ASSESSING MOTIVATION FOR PARENTHOOD: THE EXPECTED REWARDS AND COSTS OF CHILDREN

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ABSTRACT

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By

Frederick W. Silver

The purpose of the present study was to develop a comprehensive instrument to measure motivations for having or not having children. This was accomplished in four phases.

The initial phase of the study was the creation of an instrument. Following some fruitless experimentation with projective techniques it was decided to use a self-report, Likert methodology. In creating a Likert instrument it was necessary to operationalize motivational constructs. This was done in terms of expectations and attitudes towards the rewards and costs of children. The resulting instrument was called the Parenthood Inventory. After several revisions the inventory was pretested. Results were promising and so a final revision was made. The final version of the inventory consisted of 104 Likert items, 76 focusing on expectations and 28 focusing on current attitudes.

In order to collect data to evaluate the construct validity of the inventory a questionnaire was constructed. It included two sections in addition to the inventory: Biographic Information, and Childhood Information. The

biographic section consisted of 25 questions on standard demographic and personal variables. The childhood section contained a series of 22 scales on which subjects rated the quality of their childhood experiences and relationships with parents.

The second phase of the study was the pilot testing of the inventory. A door-to-door survey was conducted in a large apartment complex housing married students. In keeping with the aim of the present study--to measure what actually motivates having or not having children--only childless (nulliparous) couples were canvassed. Approximately 80 percent of the eligible couples who agreed to participate in the survey filled out and returned questionnaires. The final sample consisted of 205 couples.

The third phase of the study was the analysis of results obtained from pilot testing the inventory. Two major analyses were conducted: a hierarchical cluster analysis of the inventory, and an analysis of construct validity of the inventory.

The hierarchical cluster analysis identified 18 first-order clusters, representing 18 dimensions of motivation for and against parenthood, and three higher-order clusters. These two sets of clusters were evaluated for homogeneity of content, internal homogeneity, external parallelism, and reliability. Items that were questionable or clusters that needed improvement were noted.

In order to evaluate the construct validity of the inventory, scores on the 18 first-order clusters were correlated with the biographic and childhood variables; for a group of four nominal biographic variables, however, correlations were inappropriate and one-way analyses of variance were computed instead.

Very few relationships between the first-order clusters and the biographic and childhood variables were significant and so the evaluation of construct validity was based almost entirely on three of these external variables. This did not provide a very precise test of whether the dimensions of the inventory measured exactly what they were construed to measure. It did, however, provide some evidence that the dimensions were appropriately tapping motives for or against having children. It was concluded from this analysis that the inventory and its dimensions have good potential for development into a valid instrument.

As part of this analysis of construct validity the variable, sex, was correlated with each of the first-order clusters. Seven statistically significant relationships were obtained. None of these seven, however, were particularly strong.

The fourth and final phase of the study was the development of a set of specifications for an instrument to be used in future research. Five general specifications were offered. Also, 12 modifications of the individual dimensions

of the Parenthood Inventory were proposed, and it was recommended that five new dimensions be added to a future inventory. Finally, some suggestions for future research were offered.

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A THESIS

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To my grandfather, Louis--
for his generosity

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INTRODUCTION

The dual question of why couples have or abstain from having children is a very basic one. It is only very recently, however, that psychologists have turned their attention to it.

Those who have posed this question have translated it into different terminology. Pohlman (1969) has called it motivations in wanting conceptions, and costs of children. Rabin (1965) has coined the term, motivation for parenthood. Hoffman and Hoffman (1973) conceptualize it as the value and costs of children to parents.

There are four major reasons for studying why couples have or do not have children (Hoffman and Hoffman, 1973). Three of these are related to demography and population planning. They are: to predict fertility and population trends; to affect motivations for having children; and to discover substitutes or compensations for the needs that children satisfy in parents. The fourth reason is to determine the ramifications of different motivations on parent-child relationships and the psychological development of children.

On the nature and solution of the overpopulation problem, scientists fall into two basic schools of thought (Stycos, 1974). In one camp are those who advocate birth control

as the panacea for our swelling population. The family planners, as this group is called, believe that the elimination of all unwanted pregnancies would suffice to stabilize the size of our population.

The second group is referred to as the population planners. They believe that a large scale change in reproductive behavior is necessary if population growth is to be halted. Advocates of this approach claim that even if all unwanted pregnancies were to be eliminated, current family size goals are significantly larger than that which would lead to zero population growth. Blake, a staunch proponent of this view, emphasizes the importance of changing the coercive pronatalist incentives built into our social institutions. She believes that any "antinatalist policy must deal both with the reward system and costs involved in parenthood" (1971, p. 219).

Very little is known about the rewards and costs that motivate having or not having children. Two factors are responsible for this lack of knowledge in such a critical area of research. One is the relatively recent arrival of psychologists to the study of population. The other is the difficulty involved in measuring these complex motivations.

The purpose of the present study was to develop a comprehensive instrument to measure motivations for having or not having children. This was accomplished in four phases:

1. The creation and pretesting of a new instrument, the Parenthood Inventory.

2. The pilot testing of this inventory.

3. Analysis of results of this pilot testing.

4. The development of a set of specifications or modifications for a more permanent instrument to be used in future research.

The instrument designed for the purposes of this study operationalizes motivation in terms of expectations and attitudes toward the different rewards and costs of children.

REVIEW OF THE LITERATURE

A review of the literature reveals a complete absence of comprehensive investigations of the motivations for having or not having children. Pohlman (1969), in his exhaustive review, has assembled fragments of relevant information from a tremendous variety of empirical and nonempirical sources. No attempt is made here to duplicate his extensive coverage. Instead, the present review takes an in-depth look at the relevant empirical and conceptual literature.

Three Major Demographic Studies

Some of the earliest empirical work relevant to motives for having or not having children comes from the field of demography. The emphasis in these studies is sociological.

The Indianapolis Study

The Indianapolis Study (Whelpton and Kiser, 1946-1958) was the first large-scale investigation of fertility in this country. Organized in the years 1938-1940, it reflected a concern over the low birth rate of the Depression era. Indianapolis was chosen as the site of the study, and a large sample of native, white, Protestant couples married during 1927-1929 was interviewed. This included a moderate sized group of voluntarily childless couples.

The five psychological variables investigated as part

of this study were: feelings of personal inadequacy (Westoff and Kiser, 1952), ego-centered or narcissistic interest in children (Swain and Kiser, 1954), fear of pregnancy and childbirth (Schacter and Kiser, 1954), interest in and liking for children (Pratt and Whelpton, 1958), and attitudes toward restriction of personal freedom (Riemer and Whelpton, 1958). These were measured by five different series of multiple-choice questions, and analyzed in relation to the two major dependent variables, effectiveness of fertility planning and fertility.

The significant relationships obtained between these five independent variables and the two dependent measures were for the most part restricted to those couples that were effective fertility planners. In many of these cases, significant relationships turned out to be essentially a function of differences between deliberately childless couples and fertile couples. Childless couples comprised a large part of the effective fertility planning group.

For example, Swain and Kiser (1954) found equivocal support for an inverse relationship between ego-centered interest in children and fertility, but only in the effective family planning group. They also found that childless couples reported a greater ego-centered interest in children than did fertile couples.

Schacter and Kiser (1954) found that all significant relationships between fear of pregnancy and childbirth, and the two dependent variables were eliminated when childless

couples were removed from the statistical analysis. Childless couples did report greater fear of pregnancy and childbirth than did fertile couples.

Pratt and Whelpton (1958) found no significant relationships between interest in and liking for children and the two dependent variables; but fertile couples did score higher on this variable than did childless couples.

Riemer and Whelpton (1958) found a stronger feeling that children restrict personal freedom among childless couples than among couples with children. Unfortunately, the items that formed the basis of this comparison were slightly different in wording and meaning for these two groups, making valid comparisons questionable. Also, because all couples in this study were interviewed after 12 to 14 years of marriage no conclusions could be reached as to whether these feelings had actually motivated childlessness.

Westoff and Kiser (1952) found a significant inverse relationship between feelings of personal inadequacy and effectiveness of fertility planning. This was for all levels of planning effectiveness. Also, there was a tendency for personal inadequacy to be related to low fertility, primarily among the effective planning group of couples. This was true even when childless couples were excluded from the analysis.

The Indianapolis Study investigated five isolated psychological variables in relation to effectiveness of fertility planning and fertility. The design of the study was such that no conclusions could be drawn about motivations for and against having children.

The Princeton Study

The Princeton Study (Westoff, Potter, Sagi, and Mishler, 1961) with its longitudinal follow-up (Westoff, Potter, and Sagi, 1963), was an attempt to refine and explore more thoroughly some of the findings of the Indianapolis Study. Its sample consisted of over 1000 couples each with two children and residing in the large metropolitan areas of the country.

Nine psychological variables were included in this investigation. Eight of these were personality dimensions: manifest anxiety, need to nurture, ability to defer gratification, self-awareness, compulsiveness, tolerance for ambiguity, cooperativeness, and need for achievement. The ninth was liking for children. With one trivial exception no significant correlations were obtained between these nine variables and the major dependent variables, fertility, fecundity, family size preferences, contraceptive practices, and birth-spacing. In the follow-up study there were also no significant relationships obtained between the psychological variables and the major dependent variable, in this case, differences in fertility occurring during the three and one-half year interval between studies.

Hoffman and Hoffman (1973) have leveled three criticisms at the design incorporated by the Princeton Study in its attempt to relate psychological variables to fertility. First, they believe that the dependent variables were poorly

selected in light of the nature and homogeneity of the sample. Second, the psychological concepts embodied by the personality variables studied were oversimplified. Third, the standard sociological subgroups were used to statistically analyze the data. No attempt was made to select subgroups which might be relevant to the hypothesized relationships between the psychological variables and fertility.

The Growth of American Families Studies

The Growth of American Families Studies, conducted in 1955 (Freedman, Whelpton, and Campbell, 1959) and 1960 (Whelpton, Campbell, and Patterson, 1966), were two very similar investigations of national population and family planning trends. In part the two studies sought to investigate the post-World War II upsurge in births.

The 1955 study inquired about reasons for being in favor or against family limitation. Among the over 2,000 women of childbearing age sampled, the major reasons in favor were: to allow for adequate financial resources for each child; to protect wife's health; to insure adequate time for each child's care; and to make for a happier family life. The one major reason for being against family limitation was religious beliefs.

In the 1960 study each respondent was asked "What their reasons were for (1) not wanting a smaller family and (2) not expecting a larger family" (p. 53). The reasons given for not wanting a smaller family included: the

happiness and welfare of the children; not wanting an only child; parents great liking for children; desire for happier and fuller family life; the avoidance of loneliness; the desire for balanced number of boys and girls; and religious and moral beliefs. The major reasons given for not expecting a larger family were: subfecundity (sterility, miscarriage); economic factors; poor health; unpleasantness of pregnancy; not enough time to provide adequate care of more children; and husband's desires for smaller family.

Motivation for Parenthood Studies

In a series of studies, most of which remain unpublished, Rabin and his students have investigated motivation for parenthood (Rabin, 1965; Greene, 1967; Major, 1967; Rabin and Greene, 1968; Carter, 1968; Rhodes, 1974). The orientation of this research is toward understanding the influence of different motivations on parent-child relationships, and not toward population issues or fertility.

Investigators in this area have experimented with a number of projective and semi-projective instruments in their attempts to measure the more covert levels of motivation. Rabin, and Carter used open-ended sentence and story completion instruments in their respective studies. Greene, Major, and Rhodes used similar sentence and story completion formats, except that for each of their story or sentence stems a series of four endings were provided. The endings were designed such that the four choices corresponded to

the four basic categories of motivation for parenthood. Carter in her study also used a nonprojective, Likert instrument.

The various instruments used in these studies focused on categorizing motivations for having children. Greene, and Major used a scheme with four classes of motivations: altruistic, fatalistic, narcissistic, and instrumental. To these four Rhodes added a fifth category, conformity motives. Carter used three general categories: parent-need oriented, child-need oriented, and non-need oriented. Parent-need orientation included narcissistic, instrumental, and parent-centered motives. Child-need orientation included nurturant, and child-centered motives. Non-need orientation consisted of humanitarian, fatalistic, and by-product (of another need or goal) motives.

The subjects in each of these studies received a score for each motive category. In studies conducted by Greene, Major, and Carter, parents of normal and emotionally disturbed children served as subjects. In Rhodes' study, and Rabin's exploratory work, college students were the subjects.

The motivation for parenthood studies have had, at best, only modest success in relating different motive categories to child's mental health (Greene; Major; and Carter). They have had little success in relating these categories to manifest psychological needs (Greene), and attitudes towards parents and family (Rhodes).

Miscellaneous Studies

Popenoe (1936) investigated motivations for remaining childless by analyzing histories of 862 childless couples. The histories were supplied by 100 students who reported on childless marriages among close friends and relatives. Seven major reasons for remaining childless were reported: self-centered attitudes, e.g., social climbing, freedom to travel, children spoil beautiful marriage; wife's career; inability to afford children; health; dislike of children and fear of childbearing; eugenic concerns, e.g., mental illness prevalent among ancestry; and marital discord. The only other study to have examined childless couples is the Indianapolis Study.

Flanagan (1942) examined a great variety of social, psychological and economic factors in relation to family size. His sample was a small, homogenous occupational group--400 U.S. Army Air Corp officers and their wives. Unfortunately, much of the wealth of data collected is presented only in tabular form without adequate statistical analysis and exposition.

The study included an investigation of the different factors responsible for the limitation of family size to less than what had been indicated as ideal. These factors, which in part represent reasons for not having children, fell into six categories: physical factors (sterility, contraception, late marriage); wife's health; marital factors;

social factors; economic factors; and uncertainty about the future (the occupational hazards of flying). There is no indication in the study that these factors are statistically related to actual limitation of family size among the couples surveyed.

Flanagan also collected data on some psychological factors that were potentially related to ideal family size. This came primarily from a portion of the questionnaire designed specifically to get at reasons for having children. Many of its items, however, are too general or trivial, and they do not come close to covering the entire spectrum of possible reasons.

The eight most important reasons for having children, according to Flanagan's tabularized data, are: "A family is not complete without children," ". . .in order to have companionship of young children," "Children tend to make the family more stable," "Being married to a person who wants children," "Watching children grow up is a lot of fun," "Children assist the parents in maintaining a youthful point of view," "Having children around is a lot of fun," and "Good stock ought to reproduce itself" (pp. 91-94).

Based on a variety of psychoanalytic, demographic, and sociological sources, Hoffman and Wyatt (1960) offer an explanation for how social changes may have increased motivations for having larger families. According to the authors, the increase in family size since World War II reflects women's increased motivation for having larger families.

The social changes that have contributed to this increased motivation are:

> --changes in the woman's traditional role as housewife. Because housework has become much duller and less time consuming, the contemporary housewife--in order to avoid being idle--is faced with the choice of having additional children or finding employment.
>
> --changes in the nature of the parent's role. As a result of the popularization of psychology, and its emphasis on parental behavior as the primary factor in child development, childrearing has become a more challenging and creative endeavor.
>
> --the growth of loneliness and alienation in modern society.

Hoffman and Wyatt see these social changes as general influences on the value of large families to parents, especially mothers. Social changes may be more or less influential for individuals with different personalities, or for different subgroups in society.

In addition to the reasons for having large families which are related to social changes, Hoffman and Wyatt describe many other reasons for having children. These are all included in a comprehensive model presented in a later article (Hoffman and Hoffman, 1973).

