine hypotheses relating to



desired family size were presented. The first hypothesis asserts that married respondents are likely to have more children, and that current number of children is positively related to desired family size. The results of path analyses are consistent with hypothesis 1 and thus hypothesis 1 is accepted.

The second hypothesis states that married respondents are likely to score higher than non-married respondents on a measure of perceived benefits of children; perceived benefits is, in turn, positively related to desired family size. Consistent with the second hypothesis, the perceived benefits measure has a direct effect on desired family size. However, contrary to expectations, marital status was not related to the perceived benefits measure.

The third hypothesis proposes that respondents who are married are likely to have higher incomes, and that income will be positively related to desired family size. Although married respondents tended to have higher levels of family income, level of income was unrelated to desired family size when other factors were controlled (see Table 4). Therefore, hypothesis 3 was not accepted and income is not represented in Figure 10.

As noted in the fourth hypothesis, female respondents were expected to perceive greater costs associated with having children, and the perceived costs of children is negatively related to desired family size. The findings in Figure 10 are consistent with these expectations and

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hypothesis 4 is accepted.

Hypothesis 5 posits that respondent's age is negatively related to desired family size. Consistent with the hypothesis, older respondents desired fewer children. Hypothesis H5 is accepted.

In the final hypothesis regarding desired family size, education is presumed to have an indirect effect on desired family size, via perceived cost of children. More highly educated individuals perceived greater costs associated with having children, and perceived costs of children were negatively related to desired family size. Hypothesis 6 is accepted. Thus, of the six hypotheses regarding indirect paths to desired family size, four were accepted. These were hypotheses 1, 4, 5, and 6. Figure 10 presents the various paths related to desired family size with beta values significant at .05 level.

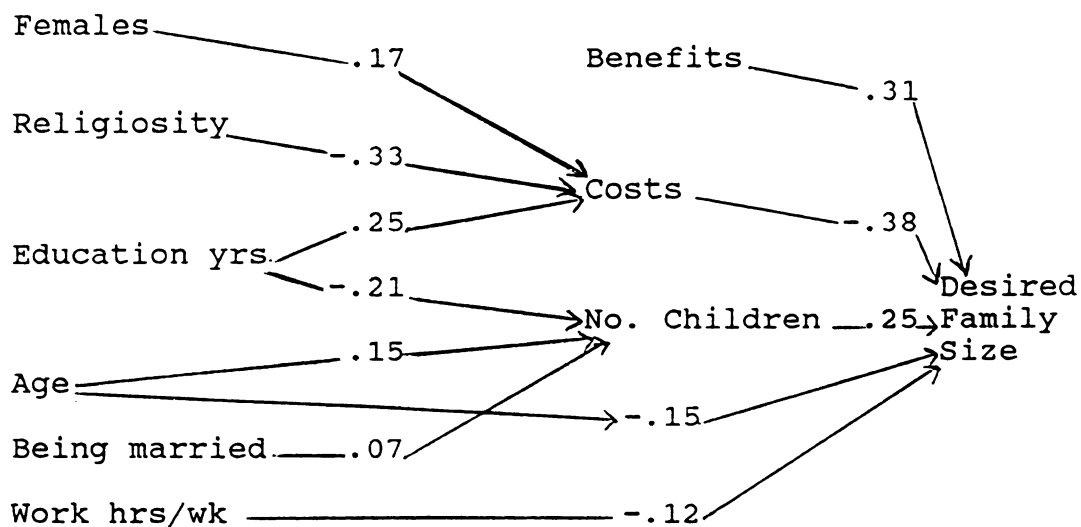


Figure 10: Path diagram with Dependent Variable
Desired Family Size. Note: R square = .35

Findings from the regression analyses were combined to calculate the direct, indirect and total effects of each independent variable in the model in relation to the dependent variable desired family size (Table 6). The total indirect effects were estimated by summing up the partial effects (products of the standardized beta coefficients along various paths linking an independent variable with the dependent variable). For example educational attainment works indirectly on the desired family size through perceived costs with a standardized beta coefficient $(-.09 = .25 \times -.38)$. Educational attainment also influences the dependent variable through the current number of children with a standardized coefficient $(-.04 = -.21 \times .25)$. The combined total effect of educational attainment on desired family size is $(-.13)$ (see Figure 9 and Table 6); this coefficient means that a standard deviation change in educational attainment is indirectly associated with a standard deviation change $(.13)$ in the desired family size. A similar reasoning can be followed to compute and understand the total effect of other variables in the model.

Path analyses also help us determine the extent of joint association or spuriousness that exists between two independent variables (Table 6). This could be determined by subtracting the total effect of an independent variable (column D) from the correlation R value (column A). The result of this subtraction is presented in the last column

result of this subtraction is presented in the last column of Table 6 and represents the magnitude of the joint or spurious association between that specific independent variable and other variables along the path. According to results from Table 6, none of these associations is more than 7%. This was expected because no significant correlation was detected among the independent variables in the model related to desired family size (Figure 8).

Table 6. Decomposition of Effects of Significant Predictors on Desired Family Size.

Variables	Total Assoc. A	Direct Effect B	Indirect Effect C	Total Effect D	Joint Effect A-D
Married	.10	-----	.07 (Thru No.Children)	.07	.03
Age	-.12	- .15	.04 (Thru No. Children)	-.11	-.01
Educ yrs	-.14	-----	- .09 (Thru Costs) -.04 (Thru No. Children)	-.13	-.05
Work hrs/wk	-.18	- .12	-----	-.12	-.06
Religiosity	.20	-----	.13	.13	.07
No.Children	.26	.25	-----	.25	.01
Costs	-.39	- .38	-----	-.38	-.01
Benefits	.35	.31	-----	.31	.04
Being female	-.03	-----	-.06 (Thru Costs)	.06	.03

Wheat
Corn
Rye
Clover
Lima
Soybeans

Hypotheses regarding present parenting readiness

The next set of hypotheses, 10 to 16, in Chapter IV was related to present parenting readiness. Results relevant to these hypotheses are presented in Figure 11. In hypothesis 10, parenting readiness was expected to be indirectly affected by marital status through family cohesiveness, financial security and perceived benefits. It was hypothesized that married respondents will be more likely to indicate readiness for parenting to the extent that marital status influences cohesiveness, financial security and perceived benefits of children. This hypothesis was accepted. However the path of marital status to family finances is mediated through family income. The path of marital status to perceived benefits is mediated through cohesiveness. Family cohesiveness was among the variables that were excluded from the regression model with present parenting readiness as dependent variable; therefore, family cohesiveness affects parenting readiness indirectly (Table 5).

Hypothesis H11 asserts that there is an indirect relationship between gender and present parenting readiness through perceived costs. This hypothesis was rejected since the perceived costs variable was not predictive of present parenting readiness in the regression analysis. (see Tables 3 and 5).

Hypothesis 12 stated that there is an indirect

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effect of age on present parenting readiness through the current number of children variable. This hypothesis, linking age to the outcome through number of children is rejected because the mediating factor (current number of children) did not contribute uniquely to present parenting readiness in the regression analyses.

As discussed earlier, hypothesis 13 is accepted regarding the indirect effect of family cohesiveness on present parenting readiness via perceived benefits.

Hypothesis 14 presented a positive direct effect of health on present parenting readiness. As presented earlier, the data from regression analyses is consistent with this hypothesis.

The indirect effect of educational attainment on present parenting readiness through income and family financial security was consistent with hypothesis 15. More educated individuals are more likely to earn higher income and hence, feel more financially secure than the less educated. This perception of financial security encourages parenting readiness. This hypothesis is accepted. The link from income to present parenting readiness is only indirect through family finances because income was not predictive of present parenting readiness in the regression analyses.

Hypothesis 16 indicated that community support has a direct positive effect on present parenting readiness. In the previous section on regression analysis, it was noted that findings were consistent with this hypothesis.

The positive indirect effect of growth opportunities in the community on present parenting readiness through family financial security was consistent with hypothesis 17.

Then, of the five hypotheses stating indirect effects of independent variables on present parenting readiness, three were accepted. These were hypotheses 10, 13, 15 and 17. Hypotheses 13 and 16 stated direct effects of health and community support on present parenting readiness, and were both accepted.

Figure 11 represents the paths related to present parenting readiness with beta values at .05 significance level. Only beta coefficients that were significant at .05 level are included. Table 7 gives details about the direct and indirect and total effects of each of the variables included in the model related to present parenting readiness. Table 7 also includes a column on the total association of each variable with the dependent variable (column A) and a column on the joint effect found between independent variables (column A-D).

