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ALLEN, Lenola Busby, 1940-
PERSONAL AND FAMILY CHARACTERISTICS:
BASES FOR DEVELOPING FAMILY PLANNING
MATERIALS FOR INTERNATIONAL AUDIENCES.

Iowa State University,
Ph.D., 1977
Education, home economics

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Personal and family characteristics: Bases for developing
family planning materials for international audiences

by

Lenola Busby Allen

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of
The Requirements for the Degree of
DOCTOR OF PHILOSOPHY

Major: Home Economics Education

Approved:

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In Charge of Major Work

Signature was redacted for privacy.

For the Major Department

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For the Graduate College

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1977

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INTRODUCTION

The role of home economics in incorporating substantive content into family planning programs at the micro level has been emerging as home economists and other decision makers recognize the contribution home economics can make to the programs in family planning. The nature and extent of involvement of home economics is influenced by the continuous efforts toward improving the quality of life of families, the expressed need for program materials by families, and the recognition of the differences in sociocultural context among family planners.

Need for Study

In recent years, a majority of the populations in developing countries was unaware of family planning, as well as problems resulting from population pressures. The Commission on Population Growth and the American Future (1972) suggested an increase in knowledge about population change and its implications in order to assure individuals of making rational, informed decisions about the future.

The 1960's saw a rapid expansion of family planning, especially large-scale programs in developing countries. Many of the programs concentrated on disseminating contraceptives to individuals and were macro-level in presentation. Individuals at the family level need information about family planning and home economics if decisions are to be made about their

quality of life. Presently, programs aimed at improving the quality of life at the family level focus on providing educational materials for decision makers, the learners at the family level.

Russo (1972) believed that successful planners must recognize the differences in the learners. Educational endeavors necessitate viewing the learner in the situational context. There are personal, social, and cultural factors that are relevant to the development of population awareness.

According to the Population Reference Bureau (1976), the U.S. Agency for International Development advocates gathering pertinent data about populations. Collecting and analyzing demographic data can assist in measuring the impact of family planning programs, helping family planning personnel to improve program design and implementation, and developing awareness and understanding of the population problems in developing countries.

Family planning in developing countries is voluntary, depending primarily on the social, psychological and economic needs of families. In many cultures, groups of people at the family level do not communicate about family planning topics. Interpersonal forms of communication are necessary to communicate family planning messages. Hutchinson (1974) has contended that verbal communication provides an opportunity for identifying the consensus or dissensus on issues. It is of importance

to know what spouses talk about, as well as what they do not talk about, and whether qualitative aspects of verbal communication differ contingent on the topic.

Mukherjee (1975) suggested the importance of education in promoting the extent to which couples discuss family planning. There is a need for preparing thoroughly tested family planning materials that emphasize social and psychological benefits of increased communication and interaction between spouses. Family planning education is challenged to develop techniques that encourage and stimulate interspouse communication as it affects the making of family planning decisions.

World Education (Population Reference Bureau, 1976) has worked with other organizations to develop integrated functional programs for adults that include education on population matters, family planning, nutrition, and food production. The program includes identifying learner needs, designing training programs and curricula, developing methods of presentations, training staff, and developing evaluation strategies and techniques for assessment.

More recently, the American Home Economics Association (AHEA) has focused attention on developing quality micro level family planning materials for use in developing countries. Substantive content was integrated into population education/family planning content and made available to personnel in extension, community development, and social development in

developing countries.

The International Planned Parenthood Federation (IPPF) has promoted family life and planning courses in school and for out-of-school audiences. In addition, attempts have been made to expand rural area programs and develop information, education, communication, and motivation techniques to achieve the goals of the organization.

Purpose of the Study

Village couples from El Salvador, Ghana, Jamaica, and the Philippines participated in the present study which was designed to obtain information about village learners that could serve as a basis for developing family planning materials for use in developing countries. Specific objectives for this study were:

1. To identify selected demographic characteristics of village families that have implications for developing program materials needed at the micro-level.
2. To investigate the possibility of a relationship between current status of family planning behavior and (a) couple communication, (b) decision-making patterns, and (c) topics talked about.
3. To make recommendations for developing home economics/ family planning program materials to be used with village families in developing countries.

Assumptions and Limitations

The assumptions made in regard to the study are:

1. The couples are willing to participate in the study.
2. The structured interview is culture free.
3. The instrument has been correctly translated into the language of the couples.
4. The interviewers will administer the instrument in a similar manner to village couples.

The study is limited to village families in El Salvador, Ghana, Jamaica, and the Phillipines who were participants in the American Home Economics International Family Planning Project.

REVIEW OF LITERATURE

Efforts to improve the quality of rural life in developing countries have contributed to the incorporating of home economics/family planning concepts and information into the curricula of nonformal education programs. Nonformal education programs are national in scope and may include extension, community development, social development or other forms of adult education. Programs can be designed to convey family planning information, ideas, and technology to the rural masses at the micro level; that is, to the family and the community. Family planning programs at the micro level focus on the family, its cultural and social background and experiences which are part of everyday life.

Many of the large-scale nonformal education programs of the micro variety fail to compensate for varying individual needs or to consider the social factors that constitute the highly pluralistic and heterogeneous nature of agrarian populations. Simply stated, program planners of these programs often neglect the manner in which individual learners in rural situations live and how they perceive and value the various issues of life. The program planner must take into account many variables such as rural value systems, traditional, cultural and educational factors that influence attitudes, and the physical and social environment in which rural people operate.

This review is based on a review of major texts and journals in the areas of program planning, curriculum development, and family planning, and a survey of published research. The literature revealed a surfeit of information, much of it repetitive. Only the most salient contributions directly related to studies of the learners and family planning are reported. Therefore, the review of literature focuses on (1) program planning with a discussion of issues and concerns, theoretical frameworks, and criteria for developing materials; and (2) bases for developing program materials in family planning with foci on learner characteristics, communication patterns and family planning, decision-making practices, and the need for home economics/family planning information.

Program Planning

Program planning involves people; it must focus on their needs, characteristics, biases and diversity. According to Rudd and Hall (1974), programs are planned in relation to the community, the target audiences, and the objectives and resources of the organization. Kidd (1973, pp. 272, 278) pointed out that a study of the needs and wants of the adult learner is one means of beginning the development of a curriculum. Choosing a curriculum for adults means understanding the needs and interests of the learner, understanding the situation in which he lives, and the kinds of content that may serve his needs.

Wiltshire (1973) discussed the concept of need as a basis for planning adult education programs. In addition to thinking about the needs of potential audiences, attention should be given to why adults should learn some things rather than others and what criteria and value judgments determine what information should be learned and the ways of learning the information.

Issues and concerns

An analysis of some of the issues and concerns of non-formal education has significance for program planning. Brembeck (1973) identified six concerns which have brought attention to the potential of nonformal education. They are the inverse relationship between school-age populations and resources, equal opportunity and access to education and societal resources, the need for innovations in education, supplementing and complementing the benefits of formal education, the need to meet human needs in specific contexts, and the possibility of shifting the attention from certificates as the criterion of achievement to performance as the criterion.

Coombs and Ahmed (1974) indicated that a large majority of the population in the developing world is comprised of the rural populace. Rural communities include potential clients for nonformal education. Many of the individuals live on farms, in villages, or in rural market towns. Coombs and Ahmen refer to nonformal education as any organized, systematic, educational activity carried on outside the framework of the

formal system. This activity provides selected types of learning to particular subgroups in the population. They note that nonformal education includes programs of instruction in the areas of nutrition, health, family planning, cooperatives, and others.

Among the important concerns of program planners in non-formal education are the educational needs for rural development. Coombs and Ahmed (1974) pointed out that the rural population needs general or basic education, family improvement education, community improvement, and occupational education. Education in the area of family improvement is designed to present knowledge, skills and attitudes that are useful in improving the quality of life. Emphasis is usually focused on such subjects as health and nutrition, homemaking and child care, home repairs and improvements, family planning and others.

Lord (1976) identified three major concerns of education programs for adults. The first concern related to whether or not the programs were aimed at problems that the adults really have. The second concern focused on the content of the program as it dealt with the problem which had been identified. Far too often, adult educators start out to plan a program which concentrates on a problem or need of a target group, but results in a program whose content has gone astray and which proves to be irrelevant to the identified problem. The third concern related to the management of educational activities for

adults.

La Belle (1976) reported that nonformal education has a contribution to make to conceptualizing the study and practice of education in addition to addressing individual or social concerns. Program planners may consider the notion that planned experiences to improve learning are not and need not be confined to the classroom in formal education.

Defining the problems and needs of the learner (Evans, 1976) is an issue that has long been recognized as central in producing effective programming. This can be traced back to the procedures in community development programs for determining the felt needs of the people. Many nonformal education programs have developed techniques of using surveys, discussions, and feasibility studies to determine the needs and the topics of interest to the learners.

Because of their great diversity, nonformal education programs have to be separately planned to satisfy their own particular objectives and clients (Coombs, 1976). Effective programs have been identified as those that have been sensitive to the social, economic, political, and ecological characteristics of the area in which they are to operate. These factors have a strong bearing on people's learning needs and what use they can make of different types of new learning after they have acquired it. Good nonformal education planners also take careful cognizance of various development activities and of

other educational activities with which any particular non-formal program can collaborate.

Coombs (1976) suggested that the planning of nonformal education must by its very nature be decentralized and brought as close as possible to the scene of the action. So far as possible, the intended clients themselves should be brought into the process especially to help define their own needs, interests, and priorities. Such programs must also be planned in an integrated fashion so that they will be effectively interwoven with related social and economic activities. To treat nonformal education as a separate and isolated sector would be to cut it off from the mainstream of social and economic development and to defeat its essential mission. It should, however, be viewed as a diversified flow of learning inputs that are essential to the nourishment of all kinds of development activities and sectors.

Another critical issue in planning is the establishment of objectives. Harman (1973) suggested that after the initial decision to undertake a program has been made, the initial decision must be translated into a series of clearly stated objectives. These objectives may serve as policy statements to define the tasks and targets of the program. The objectives are to incorporate all aspects of the program and not only specify the final desired results.

Program planners in nonformal education may utilize a system for organizing ideas, thoughts, and needs into a framework for identifying critical issues relating to the potential audience. They may find it necessary and useful to draw on data, statistics, history, procedure, and tradition.

Theoretical frameworks

The theoretical frameworks developed by Ralph Tyler (1949), David Harman (1973), and Eduardo Roberto (1975) are the major foci of this study. Each model is presented as a rationale for either viewing and planning programs of instruction at any level or scope, viewing and planning programs in functional education for family life planning, or planning and evaluating family planning diffusion. Other curriculum theorists and program planners have used the basic ideas in these models in the development of their theories and programs. The present review is directed to the elements of each framework that concentrate on the target clients.

Educational program planning requires some conception goals and aims. Tyler (1949) presented a rationale for viewing and planning programs of instruction at any level or scope. According to this rationale, four questions must be answered in order to analyze or develop any curriculum and plan of instruction: namely,

1. What educational purposes should the school seek to attain?

2. What educational experiences can be provided that are likely to attain these purposes?
3. How can these educational experiences be effectively organized?
4. How can we determine whether these purposes are being attained? (p. 1)

Tyler's framework, which focuses on objectives, become criteria for selecting materials, outlining content, developing instructional materials and preparing tests and examinations. The Tylerian approach to proposing educational objectives originate from three sources (studies of the society, studies of the learners, and the subject matter) and two screens (a psychology of learning and a philosophy of education). The framework (Figure 1) may be used to identify and assess changes in behavior patterns of learners.

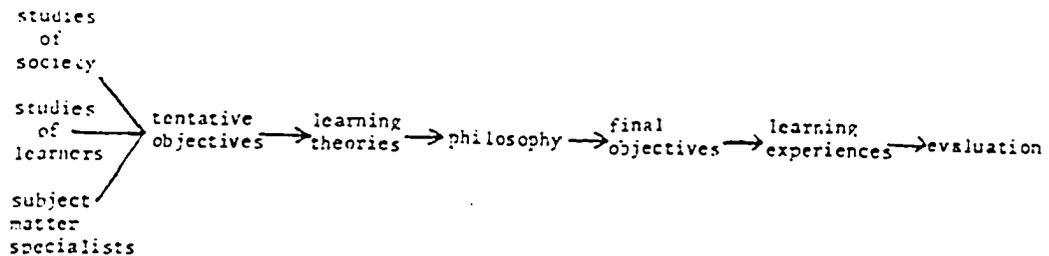


Figure 1. Conceptual framework (Tyler)

Source: adapted from Robert Emans; 1966, p. 328.

The Tylerian framework has implications for designing instructional strategies as well as providing opportunities for feedback. Tyler has often spoken and written on his view of an appropriate framework for planning and conducting

educational evaluations. The evaluation model includes deciding what the final outcome ought to look like, and then using this as a basis for prescribing methods for attaining and measuring the outcome (Clark, 1975).

Some of the assumptions that underlie the Tylerian evaluation model are: education seeks to change behavior; educational programs are assessed by finding out how far objectives are being realized; any device which provides valid evidence regarding the progress of learners towards educational objectives is appropriate; and the participation of teachers, pupils, and parents in the process of evaluation is essential to derive maximum value.

Educational goals and the degree to which these goals are achieved constitute the heart of the Tylerian evaluation approach. It has had an enormous impact on the thinking of educators regarding the conduct of educational evaluations. According to Womer (1970) major evaluation projects such as the National Assessment of Educational Progress are based on the Tylerian conception of educational evaluation.

Tyler's model focuses on how factors should look in a program. Harman (1973) proposed a model that describes factors as they actually exist in an ongoing system. Program designers and planners can use this graphic device as a tool to organize the various factors systematically and to indicate their correlation.

Harman proposes two main categories into a program of adult functional education for family life planning. First is the clientele (target population). This factor needs defining as accurately as possible. The second category includes teachers, materials, facilities, and administration and finances that serve the target group. Unlike the target population, which is a constant factor, these variables can be controlled, to a degree, by the planner.