Rainwater (1965) focused on two general aspects of family planning: factors influencing family size preferences; and factors influencing contraceptive practices and achievement of desired family size. Using loosely structured interviews, one of the specific areas he explored was reasons for having families of different sizes.

Rainwater's sociological orientation resulted in an

almost exclusive emphasis on life-style and role-organization variables. Also, his analysis and presentation of data is very nonstatistical and qualitative. Information about motivations for having children is embedded in a series of long quotations excerpted from the interviews. There are, however, some statistical summaries of reasons for having small or large families. These are not summaries of personal reasons, but of reasons why people in general might want large or small families.

Flapan (1969) developed a paradigm to describe the childbearing motivations of married women who had not yet conceived a child. The data on which this scheme was based consisted of content analyses of focused interviews with 82 women. The interviews elicited many private thoughts, feelings, and fantasies about childbearing which were then interpreted by the author to bring into relief their underlying meanings. The paradigm that resulted from these interpretations consisted of 13 loosely structured and overlapping categories:

1. Social expectations of childbearing and motherhood
2. Childbearing among peers
3. Identity implications of childbearing and motherhood
4. Identification with a fantasized child
5. Childhood memories of family life experiences and identification with own mother
6. Childbearing anticipations and expected relationship with children
7. Marital context of childbearing
8. Relationship with own parents as a childbearing consideration
9. Age and years childless as a childbearing consideration
10. Expected fertility as a childbearing consideration

11. Pregnancy anticipations
12. Childbirth anticipations
13. Fantasies pertaining to the newborn infant (p. 417)

Flapan's interview procedure provides a rich, if not unwieldy, amount of data about women's motivations for having children. The implicit and faulty assumption of this approach is that wives alone make decisions about having or not having children. There is no mention of husband's motivations, whatsoever. One unique aspect of this study is that its subjects were women who had not yet borne children, but who were close to doing so. This methodology makes it possible to investigate what actually motivates couples to have children. Most other studies have attempted to establish motivation on the basis of retrospective evidence.

A Conceptual Model

The most comprehensive conceptual model for predicting fertility is that of Hoffman and Hoffman (1973). It consists of five major classes of variables: (1) the value of children to parents; (2) alternative sources of these values; (3) the costs of children to parents; (4) barriers; and (5) facilitators. Alternative sources are sources other than children for gaining the values that children usually provide. Barriers and facilitators are factors which affect the difficulty or ease of attaining a particular value through children.

Based on their review of the literature, Hoffman and Hoffman (1973) have constructed a scheme of the value of

children. Its nine categories are:

1. Adult status and social identity
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, affiliation
5. Stimulation, novelty, fun
6. Creativity, accomplishment, competence
7. Power, influence, effectance
8. Social comparison, competition
9. Economic utility (pp. 46-47)

There is no comparable classification of the costs of children. The two costs noted by the Hoffman's are loss of freedom and economic costs. This is not a comprehensive classification, and is the only weak part in their model.

A Biological Motivation

No review of the motivations for having children is complete without some discussion of the theories propounding a biological drive to reproduce and parent. Benedek (1970b, 1970c), for one, believes that there is a biological drive toward motherhood and another toward fatherhood. The drive toward motherhood derives from the endocrine and concomitant emotional changes that are associated with the menstrual cycle (Benedek, 1970a). The drive toward a fatherhood derives from the instinct for survival.

Bardwick (1974) proposes that the universality of special sensitivities to infants across cultures and species as well as the universality of social bonding between infants and parents, reflects an innate capacity to parent. She further posits that this capacity implies a biological need.

While there is at present no conclusive evidence to show a biological organization within the motivation to have children, there are some promising lines of investigation.

Lorenz (1943, 1950) was the first to propose that babyishness or cuteness is intrinsically pleasurable to adults and that the physical features and behaviors that comprise this quality are found in the young of many species. These features--a small, plump body; a large head with prominent forehead and large eyes; short limbs; soft skin or fur; and clumsy movements--serve as an innate releasing mechanism for eliciting physical contact, fondling, and caregiving from adults (Hess, 1970). Adult reactions to babyishness have been investigated by measuring pupillary dilation (Hess, 1970), attractiveness (Sternglanz, et al., 1974) and preferences (Fullard, et al., 1975) for pictures or line drawings of babies. There is some evidence to suggest that parents of cuter babies hold, kiss, and have greater eye-to-eye contact with their infants than do parents of less cute babies (Parke and Sawin, 1975).

A second promising line of investigation focuses on the reactions of parents to the birth of their children. Greenberg and Morris (1974) studied the reaction of fathers to the birth of their first child. They described this reaction as one of "engrossment." The term engrossment was used to convey the "absorption, preoccupation, and interest in the infant" (p. 521). Greenberg and Morris speculated

that there is an innate potential for engrossment that is released by contact with the infant.

All of those who propose the existence of innate factors in the motivation to have children believe that these inherited capacities are subject to modification by experience and learning. According to Bardwick (1974), a biological need to have children "will not be like organic needs to eat or sleep or defecate but will be more 'human,' that is, socialized, learned, value-laden, more embedded in cognitive and emotional experiences, choices, and judgments" (p. 58).

Regardless of whether one accepts the plausibility of a biological drive to have children, it should be clear that for most adults young children offer a very unique and powerful source of gratification. It is very likely that the anticipation of this gratification contributes to the motivation for parenthood.

METHOD

The initial phase of this study was the creation of a comprehensive instrument to measure the motivations to have or abstain from having children. A review of the literature revealed that no such instrument existed.

Creation of the Parenthood Inventory

The first instrument developed for this purpose was a story completion test devised by the author. Story stems were designed to elicit feelings and expectations about having children, pregnancy, and remaining childless. A set of nine stems, differing slightly for males and females, was created and pretested on a small group of college students. The results were discouraging. Stories were short, general and vague, and revealed little of the more covert motivations they had been designed to elicit. It seemed that these students had only vague notions about why they wanted or didn't want children, and that putting these feelings or expectations into words required a very unusual degree of self-awareness and insight into one's motives and feelings. As a result of this pretesting, the projective methodology was abandoned in favor of a self-report, Likert methodology.

The less covert Likert methodology was adopted in the

hope that presenting a large number of items representing potential motives for and against having children would allow for a comprehensive assessment of an individual's motivations as well as make possible a determination of the major dimensions of motivation. Information on these dimensions was deemed vital to the development of a set of specifications for a more complete instrument to be used in future research.

In creating a self-report, Likert instrument it became necessary to develop a scheme to operationalize the hypothetical motivation for parenthood constructs. Based heavily on the work of Hoffman and Hoffman (1973), Carter (1968), and Blake (1971), it was decided to do this in terms of the expected rewards and costs of children. The focus on expectations was in keeping with the aim of the present study, to measure what actually motivates having or not having children, as opposed to what satisfying or dissatisfying experiences couples have after they become parents.

A large number of items were written, some based on Carter's Family Opinion Survey (1968), and others on the conceptual models reported in the literature. The result was the Parenthood Inventory (PI). The PI was revised several times and then pretested on a small number of married graduate students without children. Results were quite promising and so a final revision was made.

The Parenthood Inventory

The final revision of the PI consists of 104 Likert items organized into two parts (see Appendix A). Part I of the PI focuses on expectations of the rewards and costs of children. Most of the 76 items in this section are conjugated in the first person and reflect experiences that different parents might have with their children. Subjects are instructed to indicate how likely or unlikely it would be for the experience described in each item to happen to them, if and when they were to become a parent. This is done on a four-point scale ranging from very likely to very unlikely.

The 28 items in Part II of the PI focus on current attitudes towards the rewards and costs of children. This section contains items that subjects can respond to without projecting themselves into the role of being a parent. Responses to these items are on a four-point scale ranging from strong disagreement to strong agreement.

The Questionnaire

In order to collect data to evaluate the construct validity of the PI, and its component dimensions, a questionnaire was constructed (see Appendix A). It consists of two sections in addition to the PI: Biographic Information, and Childhood Information. The Biographic Information section includes multiple-choice questions on education, length and happiness of marriage, religion, income, parents, and

pregnancy history. The Childhood Information section consists of 22 five-point scales on which subjects rate the quality of their childhood experiences and relationships with parents.

Pilot Testing the Instrument

Most of the research on motivations for and against parenthood has been carried out with couples who already have children. While this may provide information on the rewards and costs of children, it does not establish actual motivation. For this reason the present study sampled only childless married couples. The second phase of the present study--pilot testing the PI--was to obtain such a sample.

The Survey

In order to gather a moderate sized sample of childless couples, a door-to-door survey was conducted in Michigan State University's Spartan Village, a large apartment complex housing married students.

The survey was conducted with the help of a number of field assistants. Each assistant was assigned an area of buildings within which to canvass. The canvassing procedure involved knocking on doors and making a personal introduction as well as an introduction of the study. Before enlisting the voluntary cooperation of residents, assistants had to determine whether the couple met the eligibility requirements of the study. Only childless couples were eligible, and both spouses had to agree to participate. Couples where the

wife was pregnant were not considered eligible. Foreign students were also ineligible.

For those eligible couples who agreed to participate a set of two questionnaires was left. Spouses were instructed to complete their separate questionnaires independently. Finally, assistants made arrangements to return at a later time to pick up the completed questionnaires.

Approximately 80 percent of the eligible couples who agreed to participate filled out and returned questionnaires. The remaining 20 percent were either not at home or had not filled out the questionnaire when assistants made their return visits.

The Sample

Several couples had to be eliminated from the sample because they returned questionnaires with significant amounts of missing data. The final sample, after these exclusions, consisted of 205 couples. The data from questionnaires of these subjects was then transferred to computer punch cards.

The mean age of the 410 respondents in the final sample was 23.42 years (S.D. = 2.72). The mean length of marriage was 1.90 years (S.D. = 1.53). The average expected interval before the birth of a first child was 3.45 years (S.D. = 1.75). Responses to questions on education, religion, income, and family size preferences are presented in Table 1.

Table 1. Percentage of Males, Females, and Total Sample that Responded to Each Category of Biographical Questions on Education, Religion, Income, and Family Size Preferences

	Males (N=205)	Females (N=205)	Total (N=410)
4. If you are a student, what is your current grade level?			
Freshman	1.0	.5	.7
Sophomore	5.9	1.5	3.7
Junior	14.1	8.3	11.2
Senior	21.5	21.5	21.5
Professional or graduate student	45.9	12.2	29.0
Other	2.0	4.9	3.4
No response	9.8	51.2	30.5
5. If you are not currently a student, what is the highest grade you have completed?			
Less than high school	0.0	0.0	0.0
High school graduate	.5	12.2	6.3
Some college	2.4	13.7	8.0
College graduate	5.9	22.4	14.1
Some post-graduate	1.5	3.4	2.4
Post-graduate degree	3.4	4.4	3.9
No response	86.3	43.9	65.1
9. With what religious orientation do you most closely identify?			
Atheist or Agnostic	15.6	11.2	13.4
Protestant	48.8	53.7	51.2
Catholic	22.4	24.9	23.7
Jewish	2.9	2.9	2.9
Hindu, Moslem, or Buddhist	2.4	2.4	2.4
Other	7.8	3.4	5.6
No response	0.0	1.5	.7
10. How important is religion to you?			
Very important	24.4	33.7	29.0
Fairly important	32.2	33.2	32.7
Not so important	25.9	22.4	24.1
Not at all important	17.1	10.2	13.7
No response	.5	.5	.5

Table 1. (Continued)

	Males (N=205)	Females (N=205)	Total (N=410)
11. What was your parents' combined gross income for 1974 (or 1973, whichever is higher)?			
Less than $5,000	3.9	2.0	2.9
$5,001 - $10,000	10.7	11.2	11.0
$10,001 - $15,000	21.0	21.0	21.0
$15,001 - $25,000	32.7	34.6	33.7
$25,001 - $50,000	21.0	21.0	21.0
$50,001 or more	5.9	2.9	4.4
No response	4.9	7.3	6.1
12. For 1974, what was the combined gross income earned by both you and your spouse?			
Less than $3,000	11.2	12.2	11.7
$3,001 - $6,000	36.1	35.1	35.6
$6,001 - $9,000	23.4	23.4	23.4
$9,001 - $12,000	16.6	16.6	16.6
$12,001 - $15,000	6.3	4.4	5.4
$15,001 or more	5.4	6.8	6.1
No response	1.0	1.5	1.2
16. How large a family would you like to have, if you were going to have the ideal number of children?			
0 children	7.8	5.4	6.6
1 child	2.9	4.9	3.9
2 children	60.0	56.6	58.3
3 children	17.1	16.6	16.8
4 children	9.3	12.7	11.0
5 or more children	2.4	2.9	2.7
No response	.5	1.0	.7
17. How large a family do you realistically expect to have?			
0 children	7.8	9.8	8.8
1 child	4.4	5.9	5.1
2 children	66.3	66.3	66.3
3 children	14.6	12.2	13.4
4 children	5.4	3.4	4.4
5 or more children	.5	.5	.5
No response	1.0	2.0	1.5

RESULTS

The third phase of the current study was the analysis of results obtained from pilot testing the PI. This analysis is presented in two major sections: Hierarchical Cluster Analysis of the PI, and Construct Validity of the PI.

Hierarchical Cluster Analysis of the PI

The hierarchical cluster analysis of the inventory involved two basic operations. The first was a cluster analysis of the items. The second was a cluster analysis of these first-order clusters, which yielded higher-order or super-clusters.

In the correlation matrices that form the basis of both of these analyses, correlations have been corrected for the attenuation caused by measurement error. This is done to provide an estimate of what the true correlation would be if the variables were perfectly reliable (Nunnally, 1967). Three different corrections for attenuation are needed for a cluster analysis (Gillmore, 1970):

1. Intercorrelations among clusters need to be corrected so as to eliminate the distortions caused by having clusters of different sizes, i.e., with different amounts of measurement error.

2. The correlations between an item and the cluster to which it belongs--the part-whole correlations--must be corrected downward to eliminate the inflation caused by a common error of measurement.

3. The correlations between an item and a cluster to which it does not belong are spuriously low because of the error associated with each cluster. Correction for attenuation removes this and in doing so eliminates the distortion caused by having clusters with different amounts of error.

These three corrections were performed by a system of computer routines devised by Hunter and Cohen (1969). In all the correlation matrices to follow, appropriate corrections for attenuation have been made.

The Cluster Analysis of Items

The purpose of the cluster analysis of items was to identify the major dimensions that comprise the PI. As in any cluster analysis, the first step is a partitioning of items or variables into clusters. Each cluster is then evaluated to determine if all of its items are equivalent to one another, that is, are measures of the same underlying dimension. There are three primary criteria for evaluating equivalence among any given cluster of items:

1. Homogeneity of item content.
2. Internal homogeneity--moderate to high positive intercorrelations among items, i.e., coefficients of .25 or higher.
3. External parallelism--a similar or parallel pattern of correlations to the external variables.

The first attempt at grouping the items used a blind multiple groups method based on a varimax rotation of a principal axes factor analysis. The factor analysis was done with the largest correlation for each variable as its communality. In this method the set of items that had

their highest loading on a given varimax factor were grouped together. Thus, the number of groups or clusters was equal to the number of factors.

