THE FAMILY SIZE UTILITY FUNCTION

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Abstract—This article discusses the family size utility function (FSUF), which portrays the relative strengths of preferences among family sizes, as held by an individual, couple, or group. Derivable from the FSUF are indications of motivation to seek or avoid additional children, indications which may prove useful for understanding fertility decisions and for predicting completed fertility. A method is described for assessing the FSUF with data obtainable by interview surveys, and case studies of actual FSUF’s are presented. The article concludes with theoretical and empirical questions for further investigation of the FSUF.

By using contraception, couples obtain the capability to avoid having more children than they want, but they also incur the responsibility of having to decide exactly how many children they will have. While a couple may settle upon a particular family size, the choice may be complicated should alternate family sizes appear attractive for various reasons. For any individual or couple there usually is a spectrum of family size preferences, but this fact is obscured by the popular fertility survey questions regarding number of children wanted, which restrict their focus only to the most preferred family size. It seems useful to investigate the broader range of family size preferences for the following potential advantages:

1. greater success in predicting fertility;
2. better understanding of the choice process in fertility;
3. clarification of the concepts of “wanted” and “unwanted” children;
4. better understanding of the connection between family size desires and motives for contraception.

This paper gives a conceptual analysis of family size preferences and presents an operational method for determining the preference functions.

NUMBER OF CHILDREN WANTED, MORE OR LESS

By this time in the study of population we know well that people formulate preferences for completed family size, and these preferences begin to develop well in advance of reaching the aspired family size (many sources, including Bumpass, 1967; Campbell, 1963; Sagi and Westoff, 1963; Rainwater, 1965; Gustavus and Nam, 1970; Life Magazine, 1971). This is not to say that once formed these preferences remained unchanged throughout the period of family growth, for evidence indicates that some people do revise their preferences over time (Bumpass, 1967; Sagi and Westoff, 1963). Nevertheless, desired family size is a fair predictor of later fertility (Bumpass and Westoff, 1970), which gives us confidence that the study of family size preferences is behaviorally relevant.

It is to be expected that preferences regarding number of children will be held in reference to some particular combina-
tion of boys and girls. Studies such as those by Myers and Roberts (1968) and Rotter and Rotter (1971) show that relative preferences among family sizes may vary considerably according to the sexual composition of the family size in question. In general, Americans tend to prefer families with at least one child of each sex, and boys are favored over girls (Pohlman, 1969). The implication is that couples whose attained families do not meet their ideal of sexual composition may modify their family size aspirations. To avoid the complications that considerations of sexual composition would introduce, we shall restrict our discussion to family size preferences in which the proportions and orderings of boys and girls are considered optimal by the individual.

Suppose we knew that a conjugal couple wanted a completed family size of four children. Does that mean they would be unhappy if they had three or five or any other number? Most likely it does not. We might expect, instead, that the couple would be at least fairly satisfied with those family sizes that fall between the limiting family sizes they consider too large and too small. In other words, in addition to the most desired family size, other family sizes may be accepted to various degrees. To indicate strength of preference we shall use the utility concept. Although utility is sometimes used to denote fitness to some practical purpose, we will not mean that. We simply use the term as equivalent to level of satisfaction, and disutility will denote level of dissatisfaction.

The degree of preference that an individual, couple, or group has for various family sizes is nicely shown by what we call the "family size utility function" (FSUF), by which the relative desirability/undesirability of family sizes is expressed in quantitative form. How might a typical American family size utility function appear? Since most Americans prefer their completed family to have from two to four children (Chilman, 1968), we anticipate a common FSUF to be as in Figure 1. A person having such an FSUF would receive some degree of satisfaction in having from one to five children, although he would be most satisfied with three children. He would be dissatisfied if he had no children or more than five. If asked "How many children do you want to have when your family is complete?", we would expect him to answer "three."

It is important to realize that the FSUF represents preferences at a particular point in time. Depending upon how many children the person actually has at the time, the FSUF may represent preferences based in part on evaluation of family sizes he has already experienced and in anticipation of what it would be like to have more children than he now has. Regardless of whether the preferences are based on recollections or anticipations, they are comparable in the sense that they represent the individual's current feelings. Those feelings are subject to change in the future, just as desired family size has been found to change in some individuals (Bumpass and Westoff, 1970). However, regardless of such future developments, the FSUF may help us to understand the individual's current plans and fertility decisions that he may be making.

The general shape of the FSUF shown in Figure 1 was derived by considering the rewards (gratifications) and costs (penalties) associated with different numbers of children, as can be shown by utility and disutility functions. Figure 2 presents a conception of how the rewards and costs utility functions of family size might typically appear for Americans. For each family size, the rewards and costs sum to the overall utilities shown in Figure 1.

The rewards function represents the total utility derived from all the things enjoyed—the gratifications—from having children. They would include such things