Determinants of Family Planning Behaviour among Married Women in the Amhara Regional State: A Social-Psychological Approach

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Abstract

Prompted by increased concern about population growth the present study examined the role of psychological variables namely physiological needs, security needs, belongingness needs, and openness to change as mediators of the effects of educational level, place of residence, and income level (all of which are socio economic variables) on family planning practice. Data pertaining to these variables were obtained from 229 randomly selected married women in the Amhara region (in the north – west part of Ethiopia). Socio economic indices, family planning practice, and psychological characteristics, were measured using a questionnaire. Analyses involving, mainly multiple regression and partial correlation analyses revealed that the socio-economic variables do not independently contribute to variation in family planning practice. However, the variables appear to have an effect on family planning practice indirectly via their significant relations with the psychological variables. The importance of the results, particularly in relation to the role of the psychological characteristics in determining the social behavior, and the kinds of the socio-economic conditions that help to develop the psychological characteristics are discussed.

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Introduction

Background to the Problem

An inescapable fact of contemporary life is the overwhelming increase of the Ethiopian population. Ethiopia is one of the developing nations whose population is growing at a rate faster than ever before in history. In 1994 the number of its people totaled 57.2 million (WPRB, 1996). Presently the population of Ethiopia is estimated to be over 71 million the majority (85 percent) is living in rural areas, largely depending on subsistence farming for living (CSA, 2004). Crude birth rate and crude death rate were 39.9 per 1000 and 12.6 per 1000 populations respectively making the rate of natural increase (RNI) 2.7 percent. Women in the reproductive age group (15-49) constituted 22.97 percent of the total population (CSA, 1999). Ethiopia is characterized by high birth rate and closely spaced pregnancies. Although the total fertility rate has developed from 7 to 5.9 per woman in the last ten years (Green, 1991), it is still very high. Despite this problem the use of modern contraceptives is very low (8 percent)(Federal Ministry of Health, 2004).

This demographic situation threatens to outstrip the growth of resources to sustain the present and future generations of the country (Huxley cited in Reda, 1997). To minimize such unhealthy trends in human fertility, technology multiplies choice at a bewildering rate, so that increasingly the potentiality is available to us of creating society rather than simply adapting in terms of constraints of physical, biological, and social given. Nowhere is

this potentiality more subtly, and at the same time more powerfully, apparent than in the area of population control. Needless to say, one such attempt to control the population growth is in the area of family planning. In Ethiopia, the attempt to control the population growth has been to use of family planning (IPPF, 1983). The family guidance association of Ethiopia provides family planning services through government health units, training for maternal and child health personnel, family life education, and counseling for youth (IPPF, 1983).

Yet in Ethiopia, where the dissemination of contraceptive technology is widely diffused, population growth continues at a very rapid rate (WPRB, 1996). It becomes obvious, then that the dissemination of contraceptive technology alone does not necessarily lead to a stable population. Various demographic studies (Caldwell, 1980; Inkeles and Miler, 1974), in their theories of fertility transition from the premodern high level to the modern low level, have emphasized, either implicitly or explicitly the role of psychological variables namely individual's motivations, values, and attitudes as the immediate determinants of family planning behavior. However, the state of initial proposition (Indianapolis study and Princeton study) to measure those psychological characteristics directly rather than leaving them hidden as implied intervening variables did not lead to definite conclusion. But increasing awareness of this fact in recent years various number of social science researches (Inkeles and Miller 1974; Williamson, 1970; Kahl, 1976: Facewtt, 1970; Ramesh, 1984) have brought out

persuasive evidence of the relationship between psychological variables and family planning behavior.

Even though repeated studies on socio- economic differentials in family planning behavior (e.g. United Nations, 1987; Singh and John, 1981; Pullum, 1981; Kupinks, 1977) have brought out the fact that family planning behavior is positively correlated with such socio- economic variables as place of residence, educational level, occupational type, and income level a growing body of theory and research seem to sharply question the efficacy of socio - economic variables per se directly affecting family planning behavior. Rather they believed that the background variables are linked with family planning behavior through certain intervening variables namely the psychological characteristics of the individual, which intervene between socio - economic variables, and family planning emerged as the immediate determinants of contraceptive behavior.