The factor analysis and blind multiple groups procedure was performed three times, once using only the male subjects, once using only the female subjects, and once using the total sample. The factors and blind groups of items were very similar in all three analyses, suggesting that the pattern of relationships among the items was very similar for the male and female subgroups. This was considered strong enough evidence to make unnecessary separate cluster analyses for males and females. The hierarchical cluster analysis reported below was done using the total sample.

The factor analysis and blind grouping of the PI resulted in 12 clusters. Most of these were so diverse in content that it proved impossible to arrive at meaningful names for them. The blind clusters grossly violated the first and foremost criterion for evaluating clusters--homogeneity of content--and as is often the case, they had to be completely abandoned.

The second attempt at grouping the items into clusters used the so-called "rational" method (Tryon and Bailey, 1970). Here items were grouped solely on the basis of their similarity in content, though theoretical biases determined which items were perceived to be similar. Following this grouping,

the clusters were evaluated according to the usual criteria. What then followed was a series of trial and error modifications and subsequent evaluations of an evolving set of clusters. This ended when it became apparent that the clusters could not be further improved.

The First-Order Clusters

The cluster analysis identified 18 clusters:

1. Content Needs (CN)
2. Fun-Stimulation-Novelty (FSN)
3. Vicarious Satisfaction (VS)
4. Prove Own Worth (POW)
5. Marital Unity-Stability (MUS)
6. Marital Disunity (MD)
7. Status-Respectability (SR)
8. Morality-Religion (MR)
9. Life's Goal-Accomplishment Needs (LGA)
10. Generative-Creative Needs (GCN)
11. Nurture-Protect (NP)
12. Recognition-Respect and Importance (RRI)
13. Social Catalyst (SC)
14. Companionship (C)
15. Too Many Demands and Sacrifices (MDS)
16. Economic Costs (EC)
17. Inadequacy (I)
18. Anxiety-Fear (AF)

Some of the characteristics of the first-order clusters are presented in Table 2. These include number of items, Alpha coefficients of reliability, and intercorrelations.

The intercorrelation matrix of clusters reveals a tremendous range in the magnitude of correlations. This is a result of correction for attenuation.

At first glance the Alpha coefficients of reliability for several of the clusters appear quite low. It should be remembered, however, that Alpha coefficients are moderately

Table 2. Number of Items, Alpha Coefficients of Reliability, and Intercorrelations for the First-Order Clusters*

	Number of Items	Reliability	Intercorrelations																
			CN	FSN	VS	POW	MUS	MD	SR	MR	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF
1. CN	3	.76	100	84	73	12	13	-17	-04	43	61	84	72	77	60	45	-15	-23	-49	22
2. FSN	10	.88	84	100	70	-10	04	-29	-21	47	58	82	73	75	55	36	-32	-36	-66	09
3. VS	3	.61	73	70	100	49	27	11	04	47	57	79	79	99	81	54	18	-08	-29	26
4. POW	5	.67	12	-10	49	100	53	64	37	12	28	20	21	34	56	43	76	45	47	55
5. MUS	7	.67	13	04	27	53	100	39	57	40	67	35	25	28	45	75	30	08	20	28
6. MD	3	.64	-17	-29	11	64	39	100	23	-06	-01	-07	-01	09	31	23	81	47	56	43
7. SR	5	.66	-04	-21	04	37	57	23	100	15	25	02	-02	00	26	42	33	17	41	17
8. MR	2	.49	43	47	47	12	40	-06	15	100	79	65	41	45	46	61	-15	-32	-35	17
9. LGA	2	.45	61	58	57	28	67	-01	25	79	100	75	49	59	71	97	-02	-20	-33	24
10. GCN	4	.71	84	82	79	20	35	-07	02	65	75	100	77	84	69	67	-12	-23	-50	22
11. NP	5	.67	72	73	79	21	25	-01	-02	41	49	77	100	84	51	57	00	-05	-30	22
12. RRI	6	.70	77	75	99	34	28	09	00	45	59	84	84	100	75	60	05	05	-33	31
13. SC	5	.66	60	55	81	56	45	31	26	46	71	69	51	75	100	67	29	-02	-19	39
14. C	3	.52	45	36	54	43	75	23	42	61	97	67	57	60	67	100	31	03	-05	33
15. MDS	9	.75	-15	-32	18	76	30	81	33	-15	-02	-12	00	05	29	31	100	65	67	56
16. EC	2	.57	-23	-36	-08	45	08	47	17	-32	-20	-23	-05	05	-02	03	65	100	53	28
17. I	6	.76	-49	-66	-29	47	20	56	41	-35	-33	-50	-30	-33	-19	-05	67	53	100	23
18. AF	2	.67	22	09	26	55	28	43	17	17	24	22	22	31	39	33	56	28	23	100

*As in all matrices to follow, correlations are presented without decimal points. The numbers presented are, in effect, the standard Pearson product-moment coefficients multiplied by 100.

affected by the number of items in a cluster (Cronbach, 1951). An Alpha coefficient of .45 for a two item cluster, or .52 for a three item cluster is actually quite respectable. With the addition of just a few good items to each of these clusters, Alpha coefficients should reach acceptable levels.

In order to make sense out of the complex network of relationships between clusters, a higher-order cluster analysis was performed. This is reported following the presentation of the first-order clusters.

The items making up the Contact Needs Cluster are presented in Table 3 along with an item analysis. This is a very tight and homogeneous cluster measuring the expectation that children will satisfy the need for affectionate physical contact. The Contact Needs Cluster is an excellent one according to the three criteria for evaluating clusters.

The items and item analysis for the Fun-Stimulation-Novelty Cluster are presented in Table 4. This cluster is identical to the value category of a similar name proposed by Hoffman and Hoffman (1973). It is a large, somewhat diverse cluster which measures the expectation that children will provide fun, stimulation, and novel experiences for a parent. The cluster is a good one according to the three criteria for evaluating clusters. It is also highly reliable (.88).

Two of the items in this cluster could have been assigned to other clusters. Item 85 might have been assigned

Table 3. Contact Needs Cluster: Items and Item Analysis

Item Number	Item
7.	Cuddling a baby gives me a wonderful sensation.
58.	I really enjoy hugging my children.
26.	I love it when the baby clings to me.

Item Analysis

Item Number	Intercorrelations										
	7	58	26	CN	FSN	VS	POW	MUS	MD	SR	MR
7	100	58	51	79	61	52	04	00	-21	-06	35
58	58	100	45	64	51	42	17	21	-02	02	25
26	51	45	100	72	69	63	05	07	-14	-04	33
	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF	
7	46	61	48	51	47	28	-13	-18	-40	13	
58	33	52	53	53	37	38	-09	-10	-27	16	
26	52	67	54	63	47	30	-11	-21	-40	19	

to Life's Goal-Accomplishment Needs. But on all three criteria it seemed to fit much better in Fun-Stimulation-Novelty. Perhaps the word "exciting" overshadowed the "challenge" aspect of the item. Item 70 seemed to fit equally well in the Contact Needs Cluster. This would be in keeping with Lorenz's (1943, 1950) theory that the adult reaction to babyishness or cuteness is to want to caress or fondle the infant. As the item is presently worded there is no mention of such physical contact, and for this reason its content was judged to be more homogeneous with the content of the Fun-Stimulation-Novelty Cluster, to which it was assigned.

Table 4. Fun-Stimulation-Novelty Cluster: Items and Item Analysis

Item Number	Item
69.	It is fun to help my children grow and develop.
102.	There are many new and exciting experiences that come with having and raising children.
71.	I enjoy being very busy with the children.
98.	Babies are lots of fun to play with.
18.	Watching our children grow and develop is very satisfying.
39.	I love to play with my children.
66.	My children generate a lot of enthusiasm and energy in me.
85.	There are many exciting challenges in raising children.
70.	Our child is so adorable and cute.
1.	The children make our home more lively.

Item Analysis

Item Number	Intercorrelations													
	69	102	71	98	18	39	66	85	70	1	CN	FSN	VS	POW
69	100	59	49	47	57	49	49	48	44	37	59	77	52	-17
102	59	100	39	58	45	43	41	60	38	36	49	73	40	-07
71	49	39	100	41	42	46	54	31	48	43	57	68	47	-14
98	47	58	41	100	41	47	35	45	43	33	62	67	42	-05
18	57	45	42	41	100	39	41	44	30	34	54	64	44	-11
39	49	43	46	47	39	100	47	35	35	32	60	64	43	-03
66	49	41	54	35	41	47	100	36	31	38	50	64	45	-15
85	48	60	31	45	44	35	36	100	30	36	45	62	39	-02
70	44	38	48	43	30	35	31	30	100	32	62	56	56	08
1	37	36	43	33	34	32	38	36	32	100	45	54	42	01

Table 4. (Continued)

Item Number	MUS	MD	SR	MR	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF
69	-07	-26	-27	32	41	58	50	56	40	13	-31	-30	-55	-01
102	-01	-13	-35	33	41	55	41	44	39	24	-20	-27	-55	07
71	03	-24	-04	37	37	51	54	57	35	27	-30	-34	-41	04
98	07	-23	-14	27	38	52	44	40	30	26	-19	-23	-52	02
18	-08	-21	-21	26	25	55	42	45	28	14	-30	-29	-41	-06
39	03	-25	-06	20	38	47	56	49	31	29	-21	-17	-39	17
66	03	-23	-09	31	33	51	51	53	32	21	-26	-23	-42	04
85	-01	-17	-12	38	43	56	41	44	45	28	-10	-15	-38	09
70	11	-07	-02	24	36	54	57	57	42	22	-02	-15	-28	15
1	17	-10	-06	38	45	50	40	44	37	31	-17	-19	-39	05

The items and item analyses for the Vicarious Satisfaction Cluster and Prove Own Worth Cluster are presented in Table 5 and Table 6, respectively. The two clusters are similar in that they both are concerned with the expectation that children will provide a means for enhancing a parent's self-esteem. The difference between the two is largely one of degree and need. The Prove Own Worth Cluster reflects a strong need to shore up a shaky sense of self-esteem and adequacy through being a parent. The Vicarious Satisfaction Cluster reflects a weak need to enhance one's self-esteem by feeling successful as a parent. Both are good clusters, though Vicarious Satisfaction is tighter and more homogeneous.

Table 5. Vicarious Satisfaction Cluster: Items and Item Analysis

Item Number	Item
5.	The successes of my children make me feel like a success, too.
74.	I like to talk to other parents about the successes of my children.
54.	I am quite proud when one of my children does well in school.

Item Analysis

Item Number	Intercorrelations										
	5	74	54	CN	FSN	VS	POW	MUS	MD	SR	MR
5	100	37	34	44	41	65	35	20	08	11	38
74	37	100	30	45	38	58	35	22	07	11	23
54	34	30	100	39	42	53	16	05	03	-16	22
	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF	
5	34	53	47	59	50	36	11	-05	-16	20	
74	39	43	46	58	62	35	14	-07	-13	09	
54	27	43	47	56	31	23	08	-03	-21	17	

Table 6. Prove Own Worth Cluster: Items and Item Analysis

Item Number	Item
42.	I feel bad if one of my friends' children does something better than one of my children.
16.	My preschooler does things in public that make me feel ashamed.
9.	I feel powerful when my children do what I tell them to.
24.	I am ashamed if one of my kids does poorly in school.
2.	I am always comparing my children to my friends' children.

Item Analysis

Item Number	Intercorrelations											
	42	16	9	24	2	CN	FSN	VS	POW	MUS	MD	SR
42	100	33	29	38	27	06	-07	24	61	30	38	26
16	33	100	32	30	26	-06	-19	10	57	19	36	16
9	29	32	100	29	26	17	-02	31	54	38	33	22
24	38	30	29	100	17	-02	-11	23	53	28	36	30
2	27	26	26	17	100	17	11	42	42	27	28	06
	MR	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF	
42	12	20	13	12	16	32	35	46	27	29	27	
16	04	06	-02	-01	04	23	18	48	28	34	27	
9	02	19	17	20	24	30	25	42	23	22	29	
24	01	04	04	09	12	26	10	36	26	32	31	
2	13	25	20	18	36	40	28	33	16	08	34	

Three of the five items in the Prove Own Worth Cluster seem to be measuring the negative expectation that children will fail a parent in his need to bolster self-esteem. The other two suggest the more positive expectation that children will succeed in satisfying this need. In order to make this cluster reflect a more homogeneous and relevant motivational dimension all items should be worded to reflect the positive expectation that being a parent will provide a means for enhancing self-esteem. With this change it is

very possible that the Vicarious Satisfaction and Prove Own Worth Clusters will collapse into one cluster.

The items and item analyses for the Marital Unity-Stability Cluster and the Marital Disunity Cluster are given in Table 7 and Table 8, respectively. The two clusters measure expectations that children will have either a positive or negative effect on a marriage. According to the criteria for evaluating clusters, these two clusters are good, but not great. They both seem to be tapping broad and multifaceted motivational domains.

The Status-Respectability Cluster measures the expectation that children will provide a parent with social status and respectability as defined by the social norms of society. Items and an item analysis are presented in Table 9. The Status-Respectability Cluster is basically a good one, though in terms of the more statistical criteria for evaluating clusters, one of its items--item 3--is weak. The content of item 3, however, is central to the dimension measured by this cluster. An examination of the ferquency distribution for this item reveals that it is highly skewed. This probably accounts for its only modest correlations with the other items in the cluster, and the other first-order clusters. Item 3 should be kept in this cluster but its wording should be softened.

Items and an item analysis for the Morality-Religion Cluster are given in Table 10. This is a small and incomplete cluster with good potential for expansion. In a

Table 7. Marital Unity-Stability Cluster: Items and Item Analysis

Item Number	Item
80.	I hope that having children will settle our marital differences.
77.	Having children will insure that our marriage lasts a long time.
12.	The most important part of our marriage is the children.
11.	When my spouse and I are not getting along, I am thankful that the kids are around.
20.	Now that we have children, I don't have to worry so much about my spouse's needs.
100.	Our marriage is boring without children.
94.	People with young children should not get divorced.

Item Analysis

Item Number	Intercorrelations												
	80	77	12	11	20	100	94	CN	FSN	VS	POW	MUS	MD
80	100	26	26	26	27	29	17	09	01	16	26	54	26
77	26	100	27	22	21	22	25	11	13	19	21	51	12
12	26	27	100	27	17	17	24	22	19	26	20	48	10
11	26	22	27	100	15	21	24	19	12	25	29	47	15
20	27	21	17	15	100	30	20	-14	-20	-06	34	45	33
100	29	22	17	21	30	100	12	-01	-14	02	24	45	15
94	17	25	24	24	20	12	100	-03	03	07	20	42	19
	SR	MR	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF	
80	29	16	40	19	12	13	23	33	17	00	14	13	
77	20	33	42	26	19	21	31	39	04	06	-04	17	
12	20	23	42	32	24	21	27	50	10	-08	-09	13	
11	29	17	36	30	24	22	33	46	10	03	07	19	
20	32	01	12	-05	-09	-01	08	24	27	14	31	12	
100	38	17	28	05	02	05	13	29	17	04	18	15	
94	22	26	23	08	10	13	14	29	14	08	07	05	

Table 8. Marital Disunity Cluster: Items and Item Analysis

Item Number	Item
22.	Because of the children my spouse and I do not spend very much time alone with each other.
67.	Since we had children my spouse and I have become less intimate.
15.	My spouse seems to pay more attention to the children than to me.