Table 7 summarizes the results of path analyses associated with present parenting readiness. Marital status has the strongest effect on present parenting readiness with direct and indirect influences. In general figures under the joint effect column are larger than the ones in Table 6 under the same column. This may infer that some of the resources variables are associated with one another.



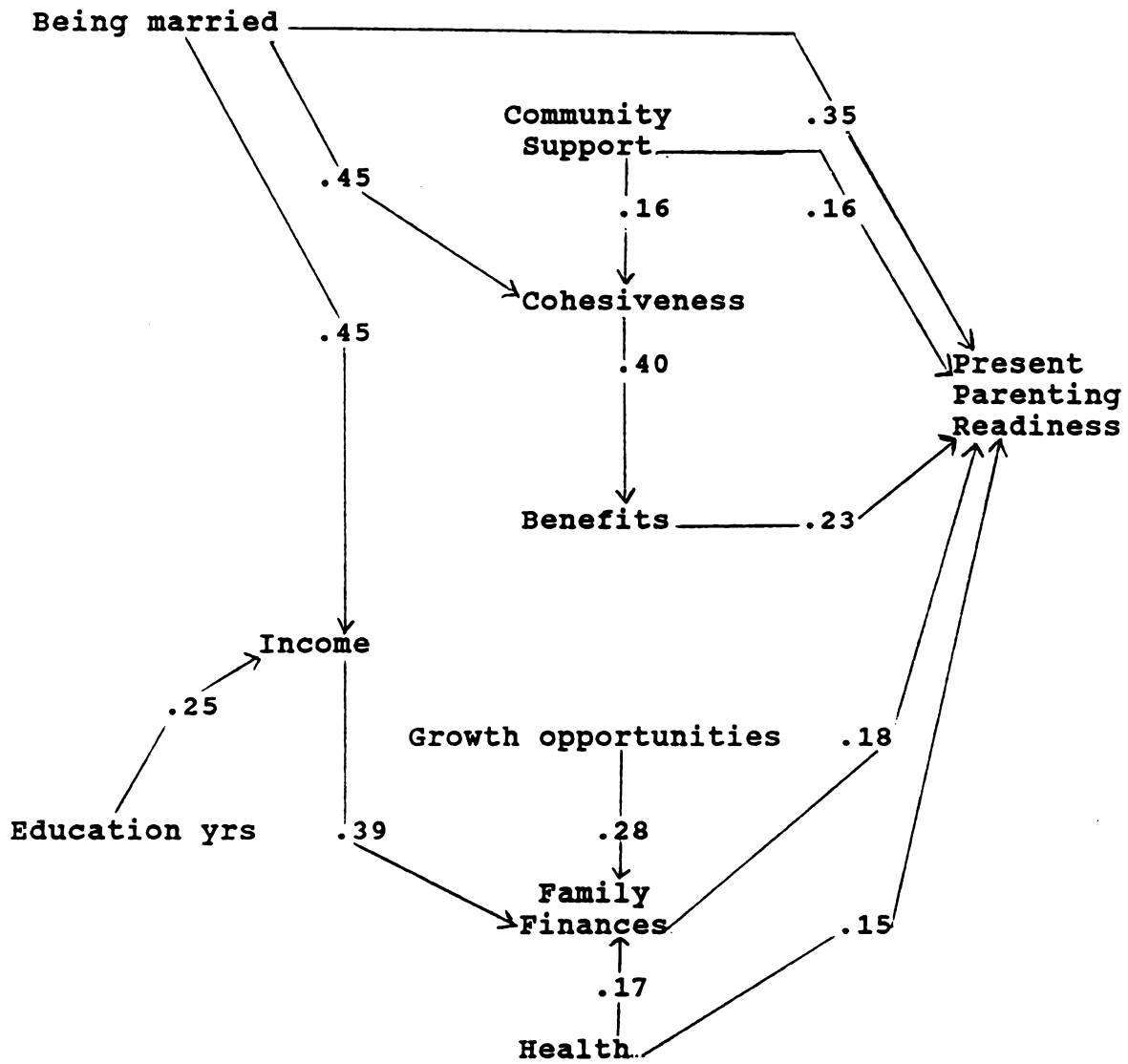


Figure 11: Path Diagram with Dependent variable Present Parenting Readiness. Note: R square = .43



Table 7. Decomposition of Effects of Significant Predictors on the Dependent Variable Present Parenting Readiness.

Variables	r	Direct Effect	Indirect Effect	Total Effect	Joint Effect
	A	B	C	D	A-D
Married		.35	.04 (Thru Cohesiveness)		
	.48		.05 (Thru Family Income)	.44	.04
Educ yrs	-.17	.12	.02 (Thru Family Income)	.14	.03
Benefits	.35	.23	-----	.23	.12
Income	.34	-----	.08 (Thru Family Finances)	.08	.26
Cohesiv	.45	-----	.09 (Thru Benefits)	.09	.36
Finances	.43	.18	-----	.18	.25
Health	.34	.15	-----	.15	.19
Community support	.24	.16	.02 (Thru Cohesiveness)	.18	.06

The results from path analysis supported results from the correlation and regression analyses and added the indirect and direct coefficients for the paths. The current number of children and perceived costs are major endogenous variables in the model related to desired family size but were excluded from the model related to present

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parenting readiness. These findings will be discussed further in the next chapter. In addition, the contribution of the findings from this study will be related to some of the literature discussed in Chapter II. The contribution of this study to the human ecology perspective will also be discussed in Chapter VI.

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CHAPTER VI

DISCUSSION

This chapter discusses the findings from this study in a more general format. It will discuss the findings in an integrated way in relation to the literature cited in Chapter II and in relation to the general purposes of the study. The general implications of this study for the ecological perspective will follow. Finally recommendations for further research will be discussed.

Impact of findings on the literature

Arnold and Fawcett (1976) and Hoffman et al. (1978) have argued that perceptions about the values or benefits of having children is a crucial variable in studying fertility patterns across cultures. Espenshade and Calhoun (1986) have argued that the direct and indirect costs of children are also important elements of the fertility decision. The data presented in this study are consistent with these arguments.

The path model for the desired family size was an attempt to predict future fertility patterns using some causal ordering assumptions based on previous research in the field. Exogenous variables were assumed to be those background variables that were found from previous studies to predict the more endogenous variables of benefits and



to predict the more endogenous variables of benefits and costs or the current number of children. For example gender, marital status, religiosity and educational attainment were assumed to be exogenous in their effect on the current number of children, perceived benefits and perceived costs.

Findings from the current study indicate that the perceived benefits of children is still an important predictor of desired family size. Unlike other studies, however, various demographic variables showed little relation to the measure of perceived benefits. This may be explained by the data reduction technique adopted in this study. In a number of studies by other researchers discussed earlier, the scale used to measure the value of children was divided into subscales. Then each of these subscales was found to be influenced by various background variables. The use of a total score on the scale of benefits of children was found more appropriate in this study. It may be the case that the total scale is not affected by the background variables in the same way the subscales are. Differences among samples may also account for differences among studies.

The findings also support Espenshade's contention that the costs of children are related to being a woman participating in the labor force. According to the findings from the path model (Figure 10), , females perceive greater costs of raising children than males do($\beta = .17$, $p < .05$).

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This was expected due to the nature of the sample; all respondents were employed. Reduced labor force participation due to the demands of childrearing, contributes to the greater perception of costs associated with childbearing among women than among men. Typically the labor force participation by men is less affected by the number of children at home. Years of education was also found to be a strong predictor of perceived costs of children. This finding is also consistent with Espenshade's research (Espenshade, 1988).

Religiosity also had an effect on the perceived costs of children. This finding is unique to this study. Previous research has noted the positive correlation between the degree of religiosity and indicators of fertility (Callan, 1985). The results of this study are consistent with those of Callan (1985) and of Hartman (1984) on the pro-natalistic influence of religiosity. However, this is the first study to show that the effect on religiosity on desired family size is mediated by the perceived costs of children. More religious persons tend to perceive fewer costs associated with children, increasing the probability that the respondent will desire a larger family.