The central assumption of the major bodies of research investigating psychological characteristics of the individual (Inkeles and Smith, 1974; Inkeles and Miller, 1974; Ramesh, 1984). is that socio - economic characteristics produce changes in the ways people perceive, value, express, and act with respect to themselves, their interpersonal relationships, and the world around them. It is maintained that these psychological characteristics of the individual, which are formed and modified by the socio - economic conditions in which the individual lives, may affect family planning behavior and thus act as intermediate variables. It is also hypothesized that those differences in psychological characteristics of individuals across

various socioeconomic settings explain differentials in family planning acceptance. In the absence of these psychological differences between persons belonging to different socio - economic status, the socio - economic variables may have little or no effect on family planning practice. Thus psychological variables are conceived to be as the immediate determinants of family planning acceptance in the context of broad socio economic variables. The differences in family planning behavior which so far have been attributed solely to the socio - economic characteristics of the individual are now attributed to the differences in the psychological functioning of the individuals belonging to different socio- economic strata.

As suggested by Ramesh (1984) childbearing behavior is experienced as an event on several psychological characteristics and a hierarchy of needs. According to Maslow (cited in Ramesh, 1984) the more deceive needs are usually the ones hardest to apprehend, concealed as they are behind attitudes and convictions pertaining much more to collective social roles than to the experience of individuals. Reproduction even more than sexuality is overload with attitudes and values the individuals considers appropriate because the individual has been learning them ever since every childhood (Wyatt, 1967,cited in Ramesh, 1984). According to Maslow (cited in Ramesh, 1984), needs are classified and arranged in a hierarchical fashion and range from " lower" needs (e.g., physiological needs and security needs) at the bottom to" higher" needs at the top (e.g., belonging needs, self - esteem needs, and self - actualization needs).

The rational for studying need as major determinants of contraceptive behavior is the assumption that the childbearing behavior is a motivated one. Ramesh (1984: 500 - 501) has stated the desire for children in humanistic terms; and what Ramesh says may apply to Ethiopian condition as well:

... Children serve, as instruments for satisfying some of the security, love, esteem, self - actualization and aesthetic needs of the parents. The decision to have either many or few children depends largely on the satisfaction of these needs and the ways in which children are perceived as means of satisfying these needs.

The need to ensure old age security, the need to have an increased family income through more earning members, and the need to feel socially and emotionally secure by conforming to certain social, cultural and religious norms may motivate the individual to opt for a large family. Growth needs, such as the need for personal development, the need to have strong and intimate relationships, the need to enjoy healthy growth and development, and the need to maintain the quality of, and harmony in life may motivate a person to restrict his family to a smaller size.

... The satisfaction of various lower needs and the upward mobility in the need hierarchy depends a great deal on the general socio - economic conditions of the individual. Individuals high in the socio - economic hierarchy may have better opportunities and means for satisfying lower needs and hence may aspire for the satisfaction of growth needs.

Similarly, various research investigating perception of and responses to societal, parental and peer pressures has come up with a number of arguments in favor of reproduction. These include (a) unreproduction is a social sin, (b) shame is bestowed on those who do not reproduce, (c) parenthood is essential to fulfill one's cultural obligations of settling down and assuming adult responsibility (d) parenthood is required for social approval and protects one from isolation, (e) it required to achieve self-esteem, status, recognition and social approval and (e) to achieve power, prosperity and status through ones children (Silverman and Silverman;Gould ;Barne ;Harris all cited in Reda,1997).

Ramesh hypothesized that as the person moves up in the socio - economic hierarchy, she becomes more open and flexible in her attitudes, which may in turn lead her to practice family planning more readily and thus have a small family. Research revealed that time orientation and openness to change is significant predictors of fertility and family planning behavior (Mulu, 1996; Reda, 1997; Ramesh, 1984; Keller et al., 1970). That is, individuals who are open and flexible in their attitudes practice family planning readily and thus have a small family (Bishaw, 1981). On the other hand, women who have conservative attitudes reflect traditional ideology and resist rational intervention and choice between behaviors. So fertility remains high among them (Tucker, 1986). This result is consistent with other studies in the same field of inquiry who suggested that women who effectively use contraceptive are able to disregard rules, suggesting a pattern of independent from societal values and the ability to apply personal values

rather than to live to the expectation of others (Allen - Mears, 1984). Fatalistic, tradition - oriented individuals, therefore, fare less well in dealing with the problem of family size than do planning, purposive - striving individuals (Reuben et al. cited in Reda, 1997).

Although a long - term significant relationship between psychological characteristics and family planning behavior has been well documented in different countries; the exploration of their relationship in Ethiopia has been limited. The present study, therefore, focuses on an important research area and its results have important implications for social work intervention programs and family planning services in developing countries in general and in Ethiopia in particular.