Item Analysis

Item Number	Intercorrelations										
	22	67	15	CN	FSN	VS	POW	MUS	MD	SR	MR
22	100	46	34	-04	-14	11	46	19	70	03	-05
67	46	100	31	-21	-27	02	40	27	65	23	-11
15	34	31	100	-06	-12	06	32	26	49	16	05
	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF	
22	05	-04	08	10	24	19	56	30	26	34	
67	-10	-15	-09	-03	17	08	52	27	44	21	
15	04	06	00	09	16	15	41	30	33	25	

completed form it should measure the extent to which decisions to have children are made within a moral and religious context, that is, to satisfy personal convictions or to avoid social disapprobation. The Hoffman's (1973) have a morality category in their scheme of values. The present Morality-Religion Cluster could benefit from the inclusion of some of the components of their category.

Life's Goal-Accomplishment Needs is another small and incomplete cluster with excellent potential for expansion. The dimension measured by this cluster is the expectation that raising a family and being a parent will

Table 9. Status-Respectability Cluster: Items and Item Analysis

Item Number	Item
99.	You only become an adult when you have your own children.
76.	Until we had children, the people at work didn't respect me.
62.	Until I had children of my own, my parents did not treat me like an adult.
103.	A woman without children is seen as barren or infertile.
3.	My parents, brother, and sisters didn't respect me until I had children.

Item Analysis

Item Number	Intercorrelations											
	99	76	62	103	3	CN	FSN	VS	POW	MUS	MD	SR
99	100	46	35	42	15	06	-09	05	20	41	10	68
76	46	100	38	32	19	-13	-21	-11	25	31	16	66
62	35	38	100	22	22	-03	-07	06	24	34	18	55
103	42	32	22	100	13	02	-13	15	30	39	16	50
3	15	19	22	13	100	-02	-07	-05	00	07	01	29
	MR	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF	
99	12	25	14	04	04	16	35	15	-01	21	09	
76	09	12	-10	-10	-11	09	26	25	10	32	10	
62	09	22	03	05	06	23	32	24	18	16	11	
103	13	25	06	07	09	19	25	24	09	26	17	
3	-04	-17	-07	-11	-08	03	-05	00	10	15	-02	

provide a lifelong existential goal and provide an area in which competence and a sense of accomplishment can be attained. This cluster is very similar to the Hoffman's (1973) category of Creativity, Accomplishment, Competence. Items and an item analysis for the Life's Goal-Accomplishment Needs Cluster are presented in Table 11.

Closely related to Life's Goal-Accomplishment Needs is the Generative-Creative Needs Cluster. The dimension

Table 10. Morality-Religion Cluster: Items and Item Analysis

Item Number	Item
78.	Not wanting a pregnancy is an insufficient reason to justify having an abortion.
91.	It is a sign of God's blessing when children are born.

Item Analysis

Item Number	Intercorrelations									
	78	91	CN	FSN	VS	POW	MUS	MD	SR	MR
78	100	32	18	20	18	07	18	-01	13	59
91	32	100	32	35	38	07	29	-05	04	59
	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF
78	35	26	16	21	17	31	-06	-09	-15	11
91	58	51	33	32	37	42	-12	-28	-26	09

Table 11. Life's Goal-Accomplishment Needs Cluster: Items and Item Analysis

Item Number	Item
93.	I don't know what I will do with my life if I do not raise a family.
95.	One of my most important goals in life is to be a good and skillful parent.

Item Analysis

Item Number	Intercorrelations									
	93	95	CN	FSN	VS	POW	MUS	MD	SR	MR
93	100	29	22	13	20	23	49	10	31	39
95	29	100	46	52	43	08	26	-11	-03	49
	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF
93	56	28	20	23	33	56	11	-01	-03	14
95	56	56	35	43	46	52	-14	-21	-34	13

that this cluster is tapping is the need to bring something new into existence, or to engender something. For Erikson (1963), who centered a developmental stage around it, this need is directly related to children, though not necessarily one's own. Erikson defines generativity as the need to establish, to guide and to teach a new generation. Having and raising one's own children seems to be the most likely means for satisfying not only generative-creative needs, but accomplishment-competence needs as well.

The Generative-Creative Cluster, presented in Table 12, is a good cluster that needs one modification. Item 89 should be reworded to make it more homogeneous with the rest of the cluster.

Items and an item analysis for the Nurture-Protect Cluster are presented in Table 13. This cluster seems to be measuring the expectation that nurturing and protecting children will feel satisfying. This is a good cluster that could probably be greatly improved by minor changes in the wording of several items. Items 38, 64, and 65 have highly skewed frequency distributions. They seem to be items with which very few individuals could disagree. Items 30 and 63 have more evenly spread frequency distributions, probably because they are worded: "It feels good. . ." or "It's a good feeling. . ." It is recommended that items 38, 64 and 65 be similarly worded so as to make each of them reflect the satisfaction or pleasure that results from nurturance and protection of children.

Table 12. Generative-Creative Needs Cluster: Items and Item Analysis

Item Number	Item
57.	I feel so pleased about my part in bringing new life into this world.
35.	The birth of our baby made me feel proud.
28.	It is good to know that my children will carry on the family when I die.
89.	I want children of both sexes.

Item Analysis

Item Number	Intercorrelations										
	57	35	28	89	CN	FSN	VS	POW	MUS	MD	SR
57	100	47	44	37	60	57	50	03	25	-15	01
35	47	100	36	37	66	64	63	07	15	-05	-07
28	44	36	100	28	42	34	48	26	32	01	16
89	37	37	28	100	40	47	35	12	15	00	-05
	MR	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF
57	46	55	73	48	54	45	43	-16	-22	-39	15
35	38	42	66	59	66	50	40	-08	-13	-38	19
28	42	43	57	53	50	40	52	-05	-05	-19	07
89	37	45	52	29	37	36	32	00	-16	-28	15

The Recognition-Respect and Importance Cluster measures the expectation that children will respect and admire a parent. The underlying dimension is the need to be recognized--the satisfaction of being needed and of being important and special in someone else's life. It is the closest the present PI comes to measuring the need for affection that the Hoffman's (1973) include in their value category, Primary Group Ties, Affiliation. Because the need to be recognized as important seems to be distinct from the need for affection, it is recommended that a separate Need for Affection scale be included in a future inventory.

Table 13. Nurture-Protect Cluster: Items and Item Analysis

Item Number	Item
64.	I want my children to always be able to come to me for help and guidance.
65.	I want my children to always feel loved and cared for.
30.	It feels good when my children depend on me to take care of them.
38.	I want my children to always feel safe and secure.
63.	It is a good feeling to know that my children need me to protect them from dangerous situations.

Item Analysis

Item Number	Intercorrelations											
	64	65	30	38	63	CN	FSN	VS	POW	MUS	MD	SR
64	100	64	20	23	20	36	52	39	01	-01	-06	-17
65	64	100	14	32	12	40	51	41	-05	-03	-11	-20
30	20	14	100	27	51	49	32	48	29	34	12	19
38	23	32	27	100	21	30	30	38	09	02	-01	-03
63	20	12	51	21	100	37	32	46	22	34	05	17
	MR	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF	
64	16	24	34	62	45	21	16	-08	-07	-27	09	
65	23	23	38	59	43	22	12	-13	-08	-29	02	
30	26	35	54	52	58	45	52	11	08	-07	22	
38	15	16	33	48	32	12	28	06	00	-09	19	
63	29	34	47	48	46	35	46	05	-06	-07	08	

Items and an item analysis for the Recognition-Respect and Importance Cluster are provided in Table 14. Based on the criteria for evaluating clusters, it is evident that this cluster needs improvement. Items 29 and 73 should probably be dropped because their content is somewhat different from that of the other four items. Several new items should be written to replace these two.

Table 14. Recognition-Respect and Importance Cluster: Items and Item Analysis

Item Number	Item
33.	Being respected by my children makes me feel good.
14.	I feel good when my children admire and look up to me.
51.	It makes me happy when my family tells me how much they appreciate all the work I do for them.
46.	When I am at home with the kids I feel like an important person.
29.	I get a real charge when my kids say things they have heard me say.
73.	When I die, my children will not forget me.

Item Analysis

Item Number	Intercorrelations											
	33	14	51	46	29	73	CN	FSN	VS	POW	MUS	MD
33	100	47	36	35	21	23	54	52	66	14	14	04
14	47	100	30	23	30	29	45	43	59	14	00	03
51	36	30	100	32	28	21	36	32	54	23	12	12
46	35	23	32	100	23	20	45	44	49	14	36	02
29	21	30	28	23	100	16	31	26	44	42	31	18
73	23	29	21	20	16	100	34	43	43	02	-03	-09
	SR	MR	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF
33	-04	36	36	59	54	64	43	31	01	-07	-22	23
14	-11	18	24	47	47	63	37	19	-03	00	-19	14
51	00	20	31	40	40	57	42	39	14	13	-15	26
46	12	38	50	52	47	50	44	52	-01	-03	-15	17
29	15	20	28	37	46	43	42	32	13	10	-01	23
73	-13	12	18	30	31	40	31	15	-08	02	-33	-03

The Social Catalyst Cluster measures the expectation that having children will help in social activities. According to the usual criteria it is a good cluster. The only questionable item in the cluster is item 60. Statistically item 60 would fit equally well in the Vicarious Satisfaction Cluster. Its content, however, is closer to that of the Social Catalyst Cluster, where it was ultimately assigned. Items and an item analysis for the cluster are presented in Table 15.

Table 15. Social Catalyst Cluster: Items and Item Analysis

Item Number	Item
32.	Having children helps me make friends in the neighborhood.
31.	It is easier to find things to talk about with adults who have children of their own than with adults who don't have children.
25.	Our children provide a basis for social contacts.
60.	I enjoy talking to other parents about my children.
75.	A major topic of conversation between my spouse and me is our children.

Item Analysis

Item Number	Intercorrelations											
	32	31	25	60	75	CN	FSN	VS	POW	MUS	MD	SR
32	100	41	43	37	19	30	27	43	35	34	22	23
31	41	100	32	22	23	24	17	38	47	33	24	25
25	43	32	100	19	18	18	13	27	32	22	20	23
60	37	22	19	100	28	55	52	70	21	12	-01	-03
75	19	23	18	28	100	33	39	39	15	18	18	01
	MR	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF	
32	24	47	40	24	41	71	47	20	01	-10	33	
31	25	38	31	28	34	56	43	30	05	02	26	
25	19	27	25	17	29	52	35	21	05	02	15	
60	29	43	51	38	58	49	28	01	-14	-30	13	
75	26	34	38	28	39	39	27	05	00	-15	19	

Items and an item analysis for the Companionship Cluster are given in Table 16. With the exception of item 52, this is a tight cluster measuring the expectation that children will help combat loneliness. The unstated need here is one for companionship. Item 52 seems to be tapping some other need in addition to that of companionship. For this reason, it should either be dropped from the cluster, or reworded to make it more homogeneous with the other two items. The Companionship Cluster has only modest reliability (.52) and it is recommended that more items be added to it.

Table 16. Companionship Cluster: Items and Item Analysis

Item Number	Item
44.	Without my children I am a pretty lonely person.
52.	I want a large family so there will be children around the house for a long time.
61.	I am lonely when I am not at home with my family.

Item Analysis

Item Number	Intercorrelations										
	44	52	61	CN	FSN	VS	POW	MUS	MD	SR	MR
44	100	32	28	27	15	31	43	56	24	27	28
52	32	100	20	26	18	22	16	37	02	24	41
61	28	20	100	18	24	31	09	26	09	15	27
	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF	
44	53	36	27	34	43	65	31	13	08	24	
52	56	36	22	24	29	49	03	-11	-12	16	
61	43	33	41	35	33	43	14	03	-03	12	

The Too Many Demands-Sacrifices Cluster is a large and broad-based cluster measuring the expectation that children present too many demands and require too many sacrifices of parents. It is one of the five clusters measuring the anticipated costs of children. Attempts at breaking it into smaller, more homogeneous components proved unsuccessful, suggesting that when children are perceived as being a burden, they are perceived as being a general drain on a parent's time and energy. The only questionable item in the cluster is item 56, which seems to be partially tapping a recognition need in addition to an expectation of great sacrifice. This item should be reworded to eliminate the recognition aspects of it. Items and an item analysis for this cluster are presented in Table 17.

Another cluster measuring the expected costs of children is the Economic Costs Cluster. Items and an item analysis for this cluster are presented in Table 18. This is a small and tight cluster measuring the expectation that having children lowers a couple's standard of living. The Economic Costs Cluster could benefit from a few additional items that would hopefully raise its modest reliability (.57).

The Inadequacy Cluster measures the belief that one is emotionally incapable of taking care of children and being a good parent. The dimension represented in this cluster is one of the major motivations for not having children. The only questionable item in the cluster is item 50.

Table 17. Too Many Demands-Sacrifices Cluster: Items and Item Analysis

Item Number	Item
34.	My children tire me out emotionally.
55.	There are lots of times when my children are too noisy and active for me.
8.	At the end of a day spent with the children I am totally exhausted.
27.	Having and raising children has made me look older than other people my age.
13.	Having and raising children has made me feel older than I really am.
48.	Since becoming a parent, I don't have enough time to be with my friends.
56.	I resent it when my kids don't appreciate the amount of work I do for them.
45.	Having children makes it difficult for me to pursue a career.
41.	My children never listen to what I tell them to do.

Item Analysis

Item Number	Intercorrelations													
	34	55	8	27	13	48	56	45	41	CN	FSN	VS	POW	MUS
34	100	39	41	30	26	30	38	33	31	-12	-19	04	49	17
55	39	100	30	25	27	31	30	16	28	-08	-09	19	35	13
8	41	30	100	24	24	21	19	29	17	10	-01	19	33	10
27	30	25	24	100	49	26	17	15	19	-01	-16	10	39	26
13	26	27	24	49	100	24	20	17	15	-07	-19	13	40	23
48	30	31	21	26	24	100	24	21	22	-22	-28	-02	42	10
56	38	30	19	17	20	24	100	21	13	04	-10	27	47	19
45	33	16	29	15	17	21	21	100	16	-24	-29	-16	22	-02
41	31	28	17	19	15	22	13	16	100	-10	-12	10	39	18

Table 17. (Continued)

Item Number	MD	SR	MR	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF
34	50	14	-13	-05	-08	-07	-03	18	15	70	45	46	28
55	48	18	-13	-01	-04	07	08	15	18	57	30	35	32
8	36	11	07	00	10	10	13	19	20	51	32	24	33
27	42	28	-02	05	-04	00	00	22	21	51	34	36	25
13	39	23	-12	-08	-08	00	03	12	09	50	26	30	32
48	52	16	-17	-05	-11	-01	02	10	18	49	36	37	22
56	49	14	01	10	05	16	22	26	22	45	27	28	34
45	22	08	-09	-10	-25	-13	-20	-07	06	41	39	37	26
41	30	18	-11	06	-07	-12	-01	14	10	39	27	30	19

Table 18. Economic Costs Cluster: Items and Item Analysis

Item Number	Item
36.	If we didn't have children we would be able to afford more of the luxuries of life.
43.	We don't want any more children because it would lower our standard of living.

Item Analysis

Item Number	Intercorrelations									
	36	43	CN	FSN	VS	POW	MUS	MD	SR	MR
36	100	40	-10	-17	02	33	01	34	08	-18
43	40	100	-20	-30	-12	25	09	27	15	-24
	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF
36	-07	-09	07	10	04	10	48	65	30	23
43	-18	-20	-14	-04	-06	-06	36	65	38	13

Statistically it seems to fit with the rest of the cluster, but its content is somewhat at odds with the personal inadequacy dimension being tapped. For this reason it should probably be dropped from the cluster. Items and an item analysis for the Inadequacy Cluster are given in Table 19.