There are four steps to the model: (1) target population data, (2) program data, (3) correlating program with target population, and (4) operational decisions. The first step in using the model is to gather data about the target population for which the existing system has been operating. Almost always the existing system has been functioning on false or incomplete assumptions about its target population. This step is the element of the model adapted for use in the present study.

Program planners may find it difficult to define what portion of the population would respond best to a family planning program. According to Harman, a program planner should examine and substantiate the initial decisions regarding potential clients before developing a large-scale program. This can be accomplished through a pilot project and a survey of the target population.

A pilot project may be identified as a limited program among a small representative group. The sample group chosen exemplifies characteristics approximate to those of the total target population. The program planner designs the program, prepares and develops program materials, decides upon a methodology or strategy, trains teachers, leaders, or innovators, and conducts on a limited scale that which would amount to a full program. After evaluating the pilot project, revisions or expansions are initiated.

From the views of Harman, suggesting the need to validate basic assumptions concerning functional education for family life planning, came the suggestion of conducting research or surveys. Surveys can be used to obtain needed information regarding the characteristics of the potential clients; their interests, concerns, knowledge, motivations, attitudes, and behavior.

Different audiences have different characteristics and these differences are crucial factors in designing a program. Data regarding various aspects of the proposed target population are essential to the program planner. Harman (1973) suggested the following classifications of information to describe the clients:

1. Urban or rural residence
2. Extent of urban-rural contacts
3. Occupations
4. Occupational structure: who does what and when
5. Authority structure: who makes decisions and how

6. Information pertaining to living styles: housing, home furnishings, food habits
7. Religious affiliation and traditions
8. Child-rearing habits and traditions
9. Existing and traditional modes of education
10. Relationships among people in the community
11. Recreational activities
12. External sources of information
13. Relationships with other communities
14. Age structure
15. Sex structure
16. Role of the sexes: work distribution, responsibility distribution, degree of mixing of the sexes
17. Particular cultural traditions
18. General attitude towards outsiders and the outside world (p. 35).

In addition to these items, more detailed information regarding the potential audience may include:

1. Knowledge
 - a. Of reading and writing
 - b. Of family planning techniques
 - c. Of farming techniques
 - d. Of food preparation techniques
 - e. Of language: type and extent of vocabulary
 - f. Of health practices
 - g. Of the human body and its functions
 - h. Of the external world: communities other than one's own
 - i. Of local, regional, and national government
 - j. Of public services
2. Attitudes
 - a. Towards education
 - b. Towards family planning and different family planning techniques
 - c. Towards change in general and towards different areas of change such as diet or agriculture
 - d. Towards outsiders
 - e. Towards illness and the use of doctors
 - f. Towards children
3. Practice
 - a. How does an individual conduct his day?
 - b. What tasks does an individual perform during the day?
 - c. What are an individual's practices regarding children and the raising of children?
 - d. What are an individual's practices regarding illness and the use of doctors?

- e. What are an individual's practices regarding education, his own and his children's?
- f. What are an individual's practices regarding relationships with the opposite sex? (p. 36).

The lists suggest types of information and can be expanded or limited. Harman reported that they provide valuable information about the interests and motivations of the intended audience. Community development program planners use this methodology as a means of obtaining information relating to the needs of the population.

The information obtained in the first step of the model (Figure 2) is transferred to the large triangle above the diagonal in the upper left-hand corner of the diagram. Assumptions about the target population under which the existing system has been operating are placed in the large triangle below the diagonal. After analyzing the completed opposing triangles, the program planner may find that the existing system has been operating on false or incomplete assumptions about its target population.

Step two of the model includes a graphic view of the ideal or intended system against the existing system. The value judgments of the program planner about the ideal system is placed in the upper triangles. In the lower triangles, the program planner describes input factors as they actually exist in the current educational system.

In step three, the program planner can analyze the effect of the target population and each of the variable factors on

		INTENDED EDUCATIONAL SYSTEM							PROGRAM PLAN	
		Structure	Administration	Curricula and Teaching Methods	Teachers and Teacher Training	Attrition	Physical Facilities	Other (Specify)		
EXISTING OPERATIONAL ASSUMPTIONS	TARGET POPULATION PROFILE									
	EXISTING EDUCATIONAL SYSTEM	Structure								
		Administration								
		Curricula and Teaching Methods								
		Teachers and Teacher Training								
		Attrition								
		Physical Facilities								
		Other (Specify)								

Figure 2. Planning model for functional education for family life planning (Harman, 1973, p. 22)

every other input into the educational system from three different points of view. A descriptive analysis, budget analysis, and constraints analysis can be recorded on three different copies of the diagram.

Step four is operational decisions for which the program planner uses the column: "Program Plan." This column is used to design a plan of action to bring the existing systems as described in the lower triangles to the level described in the upper triangles (the intended system).

The Harman model may be used to take a systematic look at the present condition; conceptualize an ideal system; draw comparisons, and to develop a plan of action. The graphic model is basically a framework to use for planning purposes.

A framework developed by Roberto (1975) proposed a planning and evaluation framework for family planning diffusion. The main elements of the framework were client segmentation, program objectives, diffusion variables, and program evaluation (Figure 3).

The planning system for managing family-planning diffusion should begin with an understanding of the program's target client segments as well as how they view and use contraceptives. The proper identification of client groups can indicate the specific points where program efforts are necessary for a more effective and efficient diffusion.

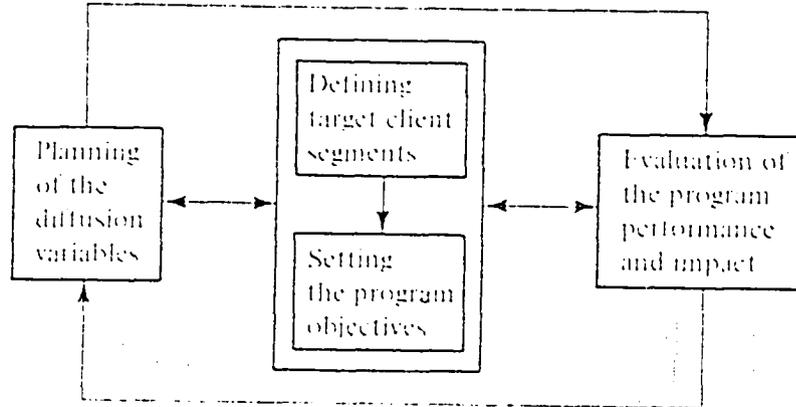


Figure 3. The proposed planning and evaluation framework (Roberto, 1975, p. 2)

In this framework a first and most important design question to answer is that of the starting point. It is most useful to start from an understanding of the program's target client segments (Roberto, 1975). If the target client segments are well-defined, the task of defining the program's objectives is greatly facilitated. Target client segments and program objectives are the basis for planning the diffusion variables of the program.

In 1972, Roberto developed a marketing planning framework for services delivery in family-planning programs. This model begins (Figure 4) with selecting objectives and then defines the target clients. Other steps in the framework provide for developing substrategies, implementing the resulting total plan, and redefining the total strategy.

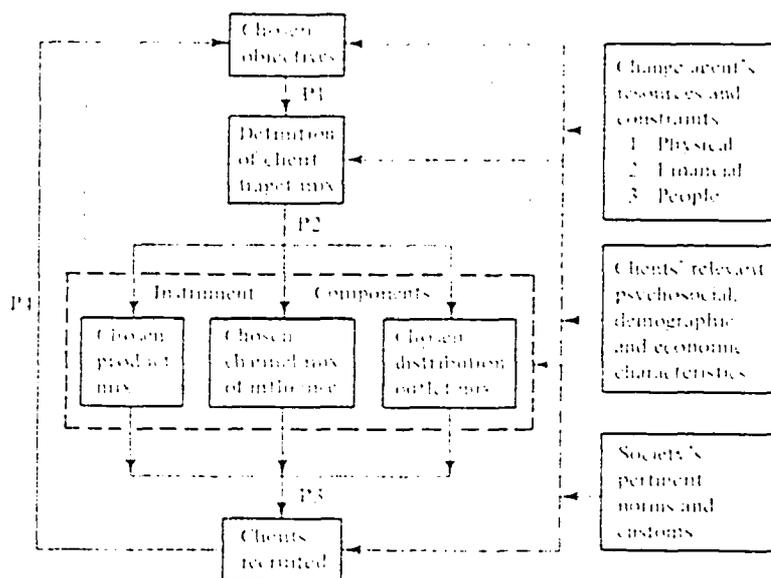


Figure 4. A marketing planning framework for family planning programs (Roberto, 1972, p. 50)

The frameworks presented in this study focus on the target audience. As theoretical frameworks, they may be utilized to meet the demands of many of the issues present in the planning process and serve as guides for developing program materials such as discussed in another section.

Criteria for planning program materials

The nature and purpose of program materials necessitate the formulation of criteria which can be used to evaluate the planning and developmental aspects of the materials. The first and foremost criterion is whether the materials are based on

good data and information. Wayland (1971) pointed out that certain values pose constraints and thus, some portions of the basic content of program materials in any population education project will be unique to each country. Detailed content must be worked out by education specialists in each country so that content and methodology are appropriate and factually correct.

As a second criterion, planners need to know if there existed a systematic plan for beginning and arriving at the desired end. Any educational endeavor involves careful planning and many efforts have faltered due to the lack of this planning (Harman, 1973). Systematic and meticulous planning become all the more important in innovative programs. Systematic program planning will assist the program director to arrive at decisions by providing an orderly framework for viewing all the variables and alternatives that present themselves.

Harman (1973) suggested that after the initial decision to understand a program has been made, the decision be translated into a series of clearly defined objectives. Objectives are policy statements and they define the tasks and targets of a program. They incorporate all aspects of a program rather than limiting aspects to the final desired results. Program planners may identify the specific type of behavior that is expected of the program participants. The desired behavior should be spelled out explicitly and in detail (p. 39).

Harman (1973) further suggested an operational level of objective setting. The operational dimensions of the target population and the time element must be determined. Objectives must be set with a clear idea of whom the program is intended to reach.

Another criterion relates to the appropriateness of the materials in reflecting the real needs, issues and problems of the people. Harman (1973) points out that the specific design of a program--its methodologies, materials, teaching aids, instructors, and organization--be tailored to the needs of each group on the basis of the group's situation and characteristics. Coombs (1976) reported nonformal education as consisting of organized educational activities outside the formal system. The activities are intended to serve identifiable learning needs of particular subgroups in any given population, be they children, youth, or adults; males or females; farmers, merchants or craftsmen; affluent or poor.

The learning needs of these groups are extremely diverse; they include but extend well beyond those customarily catered to by formal schools or colleges. Hence, the chief distinguishing characteristic of nonformal education, viewed as a whole, is its greater flexibility, versatility, and adaptability than formal education for meeting the diverse learning needs of virtually any kind of clientele, and for changing as the needs change. Coombs (1976) feels that many nonformal education programs fail to exploit this unique potential, but enough do

to warrant the generalization just made.

Grandstaff (1976) suggested that the content of instruction meet the development needs of the audience and nonformal programs are designed to meet this criterion. Essential in the planning of any program activity is knowledge of the needs and interests of the community as well as the particular target audience the program is striving to reach. A program, built on the needs and interests recognized as important by the people who are expected to participate, has the potential of assisting people to grow beyond their present interests and recognize deeper needs.

In addition to other criteria, planners may ask whether there were reasonable demands placed on available resources. Determining time boundaries and program costs will aid the program planner in designing the actual project. The task of the program planner at the objective-setting stage, then, is to make a series of fundamental decisions regarding the various elements involved in the organization of a program. Each of these decisions sets forth the boundaries within which the program eventually will be conducted (Harman, 1973).

This list of criteria is not exhaustive. Additional criteria could be identified and used. In program planning, it may be desirable to specify sub-questions, or sub-criteria, which will provide more detailed data related to the basic criteria used in planning.

Bases for Developing Program Materials
in Family Planning

Program materials are developed to meet the needs of the intended audience. Curriculum planning has a purpose to arrange for identifiable learners an array of stimuli or opportunities in order to extend or modify their knowledge, skills, or attitudes (Goodlad, 1973).

The program planner in family planning is faced with the task of developing knowledge about the quantity and character of the adult clientele in the intended program. Smith and Zopf (1970, p. 3) contended that the number of people involved, the manner in which they are distributed over the territory, the rate at which they are increasing or decreasing, and the extent to which they are young or old, male or female, married or single, rural or urban, in the labor force or out of it, of one race or ethnic group or another, literate or illiterate, native born or foreign born, and so on, are of basic importance in nearly all of mankind's undertakings. Information about people and their characteristics is basic to policy making and planning of educational opportunities at the national and state levels. At the local level, knowledge of basic facts about people is essential in the shaping of public policies. Thus, information about the numbers and characteristics of people are among the facts most useful to program development.

Pertinent data about potential clients provide program designers with the tools to better understand people, recognize needs, and develop content, methods, techniques, and strategies that might be uniquely significant in the context of the clients.

Learner characteristics

A problem faced by the educator, as discussed by Robinson (1975) involves restructuring the general curriculum to meet the needs of adults. The key to solving this problem is a type of knowledge aimed directly at creating an adult learner profile without which educators operate inefficiently and errantly. Data collected on learners can be used as a basis for program planning.

Tyler (1949) suggested the study of the learner as a source for planning objectives for comprehensive educational programs. The study of learners seeks to find out what they are like in order to identify the changes the program should try to produce. Studies of learners require research into any number of factors about their living. These will not automatically suggest objectives but may identify educational gaps from which educational objectives can be appropriately formulated.

Some information about learners may be common to all learners but other types of information would be limited to certain groups. Studies of the latter are important.

International micro level studies are sources for creating adult learner profiles and for planning program objectives for nonformal education programs. Such studies cover a wide and diverse range of knowledge about learner characteristics. Village level populations may be counted and classified by demographic and socio-economic variables, family interaction patterns, or any other useful variable. In programs such as family planning, these data can be analyzed to measure major demographic, family planning or social trends, and to explore the underlying significance and implications of learner characteristics to program planning. What are their backgrounds in the content area? What interest, relevance, or value does this have for them? Answering questions as these will enable planners to develop materials to meet the educational backgrounds and needs of the students.