Statement of the Problem

The central purpose of the present study was to examine the role of psychological variables as mediator variables that regulate the influence of socio - economic variables to determine the contraceptive behavior of an individual. Accordingly, the following specific questions were entertained in the study.

> Are place of residence, educational level, and income level (all of which are socio - economic variables) related to the practice of family planning?

Do satisfaction of physiological needs, security needs, belongingness needs, and openness to change (all of which are psychological variables) related to the practice of family planning?

Does each of the specified psychological and socio - economic variables have direct effects on the practice of family planning?

Significance of the Study

The understanding of the relationships among socio- economic, psychological, and family planning practice variables is theoretically appealing and has important implications to researchers, curriculum developers, policymakers, and social service practitioners in developing countries. This is particularly so in Ethiopian contexts where little is known about the contributions of these variables to population control. Briefly, the study is significant because it

a. clarifies the relationship among socio - economic, psychological, and family planning practice variables.

b. helps to formulate policy measures to influence acceptance of family planning behavior through the use of psychological characteristics .

c. provides useful information that will be applied to family planning education .

d. enhances understanding of the psychological mechanisms related to family planning behavior.

e. helps to provide scientific data on motivations, attitudes and values related to the desire for children.

f. enhances a research tradition in psychology and population.

Delimitation of the Study

The scope of the study is delimited to Amhara region because fertility levels in the region are high (Azbaha, 1990). In the current study, only married women were included. An important consideration is that in Ethiopia the family planning methods in widest use are" female methods", principally hormonal pills, female sterilization, and intera - uterine device (IUD). Although the use of family planning methods undoubtedly depends in part upon husbands' characteristics, and upon those of other members of extended families as well, still it is the women who must know how to obtain and use these methods and is willing to do so (United Nations, 1987). Thus the inclusion of women in the study is considered adequate for the purpose of the study.

Method

Subjects

The study was conducted on a sample of 229 married women (109 from urban and 120 from rural areas). The criteria of selecting respondents were (a) being within the reproductive ages of 15- 49 years, (b) having knowledge of family planning methods, (c) having at least one child, and (d) living with husbands.

Only married women between the ages of 15- 49 years were selected because generally, it appears that fertility rate is high at this age level. Moreover, women who had heard about family planning methods were qualified based on the assumption that this would partially indicate their attitude toward and use of contraceptive (United Nations, 1987). Because the attitude of parents toward existing children can give a broader interpretation of the way in which children in general are valued, it was therefore considered appropriate to concentrate only on married women having at least one child (Sears et al. cited in Fawcett, 1970). Women living with their husbands were selected because generally it appears that marital births account for the large majority (82 percent) of births (Collins and Scott, 1991).

Instruments

Measure of Determination of Residential Area

Since the influence of an urban or a rural environment on family planning behavior may be observed only after a several years of exposure to that environment, current place of residence by itself may not always reflect this situation (United Nations, 1987). Therefore it was decided to combine the current place of residence (urban and rural) with childhood place of residence (urban and rural) to form new variables (a) women with a rural childhood and a rural current place of residence, (b) women with an urban childhood and an urban current place of residence, (c) women with a rural childhood and an urban current place of residence, and (d) women with an

urban childhood and a rural current place of residence. For convenience, the first two categories are referred to as" long - term " rural or urban residence, and while the latter two are called the " rural / urban " and " urban / rural " groups, respectively. For the purpose of the current study, the long - term measure of residence was devised as a measure of current place of residence. Urban and rural membership was then coded as follows: 1= urban and 0 = rural.

Measure of Educational Level

Education is classified according to the highest educational level attained by the individual (International Program of Laboratories for Population Statistics, 1982). The response of the participants was rated on a six - point scale, where 1= illiterate, 2= elementary education level (grades 1- 6); 3= junior high school level (grades 7- 8); 4= senior high school level (grades 9- 12); 5= junior college level (12 + 1; 12+ 2; and 12+ 3 years) and 6= professional degree (12+ 4 years and above).

Measure of Income Level

A questionnaire developed by the International Program of Laboratories for Population Statistics (1982) with some modifications on income level clusters was used by the researcher to measure income level of the respondents. The income level clusters in the study classified and coded as follow: 1= Birr 104 and below, 2= Birr 105 - 305, 3= birr 306- 445, 4= Birr 446- 636, 5= birr 637-710, 6= birr 711-1000, and 7= birr 1001 and above.