The last of the 18 first-order clusters is the Anxiety-Fear Cluster. It is a small and unusually reliable (.67) cluster considering its size. The cluster concerns the expectation or fear that something catastropic will happen to a couple's child. Items and an item analysis are presented in Table 20.

There are 22 items that could not be fit into any of the first-order clusters. These are either of poor quality

Table 19. Inadequacy Cluster: Items and Item Analysis

Item Number	Item
90.	I don't think I am capable of being a good parent.
96.	I don't have the patience being a parent requires.
82.	I am too reckless a person to be involved with children.
86.	I don't know the first thing about taking care of children.
50.	My children bring me more unhappiness than pleasure.
10.	I get nervous being responsible for the welfare of the children.

Item Analysis

Item Number	Intercorrelations											
	90	96	82	86	50	10	CN	FSN	VS	POW	MUS	MD
90	100	50	52	43	35	29	-33	-51	-26	22	03	32
96	50	100	40	32	34	31	-35	-48	-22	29	09	34
82	52	40	100	28	35	29	-31	-38	-21	20	24	30
86	43	32	28	100	24	26	-28	-30	-04	22	09	23
50	35	34	35	24	100	23	-37	-50	-31	34	05	34
10	29	31	29	26	23	100	-10	-17	02	37	20	43
	SR	MR	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF
90	37	-19	-27	-41	-24	-29	-18	-10	32	26	75	05
96	13	-20	-25	-33	-19	-26	-19	-13	47	38	65	17
82	26	-18	-09	-34	-19	-25	-15	-02	33	25	64	-03
86	27	-22	-23	-20	-12	-06	-03	02	34	31	51	10
50	18	-33	-29	-39	-22	-29	-19	-09	36	35	50	10
10	22	-09	-03	-10	-08	-01	07	15	53	30	45	42

Table 20. Anxiety-Fear Cluster: Items and Item Analysis

Item Number	Item
23.	Sometimes I have this terrible fear that if we have another child, he or she will be born defective.
53.	I am sometimes afraid that something terrible will happen to our baby.

Item Analysis

Item Number	Intercorrelations									
	23	53	CN	FSN	VS	POW	MUS	MD	SR	MR
23	100	51	12	00	13	39	13	34	07	11
53	51	100	20	12	25	41	27	29	17	14
	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF
23	09	13	10	17	22	16	42	23	15	72
53	26	19	22	28	35	32	39	17	18	72

or are too unique to be grouped with any other items. They were perforce assigned to a residual cluster. Residual items and their correlations with the first-order clusters are presented in Table 21.

Some of the residual items have the potential for forming the core of new clusters or scales in a future inventory. For example, a cluster measuring the need to please or satisfy one's parents by having children might be constructed using item 79 as its starting point.

The Super Clusters

In order to make some sense out of the complex network of intercorrelations among the first-order clusters, an

Table 21. Residual Cluster: Items and Correlations with the First-Order Clusters

Item Number	Item
47.	I like to talk to other parents about the failures of my children.
49.	The children came along, unplanned, though not really unexpected.
79.	My parents keep pressuring us to give them grandchildren.
81.	We are getting close to the age at which the risk of producing defective children becomes substantial.
84.	An only child should have a brother or sister.
68.	We are having children because my spouse demanded it.
19.	My children will take care of me when I am old and feeble.
21.	It is very difficult to find babysitters.
59.	When I am with my children I can feel like a child again.
37.	If one of my children doesn't follow in my occupation I'll feel hurt.
101.	If our friends all start having children, we will want to have children, too.
4.	The relationship between my spouse and me has been closer during the nine months of pregnancy.
17.	I felt ashamed until the birth of our baby.
87.	Having children proves that a man is sexually virile.
104.	It is wrong to have sex if you aren't trying to conceive a child.
92.	Only selfish married people never have children.
97.	I want to be a better parent to my children than my parents were to me.
72.	If we have another child I won't feel that I am getting old.
40.	I am afraid that one of my children will grow up to be like me.
88.	I get nauseous when I think of changing a baby's diaper.
83.	Having children makes a woman look less attractive.
6.	My children are forever asking me to do this or do that for them.

Item Number	Correlations																	
	CN	FSN	VS	POW	MUS	MD	SR	MR	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF
47	02	-02	00	30	25	10	17	07	16	06	04	11	14	23	14	07	12	03
49	-02	-04	10	15	23	10	17	28	24	14	05	04	11	35	17	-04	08	06
79	-07	-07	13	16	09	22	28	-07	-10	02	05	02	10	08	24	10	22	13
81	-12	-10	-08	08	12	20	28	-04	-01	-03	-03	-07	04	04	17	11	13	06
84	23	28	23	11	16	00	-15	43	40	42	28	32	27	27	-06	-12	-24	03
68	-25	-30	-05	21	36	36	30	-03	-08	-11	-07	-04	-06	08	12	04	32	-08
19	18	16	21	18	22	03	07	28	30	31	25	26	28	30	00	-11	-11	08
21	-15	-10	02	09	-03	27	15	-06	01	-10	-04	-08	07	02	30	21	25	17
59	30	30	30	13	13	02	05	05	16	26	26	36	32	24	04	-05	-12	11
37	-05	-13	-08	29	29	13	28	08	08	-01	-03	-03	07	26	13	06	21	08
101	13	02	18	29	41	14	32	27	52	16	17	20	28	39	16	08	05	10
4	42	42	41	15	27	03	02	28	33	44	34	38	36	26	-01	-17	-24	13
17	-12	-13	-07	22	29	10	29	01	12	-05	-16	-08	11	09	09	-06	14	02
87	03	02	15	26	56	19	38	29	38	19	11	14	25	40	04	-01	07	05
104	-14	-18	-11	09	08	02	59	-04	00	-09	-13	-09	-03	11	06	00	20	02
92	05	-02	08	14	32	13	38	24	37	14	10	14	14	31	-01	02	10	09
97	17	09	12	07	15	11	19	01	32	16	09	10	22	06	01	02	04	-01
72	18	23	18	-08	12	-14	14	20	14	21	13	21	14	27	-17	-17	-14	-04
40	-01	-08	-06	19	22	19	21	08	07	-03	-04	-10	01	14	34	16	31	14
88	-25	-33	-06	24	11	27	09	-18	-21	-18	-07	-06	-02	-02	23	26	36	09
83	-25	-34	-10	25	13	34	15	-07	-02	-20	-05	-06	-03	-04	29	24	42	12
6	10	13	35	38	28	26	04	13	19	25	35	32	28	30	30	24	09	21

attempt was made to identify higher-order clusters. It was hoped that this would isolate some general dimensions underlying the motivations to have or not have children.

The operations used to generate a set of higher-order clusters were identical to those used in the blind clustering of individual items. Input for the factor analysis and the blind multiple groups procedure was the matrix of intercorrelations among clusters, corrected for attenuation. This is the matrix presented in Table 2.

The factor analysis and blind grouping of the clusters resulted in three super-clusters. As was the case for the blind grouping of individual items, the blind grouping of the first-order clusters resulted in super-clusters that proved impossible to name. Several attempts were made to modify these blind super-clusters to make them comprehensible, but to no avail. All modified groupings were found to be inferior statistically, despite the fact that they made more sense conceptually. Several abortive attempts were made to group the first-order clusters using the rational method, which had proved successful with the individual items. Ultimately the blind super-clusters were left intact.

The first and third super-clusters seem to reflect positive aspects of having children. The second reflects negative aspects or costs. Thus, they were named Positive I, Negative, Positive II.

Intercorrelations among the super-clusters are presented in Table 22. The two positive super-clusters are

highly correlated with each other. The Negative Super-Cluster is uncorrelated with Positive I and modestly correlated with Positive II. The clusters comprising each of the three super-clusters, their intercorrelations, and their correlations with each of the super-clusters are presented in Tables 23, 24, and 25, respectively.

Table 22. Intercorrelations Among the Super-Clusters

	POS I	NEG	POS II
POS I	100	-01	58
NEG	-01	100	25
POS II	58	25	100

Table 23. Positive I Super-Cluster: Constituent Clusters and Intercorrelations

Clusters

Recognition-Respect and Importance
Vicarious Satisfaction
Fun-Stimulation-Novelty
Contact Needs
Generative-Creative Needs
Nurture-Protect
Social Catalyst

Cluster	Intercorrelations									
	RRI	VS	FSN	CN	GCN	NP	SC	POSI	NEG	POSII
RRI	100	99	75	77	84	84	75	97	12	51
VS	99	100	70	73	79	79	81	93	15	50
FSN	75	70	100	84	82	73	55	84	-37	33
CN	77	73	84	100	84	72	60	86	-16	42
GCN	84	79	82	84	100	77	69	92	-11	65
NP	84	79	73	72	77	100	51	83	02	45
SC	75	81	55	60	69	51	100	73	31	67

Table 24. Negative Super-Cluster: Constituent Clusters and Intercorrelations

Clusters
Too Many Demands-Sacrifices
Marital Disunity
Prove Own Worth
Economic Costs
Inadequacy
Anxiety-Fear

Cluster	Intercorrelations								
	MDS	MD	POW	EC	I	AF	POSI	NEG	POSII
MDS	100	81	76	65	67	56	-01	101	20
MD	81	100	64	47	56	43	-01	81	21
POW	76	64	100	45	47	55	30	79	46
EC	65	47	45	100	53	28	-15	63	-06
I	67	56	47	53	100	23	-45	65	-03
AF	56	43	55	28	23	100	28	53	31

Table 25. Positive II Super-Cluster: Constituent Clusters and Intercorrelations

Clusters
Companionship
Life's Goal-Accomplishment Needs
Marital Unity-Stability
Morality-Religion
Status-Respectability

Cluster	Intercorrelations							
	C	LGA	MUS	MR	SR	POSI	NEG	POSII
C	100	97	75	61	42	63	29	99
LGA	97	100	67	79	25	71	-01	95
MUS	75	67	100	40	57	29	40	81
MR	61	79	40	100	15	55	-13	62
SR	42	25	57	15	100	01	38	41

Construct Validity of the PI

One of the fundamental questions about any new instrument is whether or not it measures what it is construed to measure. This is the question of validity. For an instrument such as the PI, which purports to measure a set of inferred motivational dimensions, the type of validity sought is construct validity. The usual strategy for establishing this validity is to correlate the constructs in question with unequivocal measures of theoretically related constructs. These external constructs are selected so that the nature of their relationships to the constructs in question are indisputable. The more these relationships are uncertain the more difficult it is to make logical inferences about the construct validity of the instrument in question (Nunnally, 1967).

Because the dimensions of the PI were not known at the time the questionnaire was constructed, it was impossible to include items measuring meaningful and appropriate external constructs. Instead, a quick and easy group of biographical and demographic variables were selected and incorporated into the questionnaire. In this somewhat haphazard group are two variables that were more systematically chosen. These are the variables measuring family size preferences. They were included because their relationships to any possible set of motivational dimensions was expected to be easily specified.

In order to evaluate the construct validity of the PI, scores on the 18 first-order clusters were correlated with all but six of the biographic and childhood variables (see Appendix B). Four of these six exceptions are nominal variables. One-way analysis of variance was used to determine the extent of relationships between each of these four and the first-order clusters (see Appendix B). The other two exceptions were open-ended variables which were never coded or analyzed. These are the variables measuring current and future occupation.

Very few relationships of any consequence emerged from the correlations and analyses of variance. Of those moderate to strong relationships that did emerge, many were useless for evaluating construct validity because they involved variables whose theoretical relationships to the PI dimensions were unknown. The evaluation of construct validity, then, is based primarily on three external variables, two which measure family size preferences, and a third measuring the expected interval before birth of a first child. The two religion variables are also considered, but only in relation to the Morality-Religion dimension of the PI. Finally, a discussion of sex differences on the dimensions is presented. This is done to illustrate how an important demographic variable proved to be of little use in the evaluation of contruct validity.

Ideal and Expected Family Size

Questions 16 and 17 of the Biographic Information section of the questionnaire concern ideal and expected family size goals. It was predicted that these two variables would correlate positively with dimensions of the PI reflecting the rewards of children, and negatively with those reflecting the costs of children. Table 26 presents the predicted and actual correlations between the PI dimensions and the two family size variables.

Table 26. Predicted and Actual Correlations between the Dimensions of the PI and Family Size Preferences

	Ideal Family Size (N=407)		Expected Family Size (N=404)	
	Predicted Correlation	Actual Correlation	Predicted Correlation	Actual Correlation
CN	Positive	32**	Positive	31**
FSN	Positive	28**	Positive	29**
VS	Positive	18**	Positive	26**
POW	Positive	05	Positive	09
MUS	Positive	21**	Positive	23**
MD	Negative	02	Negative	00
SR	Positive	00	Positive	01
MR	Positive	32**	Positive	32**
LGA	Positive	38**	Positive	39**
GCN	Positive	42**	Positive	45**
NP	Positive	13*	Positive	14*
RRI	Positive	27**	Positive	31**
SC	Positive	27**	Positive	23**
C	Positive	37**	Positive	26**
MDS	Negative	-09	Negative	-19**
EC	Negative	-18**	Negative	-22**
I	Negative	-23**	Negative	-30**
AF	Negative	09	Negative	01

*Significant at the .01 level or better.
**Significant at the .001 level or better.

Most of these predictions were confirmed. Exceptions are the Prove Own Worth and Status-Respectability dimensions which were predicted to correlate positively with the two family size variables. Neither did. Also, the predicted negative correlation between the Marital Disunity and Anxiety-Fear dimensions, and the two family size variables was not obtained.

Interval Before Birth of First Child

It was predicted that the expected interval before the birth of the first child would correlate negatively with the 13 dimensions reflecting the rewards of children, and positively with the five dimensions reflecting the costs of children. The anticipated relationships, however, were not expected to be as strong and consistent as those between the PI dimensions and the family size variables. Two factors were expected to confound these relationships. For one, extraneous considerations such as age and educational aspirations differentially affect couples' plans for having a first child. Second, subjects who thought that they would remain childless could not respond to this item, leaving a somewhat truncated distribution of scores on the PI dimensions for the remaining group of respondents.

The predicted and actual correlations between the PI dimensions and the expected interval before birth of a first child are presented in Table 27. Nine of the 18 predictions were confirmed. Exceptions are the Fun-

Stimulation-Novelty, Vicarious Satisfaction, Prove Own Worth, Marital Disunity, Nurture-Protect, Recognition-Respect and Importance, Too Many Demands-Sacrifices, Economic Costs, and Anxiety-Fear dimensions. Of these, Fun-Stimulation-Novelty, Prove Own Worth, Recognition-Respect and Importance, and Economic Costs have correlations in the predicted direction. The correlation obtained for Anxiety-Fear is in the opposite direction from what was predicted for it.

Table 27. Predicted and Actual Correlations between the Dimensions of the PI and Expected Interval before Birth of First Child

	Expected Interval Before First Child (N=377)	
	Predicted Correlation	Actual Correlation
CN	Negative	-14*
FSN	Negative	-12
VS	Negative	-04
POW	Negative	-09
MUS	Negative	-15**
MD	Positive	01
SR	Negative	-14*
MR	Negative	-25**
LGA	Negative	-30**
GCN	Negative	-17**
NP	Negative	-04
RRI	Negative	-11
SC	Negative	-18**
C	Negative	-21**
MDS	Positive	06
EC	Positive	11
I	Positive	13*
AF	Positive	-10

* Significant at the .01 level or better.
** Significant at the .001 level or better.