Information regarding the socio-economic and cultural backgrounds of students provides educators with still another important data source and supplies an added human dimension. Socio-economic and cultural information helps planners to produce learning experiences that are as valid, appropriate, meaningful, and useful for students as possible.

Wayland (1971) claims that cultural values pose constraints and thus, a significant portion of the basic content of the curriculum in any population education endeavor will be unique to each country. Detailed content must be worked out

by education specialists in each country so that content and instructional methods are factually correct.

A fundamental demographic fact about any area, large or small, relates to the composition or characteristics of the population. There are many demographic or personal characteristic variables of great importance for purposes of educational analysis. Some of these variables, such as age, sex, rural or urban residence, are most basic; data about them should enter into the cross-tabulations with the materials on all the other characteristics.

Age Shryock (1976) discussed age as the most important variable in the study of mortality, fertility, and other areas of demographic analysis. As with data on sex, a large part of the usefulness of the age classification lies in its cross-classifications with other demographic characteristics in which one may be primarily interested. Peterson (1975) reported that procreation is a function primarily of young adults. The capacity to reproduce, entirely lacking in childhood years, reaches a high point at maturity. There follows a decline in middle age, relatively rapid and complete in females, slow and apparently sometimes only partial in males.

Smith and Zopf, Jr. (1970) support the fact that age is one of the most fundamental of one's personal characteristics; what one is, thinks, does, and needs is closely related to the number of years since he was born. Some of the most obvious

of the uses of age data are those connected with the planning of educational facilities and social welfare programs.

Age at marriage This variable influences fertility and contraceptive behavior in any population. In many societies where women marry and bear children early and in which virtually all women marry, the obstacles to the woman's exercise of her right to public involvement and education may not be her lack of knowledge or means to plan and space children. They include social, economic, and cultural pressures that steer her into an early marriage in the first place (Dixon, 1970).

Religion The importance of religion as a variable influencing fertility behavior has been documented in several studies (Bouvier and Rao, 1971). The 1965 and 1970 National Fertility Surveys found that Catholic women had and expected to have more children than either Protestant or Jewish women (Ryder & Westoff, 1971; Westoff & Bumpass, 1973).

Fertility differential Differences in the fertility of various peoples, classes, and residential groups, affect planning and decision-making. There is considerable interest in knowing what differences, if any, exist between the birth rates of different religious groups, occupational groups, and those who live in various regions of a country. In most countries there is a considerable tendency for fertility levels to be higher for people at the lower levels of educational

attainment than for those who rank closer to the top in the amount of formal schooling received.

Rural or urban residence Another important demographic characteristic of a population that the program designer considers is that relating to rural and urban exposure. Characteristics and behavior of persons who live in the country are different from those of the people who reside in cities (Smith & Zopf, Jr., 1970). According to Dale (1972), the social context in which the individual is important. It makes a difference whether one lives in a village or if one is living in an affluent city, witnessing continuous clashes of ideas.

As reported by Smith and Zopf (1970), a person's residence in a rural or an urban area is among his most distinguishing characteristics. Whether one lives in the city or in the country, or in the indistrict area between the two, determines in a general way what he does and the conditions of life under which he lives. Many of the communities are neither purely urban nor purely rural, but they are localities in which the rural and urban features are combined in varying proportions.

Occupational status The occupational status of the population deserves careful study. First, all indicators of employment and unemployment are based on the data on occupations. Second, occupational status is a major component in the establishment of general social and economic position or status.

A number of writers on the subject have focused their attention on the relationship between the employment of females and their fertility performance. Although findings with respect to industrial societies confirm an inverse relationship between the two variables, findings relating to developing countries have been less conclusive (Concepcion, 1974). Pinelli (1971) in his study of a group of both married and unmarried women in the childbearing age, documented differential fertility rates for working and nonworking females. The working women consistently had fewer children than those who did not work. He concluded that where structural opportunities that facilitate the integration of work and family life exist, differentials between working and nonworking women will be less marked. Financial necessity and the desire for a higher standard of living are motivating forces for women who work. This is particularly characteristic of those in rural areas who have experienced rural poverty.

Education Bogue (1963) in his research in the area of communication believes that the fundamental premise of effective communication is that it must be understood by the potential recipient. It is therefore of the utmost importance to gear the language level to the educational level of the intended audience. People of low social and economic status often have very different attitudes and values with respect to family life than persons of higher status. It is essential that family planning communications not only be written with a

particular social stratum in mind, but also that the family attitudes of that stratum in that particular region be understood.

According to the International Planned Parenthood Federation (1974), research found an inverse relationship between a woman's level of education and her fertility. Some studies have found that more education does not automatically lead to a reduction in the number of children desired. The number of years spent in formal schooling has an effect upon fertility by delaying marriage and the first birth. However, delaying the first birth may not always lead to a smaller completed family size.

As reported in Development Digest (1974), a study by Chung, Palmore and Lee in Korea in 1972 revealed a strong relationship between level of education and fertility. High school educated women bore an average of 2.05 children while those women with no education averaged 4.28 (p. 37). Statistics from the Turkish Demographic Survey (1966-67) revealed that within each age group and for nearly all areas mothers with the highest birth rates were those who had not graduated from any school. In addition, birth rates generally decreased as the level of education increased.

Education is important in influencing the type and availability of work to the potential female employee. Education has an influence on her aspirations and may often

influence her desire to limit family size.

In addition to a focus on learner characteristics, program planners may conduct research in the area of family organization and relationships. Research in this area provides data relevant to program designers concerned with interaction patterns and decision-making behavior at the family level.

Communication and family planning

Family planning includes planning related to interpersonal relationships and marital satisfaction. A number of research studies and publications have reported the effects of communication on family planning decision-making.

Communication may be defined as a message one person sends and another receives (Satir, 1967). According to Klemmer and Smith (1975), communication is that process by which any message is passed from one person to another person. It is said that a person cannot not communicate because some message always gets through. Wilmot (1975) believes that communication is the process of assigning meaning. Windemiller (1976) refers to communication as the method for making the ideas, knowledge, and feelings of one person common to one or more others. All communication is either verbal or nonverbal. All communication is symbolic.

According to Brooks and Emmert (1976), dyadic communication is two-person communication. This takes the form of two-way, face-to-face interaction. Two persons initiate messages

and responses as they mutually influence each other.

It is not possible to provide a complete or accurate understanding of dyadic communication by considering only one person at a time. To understand the situation, the focus is to be on how the two personalities interact. Keltner (1974) spoke of one personality and one personality as one and one and two.

Seethalakshmi (1969), Mysore Population Study (1961), and Subba Rao (1968) conducted studies dealing with the absence of inter-spouse communication in matters pertaining to family planning in rural communities. Seethalakshmi (1969) found not much communication between husband and wife on family-planning matters. Findings of the Mysore Population Study (United Nations, 1961) revealed only 15 per cent of the females and 18 per cent of the males interviewed in rural areas and 35 per cent of the females and 32 per cent of the males in the Bangalore city had discussed the subject of family planning with their spouses.

Subba Rao (1968) found in a study of 60 male workers at D.C.M. Mills, Delhi, a distinctly poor level of interspouse communication. Results of the study indicated that some husbands had never talked with their wives on family planning.

As reported by Back, Hill, and Stycos (1957) a family whose communication patterns and patterns of authority make joint action possible is better able to direct its efforts

specifically toward maintaining its desired family size. A positive relationship between efficient family organization and specific action potentials for contraception was found. It was suggested that those conditions which lead to the successful use of contraceptives are harder to identify than conditions leading just to the use of contraceptives. In studying family organization the following indices should be assessed: (1) index of communication which focuses on crucial marital issues of common concern, (2) index of discussion about birth control and the number of children wanted, (3) index of male dominance concerning who gives in during arguments, and (4) index of activities that the husband prohibits the wife from taking part in.

Studies conducted by Hill, Stycos, and Back (1959), Stycos (1955), and Stycos and Back (1964) are considered classics in the area fertility control. Communication between spouses was one of the variables tested in the studies. A positive and statistically significant relationship between communication on general issues of marriage and the use of family planning methods was found. Hill and his colleagues (1969) found that the more often husbands and wives talked about problems of family size and of birth control, the more apt they were to practice birth control at all or to use it for a long time.

In a study analyzing an Indian situation, Bogue (1962) concluded that effective communication between the husband and wife on family-planning matters is crucial for the success of family-planning programs. This was based on the observation that a high percentage of Indian couples who had successfully planned their families were found to have communicated in matters pertaining to family planning.

Green (1965) in his User/Sometime user/Non-user (USN) study in Dacca, Bangladesh, advanced the hypothesis that interspouse communication was an important process by which couples reached agreement on each other's hopes regarding child spacing and family size. The USN survey focused on factors related to interspouse communication and interspouse perception of the self and the spouse. Data were gathered from a matched sample of 238 Muslim couples living in housing colonies for central government employees in the city of Dacca.

The questionnaire was designed utilizing a modification of a family planning decision-making model developed by Stycos (1955) in his Puerto Rican fertility studies. On the basis of data that were already collected as part of a longitudinal research of the East Pakistan Research and Evaluation Centre, it was hypothesized that interspouse communication was a critical process. The study concentrated on dynamic social psychological variables. Findings indicated age duration of marriage and other factors are significant in interspouse

communication.

Dubey and Choldin (1967) reported a study of the diffusion and adoption of the IUCD in three housing colonies in Delhi, India. The diffusion of innovations conceptual scheme and research strategy was utilized in the study. The study focused on interpersonal networks of communication and influence in diffusion and adoption of the IUCD. Family planning is particularly appropriate to the diffusion and adoption framework. There are many unanswered questions about the diffusion of family planning and questions arise as to what the effect is of communications directed at females in presumably "male-dominated" societies. Communications elements maintain a major input in many family planning programs. Findings indicated that different communications media and networks are used in the adoption process.

Blood (1967), in a Detroit-Tokyo couple comparison concluded that the frequency with which Tokyo husbands and wives discussed the day's news rose steadily with the education of each partner. His presentation of communication in the context of "informative companionship" may be the beginning of what Rogers (1973) refers to as the important kind of interaction needed between husbands and wives in dealing with decisions about the adoption of family planning innovations.

Husband-wife communication on family-planning matters was concluded by Patel (1968), Subba Rao (1968) and Pillai (1971)

to be vital to decision-making by the couples to adopt contraception. The likelihood of adoption of contraception appeared to increase as a result of a good deal of communication between husband and wife on matters pertaining to fertility decisions which in turn may lead to a favorable attitude to contraception practice. Thereby, the motivation is translated into actual action in favor of adopting family planning.

Communication research regarding the family has included the testing of theoretical propositions about marital interaction and the relationship between communication and marital adjustment. Petersen (1969) analyzed data on communication between husband and wife and compared the data with problems that were reported to occur in family life for a sample of 116 married university students. Two instruments were used in the study. A version of the Hobart-Klausner scale, a Likert scale based upon two aspects of communication, empathic communication and barriers to communication, was used to measure husband-wife communication. Respondents were grouped into two categories, "high" communication and "low" communication families. The twenty-four item version on Brim's role specific problem list, expanded to thirty-five problems, was used to gather information related to roles and activities present in the family. Based on the information gathered from the respondents, families were grouped into categories of problem "solving" and problem "incidence."

The thirty-five problems utilized in the study were grouped under five general problem areas: husband-wife relations, child rearing, style of life, community involvement and religion. Of these problems, husband-wife relations was considered a significant relationship. Two of the items included in the category were (1) childlessness, infertility, number of children or adoption, and (2) family planning, contraception, or spacing of children. The assumptions underlying the study were that husbands and wives who communicate more effectively are more competent in handling family problems and will have fewer problems. The data indicated a relationship between husband-wife communication and problem solving and problem occurrence in the family setting.

Husband-wife communication was shown to be related significantly to the solving of five role specific family problems. The results of the study indicate that the kinds of problems most significantly related to communication are those problems concerning interpersonal relations between family members, husband-wife relations and child rearing.

Implications for future research included the need for the use of both husbands and wives as separate informants in order to cross-check the problems reported as being present in the family and the analysis of family problems by problem areas. The data indicate the importance of husband-wife communication to specific problems concerned with child rearing and husband-

wife relations. It was apparent that communication is the key to family interaction.

Navran (1967) administered two instruments to 48 couples in California and concluded that communication and marital adjustment are so related that any event having an effect on one will have a similar effect on the other. The Locke Marital Relationship Inventory (MRI), a twenty-two item, multiple choice inventory measured marital adjustment and the Primary Communication Inventory (PCI) measured communication in marriage of twenty-four couples who enjoyed a good ("happy") marital relationship and twenty-four "unhappy" couples applying for marriage counseling. The chi square test statistic yielded 12 items that discriminated happily married husbands and wives from their unhappily married counterparts. Happily married couples: (1) talk to each other more, (2) have a wide range of subjects available to them, (3) preserve communication channels and keep them open, (4) show more sensitivity to each other's feelings, (5) personalize language symbols, and (6) make more use of supplementary nonverbal techniques of communication. The results of the study show marital adjustment to be positively correlated, .82, with capacity to communicate.

Murphy and Mendelson (1973) conducted a study to determine if there was a positive relationship between couples' communication and their marital adjustment. The sample

consisted of 30 married couples who were chosen primarily for participation in a laboratory project involving the observation of marital communication in a related aspect of the research.

The hypothesis tested was: There will be no significant relationship between marital communication scores and marital adjustment scores. The respondents were asked to complete an adjustment inventory, the Locke Marital Adjustment Scale (LMA) and a communication measure, the Marital Communication Inventory (MCI).

Using the Spearman rank correlation coefficient to measure the correlation between scores on the MCI and scores on the LMA, the hypothesis was rejected. The correlation between the two indices was found to be significant beyond the .05 level.

Bienvenu (1970) developed a 48-item Marital Communication Inventory (MCI) to measure the process of communication as an element of marital interaction. The inventory, which requires a 7th grade reading level, is appropriate for the complete marital pair, either of the spouses exclusive of the other, and is suited for couples of any age living together or recently separated. The items relate solely to the married pair.

The inventory was administered to 176 complete married couples residing primarily in two North Louisiana communities, one urban and one small college town. The sample could be described as being primarily from middle-class backgrounds.