Measures of Motives Related to the Desire for Children: Physiological, Security, and Belongingness Needs

The items shown under the measures of motives related to the desire for children cover a list of items related to the decision to have either many or few children. The items are adopted from the work of Bouge (cited in Fawcett, 1970). Bogue prepared a list of motives for and against family planning practice, phrasing "motives" mainly in terms of their conscious meaning in everyday life. These motives are related to small versus large family size, rather than to children versus no children, which is a rather different consideration. The measures of motives related to the desire for children are composed of 16 items. In each item, the respondent was required to rate her motives for having either many or few children.

The response to each item is along three-point scale ranging from agree (1) to disagree (3). Up on administration of the scales to the respondents, Cronbach's alphas ranged from 0.77 to 0.80.All items discriminated between the highest and the lowest scores (the upper and the lower 27 percent). t-test results for each item in the measures of motives related to the desire for children is ranging between 2.970 to 7.341.

The measures of motives related to the desire to have either many or few children referred to physiological needs (about health and family welfare), security needs (about emotional and social security) and belongingness needs (including loneliness and alienation). Examples of the sample items are:

a. Small family size preserves better health of the mother.

b. Large family size assures happier family and more companionship than small family size.

c. Small family size assures higher standard of living than large family size.

Measure of Openness to Change /Attitude System

The items shown under the openness to change scale were used to measure the extent to which the respondent is either willing to innovate, ready for new experience, and change proneness or closed and resistant to these changes (Fawcett and Bornstein, 1973; Ramesh, 1984). The openness to change scale is composed of 10 items. The items were constructed from the available literature. Examples of the sample items are:

1. It is really sinful to purposely prevent birth.

2. To control birth is to go against nature.

In the attitude system scale, the responses to the statements are" agree", " undecided" and " disagree", and they were scored 3,2, and 1 respectively. The reliability of attitude system scale as estimated by Cronbach's alpha coefficient was 0.78.The discrimination power of each of the items was also treated using a t-test. t-test results, for each item in the measure of openness to change score is ranging between 2.362 to 5.018.

Measure of Family Planning Behavior

Family planning refers to the deliberate manipulation of the size of a family primarily by contraceptive techniques (Stycos cited in Reda, 1997). Therefore, ever - use of family planning was devised as a measure of family planning behavior (Reda, 1997). In this study, frequency of use was then determined and coded as follows: 1= almost never, 2 = sometimes, 3= almost always, and 4= always.

Sampling Procedure and Data Collection

Amhara region consists of 106 woredas. Then out of 106 woredas in the region Bahir Dar Zuria Woreda was purposively chosen for the study. The sample for the study was based on the residential area of the respondents. The urban sample was randomly drawn from two urban Kebeles out of 17 Kebeles in Bahir Dar town. The rural sample was then only from five rural villages situated between 10 and 13 kilometers from Bahir Dar town to avoid serious transportation problems.

Following the selection of the study sites (rural and urban), lists containing the names of married women and their home addresses were prepared using information supplied by informants (Kebele personnel as well as natives of that particular area). Then, a screening interview covering questions about marital status having a child, age, type of place of residence, and knowledge and use of contraception methods was carried out in 8 to 10 minutes per respondent. Finally, 229 married women who were appropriate to the

purpose of the research designed selected for the main study. Then the pilot study followed.

The Amharic version of each scale was administered at a time convenient for the respondents. The interviewers read each question to the respondents because some of them were illiterate and other were not proficient enough in reading. Four Bahir Dar University students (in continuing education programme) were participated in data collection. Before the field - work started, the interviewers were trained in methods of rapport and in the accurate administration of the instruments. One day was consumed in training the interviewers.

The respondents were told not to respond to any items that they did not wish to answer to avoid inaccurate responses and antagonizing the respondents. The confidentiality of the response was also stressed. The relevance of the contents of the instruments to the respondents was monitored during the pilot study. The Bahir Dar Zuria Woreda was purposely selected because the researcher's place of work is there and hence, follow - up plans and participation in future social work interventions and family planning services would be easily attained.

Methods of Data Analysis

The purpose of the present study was to examine the role of psychological variables as mediators of the effect of socio - economic variables on family planning practice. For this purpose, correlation, partial correlation and multiple regression analyses were employed. Correlation analysis was used

to see an overview of possible overlaps among predictor variables and to have an idea about variables most related to family planning practice variable. Multiple - regression analysis was employed to examine whether the specified socio- economic variables were independent predictors of family planning behavior when the contributions of psychological variables were statistically controlled. Partial correlation analysis was used to study the role of psychological variables as mediating variables (the variables in the absence of which the significant relationship between the socio - economic variable which is assumed to occur prior to the psychological mediator variable and the dependent variable which is assumed to follow the mediator variable proved nonsignificant) between socio economic variables and family planning practice variable. A test of significance of partial correlation between the socio - economic variable and the family planning practice variable, after controlling the psychological variable, was carried out to select the mediator variables.