This study also contributed to the literature by examining the influence of time invested in paid work on the desired family size. The more time invested in employed work, the smaller the desired family size. This finding also supports the human ecology perspective which views

individuals and families as open and adaptive systems (Kantor and Lehr, 1975). In fact, the work environment is very much related to family roles and especially to childbearing. Prospective parents receive indirect messages about the opportunity costs of having children from their employers' policies on absenteeism or policies of maternity leave. They respond to these messages by evaluating them in relation to their family plans and individual professional goals. Postponing family roles like marriage or childbearing is likely to be an adaptive strategy followed by ambivalent individuals.

The model related to present parenting readiness incorporated the concepts developed from the inductive research methodology (i.e., family and community resources). This study tested the relationship between these concepts and other variables in the model. Findings indicate that the kinds of resources suggested by respondents in the pilot study were indeed useful predictors of the outcome "present parenting readiness". Significant correlations were found between some background variables and the family and community resources variables. For example, married respondents scored higher on a measure of family cohesiveness than the non-married respondents.

Comparing the two path models, one major difference exists. The perceived costs of children and the current number of children are strongly related to the desired family size; yet they are unrelated to present parenting



readiness. The reason behind this major difference may be that the desired family size reflects future fertility expectations while present parenting readiness represents a more immediate fertility expectation. The number of children we have and the perception about how much they cost us may affect our general attitude regarding how large a family we should have when completed. These two elements do not seem as important when evaluating our readiness for being parents at the moment. This finding links two main referents of time (present and future) to the major family role of childbearing.

Implications for the human ecology perspective

The human ecology perspective guided this study. The findings have some implications for this perspective. These implications will be the subject of discussion in this section.

Ecological studies in decision-making must seek an interdisciplinary perspective by crossing the traditional academic boundaries. Therefore, this study started by acknowledging that the decision to have children is a complex problem, and that various disciplines may contribute for our understanding of fertility. This acknowledgment was followed by an intensive review of the literature on this problem from several disciplines. Having a background in hard sciences, I considered myself as an outsider to these readings in sociology, psychology, economics and anthropology. Therefore, this background

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facilitated the process of reviewing the literature from an unbiased perspective and integrate ideas from each discipline. The main purpose of this study was to improve the conceptual models developed by separate disciplines in order to develop an inter-disciplinary model that reflects better the complex problem of childbearing decisions.

The development of this research follows in the tradition advanced by the late Beatrice Paolucci, a pioneer in the field of human ecology. According to Paolucci, an ecological study is characterized by merging disciplines, recognizing that family resources are needed to solve family problems and that "things need not just happen in families: They can be decided" (Paolucci, in Hogan 1985).

The outcome of the current study links the concept of desired family size, commonly used by sociologists, to the concept of benefits or values of children used by psychologists, and to the concept of costs of children used by economists. Therefore, an inter-disciplinary perspective was used. In addition, this study interrelated a number of resources found important for parenting readiness. Therefore, it recognized the contribution of resources to the childbearing problem. In addition, a leading assumption in this study was that childbearing results from a conscious decision.

Time is a major element of the human ecosystem, and was recognized as such in this study. Two dimensions of time,

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the present and the future, were included in this study; desired family size, deals with future fertility expectations, and present parenting readiness, is concerned with present fertility expectations. Consequently the factors that are predictive of these respective outcomes may differ. These two outcome variables were represented in two separate path models in order to emphasize this difference.

This study can also be seen as an application of another human ecological concept, i.e. the construct of ratio thinking or the recycling ratio (Axinn & Axinn, 1987). Children can be seen as a transformed product of material and energy resources. The material resources were represented in the models for this study by income and financial security resources. The energy resources were represented by the time invested in employed work, with the assumption that the more time spent at work the more energy used. Therefore, family roles are affected by the opportunity cost of energy spent at work. The lower the recycling ratio (Axinn & Axinn, 1987), the lower the probability for prospective parents to transform their material and energy resources into having children. Children are not seen as important sources of resources for the family system.

Another contribution of this study to human ecology is the attempt to integrate theory, research and practice. The three spheres of theory, research and practical usage of

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knowledge are seen by human ecologists as elements of one whole system; any contribution to one element must be reflected in the other two. We discussed earlier the linkages between theory and research. The path models were developed with application in mind. For example, The individual decision maker as well as family counselors can use the path coefficients in the model and the tables in a subjective way. Distinguishing the interrelationships in the complex decision web, and realizing the influential factors in the decision process are two alternative usages at the practical level.

The integration of the two methodologies was also a reflection of the human ecological perspective in this study. The inductive method helped to uncover new dimensions related to the problem of fertility by analyzing answers to broad, open-ended questions. The deductive method tested the validity of these dimensions and their contribution to understanding a problem. Therefore the two methodologies are equally important and must be used in association with one another as was attempted by this research effort.

Recommendations for further research

Future research needs include the testing of the model for desired family size. Part of the questionnaire was restricted to individuals currently involved in the childbearing decision (Appendix pp 6-7 ques 8-14). It includes items about the type of decision made, if any, the

implicitness or explicitness of the decision between partners, the agreement between them, and the ranking of various factors in their importance to the decision. The model that evolved from this study will then be tested for its power to predict the type of decision made by this isolated sample. The study should be replicated test the generalizability of the model with other samples.

Further research is also intended to follow up on the inductive middle-range theory built around the concepts of parenting resources developed so far. Hypotheses related to present parenting readiness will be tested again and modified, using other measurement items for each indicator of parenting resources. Additional questions will evolve in the process of moving back again to induction. More questions will always arise as more answers are found.



CHAPTER VII

SUMMARY AND CONCLUSION

The present study was needed to develop a decision making model on fertility that could be used by prospective parents. In their decision to have children parents have to consider social, economic, psychological and health factors. Therefore, the decision process is very complex.

Various disciplines have studied this subject and a number of theoretical models have been developed to summarize the interrelationship between concepts used in each discipline. An attempt to create an integrated theoretical model was made by Robinson and Harbison (1980). They used concepts from various disciplines and combined them into one model. A weakness of that model was that some of its concepts were very broad and difficult to operationalize or to be used in practice. The purpose of this study was to create a multi-disciplinary model of fertility, that can be tested by research and used by prospective parents.

For this purpose, there was a need for integrating two research methodologies. The inductive method was used to develop concepts that summarize the basic resources needed to achieve parenting readiness, from the perspective of individuals studied. This method was a complement to the deductive methodology; the deductive research method was



used to test the relative importance of concepts developed in other disciplines, to the fertility decision.

The inductive phase of the study was conducted in Spring 1988. Respondents were asked open ended questions about best and worst conditions for being a parent. Answers were analyzed line by line and core concepts were created about resources needed for parenting readiness.

Resources of family cohesiveness, financial security, health status, and community support were then used in the follow up study which represents the deductive method. A deductive approach was used in the second phase of the study. Concepts developed in the inductive phase were operationalized and combined to other items in a survey questionnaire mailed to 300 employees at Michigan State University selected in a systematic random sampling method. Respondents were a hundred and sixty-six persons between the ages of 24 to 40 years.

Two sets of hypotheses were developed in relation to two dependent variables: desired family size and present parenting readiness. The first variable was assumed to represent future fertility patterns, while the second was assumed to represent the present. Two theoretical models were developed based on the hypotheses.

Hypotheses were tested using correlational analyses, regression, and path analyses. Correlational analyses were used to test the direction of relationships and the strength of associations between variables, where problems



of multicollinearity between independent variables could be detected. Multiple regression analyses were used to determine which of the independent variables are directly affecting the dependent variables and to determine the percentage of variance accounted for by each of the models. Path analysis was used to determine the magnitude of the direct, indirect and total effects of each variable and of the spurious or joint associations between variables.

Findings were in agreement with previous research on the importance of perceived benefits and costs variables in fertility behavior represented here by desired family size. The importance of religiosity as an exogenous factor on perceived costs was an additional contribution made by this study to the research literature. Moreover, while perceived costs and the current number of children were two important endogenous factor for the model representing future fertility behavior, they were not included in the model with present parenting readiness.