Two Religion Variables

The two religion variables, religious orientation, and unimportance of religion, show a desultory pattern of relationships to the PI dimensions. But they both show a clear and outstanding relationship to the Morality-Religion dimension. This is fairly strong evidence of the validity of this dimension.

The F-Ratios and F-Probabilities for the analysis of variance of religious orientation, and the correlations for unimportance of religion, are presented in Table 28 (cf., Eta-Squared for religious orientation, Table 32). A comparison of these F-Ratios and correlations reveals that religious orientation and unimportance of religion have a much stronger relationship to the Morality-Religion dimension than to any of the other PI dimensions.

Sex Differences

As part of the analysis of construct validity of the PI, the variable, sex, was correlated with each of the 18 first-order clusters (see Table 29). Seven statistically significant relationships were obtained. None of these seven, however, were particularly strong. Males as a group scored higher on the Marital Unity-Stability ($r = -.15$), Marital Disunity ($r = -.12$), and Economic Costs ($r = -.14$) dimensions. Females scored higher on the Contact Needs ($r = .14$), Fun-Stimulation-Novelty ($r = .14$), Life's Goal-Accomplishment Needs ($r = .12$), and Anxiety-Fear ($r = .19$)

Table 28. F-Ratios[1] and F-Probabilities for Religious Orientation, and Correlations for Unimportance of Religion, for the Dimensions of the PI

	Religious Orientation (N=407)		Unimportance of Religion (N=408)
	F-Ratio	F-Probability	Correlation
CN	1.476	.196	-16*
FSN	2.546	.028	-18*
VS	5.237	.000**	-15*
POW	4.084	.001	-03
MUS	4.457	.001	-04
MD	1.759	.120	01
SR	3.509	.004	-05
MR	17.760	.000**	-53*
LGA	4.996	.000**	-22*
GCN	4.359	.001	-22*
NP	3.836	.002	-12
RRI	4.776	.000**	-15*
SC	.578	.717	-13
C	4.087	.001	-17*
MDS	.556	.734	01
EC	.865	.504	09
I	1.748	.123	12
AF	.958	.443	-07

*Significant at the .001 level or better
**Negligible probability of occurring due to chance.

[1]From One-way Analyses of Variance (df = 5,401).

dimensions. All these differences were significant at the .007 level or better.

The demographic variable, sex, proved to be of little use in the evaluation of construct validity. This was because its relationships to the PI dimensions were, with two exceptions, either unknown or in the realm of speculation. Given the speculative nature of any hypothesized relationships between sex and the PI dimensions, it was impossible to make logical inferences about construct validity.

The theoretical relationship of sex to Life's Goal-Accomplishment Needs and Economic Costs was not as highly speculative as its relationship to the other 16 dimensions. It was hypothesized with some degree of confidence that sex (female status) would correlate positively with Life's Goal-Accomplishment Needs and negatively with Economic Costs. Both predictions were in fact confirmed, though neither relationship was particularly strong. These confirmed hypotheses provide some validation of the Life's Goal-Accomplishment Needs and Economic Costs dimensions.

A Summary of Construct Validity

The present attempt to establish construct validity for the dimensions of the PI was not really a test of whether the dimensions measure exactly what they have been construed to measure. This would have required a much more precisely chosen set of external variables. However, the variables measuring family size goals and interval before birth of a first child do provide some evidence that the dimensions are appropriately tapping reasons for or against having children.

One dimension, the Anxiety-Fear dimension, received no validation at all; and the Prove Own Worth dimension received very little corroboration. The other 16 dimensions received varying degrees of validation, with the Morality-Religion dimension receiving the greatest confirmation. While the

need for more precise validation of the PI is indisputable, results of the present study do suggest that the instrument and its component dimensions have good potential as valid measures of motivation for and against parenthood.

DISCUSSION

The fourth and final phase of the current study was the development of a set of specifications for a comprehensive instrument to measure motivations for having or not having children. The discussion of these specifications is presented in two major sections: General Specifications for a Future Inventory, and Suggested Modifications of the PI Dimensions. Following these is a discussion of directions for future research with the inventory.

General Specifications for a Future Instrument

Based on the experience of pilot testing the PI, five general specifications are offered as recommendations for a future instrument:

1. A self-report, Likert format should be used. The analysis of construct validity and the estimates of reliability for each of the PI dimensions suggest that this format has excellent potential for development into a valid and accurate measurement instrument.

2. A future inventory should consist of a series of 20-30 reliable scales or dimensions, each with from three to ten items. Only important dimensions should be included as scales. This is because it would be impossible to reliably measure every possible major and minor motivation without creating an inventory too lengthy for general use. All the dimensions of the present inventory, except Anxiety-Fear, seem important enough to be included as scales in a future instrument.

3. Items should be clearly and simply worded, and should focus exclusively on the dimension being

measured even to the point of having a set of somewhat redundant items.

4. In order to keep a future inventory as simple as possible, the two sections of the present PI, with their different instructions and response categories, should be eliminated. All items should be worded so that responses can be made on a scale ranging from strong disagreement to strong agreement. For those items in the first section of the present PI, which attempt to get a future expectations, this will mean rewording to include the future time orientation within the item itself. For example, item 1 might be changed to: "Having children will make our home more lively."

5. A special additional section for women only should be developed. This would be to measure aspects of having children unique to women, i.e., expectations of pregnancy and childbirth. This additional section should be placed at the end of the inventory after the items appropriate for males and females.

Suggested Modifications of the PI Dimensions

The purpose of this section is to present recommendation for modifying the individual dimensions of the PI and to develop a set of tentative dimensions or scales for a future inventory.

Modification of the Individual Dimensions

Of the 18 PI dimensions, only five do not need any modification. These are the Contact Needs, Vicarious Satisfaction, Marital Unity-Stability, Marital-Disunity, and Social Catalyst dimensions. All of the other dimensions, with the exception of Anxiety-Fear, need only minor changes.

The following modifications of the individual dimensions should be incorporated into a future inventory:

1. Item 70 should be removed from Fun-Stimulation-Novelty and placed in the Cuteness dimension--one of five new dimensions to be proposed below.

2. Item 42, 16, and 24 of Prove Own Worth should be made to reflect the positive expectation that having children will bolster a parent's self-esteem. For example, item 42 might be changed to: "You feel good about yourself if one of your children does something better than one of your friends' children." Item 24 might be changed to: "I would be real proud if one of my kids did well in school." Two additional items that might be added to this dimension are: "If you feel like you have done a good job as a parent it makes you feel a lot better about yourself as a person," and "You feel good about yourself as a parent if one of your kids excels at some activity."

3. The wording of items 3 and 76 of the Status-Respectability dimension should be softened. Also, the wording of item 3 should be changed from "parents, brothers, and sisters" to "family." Item 3 might be changed to: "My family will respect me more when my spouse and I have children." An item concerning childlessness should be added to this dimension. One possibility is: "One of the reasons we want children is because childlessness is frowned upon today."

4. Two changes are recommended for the Morality-Religion dimension. One, item 78 is awkwardly worded and

somewhat ambiguous. The item should be rewritten. Two, items concerning sexual morality, impulsivity, virtue, and selfishness should be added to this dimension. These are some of the elements of the Morality category proposed by Hoffman and Hoffman (1973).

5. Several new items should be added to the Life's Goal-Accomplishment Needs dimension. Some of these should concern competence needs. One new item might be concerned with the challenging and imaginative aspects of parenthood.

6. Item 89 of the Generative-Creative Needs dimension should be rewritten. It should be changed so that it reflects the different satisfactions of bringing children of different sexes into the world, i.e., "Once you have brought a child of one sex into the world it is really satisfying to bring into this world a child of the opposite sex," or "Bringing both male and female children into this world provides two different rewards and satisfactions."

Also, several items concerning the pleasures of guiding and teaching children to become mature adults should be added to this dimension. These would be items based on Erikson's (1963) conception of generativity, and would be tentatively attached to the Generative-Creative Needs dimension.

7. Items 38, 64, and 65 of the Nurture-Protect dimension should all be modified to include: "It would make me feel good. . . ." For example, item 38 might be changed to: "It would make me feel good to provide a safe and secure

environment for my children." Several additional items should be added to help complete this very important dimension. One such item might be: "I really look forward to being warm and affectionate with my children."

8. Items 29 and 73 of the Recognition-Respect and Importance dimension should be discarded and new items written to replace them. One such item might be: "I look forward to the time when our baby will respond to me as a special person and not just another face in the crowd."

9. Item 56 of the Too Many Demands-Sacrifices dimension should be changed to: "I'm sure I would resent the tremendous amount of work that children would require of me as a parent." This should eliminate the recognition aspect of the current item.

Several new items concerning loss of the freedom to travel and be mobile should be added to this dimension. Possible additions are: "Taking care of a baby restricts a parent to being at home all the time," and "Having children will make it very difficult for us to get away and travel."

10. Several new items should be added to the Economic Costs dimension. The following two items are potential additions: "Children are a tremendous financial burden on a young couple," and "It is very expensive to adequately provide for a child from infancy through young adulthood."

11. Item 50 in the Inadequacy dimension should be discarded.

12. The Anxiety-Fear dimension should be discarded. There are two reasons for this recommendation. One, the dimension seems to be a relatively minor one. Two, the dimension received no validation, whatsoever. Item 23, however, should be saved and placed in the Fear of Pregnancy and Childbirth dimension--one of five new dimensions.

Five New Dimensions

In addition to these 12 recommendations for changes in the existing PI dimensions, it is recommended that five new dimensions be added to a future inventory. These five are:

1. Need for Affection
2. Cuteness
3. Conformity
4. Fear of Pregnancy and Childbirth
5. Pleasure of Pregnancy and Childbirth

The recommendation to develop a separate Need for Affection dimension was first made in the discussion of the Recognition-Respect and Importance Cluster. It was concluded in that discussion that the need for affection is distinct from the need for recognition and respect, and that it merited being developed into a separate dimension. The proposed Need for Affection dimension should measure the expectation that children will satisfy the need to be loved and the need for affection.

The recommendation to include a Cuteness dimension is based on the theory that the anticipated gratification associated with an infant's being cute or babyish is an important motivation for having children. Item 70 of the Fun-Stimulation-Novelty Cluster appears to measure one facet of this anticipated gratification, and as was already proposed, it should become part of this new dimension. Another item which might be assigned to the Cuteness dimension is: "When I see a cute baby I have a strong desire to have a child of my own."

An attempt should be made to develop a Conformity dimension based on two items in the residual cluster of the PI. The proposed Conformity dimension should measure the need to please other people and to conform to other people's expectations concerning parenthood. Item 101 should be assigned to this dimension. Item 79 should also be assigned to the Conformity dimension, but only after it is modified to: "It is important to me to please my parents by giving them grandchildren." A third possible item for this dimension is: "We will have children because that is what is expected of married couples."

The proposed Fear of Pregnancy and Childbirth, and Pleasure of Pregnancy and Childbirth dimensions were considered for but not used in the current PI because it was felt that creating a separate section for women only would unnecessarily complicate an already complicated instrument.

Recommendations have been proposed above, which if followed, would result in a greatly simplified future inventory. This would make it feasible to include these two potentially important dimensions.

The Fear of Pregnancy and Childbirth and Pleasure of Pregnancy and Childbirth dimensions should measure all the negative and positive expectations of childbirth and pregnancy. Item 23 of the defunct Anxiety-Fear dimension should be placed in the Fear of Pregnancy and Childbirth dimension.

A Tentative Set of Scales

Based on all the recommendations for changes in the PI, a future instrument for measuring the expected rewards and costs of parenthood should contain the following 22 scales:

Expected Rewards

1. Contact Needs
2. Fun-Stimulation-Novelty
3. Vicarious Satisfaction
4. Prove Own Worth
5. Marital Unity-Stability
6. Status-Respectability
7. Morality-Religion
8. Life's Goal-Accomplishment Needs
9. Generative-Creative Needs
10. Nurture-Protect
11. Recognition-Respect and Importance
12. Social Catalyst
13. Companionship
14. Need for Affection
15. Cuteness
16. Conformity
17. Pleasure of Pregnancy and Childbirth (women only)

Expected Costs

18. Marital Disunity
19. Too Many Demands-Sacrifices

20. Economic Costs
21. Inadequacy
22. Fear of Pregnancy and Childbirth (women only)

Directions for Future Research

There is a critical need for a comprehensive instrument to measure motivations for having or not having children. The inventory developed in the present study is one step in the direction of filling this need. But much work remains before the present inventory will be ready for applied use.

At the present stage of its development, the inventory and its dimensions are still very much in need of validation. This should be a primary goal of future research. One strategy to precisely establish construct validity for the inventory would be to take specific scales or items from relevant personality instruments, such as the Edwards Personal Preference Scale or the Interpersonal Checklist, and correlate them with the appropriate dimensions. For specialized scales such as Cuteness or Fun-Stimulation-Novelty, where it is very unlikely if not impossible that relevant instruments can be found, it will be necessary to create these external scales or items.

Perhaps the most glaring limitation of the present study was its very homogeneous sample. A primary goal of future research with the inventory should be to rectify this shortcoming. What is needed is a more representative sample of childless married couples. Such a sample would provide data for: (1) a second cluster analysis, which could

serve as a check on the completeness and accuracy of the first one; (2) a typal analysis; (3) an analysis of group differences for various segments of the population sampled.

An ideal future study, then, would distribute the revised inventory along with an extensive group of external measures to a representative sample of married couples without children. Such a study would provide a definitive test of construct validity as well as provide data for a re-evaluation of the motivational dimensions.

In their discussion of possibilities for future research, Hoffman and Hoffman (1973) observe that in addition to the need for instrumentation, there is also a need for testing hypotheses concerning the relationship of sociocultural variables to the values of children. Future research with the inventory developed in the current study need not be confined to the goal of constructing reliable and valid instrumentation. Even in its present stage of development the inventory might be used to test hypotheses about how sociocultural factors affect motivations for having or not having children.

The possibilities for research on the motivations for and against parenthood are virtually limitless. An extensive discussion of these possibilities can be found in Hoffman and Hoffman (1973).

SUMMARY

The purpose of the present study was to develop a comprehensive instrument to measure motivations for having or not having children. This was accomplished in four phases.

The initial phase of the study was the creation of an instrument. The first instrument created was a story completion test with stems designed to elicit feelings and expectations about having children, pregnancy, and remaining childless. Results of the pretesting with the story completion test was discouraging and the instrument was discarded.

The second attempt at creating a comprehensive instrument used a self-report, Likert methodology. In creating this instrument it was necessary to operationalize motivational constructs. This was done in terms of expectations and attitudes towards the rewards and costs of children. The resulting instrument was called the Parenthood Inventory. After several revisions the inventory was pretested. Results were promising and so a final revision was made. The final version of the inventory consisted of 104 Likert items, 76 focusing on expectations and 28 focusing on current attitudes.

In order to collect data to evaluate the construct validity of the inventory a questionnaire was constructed.

It included two sections in addition to the inventory: Biographic Information, and Childhood Information. The biographic section consisted of 25 questions on standard demographic and personal variables. The childhood section contained a series of 22 scales on which subjects rated the quality of their childhood experiences and relationships with parents.