The MCI was completed in the home of the subject.

To determine the nature of the communication differences between the couples with good communication and those with poor communication, a quartile comparison was made. The chi-square test was used in an item analysis to determine those items showing a significant difference between the upper and lower quartiles of the inventory.

At the .001 level of confidence with one degree of freedom, 40 out of the 48 items in the inventory were found to be significantly discriminating between the upper and lower quartiles. The inventory was further validated in a concurrent study of marital communication in 23 couples receiving marriage counseling and 23 couples who were not known to be having marital difficulties. The hypothesis that there would be a significant difference in the degree of marital communication between the two groups was tested using the Mann-Whitney procedure. A significant difference between them was found ($U = 177, p = .01$). Using the Spearman-Brown correction formula, a coefficient of .93 was revealed suggesting high reliability. The MCI can be used as a teaching and research tool, an assessment device, and as a counseling aid.

In order to adopt the practice of family planning, mates must reach some level of agreement. Carlaw, Reynolds, Green, and Khan (1971) reported a study which attempted to identify underlying patterns of interspouse agreement in an urban

population of East Pakistan. The purpose of the study was to inspect the patterns of relationships or correlations among several questions on which husbands and wives independently expressed agreement or disagreement. The study is a secondary analysis of data collected in Dacca, East Pakistan in a governmental low income housing colony. It approached inter-spouse communication from the general perspective of social interaction theory and excluded areas of specific knowledge or behavior, such as questions on contraceptive practice. Eight major areas were subject to factor analysis as an initial step in the study of patterns of communication between husbands and wives in a Muslim society. Findings indicated factors in addition to age, duration of marriage, and education are significant in spousal communication.

Figa-Talamanca (1972) explored two factors felt to be associated with the adoption of fertility control practices: (1) change in knowledge and understanding of contraception and (2) increase in communication between husband and wife on the subject of family planning. Emphasis focused on the significance of communication and agreement between husband and wife in the successful practice of family planning.

In another study, Mitchell (1972) focused on the limitation of information about the degree to which couples discuss family planning issues. Evidence is available regarding the degree to which husbands and wives discuss other general

issues. These measures refer to the degree to which communications channels are open, and they also refer to the degree to which husbands and wives interact with one another. To measure general levels of communication, the respondents were asked: "Some couples discuss more things than other couples. In general, how often do you and your spouse discuss the following topics: is it many times, sometimes, seldom, or never. This was asked in regards to "amusing or interesting incidents and things you have talked about with friends and others" (p. 143). An index of husband-wife communications was conducted. The study concentrated on the practice of family planning and tested whether those who are predisposed to practice are also more likely to do so if they have high levels of communication with their spouse. Husband-wife communication influenced family planning practices independently of other confounding influences, such as family income and the wife's education.

Mitchell (1972) analyzed the significance that different kinds of husband-wife relationships in Hong Kong have for the adoption of family planning practices. Interview data were collected from a series of investigations conducted as part of the Urban Family Life Survey, a project sponsored jointly by the Social Welfare Department and the Council of Social Services in Hong Kong. The sample included 561 husband-wife pairs, as well as 1101 men and 1530 women who were considered independently of their spouses.

Two features of husband-wife relations were considered: (1) the distribution of influence between spouses, and (2) the openness of husband-wife communications channels. Neither of these two dimensions had been adequately related to family planning practices.

Evidence indicated that many women who were favorably inclined to practice family planning failed to practice because they did not receive adequate encouragement from their husbands. Although the husbands may have favored family planning as well, the failure to convey this verbally was evident.

Keller (in Stycos, 1973) found that communication between spouses appeared to be related to desertion of clinic attendance in Mexico. A higher percentage of active Mexican patients than deserters claimed to have discussed family size and use of contraception with their spouses. The lack of communication between spouses bore a rather strong relationship to desertion.

Mukherjee (1975) studied husband-wife communication from the general perspective of social interaction theory and aimed to examine in the population of married women the relationship between husband-wife communication and knowledge, attitude, and practice (KAP) of family planning. An attempt was made to identify some of the socio-economic correlates of husband-wife communication and to test six hypotheses: (1) the frequency of husband-wife communication on family planning matters is

positively related to level of adoption of family planning; (2) wives who talk about family planning matters with their husbands know more about contraceptive techniques than those who do not talk; (3) respondents who have interspouse communication tend to favor small family-size norm more than those who are noncommunicating; (4) the higher the frequency of interspouse communication the more the favorable are the respondent's attitudes toward family-planning programs; (5) the higher the level of respondent's education, the greater the frequency of her communication with the husband; and (6) interspouse communication increases with duration of effective marriage.

Data were obtained through sample surveys in Haryana, Tamil Nadu, and Meghalaya. Based on probability samples, data were collected from 1,872 married women in the Indian states using a precoded interview schedule.

The interview schedule developed through pretesting and intensive item analysis consisted mainly of six sections: (a) identification and background information; (b) scales for measuring various aspects of status of women including decision-making role; (c) a number of scales which included the measurement of husband-wife communication; (d) questions pertaining to KAP of family planning; (e) pregnancy history; and (f) questions regarding situations which affected the interview.

After testing the normality of all the predictors used in the study and the dependent variable (rated frequency of husband-wife communication), product moment intercorrelations among the variables were obtained. For the purpose of identifying the crucial variables associated with husband-wife communication, a modified step-wise regression model was used. A breakdown analysis was performed using the communication-index as the dependent variable and place of residence, employment status and type of family as the independent variables.

The investigation revealed a marked absence of interspouse communication in matters pertaining to family planning in all the three states. The absence of interspouse communication was more profound in the rural areas than in urban areas. With certain exceptions, the results supported all the hypotheses except the last one, that interspouse communication increases with duration of effective marriage.

The findings of the study suggest that ways and means must be evolved in the general program of family-life education to encourage interspouse communication. The critical point for the diffusion and regularity of contraceptive practices lies in the husband-wife relationship in general and the husband-wife communication in particular.

Decision-making and family planning

A number of studies have been conducted which focus upon decision-making by couples. The research centers around power, structure, and authority, concepts used interchangeably with decision-making.

Safilios-Rothschild (1970) described family power as

a multidimensional concept that is measured indirectly through behavioral acts in which the degree of one's power is put to the test. Thus familial power can be measured through the outcome of decision-making, the patterns of tension and conflict management, or the type of prevailing division of labor (p. 540).

Blood and Wolfe's widely cited Detroit Area Study (1960), a survey conducted prior to 1955, is considered a classic in the area of decision-making. The researchers examined decision-making power relationships in 731 city families and 178 farm families from the Detroit and Southeastern areas of Michigan. The data obtained provided information about who made the final decision in each of eight areas, ranging from those traditionally made by husbands to those traditionally made by wives.

Two decisions were decisions made by the husband (his job and the car). The two decisions which were primarily the wife's decisions were her work and the food. All the remaining decisions were most often equally shared and were considered joint decisions.

According to Blood and Wolfe (1960), the partner that has more education, more organizational experience, or a higher

status background, tends to make most of the decisions. Findings indicated that the higher the husband's occupational prestige level, income level, and education level, the greater voice he had in making decisions. Working wives had more decision-making power than nonworking wives.

The resource theory which evolved from this study (Blood & Wolfe, 1960), proposed that the balance of power in particular families and in whole categories of families is determined by the comparative resourcefulness of the two partners. The power to make decisions, according to the theory, was in terms of the resources which each individual partner could provide to meet the needs of the marriage partner. Included as resources were education, occupation, income, social status, and to a certain degree, work and organizational participation and life cycle changes.

According to Back, Hill and Stycos (1956), government and private agencies may suggest, advise, and even facilitate planning the size of a family, but the decision to start and to continue to do so is made by the couple itself. Family organization, more discussion between husband and wife, and equality in decision-making give good clues to the persistent use of contraceptive methods.

Wilkening and Morrison (1963) investigated areas of decision-making pertaining to the farm, the household, and the family. They concluded that there is "greater agreement upon

whether or not matters were discussed than upon whether the decision was usually joint or made by one spouse or the other." Spouses may view decision making differently based upon the importance of the decision. Decision making frequently relates to the roles of the decision makers.

Mitchell (1968) found that 10% of the women in his sample who visited the family planning clinic said that their husbands had the greatest influence on their decision to attend the clinic. The problem was not only to encourage the women to accept the idea of family planning, but to repeat again the task of precipitating a decision. The analysis of data indicated that families and individuals were very inefficient in making decisions in general and important decisions in particular. It was emphasized that "families and individuals," as a phrase, should be used because it signifies our ignorance about who actually does make the decision (Mitchell, 1968).

Campbell (1970) studied the relationship between sibsize and the spacing of children and family role structure as measured by decision-making and household task performance. Decision-making, divided into three basic areas, was identified as those involving: (1) economic decisions, (2) social decisions, and (3) child-oriented decisions. Analysis of data in the area of child-oriented decisions indicated that as family size increases, husbands tend to exert more influence in child-centered decisions. Findings also indicated that

increased family size did not increase the husband's power in making the decision of how many children to have. This indicates that as females feel the burden of additional children, they tend to make stronger efforts to influence fertility decisions.

In 1971, Hawkes and Taylor (1975) interviewed wives in 76 Mexican and Mexican-American farm labor families from 12 migrant camps in California. In order to explore familial power structure, the respondents answered questions relating to many areas of family life, in addition to conjugal power structure, such as values and beliefs, family finances and demographic characteristics of the family. A majority of the families (78%) responded that the decision concerning the number of children desired was shared by husband and wife. In 75% of the families, the action to limit family size was shared by both spouses.

The family pattern in the majority of families in the study could be labeled egalitarian in their decision-making and action-taking powers. Families in which husbands and wives had the same amount of education were most equalitarian in their decision-making.

In a Hong Kong study by Mitchell (1972) regarding the conjugal relationship and features that activated couples who were predisposed to practice family planning to take positive actions on the matter, findings indicated that neither

education nor high levels of knowledge about population issues directly and automatically cause people to practice family planning. Two features of the spousal relationship were identified: (1) the distribution of influence between spouses, and (2) open-ness of spousal communication channels. Mitchell believes that family planning agencies too often consider the decision to practice family planning in isolation from other kinds of husband-wife interaction.

Opping (1974) also investigated conjugal relationships among Akan senior civil servants in Accra. Male respondents were asked about the frequency in which they responded to 17 household tasks. It was concluded that spouses who are characterized by joint task performance also share most in decision-making. This conclusion was a departure from traditional behavior in which the male spouse made decisions or decision-making was an individual spousal activity.

Need for home economics/family planning information

Increasing demands for home economics/family planning substantive content have resulted in a need for developing program materials for out-of-school populations in developing countries. Materials to use in family planning education programs do exist, but the need for more quality material has been expressed by several authors and sources.

According to Bogue and Heiskanen (1963), there are two major aspects of a total family planning program: education

and motivation of couples and provision of contraceptive services. Traditional programs have provided a workable system for making supplies conveniently available and for providing needed medical services and advice. They suggested the need for educational and motivational family planning programs which include the planning and preparation of written materials for a communication program, and the use and distribution of the materials.

Bogue and Heiskanen agreed that it is not enough for a communication program to advertise the benefits and methodologies of family planning through contraceptive usage. Program participants should be exposed to and helped to adopt certain fundamental attitudes and values that are highly correlated with successful family planning.

Molnos (1971) reviewed seventeen studies that focused on family planning and fertility attitudes and practices. She concluded that exposure to specific information and training in family planning and related matters is the most relevant factor in increasing knowledge. As reported by Molnos, several of the studies pointed out that respondents of a sample wanted to learn more about family planning and related matters.

Armar (1971) discussed the lack of effective information and education programs as one of the most serious obstacles to the implementation of family planning programs in Africa. Factors that have an influence on the success or failure of

family planning programs are the environment and its characteristics (such as demographic factors; historical associations; political, cultural, and religious factors), methods of communication adopted by the program, and program design and operation. Quality information is necessary to break through the age-old barriers of ignorance, prejudice, and superstition. These barriers constitute many of the current beliefs in developing countries.

Wray (1971) and Beasley (1973) contended that the content of population education and family planning programs may be based on the everyday life situations of people. Family size and birth interval are clearly important elements in the interacting network of increased illness in parents and children, and less satisfactory growth and intellectual development in children. These factors are some of those everyday life situations of people which are inherent motivations for family planning and which can be incorporated into the content of educational programs.

Poffenberger (1971) pointed out the need for family planning in villages of developing countries. As a result of a well-planned, integrated, and sequential program of home economics/family planning learning, villagers can develop an understanding of the impact of demographic processes, both at the societal level, at the family level, and on the environment.

Mia (1973/74) reported that mass education workers and extension workers can help people view the role of women beyond childbearing and housekeeping. Social workers and family counselors may use their skill to influence authority and decision-makers within the family unit with respect to reproductive behavior, as well as improve spousal relations and responsible parenthood. Agriculture development workers or cooperative organizers can assist to make use of farmers' groups in effecting changes in traditional attitudes towards siblings and large families.

Vickers (1974) believed that couples should be exposed to information through which they become aware of the relationships between family size and the availability, demand and expenditure of resources. Couples require information and options in order to make family planning decisions consciously; therefore, a variety of effective techniques and resources must be available for implementing programs.

According to Berg (1973), education for better nutrition is an important phase of family planning programs. The desire to be well-nourished springs from a concern for the quality of life of families. Adequate nutrition is essential for good physical and emotional health.

Beasley (1973) discussed health care and family planning. The integration of these program concerns is one means of facilitating both the adoption of family planning and the

promotion of adequate medical care for the poor.

Viederman (1974) reports that the traditional setting for population education has been the school system but in recent years, the interest in population in developing countries has included the out-of-school audience. This includes the adult population as a target audience.

McWilliams (1974) emphasized adequate nutrition as influencing optimum health, growth, and pregnancy outcomes. The nutritional status of the mother is an important determinant in the quality of human reproduction. Efforts to improve nutrition may be realized through modifying dietary attitudes.