Results

Results are reported in three sections. First, inter-correlations among socio - economic, psychological, and family planning practice variables are reported. Next, results of multiple regression analysis designed to asses the independent predictors of family planning practice are presented, followed by findings from partial correlation analysis designed to assess the role of psychological variables as mediating variables between family planning behavior and socio - economic variables.

Interrelationships among Variables

Table 1 (below) shows zero order correlations among educational level (x_1), place of residence (x_2), income level (x_3), physiological needs (x_4), security needs (x_5), belongingness needs (x_6), openness to change (x_7), and family planning behavior (x_8).

Table 1. Intercorrelations among Socio - Economic, Psychological, and Family Planning Practice Variables.

Variables	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
X_1	-							
X_2	.385*	-						
X_3	.448*	.438*	-					
X_4	.192*	.222*	.156*	-				
X_5	.244*	.322*	.187*	.422*	-			
X_6	.243*	.321*	.228*	.426*	.596*	-		
X_7	.217*	.286*	.236*	.306*	.392*	.414*	-	
X_8	.200*	.191*	.191*	.160*	.201*	.201*	.300*	-

P*<.05

Findings shown in Table 1 indicate that educational level, place of residence, income level, physiological needs, security needs, belonging needs and openness to change were related significantly and positively to family planning behavior.

In line with expectation, socio - economic variables were significantly and positively correlated to psychological variables. Specifically, educational level, place of residence, and income level were related positively to each other as well as to physiological needs, security needs, belongingness needs, and openness to change.

Multiple Regression Analysis

Multiple regression analysis was employed to assess the independent predictors of family planning practice. According to the results shown in Table 2, openness to change was positive independent predictor of family planning practice. The model explained 16 percent of the variance in contraceptive use, $F(7,221)=2.06$, $P< .05$.

Table 2. Results of the Multiple Regression Analysis for Predicting Family Planning Practice

Predictor variable	Standardized Beta weights
Educational level (x_1)	.101
Place of residence (x_2)	.089
Income level (x_3)	.011
Physiological needs (x_4)	.040
Security needs(x_5)	.020
Belongingness needs (x_6)	.025
Openness to change (x_7)	.210*
Overall R^2	.161*

P *<. 05*

Partial Correlation Analysis

Results of the multiple regression analysis suggested that the socio-economic variables are not independent predictors of family planning practice when the effects of psychological variables are statistically controlled. However, it was quite possible that educational level, place of residence and income level (all of which are socio - economic variables) influenced family planning practice indirectly, by way of their significant relations with psychological variables. Initial evidence (Table 1) which depicted significant correlations between socio - economic and psychological variables and results shown in Table 2 suggesting that openness to change is significant, independent predictor of family planning practice support this anticipation. Stronger evidence for the role of psychological variables as mediators of the effects of socio - economic variables on family planning practice is therefore obtained through the use of partial correlation analysis dealing with the impact of each socio - economic variables on practice of family planning.

Partial Correlation Analysis Dealing with the Impact of Educational Level on Practice of Family Planning

Results shown in Table 3 indicate that the partial correlation between educational level and family planning practice is found to be statistically significant (at the .05 level) when the two sets of variables openness to change (x_7) and security needs (x_5), or openness to change (x_7) and belongingness needs (x_6) are statistically controlled together.

Table 3. Partial Correlation Coefficients Associated with the Relationship Between Educational Level and Practice of Family Planning.

Variables correlated	Variables controlled	Partial correlation coefficients	
		First order	Second order
Educational level (X_1) and practice of family planning (X_8)	X_4	. 174	. 136
	X_5	.158	.125*
	X_6	.158	.130*
	X_7	.144	-

* P < .05

Partial Correlation Analysis Concerning the Relationship Between Place of Residence and Practice of Family Planning

Table 4 (below) shows that when a psychological variable, namely openness to change (x_7), is controlled, the partial correlation between place of residence and practice of family planning becomes statistically nonsignficant (at the .05 level).

Table 4. Partial Correlation coefficients focusing on the Relationship Between Place of Residence and Practice of Family Panning.