In conclusion, this study made several positive contributions to the domain of human ecology. First, the basic assumption of children as a product of a decision, is in agreement with the ecological thoughts of Paolucci, a pioneer in the field of human ecology. Second, this study started with a review of fertility research from various disciplines. Third, the study attempted to merge concepts from various disciplines in order to have a broader understanding of the problem. The fourth contribution of

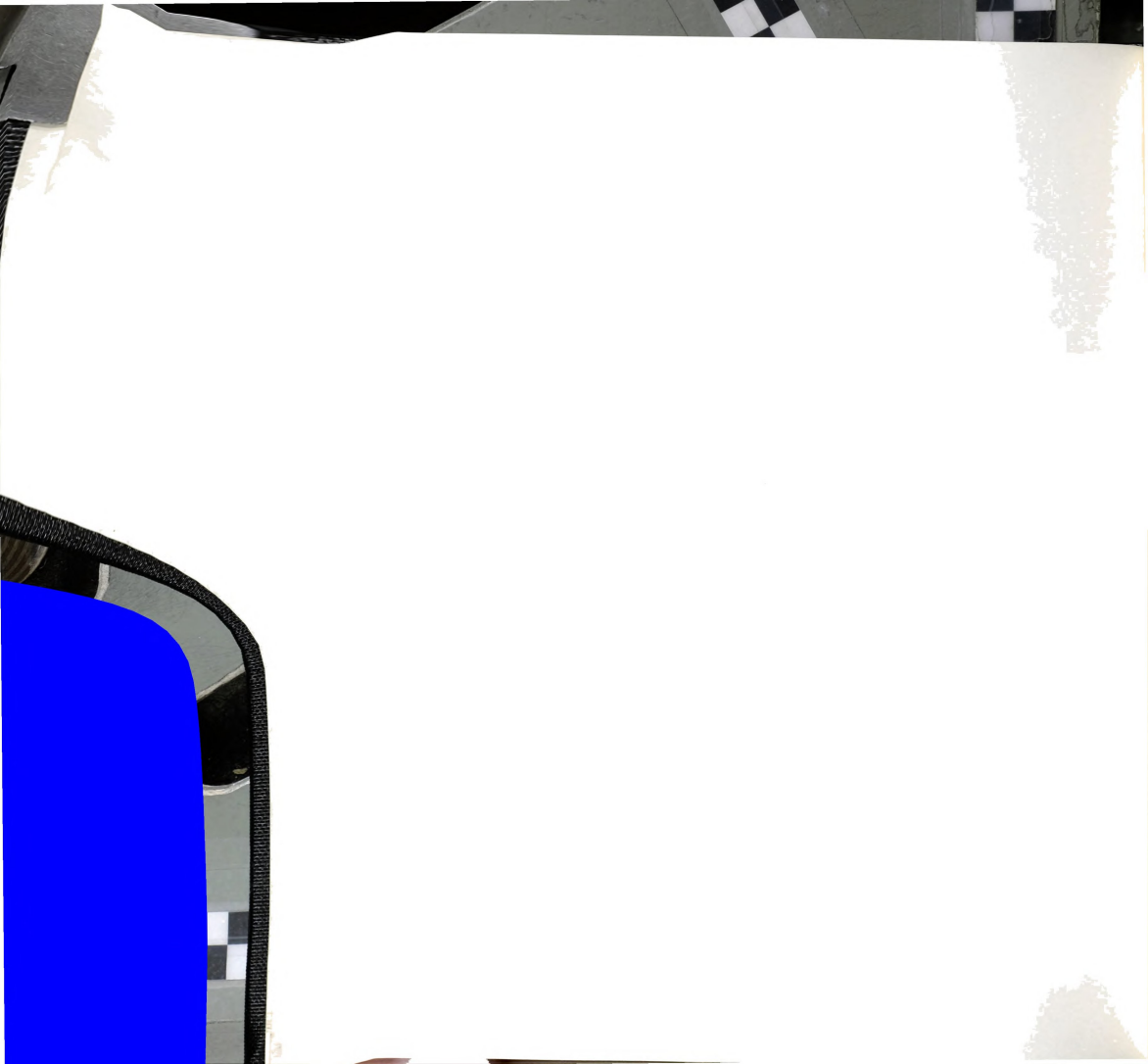


this study to human ecology, is in recognizing the influence of "time", a natural resource, on human desires and feelings about having children. Time as a natural environment is perceived by human ecologists as highly related to the human environment. In this study the present and the future were used as basis to compare two theoretical models. The number of paid hours per week was a variable in the model that also represents the resource of time. Finally the greatest impact of this study on human ecology resides in merging two methodologies and in putting efforts from theory and research into practice.

APPENDIX



ABOUT THE DECISION
TO HAVE CHILDREN



MARITAL STATUS AND FAMILY BACKGROUND

We would like to begin by having you provide some information about yourself and your family or household structures.

1. First, please complete the following about your present marital status by circling the letter in front of the appropriate situation.

You are currently:

- a. In your first marriage. Number of years.
(Please go to question 2)
- b. Single, never married, not engaged or cohabiting.
- c. Separated/Divorced.
- d. Widowed.
- e. Remarried
- f. Engaged.
- h. Cohabiting.

1.1 If you have been married before, please indicate for each marriage, the following things: The year you were married, the year the marriage ended, and the reason it ended.

MARRIAGE RANK	YEAR MARRIED	YEAR ENDED	REASONS FOR ENDING
			DEATH SEPARATION DIVORCE
Example: 1st	1975	1980	X



2. Have you ever experienced one or more of the following? If yes, please circle the letter preceeding your choice or choices. If no, please circle "f" and go to question 3.

How many?

- a. Gave birth to a child.
- b. Been a father to a child.
- c. Adopted a child.
- d. Been a foster parent.
- e. Been a step/parent.
- f. None of the above.

3. Now, think about your current household. Please provide the following information about the persons who are currently living with you.

	Sex (circle 1)	Age on last birthday
Yourself	M F	
Spouse	M F	
Children (oldest first):		
First	M F	
Second	M F	
Third	M F	

Other, please specify
relationship to you:

M F
M F

If more space is needed for this question 3, please use the reverse side of this page.

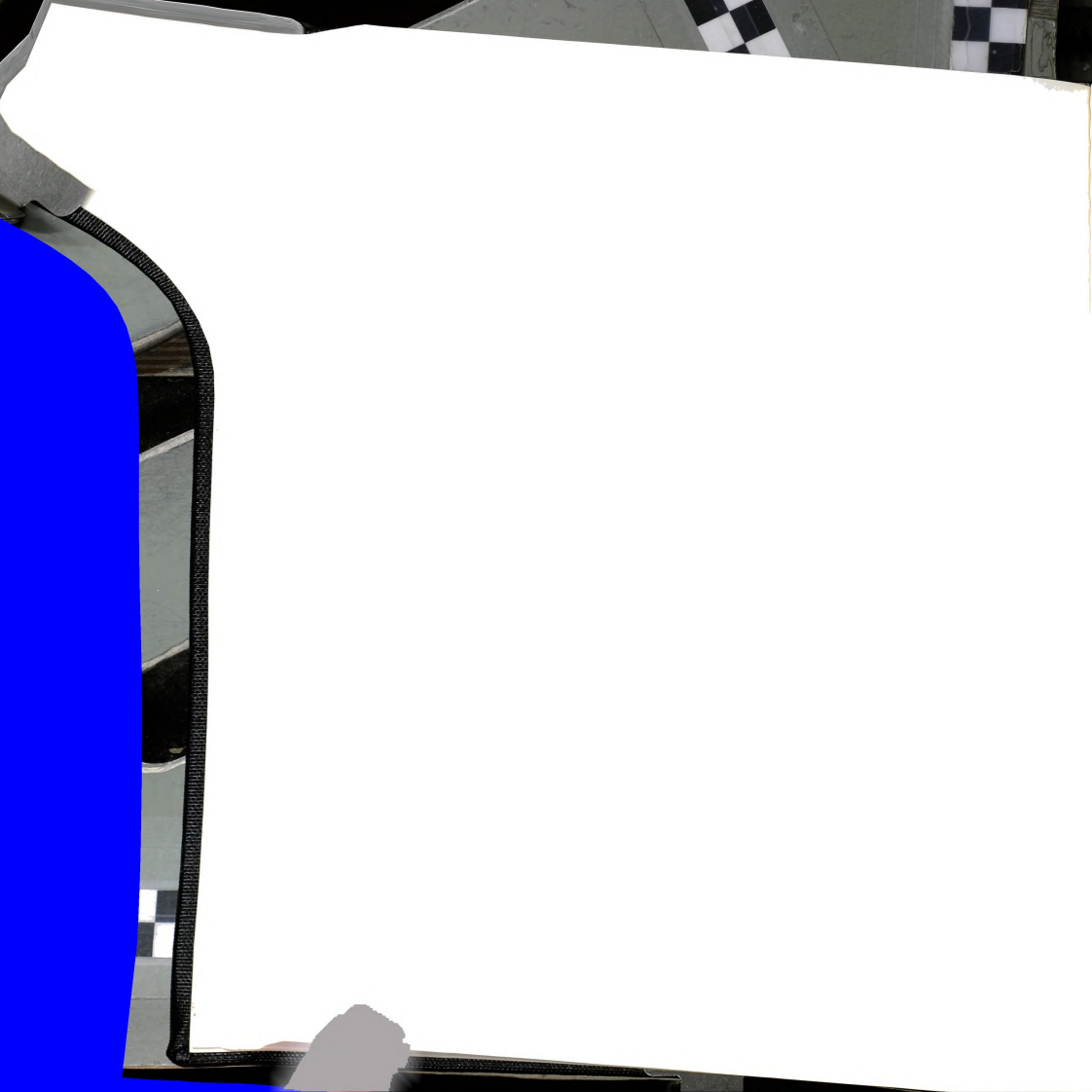


REASONS FOR WANTING A CHILD

This section includes items that are general enough to be answered by parents or non/parents. In case you find a non/applicable item, please answer: No Opinion