Roderuck (1974) reviewed studies indicating the importance of improving the health status of women in childbearing ages and of integrating family planning with relevant subject matter. She concluded that adequate nutrition throughout the growth period of each female is crucial. The integration of family planning education and nutrition education can contribute to efforts of improving nutritional status of family members.

One of the major foci of family planning education is the village family. Sai (1974) believed that home economists should play a unique role in family planning and population education. Home economists should include factors that influence fertility behavior and how these can be altered. It is important to teach individuals to relate the population

issue to their own lives, making it clear that family size can be controlled and that family health and welfare varies with family size.

Schultz, Leonard, and Zimmerman¹ (1977) reported that the American Home Economics Association (AHEA) recognized the need for incorporating home economics concepts and substantive content into family planning education programs. With funds from the Agency for International Development, AHEA supported two projects that developed and tested international prototype family planning materials. The home economics/family planning program materials were designed for formal (in-school) and non-formal (out-of-school) educational programs in developing countries.

Prototype materials for nonformal education programs (Allen, Leonard, Zimmerman, Schultz, and Anderson, 1976) resulted from Phase I of a project initiated by the College of Home Economics at Iowa State University in cooperation with the AHEA International Family Planning Project. The major purpose of the project was to develop program materials to use in training field workers in home economics and family planning. A workshop, conducted the summer of 1975, provided opportunities for nine international trainer level individuals to participate

in the project. They represented the countries of Ghana, Jamaica, Malaysia, the Philippines, Sierra Leone, Thailand (two participants), Turkey, and Venezuela. University subject matter and education specialists and AHEA representatives contributed to the various phases of the project.

The project was conducted in five phases: content selection, development of workshop materials, pilot testing, field testing, and preparation of final training plans. The process of selecting appropriate content involved identifying concepts and writing supporting generalizations in home economics areas of child development, family environment, and food and nutrition. Content was also selected from the fields of population education and family planning education.

Participants in the pilot test included a county home economist and nine paraprofessionals. Three lessons, one each in the child, the family, and nutrition were pilot tested by an extension worker in an Expanded Nutrition Program in Iowa. After pilot testing, preliminary materials were written, reviewed and rewritten. Selected lessons from the materials were field tested in the countries of Jamaica and Venezuela. Sets of materials were mailed for review to international project participants in the remaining participating countries. Field test participants in each country included a group of ministry level planners and coordinators, and a group of local level home demonstration agents and family planning workers.

Three instruments were developed to obtain reactions of field test participants and panel members toward selected lessons; to ascertain reactions of the respondents to the importance of the lessons and to the total scope of the program materials. Revisions were based on the results of the field tests. After revisions, materials were translated for use in the various countries. The final materials included a total of 23 lessons. The lessons contained a stated topic, population education/family planning concept, purposes, home economics/family planning concept, content, suggested teaching methods, resources needed to teach the lesson, concluding statement, and procedures for reviewing each lesson. Program materials were then made available through the sponsoring and funding agencies. The materials were to serve as a basis for Phase II of the project.

Phase II of the AHEA International Family Planning Project at Iowa State University was designed to develop family planning materials for use with village families in developing countries. The materials (Allen, Leonard, Zimmerman, Schultz, & Anderson, 1977) are international prototype information. Ministry or regional level extension, social development, or community development personnel in charge of home economics and/or family planning programs in seven developing countries composed one group of project participants. They represented the countries of El Salvador, Ghana, Jamaica, Pakistan, the Philippines,

Thailand, and Turkey. The second group of project participants were university, AHEA, and Agency for International Development (AID) staff. Prototype materials were adapted from trainer level materials in Phase I and were developed to be used at the micro level in developing countries.

Five steps followed in the preparation of village level materials; review of trainer materials developed in Phase I, development of workshop materials, pilot test, field test, and the preparation of the final program materials. Four lessons were pilot tested in an expanded nutrition program in Iowa where a pilot project aimed at including family planning education within the established nutrition program was already in existence. The county home economist trained six paraprofessionals using each of the four lessons. Two instruments were developed to obtain reactions of the paraprofessional aides. Lessons were revised and prepared for field testing.

Selected lessons were field tested in Jamaica and El Salvador. Lessons were mailed to an international panel of workshop participants in the remaining countries that were participating in the project. Field test participants included field/village workers and villagers. Instruments were developed to obtain reactions to selected lessons and to ascertain reactions to the total scope of the home economics/family planning materials. Suggestions and revisions were incorporated based on the field test results. The final lessons totaled 29

with seven in the child unit, fifteen in the family unit, and seven in the nutrition unit. The program materials were made available as appropriate materials for village level audiences (Schultz & Allen, 1977)².

Zimmerman (1976), a participant in Phase I and Phase II projects conducted at Iowa State University, reported that the characteristics of the audience were not clearly defined during Phase I. It was recommended that before developing any further materials some specific data be obtained regarding the educational background, the cultural background, and characteristics of villagers with the subjects of home economics and family planning.

According to Schultz and Allen (1977)², there is a continuous need to expand the quality of population and family planning content. Home economists who are involved in informal educational settings in developing countries are concerned with the quality of life and availability of program materials at the micro level.

Ministry level personnel have provided base information about subject matter content needed for trainers who teach villagers. Such materials for trainers, focusing on selected

subject matter content, have been field tested and developed as final program materials. In addition to information about and for trainers, there is a concern to focus on information about the village learners.

It is essential that villagers are identified and program materials planned to meet their needs. Data at the village level will be valuable to program planners to assure that the resultant product will be appropriate for the intended audience.

Summary

The review of literature has focused on: 1) program planning with a discussion of issues and concerns, theoretical frameworks, and criteria for developing materials; and 2) bases for developing program materials in family planning with foci on learner characteristics, communication patterns and family planning, decision-making practices and the need for home economics/family planning information.

Literature reviewed on program planning suggests the importance of focusing on the needs and characteristics of potential adult audiences in nonformal education program. Learner profiles enable planners to structure appropriate program materials for the learners. Operational plans assist program designers to select objectives, strategies, and techniques that will present content to meet the goals of the program.

Studies on communication and decision-making indicated that husband-wife interaction patterns are related to decision-making on family size and family planning. The family interaction patterns can be influenced by socio-economic status of couples and may inhibit acceptance of family planning concepts.

Reviewing the studies on informational content pointed out the continuous need for incorporating home economics substantive into population education/family planning programs. More programs are needed at the micro level in which family members are the participating population.

On the basis of this review, it seemed that data on village couples in developing countries would provide valuable information to program planners in developing home economics/family planning program materials to serve as prototype information. The study was designed to seek information as it related to the development of program materials for out-of-school audiences.

METHOD OF PROCEDURE

Increasing demands for home economics/family planning substantive content have resulted in a need for developing program materials for out-of-school populations in developing countries. Thorough and careful consideration of the target learners for whom materials are to be developed will help to assure that the resultant product will be appropriate. Recently, home economists have begun to develop program materials to serve as prototype materials for international audiences in nonformal education. However, a review of literature indicated an absence of data related to the village learners at the micro level.

The purpose of this study was to obtain information about the village learners that could serve as a basis for developing family planning materials for use in developing countries. For this reason data that described village families and that were believed to be useful to home economists in developing meaningful program materials were included in the study.

This chapter contains a statement of the objectives of the study, assumptions and limitation, sampling plan, instrumentation, and delineation of the procedures employed to collect and analyze the data.

Objectives

The objectives of this study were to:

1. Identify selected demographic characteristics of village families that have implications for developing program materials needed at the micro level.
2. Investigate the possibility of a relationship between current status of family planning behavior and (a) couple communication, (b) decision-making patterns, and (c) topics talked about.
3. Make recommendations for developing home economics/ family planning program materials to be used with village families in developing countries.

Assumptions and Limitations

Assumptions

The following assumptions were made in regard to the study:

1. The couples would be willing to participate in the study.
2. The structured interview was culture free.
3. The instrument has been correctly translated into the language of the couples.
4. The interviewers would administer the instrument in a similar manner to village couples.

Limitation

1. The study was limited to village families in El Salvador, Ghana, Jamaica, and the Philippines.

Sampling Plan

A three-stage sampling scheme was followed to secure data from village couples for this study. In the first stage, representatives from four countries who were participating in the American Home Economics Association International Family Planning Project at Iowa State University, consented to participate in the study. The purpose of the family planning project was to develop family planning program materials for use with village families in developing countries. Of the seven countries participating in the American Home Economics Association family planning project, three countries did not participate because of time schedules, lack of available personnel, and a nonoperable family planning program.

In the second stage of sampling, the village workers and villages were chosen. The international participants in the American Home Economics Association project who were ministry or regional level extension, social development, or community development personnel in charge of home economics and/or family planning programs in their home countries were asked questions relating to the training and availability of village workers who worked directly with families, the number of families that

each of these village workers usually contacted or worked with, and methods of getting information from village families. Each international participant, representing one of the four participating countries in the study, selected the village workers and villages to participate in the study.

In the third stage of sampling, within each selected village, a list of eligible couples was chosen by village workers. The following were the criteria for selection:

(a) mates married or cohabiting, (b) mates living together at the time of the interview, (c) couples have at least one child, and (d) females within the child-bearing years. The exact number of couples selected from each country was so determined as to make the training of interviewers, interviewing, and data collection possible based on the economics of overseas mail and travel procedures.

In countries in which Iowa State University staff field tested program materials, 100 couples were asked to participate in the study. In countries in which the training of interviewer and data collection were dependent upon mailing services, 18 couples were invited to participate in the study. The 236 couples invited to participate in the study consisted of 100 couples from El Salvador, 18 couples from Ghana, 100 couples from Jamaica, and 18 couples from the Philippines. Of the 216 couples returning instruments, 100 were returned from El Salvador, 80 from Jamaica, and 18 each from Ghana and the

Philippines. Incomplete data were contained in the instruments of 11 couples from El Salvador and 2 couples from the Philippines and were not used in the analysis. The total sample in the study included 203 couples.

Instrumentation

A structured interview format was used to obtain the data necessary to accomplish the objectives of the study. The interview was used because it was considered the most appropriate and familiar way to collect the data from village couples.

As a first step, a four part questionnaire with a pool of 75 items was developed. The major sources of information were a review of literature and existing instruments dealing with decision-making and marital communication. The items were reviewed by a panel of judges and international students from developing countries to establish content validity. The panel included a family environment professor, a family planning project director, two home economics education faculty members and a county home economist. The international students included a married couple and one married female from Venezuela and one married female from Ghana. Incorporating the suggestions of the panel and international students, the item pool was modified and reduced to 50 items. A description of each section of the instrument follows.

Personal characteristics

The 20 items in this section were designed to obtain identification and background information relating to socio-economic and demographic characteristics of the respondents.

The variables used were primarily those associated with age, sex, marital status, sibsize by the present mate, sibsize by another mate, fertility patterns, household composition, education, residential status, employment, childcare and religion.

This section of the questionnaire was reviewed by four international students from two developing countries: Venezuela and Ghana. The items were revised and the instrument reviewed and approved by two home economics education faculty members who were both evaluation specialist and one who was director of the family planning project at Iowa State University.

Mate communication

In order to determine communication patterns between mates, 12 items were formulated from a review of literature, from concepts and ideas of international participants at an American Home Economics sponsored family planning workshop, and from existing instruments dealing with marital interaction. This section is a modified version of the Marital Communication Inventory (Bienvenu, 1968). The Marital Communication Inventory (MCI) requires a 7th grade reading level and is designed

for the complete marital pair or for either of the spouses exclusive of the other. It is suited for couples of any age living together. The MCI has a reported reliability coefficient of .93.

Eight of the 12 items were modified and adapted from the 46-item MCI. These eight items were included in the 20 items that discriminated most powerfully between the upper and lower quartiles of the MCI. They were significant at the .001 level using the Chi-Square test (Bienvenu, 1970). The terminology was revised to make the items more applicable to village couples in developing countries. In this section, the respondents responded to one of four possible responses, "Often," "Sometimes," "Seldom," and "Never." The responses to the items are scored from one to four with a favorable response given the higher score.

Once the section was completed each of the individual items was reviewed with a Venezuelan married couple to make sure that the items were understandable and applicable to village couples. Several suggestions for changes in wording were incorporated. The section was reviewed by a family environment professor and a home economics education faculty member with a background in family environment. Based on marital and cohabiting practices of the differing samples in the study, the references to "Husband-Wife" and "Spouse" were changed to "Mate." This reference, "Mate," was then

incorporated throughout other sections of the questionnaire.

Decision-making

In order to obtain information on the decision-making patterns of village families, a section dealing with who makes decisions in families was developed. This section was an outgrowth of materials that had been developed during Phase I of a family planning project sponsored by the American Home Economics Association. The Phase I materials were international family planning training plans for home economists in programs in extension or community development (Allen, Leonard, Zimmerman, Schultz & Anderson, 1976).

The first step in developing the section on decision-making was to compile a list of topics in each of the three home economics areas that was developed in Phase I trainer level materials. The topics, that were developed into lessons, focused on factors which required certain decisions to be made by family members. The following factors were considered in the selection of items in section on decision-making: field test results of importance ratings of lessons in Phase I trainer level materials, written comments received from international panel members in the remaining participants countries in Phase I, and family planning concepts that had been incorporated in all lessons in the Phase I trainer level materials.

Twenty items representative of the lessons in the Phase I trainer level materials were developed. Respondents were asked to indicate who in the family made the decisions about the 20 items. The five possible responses were: "man," "woman," "both," "other," and "no decision made." The items were reviewed by the family planning project director and a home economics education faculty member who was conducting a study that focused on the decision-making patterns of families. The reviewers evaluated the items in terms of content. They were asked to indicate the appropriateness of each item for inclusion in the section on decision-making and to identify items that could be improved for clarity. Suggestions by the reviewers to revise confusing and ambiguous items were incorporated in the rewording of several items. In evaluating the items, it was found that eight of the items appeared to fall in similar categories. A total of twelve items comprised the section in the final questionnaire.

Topics you talk about

To obtain information about the content and level of mate communication related to certain home economics/family planning topics, the importance of these topics to villagers, and the need for more information on each of these topics, a three-column scale was constructed.