Variables correlated	Variables controlled	First order partial correlation coefficients
Place of residence (X_2) and practice of Family planning (X_8)	X_4	.169
	X_5	. 136
	X_6	.153
	X_7	. 129*

*P < .05

Partial Correlation Coefficients Associated with the Relationship between Income Level and Practice of Family Planning

Results shown in Table 5 indicated that combination of variables in the order of openness to change (x_7) and physiological needs (x4), openness to change (x_7) and security needs (x_5), and openness to change (x_7) and belongingness needs (x_6) has reduced the partial correlation between income level and practice of family planning, which was nonsignificant at .05 level.

Table 5. Partial Correlation Analysis Focusing on the Relationship between Income Level and Practice of Family Planning

Variables correlated	**Variables controlled**	**Partial correlation coefficients**	
		First order	**Second order**
Income level (X_3)	X_4	.174	.127*
and family planning	X_5	.162	.125 *
practice (X_8)	X_6	.156	.120 *
	X_7	.133	-

P<.05

Discussion

The central problem in the present study has been to explore the role of psychological variables as mediators of the effects of socio - economic variables on family planning behavior. The discussion regarding this central issue is presented along the following three lines.

Relations between Educational Level and Family Planning Practice

Results in the correlation analysis revealed that educational level and associated factors, namely physiological needs, security needs, and belongingness needs, and openness to change are related to family planning practice. A similar finding was reported in cross - national studies (Ramesh, 1984; Population Council, 1970). Studies in Ethiopian contexts similarly documented that women with higher levels of education have a much higher chance of being contraceptive users (Dilnesaw, 1995; Mulu, 1996; Reda, 1997). In Ethiopia, the proportion of married women using contraception rises from 2.7 percent among those with no formal education to 19 percent, 38 percent, and 57 percent respectively for primary, junior secondary, and subsequent levels (CSA, 1993).

Results of multiple - regression analysis suggest that educational level was not independent predictor of family planning practice when the potentially confounding effects of psychological variables, namely physiological needs, security needs, belongingness needs, and openness to change were statistically controlled. A similar finding was reported by some other investigators (Ramesh, 1984). A partial correlation analysis involving

educational level and family planning practice provides ideas about the mechanisms through which educational level affects family planning behavior. Results from partial correlation analysis revealed that educational level will have an effect on family planning behavior through its effect on two sets of variables, namely openness to change and security needs, or openness to change and belongingness needs. The partial correlation analysis suggests that in the absence of the differences between respondents with high and low educational level with respect to openness to change and security needs or openness to change and belongingness needs, there will be no difference in family planning practice according to the educational level of the individual. According to the partial correlation analysis, in the absence of differences with regard to these psychological characteristics, respondents with low education may not differ from those with a secondary or higher education in their family planning practice. Educational level affects these psychological characteristics, which in turn affect family planning practice. The psychological characteristics together act as mediator variables, causing the variations in family planning practice depending on the educational level of the individual.

Similar to the findings of the present study, cross - national studies have yielded various results that associate education and family planning practice. Evidence, for example, shows that education is positively related to the practice of family planning. The relationship is supposed to exist due to the fact that education promotes a broadening of one's horizons, increased knowledge, a breakdown in traditional attitudes and beliefs, and a variety of

other social psychological accompaniments of modernization (e.g., a strong achievement orientation)-all of which are likely to encourage greater effort to properly regulate the size of one's family (Hawthorn, 1970; United Nations, 1979; Ramesh, 1984). However, their conclusion has been challenged by some other studies (Ann, 1987; United Nations, 1987) that found results to the contrary. Apparent lack of uniformity in the observed relationships between educational level and family planning practice might arise due to the measurement of the educational level. For example, Ann (1987), by considering the seven years of schooling as an index of secondary education level (unlike the case in the present study) in Peninsular Malaysia, indicated that secondary education level has a negative direct influence on contraceptive use. Unlike to the findings of the present study, studies made in Pannamacity and comparative research on women in developing countries have also indicated that the level of contraception practiced by women with relatively little education (ranging from 1 to 6 years) is much closer to the degree of use apparent among more highly educated women at least seven years of schooling (United Nations, 1987).