The second phase of the study was the pilot testing of the inventory. A door-to-door survey was conducted in a large apartment complex housing married students. In keeping with the aim of the present study--to measure what actually motivates having or not having children--only childless couples were canvassed. Foreign students, couples where the wife was pregnant, and couples where one spouse did not wish to participate, were considered ineligible for the survey. Participation in the study was completely voluntary. Couples who agreed to participate were given a set of two questionnaires and instructed to complete them independently. Questionnaires were picked up at a later time. Approximately 80 percent of the eligible couples who agreed to participate filled out and returned questionnaires.

The final sample consisted of 205 couples. The data from questionnaires of these respondents was transferred to computer punch cards for statistical analysis.

The third phase of the study was the analysis of results obtained from pilot testing the inventory. Two major analyses were conducted: a hierarchical cluster analysis of the

inventory, and an analysis of construct validity of the inventory.

The hierarchical cluster analysis identified 18 first-order clusters, representing 18 dimensions of motivation for and against parenthood, and three higher-order clusters. These two sets of clusters were evaluated for homogeneity of content, internal homogeneity, external parallelism, and reliability. Items that were questionable or clusters that needed improvement were noted. For the most part, the 18 first-order clusters that were identified are of good quality. The three higher-order clusters are of poor quality and for this reason they were not used in the analysis of construct validity.

In order to evaluate the construct validity of the inventory, scores on the 18 first-order clusters were correlated with the biographic and childhood variables, or for a group of four nominal biographic variables, one-way analyses of variance were computed.

Very few relationships of any consequence emerged from these correlations and analyses of variance, and so the evaluation of construct validity was based almost entirely on three external variables. This did not provide a very precise test of whether the dimensions of the inventory measured exactly what they were construed to measure. It did, however, provide some evidence that the dimensions were appropriately tapping motives for or against having

children. It was concluded from this analysis that the inventory and its dimensions have good potential for development into a valid instrument.

The fourth and final phase of the study was the development of a set of specifications for an instrument to be used in future research. Five general specifications were offered. One of these was that the Likert format of the inventory remain the same. Also, 12 modifications of the individual dimensions of the current inventory were proposed, and it was recommended that five new dimensions be added to a future inventory. Finally, some suggestions for future research were offered.

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APPENDICES

APPENDIX A

The Questionnaire

PARENTHOOD STUDY

The Parenthood Study is a survey of married students' attitudes toward and expectations of parenthood. The study is being coordinated by Frederick Silver, graduate student in the Department of Psychology, and sponsored by Dr. A. I. Rabin, Professor of Psychology.

Participation in this study is completely voluntary. For those individuals who elect to complete the questionnaire, we thank you very much for your help.

All information you give in this study will remain strictly confidential and will be used for scientific purposes only. No one but the people working directly on the study will see the questionnaire after you have filled it out.

We do ask that husbands and wives complete their separate questionnaires independently. All questionnaires are divided into three sections: Biographic Information, Childhood Information, and the Parenthood Inventory.

Name_____Today's Date_____

Address_____Phone No_____

BIOGRAPHIC INFORMATION

1. Age:_____

2. Sex:_____

3. Current Occupation:_____

4. If you are a student, what is your current grade level (circle one)?
   a. Freshman
   b. Sophomore
   c. Junior
   d. Senior
   e. Professional or graduate student
   f. Other

5. If you are not currently a student, what is the highest grade you have completed (circle one)?
   a. less than high school
   b. high school graduate
   c. some college
   d. college graduate
   e. some post-graduate
   f. post-graduate degree

6. What is the primary occupation you expect to have for the majority of your lifetime?_____

7. How long have you been married (in years and months)?_____

8. How happily are you married?
   a. very happily married
   b. moderately happily married
   c. somewhat happily married
   d. somewhat unhappily married
   e. moderately unhappily married
   f. very unhappily married

9. With what religious orientation do you most closely identify?
   a. Atheist or Agnostic
   b. Protestant
   c. Catholic
   d. Jewish
   e. Hindu, Moslem, or Buddhist
   f. Other

10. How important is religion to you?
   a. very important
   b. fairly important
   c. not so important
   d. not at all important

11. What was your parents' combined gross income for 1974 (or 1973, whichever is higher)?
   a. less than $5,000
   b. $5,000 - $10,000
   c. $10,001 - $15,000
   d. $15,001 - $25,000
   e. $25,001 - $50,000
   f. $50,001 or more

12. For 1974, what was the combined gross income earned by both you and your spouse?
   a. less than $3,000
   b. $3,001 - $6,000
   c. $6,001 - $9,000
   d. $9,001 - $12,000
   e. $12,001 - $15,000
   f. $15,001 or more

13. Where did you live most of the time you were growing up?
   a. rural area
   b. village or town in a rural area (less than 100,000 population)
   c. small city (100,000 to 1,000,000 population)
   d. suburb of a small city
   e. large city (1,000,000 or more)
   f. suburb of a large city
   g. grew up outside the United States

14. How many brothers and sisters do you have?_____

15. What is your birth order;that is, are you. . .
    a. an only child
    b. the oldest child
    c. the second oldest
    d. closer to the oldest than to the youngest
    e. in the middle
    f. closer to the youngest than to the oldest
    g. next to the youngest
    h. the youngest

16. How large a family would you like to have, if you were going to have the ideal number of children?
    a. 0 children
    b. 1 child
    c. 2 children
    d. 3 children
    e. 4 children
    f. 5 or more children

17. How large a family do you realistically expect to have?
    a. 0 children
    b. 1 child
    c. 2 children
    d. 3 children
    e. 4 children
    f. 5 or more children

18. If you plan on having children, how many years from now do you think it will be before you have your first child?_____

19. Are your parents. . .
    a. your original or adoptive parents and still living
    b. one or both dead with no remarriage
    c. one dead, the other remarried
    d. separated
    e. divorced, neither remarried
    f. divorced, one remarried
    g. divorced, both remarried
    h. other

20. Who did you live with most of the time you were growing up?
    a. your original or adoptive parents
    b. a single parent, mother
    c. a single parent, father
    d. a parent and step-parent
    e. other relatives
    f. institution
    g. other

Questions 21-25 are for women only. Men skip to CHILDHOOD INFORMATION

21. Are you currently pregnant?_____

22. How many times have you been pregnant, if any?_____

23. How many abortions have you had, if any?_____

24. How many miscarriages have you had, if any?_____

25. Have you ever given birth?_____If yes, what happened to the baby?

CHILDHOOD INFORMATION

The following 22 questions are to be answered by circling one of the numbers along the scale that is below each question. Each of the scales is a line that has been divided into five numbered parts. The phrase at the left of the scale defines the meaning of #1, while the phrase at the right of the scale defines the meaning of #5. Parts #2, #3, #4, can be assumed to cover the range between these two extremes.

For example, Question 1 below asks about how happy or sad your childhood was. The scale below it goes from very happy, at one extreme, to very sad, at the other. Circle #1 if you think your childhood was very happy. Or, circle #2 if your childhood was more often happy than sad. Circle #3 if it was equally happy and sad. Circle #4 if it was more often sad than happy. And circle #5 if your childhood was very sad.

After you answer Question 1, go ahead and complete the other 21 questions in a similar manner. Please note that the 22 questions below refer to both your childhood and adolescence, even though they do not specify this in many cases. Also, some of these questions may not be applicable for individuals who only have one parent. If a question is not applicable to you, indicate this by placing the abbreviations N.A. along side that particular question.

1. How happy or sad was your childhood and adolescence?
   very happy 1 / 2 / 3 / 4 / 5 very sad

2. How safe and secure, or unsafe and insecure did you feel as a child?
   very safe & secure 1 / 2 / 3 / 4 / 5 very unsafe & insecure

3. Was your father bossy and strict, or easy and permissive with you as you were growing up?
   very bossy and strict 1 / 2 / 3 / 4 / 5 very easy and permissive

4. Was your mother bossy and strict, or easy and permissive with you as you were growing up?
   very bossy and strict 1 / 2 / 3 / 4 / 5 very easy and permissive

5. How much help and guidance did your father offer you as you were growing up?
   a great deal 1 / 2 / 3 / 4 / 5 very little

6. How much help and guidance did your mother offer you as you were growing up?
   a great deal 1 / 2 / 3 / 4 / 5 very little

7. How much freedom did your father allow you as you were growing up?
   very little freedom 1 / 2 / 3 / 4 / 5 complete freedom

8. How much freedom did your mother allow you as you were growing up?
   very little freedom 1 / 2 / 3 / 4 / 5 complete freedom

9. How reliable was your father in taking care of your material and emotional needs?
   very unreliable 1 / 2 / 3 / 4 / 5 very reliable

10. How reliable was your mother in taking care of your material and emotional needs?
    very unreliable 1 / 2 / 3 / 4 / 5 very reliable

11. How much did your father encourage you to be independent as you were growing up?
    very much 1 / 2 / 3 / 4 / 5 very little

12. How much did your mother encourage you to be independent as you were growing up?
    very much 1 / 2 / 3 / 4 / 5 very little

13. How often was your father angry with you as you were growing up?
    very often 1 / 2 / 3 / 4 / 5 very rarely

14. How often was your mother angry with you as you were growing up?
    very often 1 / 2 / 3 / 4 / 5 very rarely

15. How generous or stingy was your father with you?
    very stingy 1 / 2 / 3 / 4 / 5 very generous

16. How generous or stingy was your mother with you?
    very stingy 1 / 2 / 3 / 4 / 5 very generous

17. How often was your father demanding of you?
    very often 1 / 2 / 3 / 4 / 5 very rarely

18. How often was your mother demanding of you?
    very often 1 / 2 / 3 / 4 / 5 very rarely

19. How warm and close, or cold and distant was your father?
    very warm and close 1 / 2 / 3 / 4 / 5 very cold and distant

20. How warm and close, or cold and distant was your mother?
    very warm and close 1 / 2 / 3 / 4 / 5 very cold and distant

21. How protective of you was your father?
    not at all 1 / 2 / 3 / 4 / 5 very

22. How protective of you was your mother?
    not at all 1 / 2 / 3 / 4 / 5 very

PARENTHOOD INVENTORY
Part I: Expectations

DIRECTIONS:

Every potential parent has certain expectations about what being a parent is like. In order to find out just what you expect it would be like to be a parent we have collected statements which describe the experiences--the thoughts and feelings--of parents.

Below are a number of these statements. We want to know whether the experience described in each statement is one which you expect would happen to you if and when you were to become a parent. Actually, we want to know whether the experience is one which you think would be quite likely or not at all likely to happen to you.

To the left of each statement are four columns. Place a check mark in the column that most accurately indicates how certain you are that the experience described in the statement would happen to you. Do not skip any statements.

DO NOT BASE YOUR JUDGMENTS ON WHAT YOU THINK OUGHT TO HAPPEN BUT ON WHAT YOU PERSONALLY EXPECT WOULD HAPPEN DURING THE YEARS WHEN YOU WOULD BE A PARENT.

In making judgments for some statements, it might be helpful if you were to imagine yourself as a parent 5, 10, or even 15 years from now. Then,try to imagine what the experience described in the statement would be like for you. This may help you determine whether it is something that would or would not happen to you.

1: Place a check here if the experience is one that would be VERY
* UNLIKELY to happen to you.
* 2: Check here if it would be UNLIKELY to happen to you.
* * 3: Check here if it would be LIKELY to happen to you.
* * * 4. Check here if it would be VERY LIKELY to happen to you.
* * * *
* * * *
1 2 3 4

Examples:

( ) ( ) ( ) ( ) a. It is really a lot of fun thinking of names for the baby.

If you think it is VERY UNLIKELY that you would have a lot of fun thinking of names for the baby, place a check in column 1. If you think it is UNLIKELY that you would feel this way, place a check in column 2. If it would be LIKELY, place a check in column 3. And if it would be VERY LIKELY that you feel this way place a check in column 4.

VERY UNLIKELY
* UNLIKELY
* * LIKELY
* * * VERY LIKELY
* * * *
1 2 3 4
(_)(_)(_)(_) b. My friends are all excited about our new baby.

In this example you have to decide how likely or unlikely it is that your friends would get excited if you were actually to have a baby. Then you have to place a check in the appropriate column.

(_)(_)(_)(_) 1. The children make our home more lively.

(_)(_)(_)(_) 2. I am always comparing my children to my friends' children.

(_)(_)(_)(_) 3. My parents, brothers, and sisters didn't respect me until I had children.

(_)(_)(_)(_) 4. The relationship between my spouse and me has been closer during the nine months of pregnancy.

(_)(_)(_)(_) 5. The successes of my children make me feel like a success, too.

(_)(_)(_)(_) 6. My children are forever asking me to do this or do that for them.

(_)(_)(_)(_) 7. Cuddling a baby gives me a wonderful sensation.

(_)(_)(_)(_) 8. At the end of a day spent with the children I am totally exhausted.

(_)(_)(_)(_) 9. I feel powerful when my children do what I tell them to.

(_)(_)(_)(_) 10. I get nervous being responsible for the welfare of the children.

(_)(_)(_)(_) 11. When my spouse and I are not getting along, I am thankful that the kids are around.

(_)(_)(_)(_) 12. The most important part of our marriage is the children.

(_)(_)(_)(_) 13. Having and raising children has made me feel older than I really am.

(_)(_)(_)(_) 14. I feel good when my children admire and look up to me.

VERY UNLIKELY
* UNLIKELY
* * LIKELY
* * * VERY LIKELY
* * * *
1 2 3 4

(_)(_)(_)(_) 15. My spouse seems to pay more attention to the children than to me.

(_)(_)(_)(_) 16. My preschooler does things in public that make me feel ashamed.

(_)(_)(_)(_) 17. I felt ashamed until the birth of our baby.

(_)(_)(_)(_) 18. Watching our children grow and develop is very satisfying.

(_)(_)(_)(_) 19. My children will take care of me when I am old and feeble.

(_)(_)(_)(_) 20. Now that we have children, I don't have to worry so much about my spouse's needs.

(_)(_)(_)(_) 21. It is very difficult to find babysitters.

(_)(_)(_)(_) 22. Because of the children my spouse and I do not spend very much time alone with each other.

(_)(_)(_)(_) 23. Sometimes I have this terrible fear that if we have another child, he or she will be born defective.

(_)(_)(_)(_) 24. I am ashamed if one of my kids does poorly in school.

(_)(_)(_)(_) 25. Our children provide a basis for social contacts.

(_)(_)(_)(_) 26. I love it when the baby clings to me.

(_)(_)(_)(_) 27. Having and raising children has made me look older than other people my age.

(_)(_)(_)(_) 28. It is good to know that my children will carry on the family when I die.

(_)(_)(_)(_) 29. I get a real charge when my kids say things they have heard me say.

(_)(_)(_)(_) 30. It feels good when my children depend on me to take care of them.

(_)(_)(_)(_) 31. It is easier to find things to talk about with adults who have children of their own than with adults who don't have children.

(_)(_)(_)(_) 32. Having children helps me make friends in the neighborhood.

VERY UNLIKELY
* UNLIKELY
* * LIKELY
* * * VERY LIKELY
* * * *
1 2 3 4

(_)(_)(_)(_) 33. Being respected by my children makes me feel good.

(_)(_)(_)(_) 34. My children tire me out emotionally.

(_)(_)(_)(_) 35. The birth of our baby made me feel proud.