Verbal and written comments concerning topics and content of trainer level materials in Phase I of the family planning

project described earlier had been ascertained through field test sessions and responses from international panel participants. There was an absence of data related to the village level. To identify the content and general levels of mate communication, the question in Column A was "How often do you and your mate talk about the following topics together?" The respondents were to select one of four possible responses, "Often," "Sometimes," "Seldom," or "Never." The responses to the question were scored from one to four with a favorable response given the higher score. The maximum possible score for a response in Column A is therefore four and minimum score is one.

The question in Column B dealt with the importance of talking about certain home economics/family planning topics with a mate. A structured response pattern of "Very Important," "Somewhat Important," and "Not Important" options was used. The three responses to the questions are scored from one to three with a favorable response given the higher score.

In Column C, the question related to whether the respondent had enough information on each of the home economics/family planning topics. A "Yes" and "No" response pattern was used with a "Yes" given the higher score.

Final development of the questionnaire

The questionnaire consisted of four sections as follows: Personal Characteristics, Mate Communication, Decision-making, and Topics You Talk About. The questionnaire, a structured interview, was to be used by the interviewers in marking the responses of village families. All responses were to be marked on the questionnaire.

The sample chosen for the pretest was similar in demographic characteristics to the sample for the study. The structured interview was administered by the researcher to five couples in Des Moines, Iowa. An extension home economist conducted the pretest in the two counties in Iowa where a pilot family planning project was in operation. Eight individuals who represented three differing ethnic groups and two languages participated in the pretest. Evaluations of the pretest were made by the researcher and a home economics education faculty member with expertise in evaluation. Based on the results and suggestions from the county home economists, those items considered to be ambiguous or irrelevant were revised or discarded.

Fifty items were included in the final questionnaire. The questionnaire was translated into Spanish for use in El Salvador and precoded for administration. The final form of the questionnaire may be found in Appendix B.

Data Collection

The data for this study came from structured interviews conducted by village workers in each of four developing countries: El Salvador, Ghana, Jamaica, and the Philippines. All of the village workers had received training in the use of family planning materials for home economics programs in community development and extension. In addition to that training, each village worker had received some training in interview procedures. The interviews were conducted using the pre-coded questionnaire containing 50 items. Each interview took place at the residence of each couple.

The questionnaire was translated into Spanish for participating couples from El Salvador. Each field worker in El Salvador was given a form of the translated version of the questionnaire as well as the blank questionnaires printed in English. The translated version was a guide in the event that a field worker was not fluent in the English language or the field worker failed to recall the exact phrasing of a particular item.

Questionnaires were provided for field workers to interview 236 couples in four developing countries. The researcher traveled to Jamaica to conduct training sessions with village workers who would interview the village couples. These sessions were conducted to provide an introduction to the data

collection instrument, explain interview procedures and present any additional information for the village workers. A similar session was conducted in El Salvador by another home economist who was conducting a training session there.

Questionnaires were mailed to Ghana and the Philippines. A letter was sent to explain the questionnaires, suggest interview procedures, encouraging participation, and provide general directions. A copy of the letter is found in Appendix A. Follow-up letters were sent six-weeks after the initial mailing deadline. Adequate time was provided for the returning of questionnaires because of overseas mailing procedures. Questionnaires were returned from Jamaica and El Salvador during the winter quarter of 1977. Questionnaires were returned from Ghana and the Philippines during the spring quarter, 1977.

A total of 216 (92%) questionnaires were returned: 100 from El Salvador, 80 from Jamaica, 18 from Ghana, and 18 from the Philippines. Of the 216 questionnaires returned, 203 (94%) were usable and included in the analysis. The usable questionnaires included 89 from El Salvador, 80 from Jamaica, 18 from Ghana, and 16 from the Philippines.

Analysis of the Data

As indicated by the objectives, the purpose of this study was to obtain information about the village learners that could serve as a basis for developing prototype home economics/family

planning materials for use in developing countries. More specifically, questions that required answers were:

1. What are the general characteristics of the villagers?
2. What is the communication pattern of village mates?
3. What home economics/family planning topics do villagers discuss?
4. Is there a relationship between mate communication and the frequency with which village mates discuss home economics/family planning topics?
5. Is there a relationship between selected general characteristics and the frequency with which village mates discuss home economics/family planning topics?
6. Who makes decisions in the family concerning selected home economics and family planning areas?
7. Is there a relationship between the need for in-on selected home economics/family planning topics and the sex of the mate?

The questionnaire

Editing and coding of the four-part questionnaire were done by the researcher. Transfer of data to IBM cards and analyses were performed by the computation center at Iowa State University. The techniques and procedures used were based on the Statistical Package for the Social Sciences (Nie, Bent, & Hull, 1970).

Statistical analysis

Descriptive statistics The general characteristics of the respondents, selected communication variables, frequency

and importance of discussing selected topics, decision making behavior, and expressed needs for information were computed and indicated by frequencies and percentages.

Absolute difference scores Absolute difference scores were computed for couples. Algebraic differences were obtained by subtracting the responses of females from the responses of males. The absolute difference scores were obtained by removing the sign from algebraic difference scores. Scores were then analyzed to determine the compatibility or incompatibility of couples as judged by their responses to items on the mate communication scale and topics talked about.

Chi-squares The chi-square statistic was used to test for the existence or nonexistence of relationships or differences between the pattern and content of communication for males and females. In computing the chi-squares, the choices "often" and "sometimes" were combined into one cell, and the remaining choices "seldom" and "never" were combined into another, thus yielding a 2x2 table with 1 degree of freedom. This corrected the number of small expected frequencies in many of the cells.

Pearson correlation The Pearson correlation coefficient was used to express quantitatively the extent to which absolute difference scores of couple responses to mate communication and topics talked about were related. In computing correlations for absolute difference scores, difference scores

were collapsed into a dichotomous response. This was done to correct the positive skewedness of the difference scores on topics talked about. The point biserial coefficient was used to describe the degree of relationship between these dichotomized variables. Correlations were computed between mate responses on communication and topics talked about and the frequency of discussing selected topics and personal characteristics.

Transformation Items 2 and 3 on the mate communication scale were transformed by subtracting the value from 5. Scores on the items were inverted. High numbers were expressed in the positive directions. When reporting correlations, items 2 and 3 were reported in the positive format. When reporting frequencies and percentages for items 2 and 3, high numbers were recorded in the "seldom, never" cell, whereas low numbers were recorded in the "often, sometimes" cell.

Analysis of variance One-way analyses of variance were computed for males and females in each country with sibsize as the dependent variable. Because only two of 24 F values were significant and could have occurred by chance, they were not reported in this study.

Data from each country were analyzed separately and reported. Some analyses were based on data from the couples as a sample and others were based on individual responses from males and females.

FINDINGS AND DISCUSSION

This chapter will present findings concerning each of the four countries involved in the study: El Salvador, Jamaica, Ghana, and the Philippines. Findings from each country will be presented in five sections. The first section describes the study population on selected characteristics. The second section focuses on mate communication, the third on communication about home economics/family planning topics, and the fourth describes the decision-making behavior of the couples. The final section reports the need for home economics/family planning information as reported by the respondents. Findings are reported using a similar format and procedures of World Health Organization (1976). Each country will be reported separately, describing the characteristics, behavior, and needs of the population.

El Salvador

Characteristics of the study population

The major characteristics of 89 couples are described in this section. These include age, age at first marriage, education, religion, exposure to urban living, occupation, years living together, number of children born, number of children living at home, as well as the status of land ownership. The findings from analysis of the data are presented in terms of frequencies and percentages.

Age Respondents ranged in age from 16 to 55 and over, with 26-35 being the modal age category. As shown in Table 1, females were younger than their mates with 70.8% under 36 years of age as compared to 47.2% of their mates. Only 7.9% of the females were in the 46-55 year-old group. Females who were aged 36 or older at the time of the interview had larger families than those less than 36 years of age (see Table C1, Appendix C). The 4 males who were 55 and over accounted for only 2.2% of the total sample.

Age at first marriage On the average, the couples in the sample married early. Nearly 27% of the males and 48.3% of females married before age 19. The modal age for marriage for males and females was in the 16-18 age group, the percentages being 24.7 and 38.2 respectively. Only 11.2% of the males and 3.4% of females married at 30 years and over. Over half of the males who married before age 22 had more than 4 children. Fewer females married after age 25 and had fewer children (see Tables C5 and C6, Appendix C).

Education The educational level was low. Slightly over half (51.7%) of the males and slightly under half of the females (49.5%) had received less than four years of schooling. In reference to education of the male, 23.6% had received no formal education as compared to 16% of the females. Although the years of formal schooling ranged from none to 13-15 years less than 20% of the sample had received more than 6

Table 1. Personal characteristics of study population by sex in El Salvador

Characteristic	Male (n=89)		Female (n=89)		Total (N=178)	
	Frequency	%	Frequency	%	Frequency	%
Age						
16-25	7	7.9	26	29.2	33	18.5
26-35	35	39.3	37	41.6	72	40.4
36-45	27	30.3	19	21.3	46	26.0
46-55	16	18.0	7	7.9	23	13.0
55 and over	4	4.5	0	0.0	4	2.2
Age at first marriage						
<16	2	2.2	9	10.1	11	6.2
16-18	22	24.7	34	38.2	56	31.5
19-21	17	19.1	22	24.7	39	22.0
22-24	17	19.1	11	12.4	28	16.0
25-27	14	15.7	9	10.1	23	13.0
28-30	7	7.9	1	1.1	8	4.5
30 and over	10	11.2	3	3.4	13	7.3
Education						
None	21	23.6	15	16.9	36	20.2
1-3	25	28.1	29	32.6	54	30.3
4-6	24	27.0	31	34.8	55	30.9
7-9	9	10.1	11	12.4	20	11.2
10-12	4	4.5	3	3.4	7	4.0
13-15	6	6.7	0	0.0	6	3.4
16 and over	0	0.0	0	0.0	0	0.0
Religion						
Anglican	0	0.0	0	0.0	0	0.0
Baptist	0	0.0	0	0.0	0	0.0
Catholic	77	86.5	76	85.4	153	86.0
Christian	2	2.2	3	3.4	5	3.0
Other	7	7.9	7	7.9	14	7.9
None	3	3.4	3	3.4	6	3.4
Exposure to urban living						
Yes	39	43.8	36	40.4	75	42.1
No	50	56.2	53	59.6	103	58.0

years of education. Data in Tables C5 and C6 (Appendix C) show half of the percentage of males with less than 7 years of schooling had 5 or more children as compared to only 3.3% of those with 7 or more years. Females with less than 7 years of schooling had between 1 to 11 or more children. Those with more than 7 years had between 1-6 children.

Religion Catholics comprised about 86% of the total sample. There was a fairly equal distribution (86.5 and 85.4%) of Catholics between males and females. Slightly over 3% of males and females did not identify any religious preference.

Exposure to urban living More than half of the males and females had lived in villages all of their lives. Nearly 44% of the males had lived in a city or large town as compared to 40.4% of females.

Occupation The major occupation reported by the couples reflected a concentration in agriculture, farming, and housework. While the majority of the females (55.1%) were involved in housework as a maids or houseservants, slightly over 39% were employed in other areas. Only 5.6% reported no occupation. Slightly over 39% of the males identified agriculture and farming as the occupational category. The second most selected category of occupations was laborer, driver, welder, carpenter. Males occupied 18% of the category, while a small proportion of females (5.6) held this type of job. According to Table 2, over 12% of the males were unemployed.

Table 2. Occupation of study population by sex (percentage distribution) in El Salvador

Occupation	Male (n=89)	Female (n=89)
Agriculture, farming	39.1	9.0
Employers and civil servants in government, community, business and accountants	6.7	0.0
Health services	0.0	1.1
Teachers, extension workers, community development, social service, Ministry of Education, Ministry of Agriculture	3.4	1.1
Maid, housework, houseservant	0.0	55.1
Clerical, salesworker	0.0	1.1
Laborer, driver, welder, carpenter	18.0	5.6
Trader, trading	0.0	1.1
Military	0.0	1.1
Seamstress, textile worker, dressmaker	3.4	7.9
Day care	2.2	1.1
Factory worker, mechanic	0.0	0.0
Other	14.6	10.1
None	12.4	5.6

Years living together About one-half of the couples had lived together less than 11 years. The highest proportion of couples had lived together 1-5 years (31.5%) and the lowest 26 and more years (5.6%).

Number of children born Contrary to the popular stereotype, number of children born to couples was small (see Table 3). Slightly over 21% of the couples had more than 6 children. A comparison with fewer the number of years living together will reflect a consistency with small numbers of children born to couples.

Number of children living at home Table 3 shows the number of children living in the home at the time of the interview. Only 3.4% of the couples had no children living in the home, whereas 90% of the couples had six or less children living in the home.

Land ownership According to Table 3, most couples were land owners. More than 69% of the couples owned the land they lived on as compared to 30.3% who did not own land.

Mate communication

Spouses were asked the same questions concerning mate communication and these answers yielded similar scores. Respondents were asked to use a four-point scale to indicate the degree and pattern of communication between the mates. For coding and tabulation purposes, the four categories (often, sometimes, seldom, and never) were collapsed to two categories

Table 3. Family characteristics of study population in El Salvador^a

Characteristic	Frequency	Percentage
Years living together		
1-5	28	31.5
6-10	18	20.2
11-15	17	19.1
16-20	11	12.4
21-25	10	11.2
26 and over	5	5.6
Number of children born		
1-2	22	24.7
3-4	29	32.6
5-6	19	21.3
7-8	9	10.1
9-10	6	6.7
11 and over	4	4.5
Number of children living at home		
None	3	3.4
1-2	28	31.5
3-4	28	31.5
5-6	24	27.0
7-8	4	4.5
9-10	2	2.2
11 and over	0	0.0
Land ownership		
Yes	62	69.7
No	27	30.3

^a_n = 89 couples.

(often, sometimes and seldom, never). According to Table 4, 87.6% of the male respondents agreed that they often sit and talk things over with their spouses, whereas only 12.4% seldom or never sat and talked things over. This was in similar agreement by the female respondents, 84.3 and 15.7% respectively. On the other hand it was noted that 41.6% of the males and 46.1% of the females expressed difficulty in talking with mates and over half found it easier to talk to someone else rather than the individual mate.