4. Here are some reasons for wanting a child. For each one, please indicate whether, for you, the reason is very important, somewhat important, not important at all, or you have no specific opinion about its importance to you. (Circle your choice).

REASONS	NO OPINION	NOT IMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT
1. Because children bring love	0	1	2	3
2. Because you want to have a/another boy	0	1	2	3
3. To provide a companion	0	1	2	3
4. To motivate you to succeed in life	0	1	2	3
5. To be sure in old age you will have support	0	1	2	3
6. Because of the pleasure to watch children grow	0	1	2	3
7. To strengthen the bond between the two partners	0	1	2	3
8. Because you want to have a boy/girl	0	1	2	3
9. To help carry on the family name	0	1	2	3
10. Because it is fun to have children around	0	1	2	3
11. Because it feels odd not to	0	1	2	3



12. To feel needed and useful	0	1	2	3
13. Because you think you could be a good nurturing parent	0	1	2	3
14. Because a baby would mean a change / novelty	0	1	2	3
15. Because it is a major stage in human growth	0	1	2	3
16. Because it is part of being a woman/man	0	1	2	3
17. Because of a religious commitment	0	1	2	3
18. To transmit some of your own values to a new generation	0	1	2	3
19. To add purpose to your life	0	1	2	3
20. To be remembered after you are gone	0	1	2	3
21. Because children are needed to complete a family	0	1	2	3
22. So that you won't feel lonely	0	1	2	3
23. To please your parents/relatives	0	1	2	3

Other items of special meaning and importance to you:

24.

25.

26.

27.

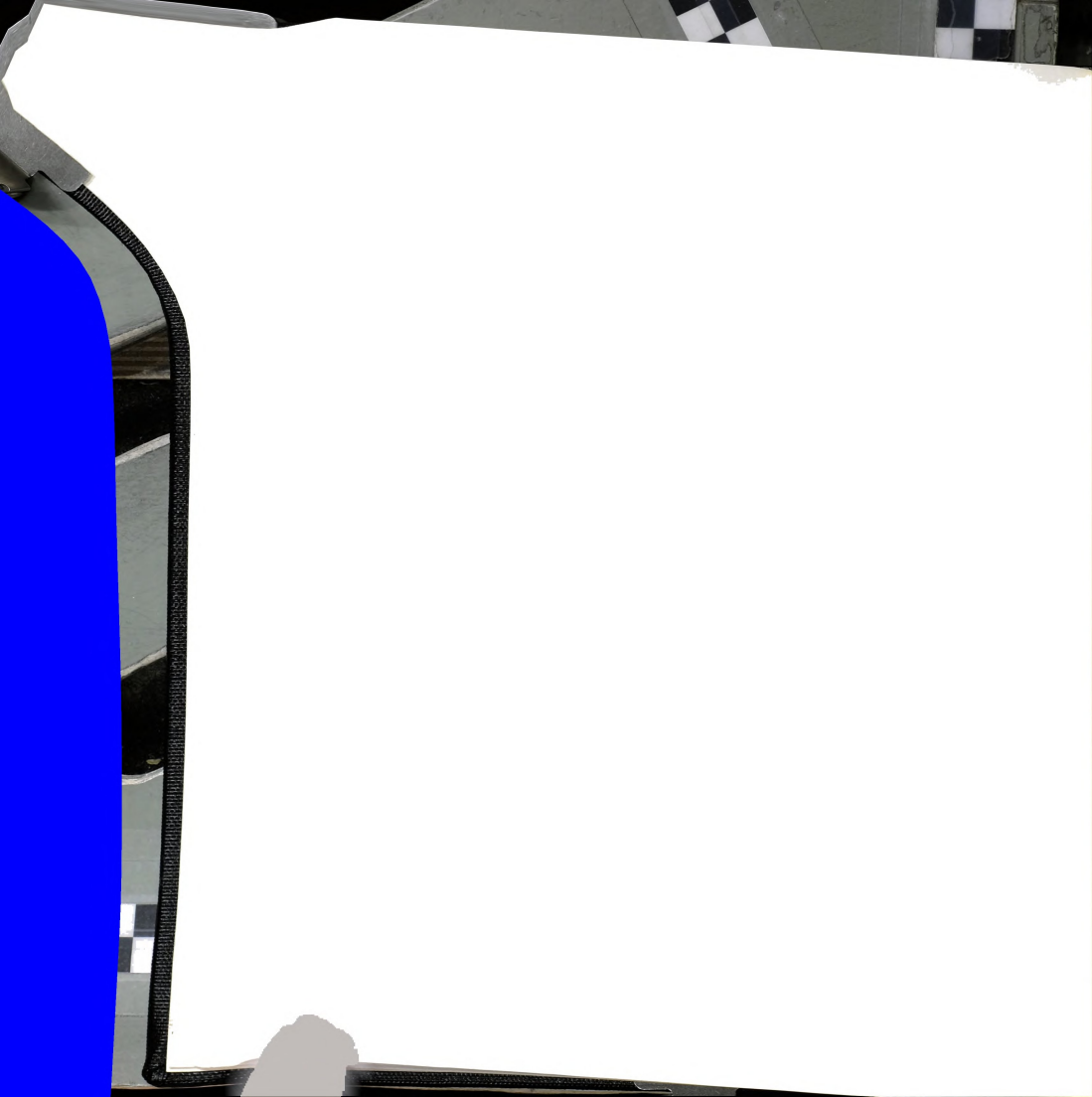


COST OF CHILDREN

Think now about costs of having and rearing children. These could be financial, emotional, physical or social strains.

5. Here is a list of reasons for not wanting a/another child. Please answer whether for you the reason is very important, somewhat important, not important, or you have no opinion about it. You can answer no opinion if an item is not applicable. (Circle only one choice)

Reason	No Opinion	Not Important	Somewhat Important	Very Important
1. Because it could be a financial burden to you	0	1	2	3
2. Because it limits time with partner	0	1	2	3
3. Because it would be hard to keep your job	0	1	2	3
4. Because of the worries when they are sick	0	1	2	3
5. Because it would limit your free time	0	1	2	3
6. Because the world is already over-populated	0	1	2	3
7. Because it would limit your career achievement	0	1	2	3
8. Because it would mean more work and bother	0	1	2	3
9. Because children are expensive to raise	0	1	2	3



10. Because it would
limit you socially 0

1

2

3

Other items of special meaning and importance to you:

11.

12.

13.

FERTILITY BEHAVIOR

Now think about your current and future projections for having children. (Circle only one answer).

6. Are you or your partner currently pregnant?

1. No
2. Yes
3. Not Applicable

7. Do you have any plans or have you been discussing lately the issue of having a/another child in the future?

1. No
2. Yes

Questions 8 to 14 are only for individuals who have made the decision with the partner involved to be childless or to have/ raise their first child in the near future. (For others, go to question 15).