(_)(_)(_)(_) 36. If we didn't have children we would be able to afford more of the luxuries of life.

(_)(_)(_)(_) 37. If one of my children doesn't follow in my occupation I'll feel hurt.

(_)(_)(_)(_) 38. I want my children to always feel safe and secure.

(_)(_)(_)(_) 39. I love to play with my children.

(_)(_)(_)(_) 40. I am afraid that one of my children will grow up to be like me.

(_)(_)(_)(_) 41. My children never listen to what I tell them to do.

(_)(_)(_)(_) 42. I feel bad if one of my friends' children does something better than one of my children.

(_)(_)(_)(_) 43. We don't want any more children because it would lower our standard of living.

(_)(_)(_)(_) 44. Without my children I am a pretty lonely person.

(_)(_)(_)(_) 45. Having children makes it difficult for me to pursue a career.

(_)(_)(_)(_) 46. When I am home with the kids I feel like an important person.

(_)(_)(_)(_) 47. I like to talk to other parents about the failures of my children.

(_)(_)(_)(_) 48. Since become a parent, I don't have enough time to be with my friends.

(_)(_)(_)(_) 49. The children came along, unplanned, though not really unexpected.

(_)(_)(_)(_) 50. My children bring me more unhappiness than pleasure.

(_)(_)(_)(_) 51. It makes me happy when my family tells me how much they appreciate all the work I do for them.

VERY UNLIKELY
* UNLIKELY
* * LIKELY
* * * VERY LIKELY
* * * *
1 2 3 4

(_)(_)(_)(_) 52. I want a large family so there will be children around the house for a long time.

(_)(_)(_)(_) 53. I am sometimes afraid that something terrible will happen to our baby.

(_)(_)(_)(_) 54. I am quite proud when one of my children does well in school.

(_)(_)(_)(_) 55. There are lots of times when my children are too noise and active for me.

(_)(_)(_)(_) 56. I resent it when my kids don't appreciate the amount of work I do for them.

(_)(_)(_)(_) 57. I feel so pleased about my part in bringing new life into this world.

(_)(_)(_)(_) 58. I really enjoy hugging my children.

(_)(_)(_)(_) 59. When I am with my children I can feel like a child again.

(_)(_)(_)(_) 60. I enjoy talking to other parents about my children.

(_)(_)(_)(_) 61. I am lonely when I am not at home with my family.

(_)(_)(_)(_) 62. Until I had children of my own, my parents did not treat me like an adult.

(_)(_)(_)(_) 63. It is a good feeling to know that my children need me to protect them from dangerous situations.

(_)(_)(_)(_) 64. I want my children to always be able to come to me for help and guidance.

(_)(_)(_)(_) 65. I want my children to always feel loved and cared for.

(_)(_)(_)(_) 66. My children generate a lot of enthusiasm and energy in me.

(_)(_)(_)(_) 67. Since we had children my spouse and I have become less intimate.

(_)(_)(_)(_) 68. We are having children because my spouse demanded it.

(_)(_)(_)(_) 69. It is fun to help my children grow and develop.

(_)(_)(_)(_) 70. Our child is so adorable and cute.

VERY UNLIKELY
* UNLIKELY
* * LIKELY
* * * VERY LIKELY
* * * *
1 2 3 4

(_)(_)(_)(_) 71. I enjoy being very busy with the children.

(_)(_)(_)(_) 72. If we have another child I won't feel that I am getting old.

(_)(_)(_)(_) 73. When I die, my children will not forget me.

(_)(_)(_)(_) 74. I like to talk to other parents about the successes of my children.

(_)(_)(_)(_) 75. A major topic of conversation between my spouse and me is our children.

(_)(_)(_)(_) 76. Until we had children, the people at work didn't respect me.

PARENTHOOD INVENTORY
Part II: Attitudes

DIRECTIONS:

For the following statements we want to know how you feel right now about the opinion or belief being expressed. That is, we want to know the extent to which you agree or disagree with each statement. Place a check in one of the four columns to the left of each statement to indicate how you feel about the opinion being expressed.

1: Place a check here if you DISAGREE VERY MUCH with the statement.
* 2: Place a check here if you DISAGREE SOMEWHAT with the statement.
* * 3: Place a check here if you AGREE SOMEWHAT with the statement.
* * * 4: Place a check here if you AGREE VERY MUCH with the statement.
* * * *
* * * *
1 2 3 4

(_)(_)(_)(_) 77. Having children will insure that our marriage lasts a long time.

If you believe very strongly that for your marriage children will insure that it lasts a long time, then place a check in column 4. This will indicate that you agree very much with the statement. Or if, for example,you believe that children will insure that your marriage lasts a long time but you do not believe this very strongly, then place a check in column 3, indicating mild agreement with the statement. Etc.

(_)(_)(_)(_) 78. Not wanting a pregnancy is an insufficient reason to justify having an abortion.

Note that this item is different from the previous one in that it is an impersonal statement of an opinion. Please indicate whether you agree or disagree with this opinion by placing a check in one of the four columns to the left.

(_)(_)(_)(_) 79. My parents keep pressuring us to give them grandchildren.

If your parent(s) do indeed keep pressuring you and your spouse to have children, then indicate you agree very much with the statement. If it seems like they are pressuring you but you are not entirely sure of this, of if they have only pressured you a couple of times, then indicate that you agree only somewhat with the statement. Etc.

(_)(_)(_)(_) 80. I hope that having children will settle our marital differences.

DISAGREE VERY MUCH
* DISAGREE SOMEWHAT
* * AGREE SOMEWHAT
* * * AGREE VERY MUCH
* * * *
1 2 3 4

(_)(_)(_)(_) 81. We are getting close to the age at which the risk of producing defective children becomes substantial.

(_)(_)(_)(_) 82. I am too reckless a person to be involved with children.

(_)(_)(_)(_) 83. Having children makes a woman look less attractive.

(_)(_)(_)(_) 84. An only child should have a brother or sister.

(_)(_)(_)(_) 85. There are many exciting challenges in raising children.

(_)(_)(_)(_) 86. I don't know the first thing about taking care of children.

(_)(_)(_)(_) 87. Having children proves that a man is sexually virile.

(_)(_)(_)(_) 88. I get nauseous when I think of changing a baby's diaper.

(_)(_)(_)(_) 89. I want children of both sexes.

(_)(_)(_)(_) 90. I don't think I am capable of being a good parent.

(_)(_)(_)(_) 91. It is a sign of God's blessing when children are born.

(_)(_)(_)(_) 92. Only selfish married people never have children.

(_)(_)(_)(_) 93. I don't know what I will do with my life if I do not raise a family.

(_)(_)(_)(_) 94. People with young children should not get divorced.

(_)(_)(_)(_) 95. One of my most important goals in life is to be a good and skillful parent.

(_)(_)(_)(_) 96. I don't have the patience being a parent requires.

(_)(_)(_)(_) 97. I want to be a better parent to my children than my parents were to me.

(_)(_)(_)(_) 98. Babies are lots of fun to play with.

(_)(_)(_)(_) 99. You only become an adult when you have your own children.

(_)(_)(_)(_)100. Our marriage is boring without children.

DISAGREE VERY MUCH
* DISAGREE SOMEWHAT
* * AGREE SOMEWHAT
* * * AGREE VERY MUCH
* * * *
1 2 3 4

(_)(_)(_)(_) 101. If our friends all start having children, we will want to have children, too.

(_)(_)(_)(_) 102. There are many new and exciting experiences that come with having and raising children.

(_)(_)(_)(_) 103. A woman without children is seen as barren or infertile.

(_)(_)(_)(_) 104. It is wrong to have sex if you aren't trying to conceive a child.

APPENDIX B

ADDITIONAL STATISTICAL TABLES

Table 29. Correlations Between the Biographic Variables* and the Dimensions of the PI**

	1 (410)	2 (410)	4 (285)	5 (143)	7 (410)	8 (410)	10 (408)	11 (385)	12 (405)	14 (410)	15 (410)	16 (407)	17 (404)	18 (377)	22 (204)	23 (204)	24 (204)
CN	-10	14	-09	-16	-03	-04	-16	02	03	07	-03	32	31	-14	07	03	09
FSN	-11	14	-05	-13	-02	-08	-18	02	09	03	-12	28	29	-11	01	-04	08
VS	-12	03	-08	-09	-05	-04	-15	-02	11	-01	-03	18	26	-04	01	-01	04
POW	-02	-04	00	-06	-01	04	-03	-05	09	-08	13	05	09	-09	07	12	-05
MUS	-01	-15	-04	-05	-04	14	-04	03	13	-07	-02	21	23	-15	-03	-09	09
MD	11	-12	04	10	09	20	01	-10	09	-13	07	01	00	01	13	07	13
SR	19	-08	04	-03	06	05	-05	-15	08	-09	08	00	01	-14	00	-03	05
MR	-10	10	-10	-23	-09	-05	-53	-03	03	13	00	32	32	-25	-12	-11	-04
LGA	-07	12	-03	-15	-11	00	-22	05	04	04	-04	38	39	-30	-01	-11	15
GCN	-16	07	-09	-28	-12	-04	-22	08	06	03	-03	42	45	-17	04	04	02
NP	-12	01	-15	-29	-02	00	-12	-05	02	-01	01	13	14	-04	06	03	06
RRI	-13	-08	-03	-15	-04	-01	-15	02	08	-01	-02	27	31	-11	-04	-05	01
SC	-05	05	08	-25	-02	-01	-13	06	11	-12	-02	27	23	-18	03	01	05
C	-07	-01	01	-16	-13	-04	-17	-03	04	-01	-02	37	26	-21	-02	-06	06
MDS	04	08	07	02	08	07	01	-10	05	-19	09	-09	-19	06	03	01	05
EC	14	-14	07	20	07	08	09	01	06	-17	03	-18	-22	11	01	01	01
I	09	-07	00	11	07	02	12	-12	02	-11	14	-23	-30	13	09	05	09
AF	-10	19	-05	-03	00	02	-07	04	07	-10	04	09	01	-10	13	09	09

* Biographic variables are designated by their number in the questionnaire. Variable 2 was coded: Male = 1, Female = 2.

** N for each column of correlations is listed in parentheses. With N = 400, a correlation coefficient of .11 is significant at the .01 level, and a correlation coefficient of .14 is significant at the .001 level. Correlations have not been corrected for attenuation.

Table 30. Correlations between the Childhood Variables* and the Dimensions of the PI**

	N	CN	FSN	VS	POW	MUS	MD	SR	MR	LGA	GCN	NP	RRI	SC	C	MDS	EC	I	AF
1	410	-08	-11	-04	07	02	10	12	-10	03	-07	-02	-08	00	-06	07	06	21	07
2	409	-04	-04	-01	04	00	06	17	-07	-02	-02	00	-04	04	01	12	05	16	08
3	404	07	-02	04	12	03	05	-03	-05	-06	-05	-01	06	02	-01	04	08	04	03
4	408	07	08	03	04	13	-01	03	02	02	04	09	06	06	06	-03	-06	-02	06
5	404	-05	-06	-09	-04	00	06	11	-06	-06	-02	-06	-14	-03	-08	00	-01	03	-02
6	406	-08	-06	-06	07	05	10	16	-14	-11	-04	-02	-09	03	-05	08	08	15	-05
7	404	00	-08	-03	05	05	03	-05	-07	-11	-09	-04	03	00	-06	-02	09	05	-07
8	407	00	02	01	02	06	-07	00	01	00	-01	-01	05	-01	02	-11	03	-03	-03
9	399	06	09	00	-09	-04	-07	-07	04	03	00	05	05	05	03	-03	07	-11	-04
10	403	11	13	08	-04	02	-05	-02	13	13	07	13	12	09	12	-03	05	-12	02
11	401	-06	-06	-08	00	03	-01	16	01	05	03	04	-06	-10	05	04	02	09	-02
12	406	-04	-07	-02	08	11	18	21	-06	02	00	07	-05	00	02	15	10	16	03
13	403	-02	-01	00	00	-08	-06	-05	06	03	-09	-03	03	00	-06	-04	-01	-10	-04
14	407	-05	-02	-04	-03	04	-04	04	06	04	-03	-03	02	00	-01	-07	-01	-04	-01
15	401	04	11	11	-19	-05	-12	-07	04	02	02	01	07	-02	-03	-03	-07	-04	-07
16	404	00	09	04	-19	00	-16	-04	11	01	06	04	03	-04	03	-10	-02	-09	-06
17	398	01	-04	01	00	01	04	-04	05	-03	-04	04	-04	03	02	-03	-05	-01	-02
18	402	-02	-01	08	-04	10	04	08	04	01	-01	02	05	05	04	-02	-01	02	-01
19	404	-07	-03	-04	01	-02	09	14	-05	02	-02	-03	-06	-02	-07	00	04	02	04
20	407	-07	-08	-08	00	-06	12	03	-16	-10	-13	-14	-17	01	-18	06	02	13	-02
21	404	19	19	10	-07	04	-14	-05	11	12	17	09	15	06	12	01	-11	-07	08
22	407	09	10	13	00	11	-01	-01	05	05	20	15	16	06	05	-01	-03	-07	08

* Childhood variables are designated by their number in the questionnaire.

** With N=400, a correlation coefficient of .11 is significant at the .01 level, and correlation coefficient of .14 is significant at the .001 level. Correlations have not been corrected for attenuation.

Table 31. F-Ratios for the One-Way Analyses of Variance[1] Between Four Nominal Biographic Variables[2] and the Dimensions of the PI

	9 (5,401)	13 (6,402)	19 (7,401)	20 (4,404)
CN	1.476	1.120	.756	.767
FSN	2.546	1.611	.652	.675
VS	5.237**	1.542	1.079	.623
POW	4.084**	.651	.374	1.194
MUS	4.457**	1.994	.824	.622
MD	1.759	.705	.903	1.380
SR	3.509*	1.376	2.483	.410
MR	17.760**	1.686	.829	1.071
LGA	4.996**	.997	.777	.722
GCN	4.359**	1.728	.964	.716
NP	3.836*	.804	.920	.604
RRI	4.776**	.627	.500	.940
SC	.578	.571	1.284	1.661
C	4.087**	.728	.854	.295
MDS	.556	1.225	1.165	.856
EC	.865	2.016	.633	1.255
I	1.748	1.661	.985	1.571
AF	.958	.223	.980	1.584

[1]Degrees of freedom for each column are listed in parentheses.

[2]Biographic variables are designated by their number in the questionnaire.

* Significant at the .01 level or better.
** Significant at the .001 level or better.

Table 32. Eta-Squared for the One-Way Analyses of Variance Between Four Nominal Biographic Variables[1] and the Dimensions of the PI

	9	13	19	20
CN	.02	.02	.01	.01
FSN	.03	.02	.01	.01
VS	.06	.02	.02	.01
POW	.05	.01	.01	.01
MUS	.05	.03	.01	.01
MD	.02	.01	.02	.01
SR	.04	.02	.04	.00
MR	.18	.02	.01	.01
LGA	.06	.01	.01	.01
GCN	.05	.03	.02	.01
NP	.05	.01	.02	.01
RRI	.06	.01	.01	.01
SC	.01	.01	.02	.02
C	.05	.01	.01	.00
MDS	.01	.02	.02	.01
EC	.01	.03	.01	.01
I	.02	.02	.02	.02
AF	.01	.00	.02	.02

[1]Biographic variables are designated by their number in the questionnaire.