A possible explanation for the result that suggests educational level has an effect on family planning practice through its effect on openness to change and security needs or openness to change and belongingness needs probably is related with the assumption that highly educated women are less conservative with respect to the values of change and develop sense of control over one's destiny, which may encourage attempt to control childbearing as well. Inkeles and Miler (1974) supported this explanation

suggesting that education has a more substantial impact on psychological modernity and through it, on acceptance of family limitation, with some independent effect on the latter. Education can directly change attitudes, values, and beliefs toward a small family norm and toward a style of childbearing that is relatively costy to the parents in time and money (Pullum, 1981; Coherence, 1979). They further reported that the potential for education to diffuse nontraditional values does not end in the classroom, since the educated are likely to continue to be exposed to modern ideas through newspapers and books, and through ownership of radios and television sets, which they typically acquire earlier than couples of lower socioeconomic status. The highest income of educated couples makes a wide range of contraceptive methods affordable (United Nations, 1979). Seen from these angles, the results of the present study that suggest educational level has an effect on family planning are hardly surprising.

Relations between Place of Residence and Family Planning Practice

Results in the correlation analysis revealed that place of residence is related to physiological needs, security needs, belongingness needs, openness to change and family planning practice. A similar finding was reported by some other investigators (Inkeles and Miller, 1974; Ramesh, 1984; Population Council, 1970).

Results of multiple - regression analysis suggest that place of residence was not independent predictor of family planning practice when the potentially confounding effects of the psychological variables were statistically

controlled. Results from partial correlation analysis revealed that place of residence will have an effect on family planning practice through its effect on openness to change. The partial correlation analysis suggests that in the absence of differences with regard to this psychological variable (openness to change), the urban respondents may not differ from their rural counterparts in their family planning practice. Urban residence affects this psychological characteristic, which in turn affects family planning practice. Openness to change acts as mediator variable, causing the variation in family planning practice depending on the residential area of the individual. Thus, place of residence is positively related to family planning practice through its effect on openness to change.

Similar to the findings of the present study, results of other studies (Inkeles and Miller, 1974; Population Council, 1970; Ramesh, 1984) invariably highlighted that place of residence is positively related to family planning practice indirectly through the psychological variables. Inkeles and Miller (1974) emphasized that experiences with modern institutions such as rural / urban residence and educational level are not associated with acceptance of birth control unless they are attended by modern values and attitudes. Population Council (1970), that provides evidence relating modern background variables to family planning behavior in eighty countries, invariably reported that individuals with more modern socio economic characteristics tend to accept birth control and have fewer children. Ramesh (1984) and Reda (1997) have also emphasized that urban residence has an effect on family planning practice through its effect on openness to change

and time orientation, although their conclusion has been challenged by some other studies (Chernichovsky and Meesook, 1980).

Differences in the definition of residential area might be a reason for the apparent lack of uniformity in the observed relationships between place of residence and family planning practice. For example, Chernichovsky and Meesook (1980) by using two indices, namely, urban (locales with more than 1, 500 inhabitants) and rural areas as measures of place of residence (unlike the case in the present study), showed that urban respondents might not significantly differ from their rural counterparts in their contraceptive use.

A possible explanation for the result that suggests urban residence has an effect on family planning practice through its effect on openness to change probably centers around the proposition that women who have lived in urban areas for some time are more likely to have developed attitudes that increased acceptability of contraceptive use as a result of exposure to urban life - style, environment, and media. Johnson and his associates (Johnson et al., 1978) supported this explanation based on the premise that residential patterns structure the norms and beliefs of individual residents. In this regard, rural life has an effect on family planning practice through its effect on a wide range of norms and beliefs that tend to favor larger families (United Nations, 1979). This result is consistent with other studies that suggest that women come from a rural set - up are mostly non - users of birth control practices (Stycos cited in Reda, 1997).

Relations between Income Level and Family Planning Practice

Results in the correlation analysis revealed that income level, physiological needs, security needs, belongingness needs, security needs, and openness to change are related to family planning practice. Results of the multiple regression analysis revealed that income level was not independent predictor of family planning practice when the effects of the psychological variables were statistically controlled.

Results from the partial correlation analysis indicated that income level will have an effect on family planning practice through its effect on openness to change and physiological needs, openness to change and security needs, or openness to change and belongingness needs. The partial correlation analysis emphasizes that in the absence of the differences between respondent with high and low income level with respect to openness to change and physiological needs, openness to change and security needs, or openness to change and belongingness needs, there will be no difference in family planning practice according to the income level of the individual. Income level affects these psychological characteristics, which in turn affects family planning practice. The psychological characteristics of individual together act as mediator variables, causing the variations in family planning practice depending on the income level of the individual. Similar findings were reported by some other researchers (Ramesh, 1984;Mulu, 1996).

Conclusions and Implications

The purpose of the present study was to examine the role of psychological variables as mediators of the effect of socio –economic variables on family planning behavior. Thus the general finding of the study is that social-psychological variables are important in understanding the dynamics of family planning beghavior. The specific conclusions of the study are:

1. educational level, place of residence, and income level, are related significantly and positively to physiological needs, security needs, belongingness needs, and openness to change.