8. What was the decision?

1. Be Childless
2. Start a family

9. Do you think that having or not having a child must be a debatable issue between partners involved?

1. No
2. Yes

10. Do you think the decision must be implicit with little need of discussion?

1. No
2. Yes

11. Has the decision been definite or it is still open to negotiation?

1. Definite
2. Still open to negotiation

12. Do you think that your partner would answer this question the same way you have?

1. NO
2. Yes
3. Not sure



13. Do you feel that you or your partner felt most strongly about the decision made?

1. Myself
2. My partner

14. Although the following dimensions overlap, try to rate these five issues was least to most important in your decision:

(Insert the appropriate number in the blank below)

1. Childcare issues: who would take care of the baby's basic needs of nurturing
2. Economic issues: The \$ costs involved
3. Career issues: The importance of the work arena
4. Long/term commitment issues: the amount and/or length of time involved in raising children
5. Personal enjoyment issues: you and/or your partner don't particularly enjoy spending time with children

Least important ____ Most important

15. What would you think is the ideal family size perceived by your community in general?

1. No children
2. One child
3. Two children
4. Three or more

16. To you, personally what would be the desired family size?

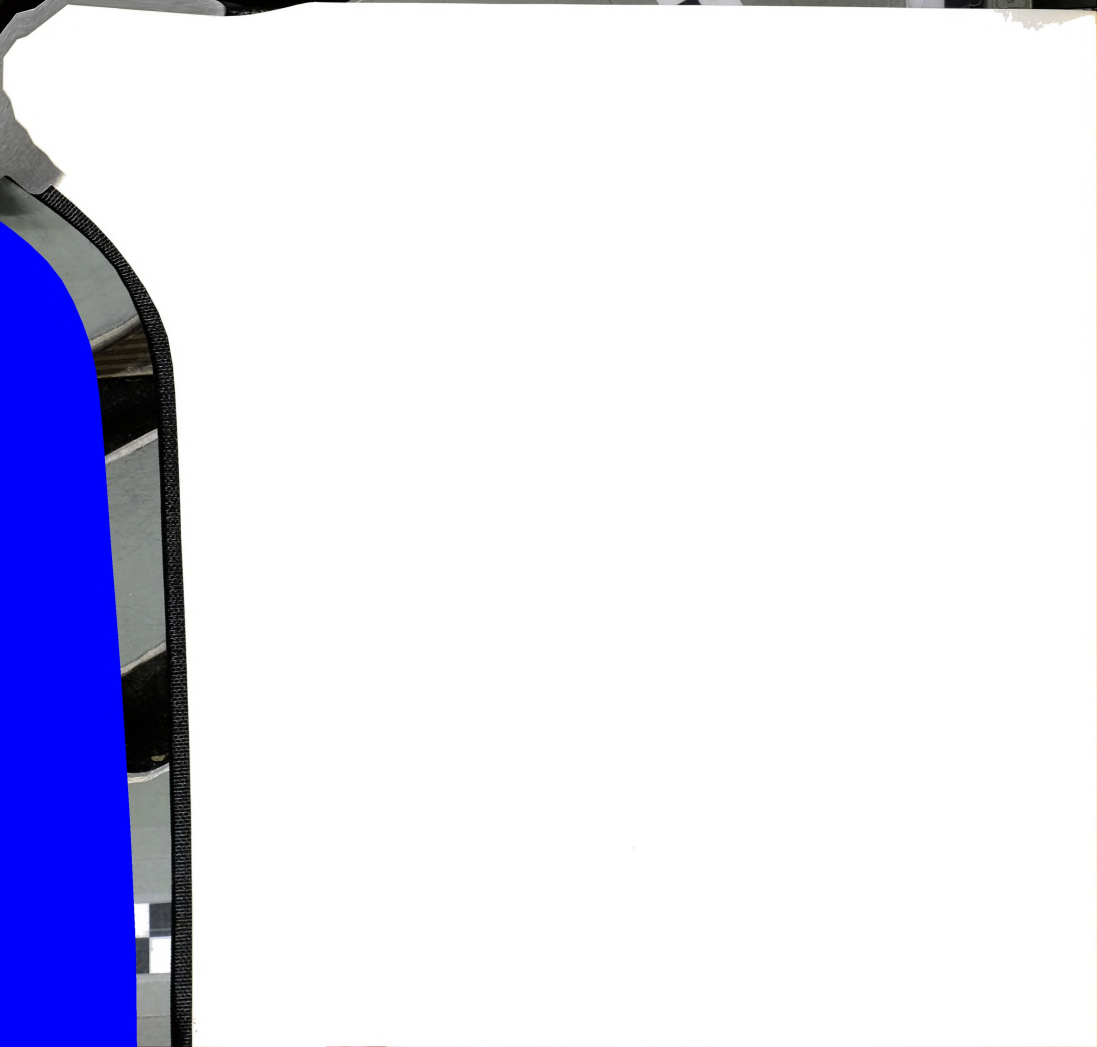
1. No children
2. One child
3. Two children
4. Three or more

17. How would you describe you/your partner health for having a/another child ?

1. Very Good
2. Fair
3. Not Sure
4. Poor
5. Threatened

18. Presently how many children can you afford?

1. None
2. One
3. two
4. three or more



19. Five years from now, do you expect your financial position to be better off, worse off, or you don't know ?

- 0. Don't know
- 1. Worse
- 2. Better

20. Would you add a child to your life then?

- 0. Don't know
- 1. No
- 2. Yes

21. If you could have ~~just~~ just one child^u, what would you prefer a boy or a girl? Briefly explain your choice in the space

20.1 WHY?

- 1. Boy _____
- 2. Girl _____
- 3. No Preference _____



ABOUT YOU IMMEDIATE ENVIRONMENT AND
YOUR READINESS FOR CHILDREN

A pilot study has revealed the following issues as relevant in determining the best and worst possible conditions "for being a parent". Here are a set of scales for each group of items. On a scale of 1 (worst conditions) to 10 (best conditions), please rate yourself as to where you stand now on the following:

22. Family unit resources:

1. Being in a stable relationship.....10

Being single or in unstable relation..... 1

Your score from 1 to 10 is: _____

2. Cohesiveness: including shared closeness, love and responsibilities between family members and partner equally wanting children.....10

uncohesiveness: Unclose, unloving members, no sharing of responsibilities and partner not really wanting to have children around..... 1

Your score from 1 to 10 is: _____

3. Health: Good, mentally and physically fit for having/raising children.....10

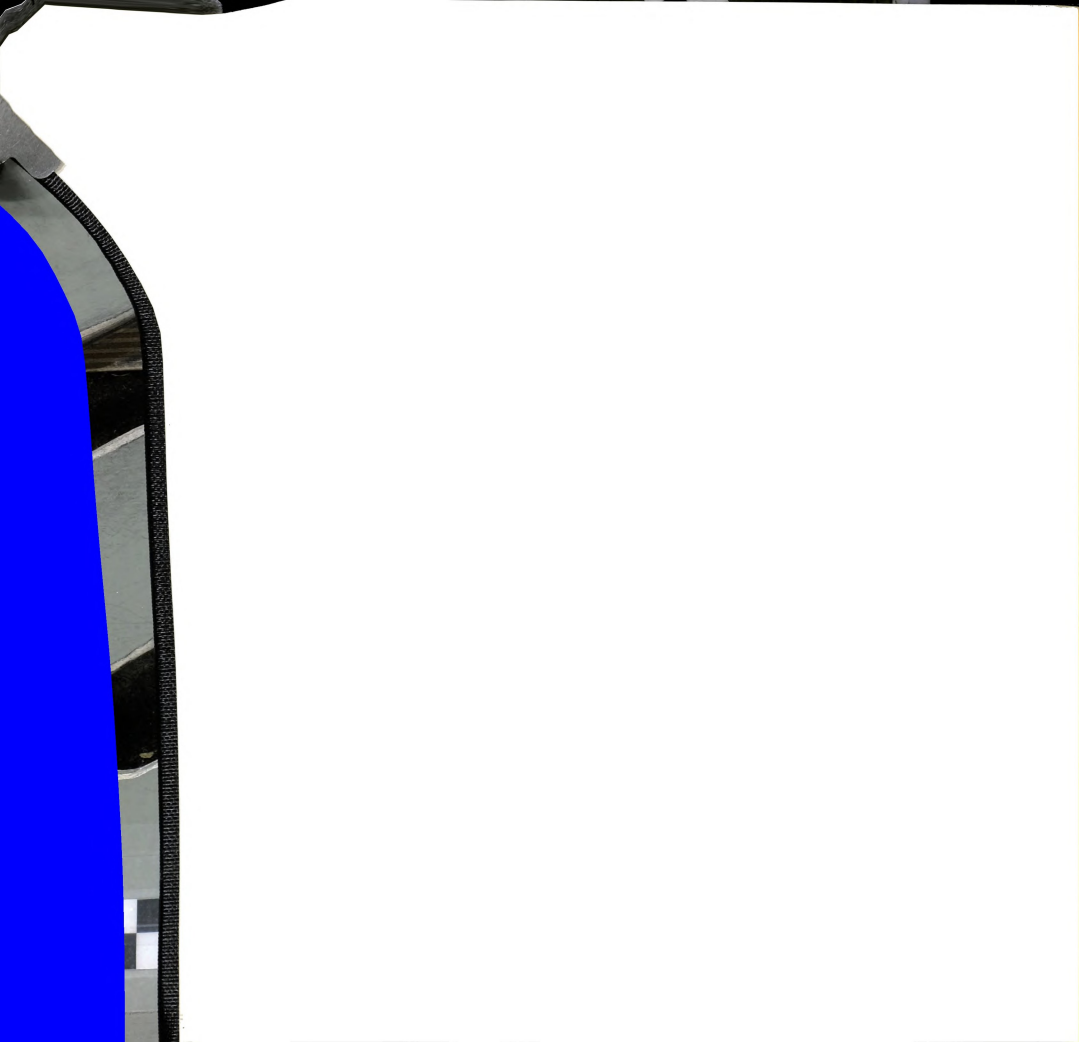
Poor, mentally or physically disabled for having/raising children..... 1