Absolute difference scores Scores were analyzed to determine the compatibility or incompatibility of couples as judged by their responses to the items on the mate communication scale. Only three items were of interest to this study and will be reported in this section. As shown in Table 5, males and females responded similarly to each item. A score of 0 indicates an exact response pattern; one, two, and three indicate the differences in the response patterns for each item. On item one, 84.3% of the couples had 0 to 1 difference scores. Over 70% of the couples responded similarly to item two. For item three, nearly 45% of the couples indicated exact responses and 28.1 a difference of one. The range of percentages for the difference scores was greatest for item one than either of the remaining two items.

Table 4. Percentage distribution of mate communication in El Salvador by sex

Item	Male (n=89)		Female (n=89)	
	Often, some	Seldom, never	Often, some	Seldom, never
1. Do you and your mate sit and talk things over?	87.6	12.4	84.3	15.7
2. Is it hard for you to talk to your mate?	41.6	58.4	46.1	53.9
3. Is it easier for you to talk to someone else rather than your mate?	68.5	31.5	52.8	47.2

Table 5. Absolute difference scores of couple responses to mate communication^a

Item	Difference score	Percentage
1. Do you and your mate sit down and talk things over?	0	55.1
	1	29.2
	2	11.2
	3	4.5
2. Is it hard for you to talk to your mate?	0	53.9
	1	16.9
	2	14.6
	3	14.6
3. Is it easier for you to talk to someone else rather than your mate?	0	44.9
	1	28.1
	2	14.6
	3	12.4

^a_n = 89 couples.

Communication about home economics/family planning topics

Of all the questions about communication between mates on selected topics, the lowest percentages were recorded for communication on family planning. As is shown in Table 6, 43.8% of the males and 44.9% of the females reported that they seldom or never conversed with their mates about family planning which included birth control methods, spacing of children, and family size.

Data presented in Table 6 indicate that a large percentage of males had talked with their mates concerning food, child

Table 6. Communication of mates about home economics/family planning topics in El Salvador (percentage distribution)

Topic	Male (n=89)		Female (n=89)	
	Often, sometimes	Seldom, never	Often, sometimes	Seldom, never
Family food practices	88.8	11.2	80.9	19.1
Child rearing practices	78.7	21.3	78.7	21.3
Religious customs, beliefs, and influences	73.0	27.0	69.7	30.3
Family roles	66.3	33.7	69.7	30.3
Family planning	56.2	43.8	55.1	44.9
Family spending practices	77.5	22.5	74.2	25.8

rearing, religion, and spending practices, and a lower percentage had discussed behavior associated with mates living together, parenting, and working. Nearly 34% of males and over 30% of females seldom or never talked about family roles.

The topic on family planning was discussed least by both males and females. This is consistent with findings by Mukherjee (1975) and Seethalakshmi (1969). In both studies, findings indicated a marked absence of interspouse communication in matters pertaining to family planning.

Absolute difference scores of couple responses Between
68 and 91% of the couples had a difference of one or 0 on each of the six items related to home economics/family planning topics (see Table 7). A score of 0, was reported for 42.7 to 57.3% of the couples on the items. From the data presented, couples tended to agree in their responses to the items.

Data in Table 8 showed the relationship between the absolute couple difference scores on mate communication and absolute couple difference scores on topics talked about. Although these relationships were not large, seven were found to be statistically significant. Low correlations may be attributed to low response values (1-4) assigned to each item in both sections of the questionnaire.

As the table indicates, negative relationships were found between absolute couple difference scores on family planning and family spending variables with the absolute couple differ-

Table 7. Absolute difference scores of couple responses to topics talked about in El Salvador^a

Item	Difference score	Percentage
1. How often do you and your mate talk about family food practices?	0	57.3
	1	32.6
	2	6.7
	3	3.4
2. How often do you and your mate talk about child rearing?	0	49.4
	1	41.6
	2	6.7
	3	2.2
3. How often do you and your mate talk about religious customs, beliefs, and influences?	0	52.8
	1	27.0
	2	10.1
	3	10.1
4. How often do you and your mate talk about family roles?	0	42.7
	1	36.0
	2	13.5
	3	7.9
5. How often do you and your mate talk about family planning?	0	49.4
	1	19.1
	2	23.6
	3	7.9
6. How often do you and your mate talk about family spending practices?	0	49.4
	1	34.8
	2	10.1
	3	5.6

^a_n = 89 couples.

Table 8. Correlations between absolute couple difference scores on mate communication and absolute couple difference scores on topics talked about in El Salvador^a

	Topics talked about					
	Family food practices	Child rearing	Religion	Family roles	Family planning	Family spending
1. Do you and your mate sit down and talk things over?	.27**	.17*	.19*	.19*	.08	.12
2. Is it hard for you to talk to your mate?	.07	.01	.07	.20*	-.12	-.03
3. Is it easier for you to talk to someone else rather than your mate?	.14	.24**	.26**	.13	.14	.14

^an = 89 couples.

* Significant at $p < 0.05$.

** Significant at $p < 0.01$.

ence score on item 2 of the mate communication scale. Data in the table suggest that those couples who agree on mate communication items tended to agree on topics talked about (excluding the two negative associations).

Mate responses to communication variables Females'
 response to items on mate communication and topics talked about were correlated with responses of their own mates to the same items. Only two inverse relationships were found. As females found it not difficult to talk with mates, males talked less with mates. The more often females agreed that they talked things over with mates, mates agreed to the difficulty of talking with females (Table 9).

Of the 29 items that were significantly related between mate responses, only two were significant at the $p < 0.05$ level, whereas others were significant at the $p < 0.01$ and $p < 0.001$ level. The highest correlation (.55) was found between mate responses to Topic 2. As females reported talking about child rearing practices, so did males. Positive correlations between .40 and .46 were found between mate responses to the topic on family food practices; between the response of females to the topic on family roles and responses of males to the topic on family food practices; between responses of females about family roles and males response to child rearing practices; and between mate responses about Topic 6, family spending practices.

Table 9. Correlations between mate responses on the communication and topics talked about scales in El Salvador^a

Item	Comm-m1 ^b	Comm-m2	Comm-m3	Talk-m1	Talk-m2	Talk-m3	Talk-m4	Talk-m5	Talk-m6
Comm-f1 ^c	.11	-.07	.01						
Comm-f2	-.05	.37***	.25**						
Comm-f3	.01	.21**	.32***						
Talk-f1				.40***	.33***	.27**	.14	.22	.38***
Talk-f2				.34***	.55***	.33***	.13	.06	.22**
Talk-f3				.32***	.37***	.32***	.01	.06	.19*
Talk-f4				.46***	.46***	.24**	.28**	.18*	.29**
Talk-f5				.17	.17	.14	.04	.32***	.24**
Talk-f6				.32***	.32***	.35***	.12	.29**	.42***

Note: Comm 1-3 related to the frequency of talking with mates, difficulty of talking with mates, and ease in talking with others. Topics 1-6 related to food, child rearing, religion, roles, family planning, and spending practices.

^an = 89 couples.

^bComm-m, talk-m = responses of males.

^cComm-f, talk-f = responses of females.

* Significant at $p < 0.05$.

** Significant at $p < 0.01$.

*** Significant at $p < 0.001$.

A positive significant relationship ($p < 0.001$) was found between mate responses to the topic on family planning. Significant relationships were found between females response to the topic about family roles and each of the topics responded to by males.

No significant correlations were found between females response to Comm-f1 and the responses of males to Comm-m1, Comm-m2, and Comm-m3. Males responses to Comm-m1 were not significantly related to the responses of females for Comm-f1, Comm-f2, and Comm-f3. No significant relationships were found between females response to the frequency of discussing family planning and the responses of males for topics about family food practices, childrearing practices, religion, and family roles.

Cross tabulations were computed for mate communication and topics talked about. The chi-square test was employed to study the relationship between the pattern and content of communication for the males and the females to see if the frequency of items 1, 2, and 3 for mate communication is correlated with the frequency of discussing selected home economics/family planning topics. This statistic was used under the assumption that a chi-square (X^2) test may be used if fewer than 20% of the cells have an expected frequency of less than 5 and if no cell has an expected frequency of less than 1. Because the X^2 was calculated from a 2x2 cell table, an adjustment known as Yates

correction for continuity was employed (Popham and Sirotnik, 1973).

As shown in Table 10, there were no significant chi-squares found between the responses of males. No significant relationships were found between the difficulty females find in talking to mates and either of the six selected topics included in the cross tabulations.

Chi-squares analysis found 4 positive significant relationships ($p < 0.01$) between responses given by females. A significant relationship was found between the frequency of talking with mates and the frequency of talking about family food practices (8.03) and about religion (7.25). In another analysis (7.41), females who found it easier to talk to someone else often discussed family planning with mates. The largest X^2 was reported between Comm-f3 and Talk-f6 (9.50). Those who found it easier to talk with someone else talked frequently with their mates about family spending practices.

Correlation between mate communication on topics and personal characteristics by sex The results of the present study indicate that the frequency with which mates discuss family planning was related inversely to age of both males and females. The correlations were significant for the males (-.41 at the .001 level) and females (-.27 at the .01 level). It is also noted that topics talked about and the education of males were positively related. Significant relations were found

Table 10. Chi-squares for mate communication by topics talked about in El Salvador

Topic	Male ^a (n=89)	Female ^a (n=89)
<u>Communication 1: Do you and your mate sit down and talk things over?</u>		
1. Food practices	.07	8.03**
2. Child rearing practices	.81	3.18
3. Religion	1.24	7.25**
4. Roles	.02	2.03
5. Family planning	.04	.01
6. Family spending practices	.62	.01
<u>Communication 2: Is it hard for you to talk to your mate?</u>		
1. Food practices	.84	.13
2. Child rearing practices	.10	.82
3. Religion	.05	.80
4. Roles	1.90	.91
5. Family planning	2.03	3.03
6. Family spending practices	.37	.19
<u>Communication 3: Is it easier for you to talk to someone else rather than your mate?</u>		
1. Food practices	3.66	3.62
2. Child rearing practices	.07	3.22
3. Religion	.00	.01
4. Roles	3.62	2.24
5. Family planning	1.62	7.41**
6. Family spending practices	.96	9.50**

^a1 df.

** Significant at < .01 level.

between the education of males and topics about child rearing, family roles, family planning and family spending practices. There were no significant relationships between frequency of talking about selected topics and the female education variable (see Table 11).

Importance of topics Males responded to the question dealing with the importance of discussing selected home economics/family planning topics. Percentage distributions were reported for male respondents and female respondents. According to Table 12, males agreed that it is very important to discuss the six topics included on the scale. The percentage values ranged from 71.9 to 87.6. The lowest percentage was 71.9 and that was recorded for the topic on religion.

The topic on family food practices reported the highest percentage of responses by males and females. Over 87% of the males and 80.9% of the females considered the topic very important. Females rating of the importance of discussing certain topics was lowest for family planning (see Table 13).

Decision-making behavior

In response to all but four of the items about who makes certain family planning decisions, a majority of the males and females responded that the decision was shared by both male and female (see Table 14 and Table 15). The one area in which a large percentage of males and females indicated decision-making

Table 11. Correlation between the frequency of mate communication on home economics/family planning topics and selected personal characteristics by sex in El Salvador^a

Topics talked about	Age		Education	
	Male	Female	Male	Female
Family food practices	-.07	-.01	.08	.14
Child rearing	-.12	-.11	.19*	.17
Religion	.02	-.10	.02	.10
Family roles	-.16	.06	.27**	.10
Family planning	-.41***	-.27**	.32***	.13
Family spending practices	-.14	.11	.23**	.06

^a_n = 89 couples.

* Significant at $p < 0.05$.

** Significant at $p < 0.01$.

*** Significant at $p < 0.001$.

by males was in the expenditure of resources. Over 40% of the males and nearly 35% of the females reported the decision was made by males.

The column, no decision made, received considerable response to items 4, 5, and 6 which dealt with family planning. Nearly 16% of the males and more than 21% of females reported no decision made about family size. According to the tables, 25.8% of the males and 36% of females agreed that no decision was made concerning the spacing of pregnancies. Nearly 35% of

Table 12. Importance of discussing home economics/family planning topics in El Salvador as reported by males^a (percentage distribution)

Topic	Very important	Somewhat important	Not important
Family food practices	87.6	10.1	2.2
Child rearing practices	86.5	11.2	2.2
Religion	71.9	23.6	4.5
Family roles	77.5	14.6	7.9
Family planning	74.2	19.1	6.7
Family spending practices	84.3	10.1	5.6

^a_n = 89.

Table 13. Importance of discussing home economics/family planning topics in El Salvador as reported by females^a (percentage distribution)

Topic	Very important	Somewhat important	Not important
Family food practices	80.9	15.7	3.4
Child rearing practices	78.8	18.0	3.4
Religion	79.8	15.7	4.5
Family roles	75.3	13.5	11.2
Family planning	69.7	15.7	14.6
Family spending practices	74.2	18.0	7.9

^a_n = 89.

Table 14. Distribution of decision making in village families as reported by males in El Salvador^a (percentage)

Decision	Male	Female	Both	Other ^b	No decision made
Kind of food for family members	9.0	59.6	30.3	0.0	1.1
Amount of food for family members	9.0	74.2	16.9	0.0	0.0
Expenditure of resources	40.4	24.7	33.7	0.0	1.1
Family size	12.4	9.0	61.8	1.1	15.7
Spacing of pregnancies	9.0	6.7	56.2	2.2	25.8
Contraceptive use	12.4	7.9	41.6	3.4	34.8
Education of family members	10.1	7.9	74.2	1.1	6.7
Assignment of household duties	16.9	19.1	59.6	1.1	3.4
Child rearing practices	7.9	12.4	67.4	2.2	10.1
Ways to meet health care needs of family members	9.0	21.3	62.9	2.2	4.5
Kind of information on human reproduction given to children	5.6	15.7	32.6	3.4	42.7
Kind of family planning information given to children	6.7	6.7	27.0	4.5	55.1

^a_n = 89.

^bDecisions made by other members of the family, maids, doctors, etc.