2. physiological needs, security needs, belongingness needs, and openness to change (all of them are psychological variables) are related significantly and positively to family planning.

3. educational level, place of residence, income level have their effects on family planning behavior through the psychological variables indicated.

Finally, the present findings seemed to have the following practical implications for policymakers and social work intervention and family planning services in developing countries.

a. The findings of the present study have revealed that as the individual moves up in the socio - economic hierarchy she may have better opportunities and means for satisfying lower needs, and she becomes

more open and flexible in her attitudes, which in turn lead her to practice family planning more readily. Insofar as our objective is to influence family planning behavior such socio - economic variables as place of residence, educational level, and income level would seem to be the background variables offering the greatest leverage. Thus the government should encourage the labor force participation of women in income generating activities. Moreover, women should get opportunities in accessing and succeeding in their education if possible.

In addition to economic gains, the participation of women in income generating activities and in accessing and succeeding education enhances social and political status of women that are competitive with the continuation of uncontrolled childbearing behavior. Nevertheless, the solution may not be changed without significant changes in societal attitudes to and perception of the place of women in a society aspiring to be democratic. This change of attitude has to take place at the national, regional, local community and household levels. Thus education programmes should and will be mounted to bring about changes in attitude and perception. Efforts to change the situations should begin at the family early and subsequent educational levels. For example, the practice of differential assignments of males and females to different social, educational, and professional roles must stop.

Moreover, women are the ones who need to be accommodated by different types of career paths. The men who currently occupy positions at the top have to learn the female executives are not just men in skirts

and trouser suits. It must be clear that women will not rise to the top of the career ladder by a simple process of osmosis once there are enough of them at the bottom. They have different needs in the workplace. Only when men understand this will women join them at the top.

b. Educational campaigns should be mounted to educate and persuade the population to accept the benefit of small family size. Because women in developing countries may not have the leisure to attend formal schooling, family planning education programmes, would be even more effectively directed at women at their work and through health care services. In rural areas, for example, the use of family planning can be stressed in agricultural service extension programms and rural health service programms such as clinics and health stations. In urban areas, the idea of family planning can be incorporated into factory training programs, union settings, and urban health service programms such as clinics, health stations, and hospitals.

c. The findings of this study also suggest that any society undergoing social changes can experience changes in the psychological characteristics of its members, which in turn brings about the desired changes in family planning behavior. However, structural change in socio - economic characteristics without intervening psychic change in individuals seem to have little or no effect in family planning practice.

Thus, the policy suggestion derived from the present study assumed that there is a good case to be made for the reasonableness of policies designed

to shape birth control practice by influencing the personal and social needs that are met by childbearing. We are well aware of the difficulties of influencing the motivational context of reproduction by programms of direct communication. Then, options for the provision of functional equivalents to children might become apparent. A humanistic answer to the population dilemma of the immediate future may be found not by denying parents children that they have learned to desire, but by offering alternative sources of satisfaction to rational reproductive motivations. The means by which this can be accomplished is likely to be through alternations in the society's systems of rewards and cost; however, rewards and costs need not be considered only in monetary and legal terms. Social approval and personal achievement are also powerful rewards, for instance, and both could be brought to bear on family planning behavior in a country that publicized excessive childbearing as irresponsible.

Opportunities for creative self - expression, status - recognition for community service activities and greater latitude in socially acceptable styles of cohabitation are among the possible sources of satisfaction that may compete with childbearing. Immediate steps should be taken in finding ways and means of enabling women to be self-supporting by means of self-employment promotion programmes. This can be done through the development of small-scale enterprises involving the production of goods and services that can be produced with relatively easily obtainable factor inputs. At the same time family planning services would be accessible to them so that by practicing responsible parenthood they reduce burdens,

which often prove to be impediments in self-improvement. For example, the Ethiopian government current efforts to encourage both males and females to participate in community service activities are important approaches in this direction. This approach can be integrated into the school curriculum.

School curriculum should provide concrete illustrations that depict the contributions of women in human endeavors. For example, curriculum in History and Political Science has to include and make visible the contributions of women in nation building just as those of their men counterparts. Concrete examples that are used to illustrate concepts should include both men as well as women experiences. Pictures and illustrations in textbooks should be drawn to represent women and men as active participants in the whole process of community services. It could be even more effectively directed at communities and society at large, through films; filmstrips, and illustrated literature.

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