Your score from 1 to 10 is: _____

4. Economics: Good with financial security, acceptable standards of living with enough material possessions or luxury items, job allowing time for self family and entertainment.....10

Poor or no financial security, therefore keeping job by necessity, not enough time for a family or self..... 1

Your score from 1 to 10 is: _____



23. Community Resources:

1. Support system: Good, extended family, friends, local church, good neighborhood10

Poor, none of the above available...1

Your score from 1 to 10 is: _____

2. Growth opportunities: good educational opportunities and safe environment.....10

Poor educational opportunity and not very safe environment..... 1

Your score from 1 to 10 is: _____

As you may have seen, one category includes a variety of issues: A summary average approximate score was needed on each.

Now, here is a picture of a ladder. Suppose that the top of the ladder represents the best possible conditions for being a parent, and the bottom represents the worst possible conditions for being a parent.

24. Where do you feel you personally stand at the present time? (Mark Present on the line at the chosen level).

25. Where do you think you stood five years ago? (Mark Past to the left of the chosen level).

26. Where do you think you will stand fiive years from now? (Mark Future on the right side of the chosen level).

Your Choice

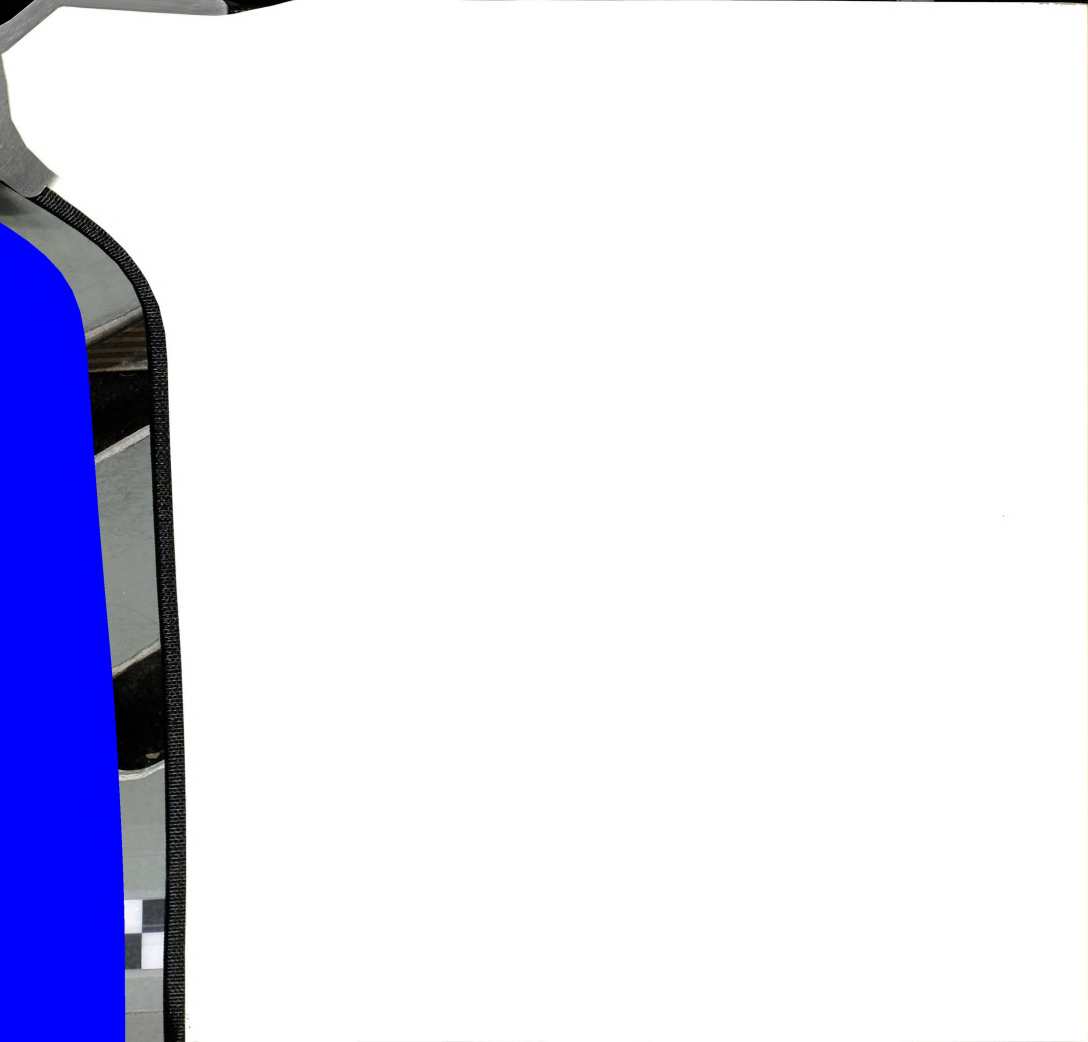
Past Present Future

10 Best possible conditions
for being a parent

9

8

7



100

6

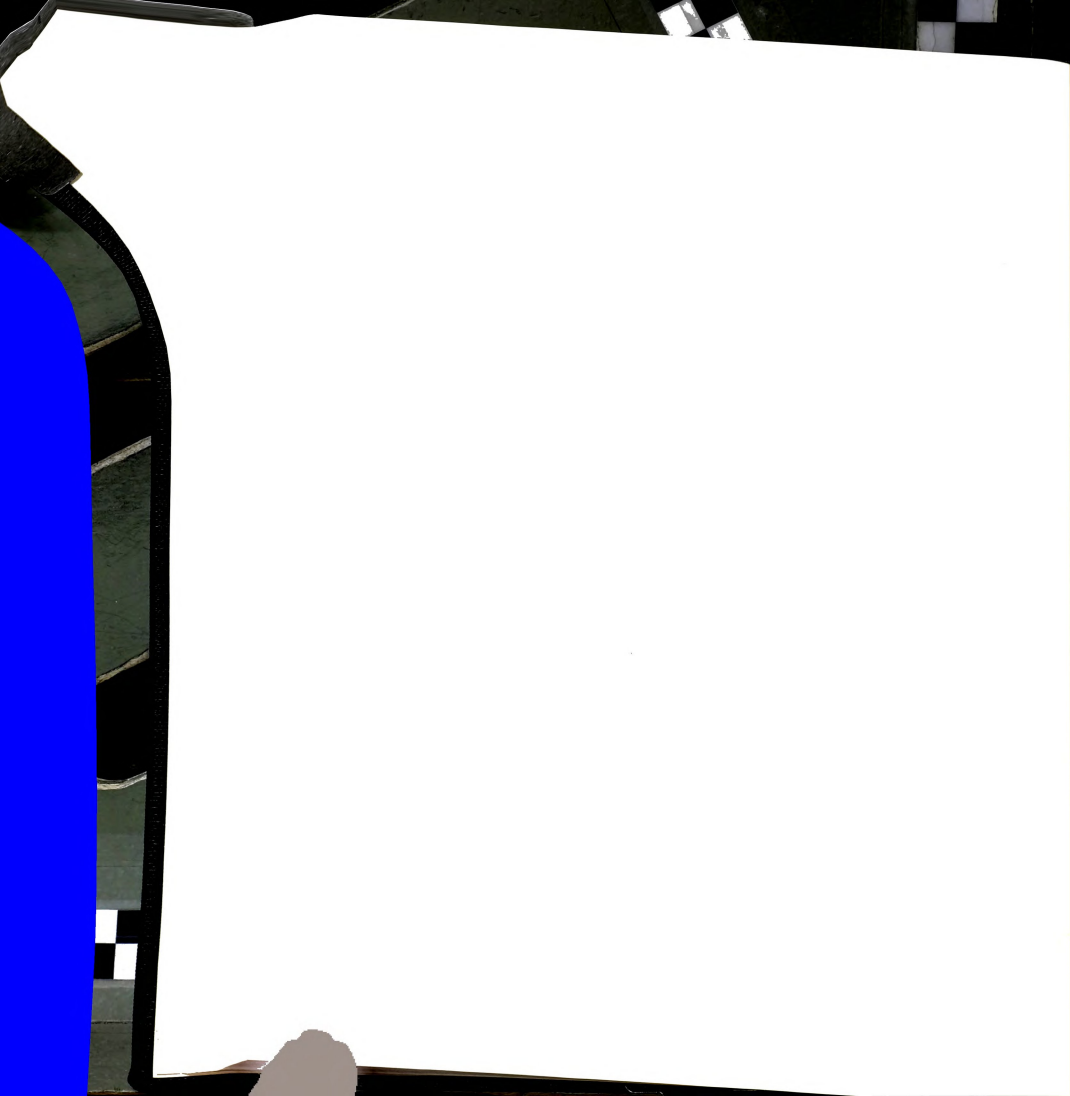
5

4

3

2

1 Worst Possible conditions
for being a Parent



BACKGROUND INFORMATION

Thank you for answering the previous sections. I would like to close with some general important questions background questions.

This last section will focus on your educational level, occupation, income, ethnicity, and religiosity.

27. What is the highest grade you completed in formal education and got a degree for? (Circle one)
1. Associate degree
 2. Bachelor degree
 3. Master degree
 4. Doctorate/ Professional (PhD, MD, JD, etc..)
 5. Other (Please Specify)
28. Are you presently employed full time or part time at Michigan State University?
1. Part time
 2. Full Time
29. Currently, you are mostly working
1. in teaching and/or research
 2. in an administrative position
 3. in clerical activities
 4. as a medical practitioner
30. Think about the amount of your total family 1987 income before taxes from all sources. Please circle the total amount that applies to your situation.
- | | |
|-------------------------|-------------------------|
| 1. \$25,000 or less | 5. \$55,000 to \$64,000 |
| 2. \$26,000 to \$34,000 | 6. \$65,000 to \$74,000 |
| 3. \$35,000 to \$44,000 | 7. \$75,000 to \$84,000 |
| 4. \$45,000 to \$54,000 | 10. \$85,000 or more |
31. Now think about the parental leave policy provided to you MSU. This can be either maternity leave or paid days



off allowed in case of child illness. What kind of policy applies to you?

1. Faculty

2. Staff

32. How satisfied are you presently with the policy?

1. Unsatisfied

2. Indifferent

3. Satisfied

32.1 Would you suggest...

1. More paid days off

2. Extend paid maternity leave

3. Allow the use of sick days for staying with kids when needed

4. some or all of the above.
please specify numbers ____

33. Please indicate your racial or ethnic background.
(Circle one)

1. Black

2. White

3. Native American

4. Asian or Pacific Islander

5. Spanish descent (Mexican, Puerto Rican, Chicano,
other spanish)

6. Other (Please Specify)

34. Now think about your religious affiliation. With which of these religions are you most likely to identify?
(Circle only one)

1. Protestant

2. Catholic

3. Jewish

4. None

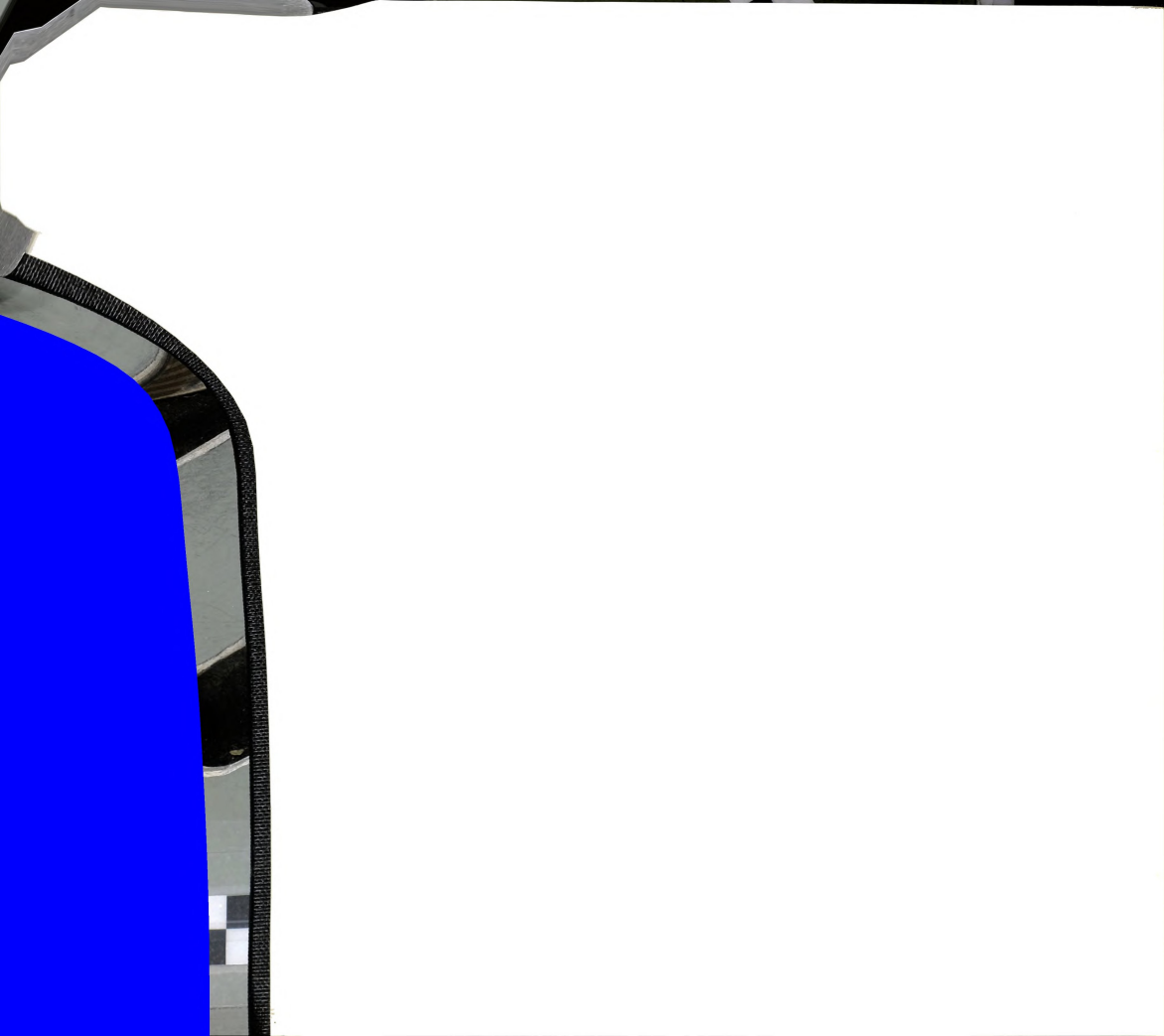
5. Other (Please Specify)

35. How important would you say religion is to you?

1. Not important

2. Fairly important

3. Very important



36. In the past year, how often have you attended religious services?

1. Not at all
2. A few times a year
3. 2 or 3 times a month
4. once a week
5. More than once a week

37. Finally, how dense would you describe the area where you live?

1. Farm
2. Town under 10,000 population or rural non/farm
3. Town or city 10,000 to 50,000 population
4. Suburb or city of over 50,000 population
5. City of over 50,000 population

Thank you for completing this questionnaire. If you would like a copy of the results of this study, please check the space below:



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LIST OF REFERENCES

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