Table 15. Distribution of decision making in village families in El Salvador as reported by females^a (percentage)

Decision	Male	Female	Both	Other ^b	No decision made
Kind of food for family members	3.4	71.9	22.5	1.1	1.1
Amount of food for family members	4.5	80.9	12.4	1.1	1.1
Expenditure of resources	34.8	25.8	36.0	2.2	1.1
Family size	9.0	11.2	57.3	1.1	21.3
Spacing of pregnancies	13.5	3.4	47.2	0.0	36.0
Contraceptive use	14.6	9.0	47.2	0.0	29.2
Education of family members	7.9	7.9	80.9	0.0	3.4
Assignment of household duties	14.6	14.6	61.8	3.4	5.6
Child rearing practices	5.6	11.2	75.3	1.1	6.7
Ways to meet health care needs of family members	3.4	23.6	67.4	0.0	5.6
Kind of information on human reproduction given to children	3.4	18.0	24.7	3.4	50.6
Kind of family planning information given to children	4.5	4.5	24.7	9.0	57.3

^a_n = 89.

^b Decisions made by other members of the family, maids, doctors, etc.

males and over 29% of females responded that no decision was made about contraceptive use. The lack of decision-making about family planning issues is consistent with findings as reported by Mukherjee (1975). A number of males and females agreed that no decision was made concerning the kind of information on human reproduction and family planning given to children.

Need for home economics/family planning information

As shown in Table 16, both male and female respondents expressed the need for more information concerning home economics/family planning topics. More than half of the males (51.7%) and nearly half of the females (48.3%) reported that they did not have enough information about family roles. Slightly over 46% of males and 43.8% females indicated the need for more information about family planning.

Table 16. The need for more information concerning home economics/family planning topics in El Salvador

Topic	<u>Male (n = 89)</u>		<u>Female (n=89)</u>	
	Yes	No	Yes	No
Family food practices	37.1	62.9	29.2	70.8
Child rearing practices	37.1	62.9	42.7	57.3
Religion	32.6	67.4	25.8	74.2
Family roles	51.7	48.3	48.3	51.7
Family planning	46.1	53.9	43.8	56.2
Family spending practices	43.8	56.2	42.2	52.8

Both sexes reported less need for more information on religion. This topic received the lowest percentage score, with 32.6% of the males and 25.8% of the females expressing a need for more information. Findings in general suggest a need for more information about the selected home economics/family planning topics.

Jamaica

Characteristics of the study population

The major characteristics reported in this section include age, age at first marriage, education, religion, exposure to urban living, occupation, years living together, number of children born, number of children living at home and land ownership.

Age Slightly over half of the males and nearly 69% of the females were less than 36 years of age. Table 17 indicates the modal age was in the 26-35 age category. Only 12.6% of the sample was 46 years and over. As summarized in Table C2 (Appendix C), over half of the females with 4 or less children were less than 36 years of age.

Age at first marriage According to Table 17, 28.8% of the females and 8.8% of males married before the age of 19. Over 12% of males and slightly over 1% of females married at age 30 or older. As shown in Table C8 (Appendix C), as the age of marriage for females increased, the number of children born

Table 17. Personal characteristics of study population by sex in Jamaica

Characteristic	Male (n=80)		Female (n=80)		Total (n=160)	
	Frequency	%	Frequency	%	Frequency	%
Age						
16-25	7	8.8	20	25.0	27	17.0
26-35	33	41.3	35	43.8	68	42.5
36-45	26	32.5	19	23.8	45	28.0
46-55	8	10.0	3	3.8	11	6.9
55 and over	6	7.5	3	3.8	9	5.7
Age at first marriage						
<16	0	0.0	1	1.3	1	0.7
16-18	7	8.8	22	27.5	29	18.1
19-21	18	22.5	30	37.5	48	30.0
22-24	15	18.8	15	18.8	30	18.7
25-27	20	25.0	6	7.5	26	16.2
28-30	10	12.5	5	6.3	15	9.3
30 and over	10	12.5	1	1.3	11	6.9
Education						
None	3	3.8	0	0.0	3	1.9
1-3	4	5.0	0	0.0	4	2.5
4-6	4	5.0	12	15.0	16	10.0
7-9	46	57.5	37	46.3	83	51.9
10-12	11	13.8	23	28.3	34	21.2
13-15	10	12.5	8	10.0	18	11.2
16 and over	2	2.5	0	0.0	2	1.2
Religion						
Anglican	17	21.3	14	17.5	31	19.4
Baptist	9	11.3	11	13.8	20	12.5
Catholic	4	5.0	2	2.5	6	3.7
Christian	9	11.3	11	13.8	20	12.5
Other	27	33.8	33	41.3	60	37.5
None	14	17.5	9	11.3	23	14.4
Exposure to urban living						
Yes	41	51.2	41	51.2	82	51.2
No	39	48.7	39	48.7	78	48.7

decreased. Males (Table C7, Appendix C), who married at age 25-27, had less than four children.

Education The educational status of the males and females is shown in Table 17. Nearly 4% of the males received no formal schooling. The modal number of years of schooling for males and females was in the 7-9 years category. More males (67.5%) than females (61.3%) received as much as 9 years of schooling. Data in Tables C5 and C6 (Appendix C) show half of the percentage of males with less than 7 years of schooling as having 5 or more children as compared to only 3.3% of those with 7 or more years. Females with less than 7 years of schooling had between 1 to 11 or more children. Those with more than 7 years had fewer children, 1-6.

Religion Both males and females identified with the Anglican religion, 21.3% and 17.5% respectively. Males were equally Baptist (11.3%) or Christian (11.3%) as were females (13.8%) for each. Fourteen percent of the males and 11.3% of females did not identify with any religion.

Exposure to urban living Males and females reported having lived in a large city or town. Nearly half of the males and females had lived in village areas for a life time.

Occupation One-third of the males were either laborers, drivers, welders, or carpenters. One-fifth were in agriculture and farming. Slightly over two-fifths of the females were unemployed.

Table 18. Occupation of study population by sex (percentage distribution) in Jamaica

Occupation	Male (n=80)	Female (n=80)
Agriculture, farming	22.5	0
Employers and civil servants in government, community, business and accountants	5.0	2.5
Health services	0	6.3
Teachers, extension workers, community development, social service, Ministry of Education, Ministry of Agriculture	3.7	8.7
Maid, housework, houseservant	0	18.8
Clerical, salesworker	5.0	7.5
Laborer, driver, welder, carpenter	33.7	2.5
Trader, trading	0	1.2
Military	0	0
Seamstress, textile worker, dressmaker	0	5.0
Day care	0	0
Factory worker, mechanic	13.7	1.2
Other	13.7	5.0
None	2.5	41.2

Years living together More than half of the couples (67.5%) had lived together less than 11 years and 30% of the couples had lived together less than six years. Only 5% of the couples had lived together for 26 years or more.

Number of children born According to Table 19, over 73% of the couples had four or less children. Slightly over 26% of the couples had more than four children with slightly over 6% having more than eight children.

Number of children living at home A small percentage (3.7) of couples had no children living at home. At the time of the interview, nearly 75% of the couples had less than 5 children living at home and slightly over 21% had five or more living in the home.

Land ownership Couples were generally land owners. According to Table 19, over 51% of the couples owned land they lived on.

Mate communication

Table 20 indicates that males and females often sat and talked things over with their mates (95% and 93.8% respectively). In spite of the high percentage of mates who often communicated verbally with their mates, 41.3% of males and 46.3% of females found it hard to talk to their mates. A smaller percentage (33.8) of both males and females reported it easier to talk to someone else rather than their mates.

Table 19. Family characteristics of study population in Jamaica^a

Characteristic	Frequency	Percentage
Years living together		
1-5	24	30
6-10	30	37.5
11-15	11	13.7
16-20	6	7.5
21-25	5	6.3
26 and over	4	5.0
Number of children born		
1-2	29	36.2
3-4	30	37.5
5-6	9	11.2
7-8	7	8.7
9-10	2	2.5
11 and over	3	3.7
Number of children living at home		
None	3	3.7
1-2	29	36.2
3-4	31	38.7
5-6	10	12.5
7-8	5	6.3
9-10	1	1.2
11 and over	1	1.2
Land ownership		
Yes	41	51.2
No	39	48.7

^a_n = 80 couples.

Table 20. Percentage distribution of mate communication in Jamaica by sex

Item	Male (n=80)		Female (n=80)	
	Often, sometimes	Seldom, never	Often, sometimes	Seldom never
1. Do you and your mate sit down and talk things over?	95.0	5.0	93.8	6.3
2. Is it hard for you to talk to your mate?	41.3	58.8	46.3	53.8
3. Is it easier for you to talk to someone else rather than your mate?	33.8	66.3	33.8	63.3

Absolute difference scores Considerable similarity

was noted in the responses of couples to three selected items on the mate communication scale. As reported in Table 21, 70% of the couples reported an exact response to item 1, and between 60 and 61.2% to items 2 and 3. For item one, 97.5% of the couples had a difference score of 0-1. Findings indicated that over 77% of couples had difference scores of 0-1 for items 2 and 84.9% for item 3. According to the table, couples tended to be compatible as judged by their responses to the three items on the scale.

Table 21. Absolute difference scores of couple responses to mate communication^a

Item	Difference score	Percentage
1. Do you and your mate sit down and talk things over?	0	70
	1	27.5
	2	2.5
2. Is it hard for you to talk to your mate?	0	60
	1	17.5
	2	13.7
	3	8.7
3. Does your mate seem to be listening when you are talking?	0	61.2
	1	23.7
	2	8.7
	3	6.3

^a_n = 80 couples.

Communication about home economics/family planning topics

Males and females often discussed family spending practices (90 and 87.5% respectively) with their mates. An inspection of Table 22 shows that 81.3% of the males and females talked about family food practices. A lower percentage of males and females often discussed religion and family planning. Over 27% of the females and slightly over 26% of males seldom or never talked about family planning.

Absolute difference scores of couple responses Over half (Table 23) of the couples reported exact responses for each item on the scale. Between 82.5 and 88.7% of the couples had a difference score between 0-1 for the six topics.

Correlation between mate responses A significant positive relationship existed between two absolute couple difference scores on mate communication and absolute couple difference scores on topics talked about. Difference scores for sitting and talking things over with mates and talking about child rearing were significant (.38) at the .001 level. Family food practices and the ease in talking with others rather than mates were significantly related at the 0.01 level. Couples who tended to agree on responses to item 1 and 3 on the mate communication scale tended to agree on responses to topic 2 and 1 on the topics talked about scale. No significant relationships were found for the remaining variables (see Table 24).

Table 22. Communication of mates about home economics/family planning topics in Jamaica (percentage distribution)

Topic	Male (n=80)		Female (n=80)	
	Often, sometimes	Seldom, never	Often, sometimes	Seldom, never
Family food practices	81.3	18.8	81.3	18.8
Child rearing practices	82.5	17.5	83.8	16.3
Religious customs, beliefs, and influences	72.5	27.5	73.8	26.3
Family roles	81.3	18.8	80.0	20.0
Family planning	73.8	26.3	72.5	27.5
Family spending practices	90.0	10.0	87.5	12.5

Table 23. Absolute difference scores of couple responses to topics talked about in Jamaica^a

Item	Difference scores	Percentage
1. How often do you and your mate talk about family food practices	0	60
	1	27.5
	2	12.5
2. How often do you and your mate talk about child rearing?	0	65
	1	21.2
	2	11.2
	3	2.5
3. How often do you and your mate talk about religious customs, beliefs, and influences?	0	63.7
	1	18.8
	2	16.2
	3	1.2
4. How often do you and your mate talk about family roles?	0	63.7
	1	25.0
	2	8.7
	3	2.5
5. How often do you and your mate talk about family planning?	0	58.7
	1	27.5
	2	11.2
	3	2.5
6. How often do you and your mate talk about family spending practices?	0	70
	1	15
	2	10
	3	5.0

^a_n = 80 couples.

Table 24. Correlations between absolute couple difference scores on mate communication and absolute couple difference scores on topics talked about in Jamaica^a

	Topics talked about					
	Family food practices	Child rearing	Religion	Family roles	Family planning	Family spending
1. Do you and your mate sit down and talk things over?	.13	.38***	.02	.07	.12	.11
2. Is it hard for you to talk to your mate?	.11	.15	.13	.02	.09	.08
3. Is it easier for you to talk to someone else rather than your mate?	.29**	.17	.09	.04	.16	.09

^a_n = 80 couples.

** Significant at $p < 0.01$.

*** Significant at $p < 0.001$.

Mate responses to communication variables Thirty

significant correlations were found to exist between female responses on mate communication and topics talked about with the responses of their mates on the same variables. Negative relationships were found between Talk-f5, family planning and Talk-m1, family food practices. As females agreed they talked often about family planning, males agreed they discussed family food practices less. No significant relationship was found (-.01) between the responses of females about religion, Talk-f3, and male responses about child rearing practices, Talk-m2); nor between female responses to topic 5, family planning and male responses to topic 2, child rearing practices (see Table 25).

Significant correlations between .52 and .58 were found between Comm-f1, talking with mates, and Comm-m1; between Comm-f3, the difficulty in talking with mates and Comm-m3; between Talk-f1, family food practices and Talk-m1; between Talk-f4, family roles and Talk-m4; and between Talk-f5, family planning and Talk-m5. The more frequent females talked with mates, the more frequent males tended to talk with their mates. The frequency with which females found it not easy to talk with some one else rather than their own mates was related to the frequency of the male responses to the same item. In addition, these data suggest that the frequency with which females discuss family food practices, family roles, and family planning with their mates tends to be related to the frequency

Table 25. Correlations between responses of mates on communication and topics talked about in Jamaica^a

Item	Comm-m1 ^b	Comm-m2	Comm-m3	Talk-m1	Talk-m2	Talk-m3	Talk-m4	Talk-m5	Talk-m6
Comm-f1 ^c	.57***	.40	.32**						
Comm-f2	.29**	.49***	.28**						
Comm-f3	.39***	.49***	.58***						
Talk-f1				.55***	.27**	.11	.34***	.15	.22*
Talk-f2				.33***	.37***	.22*	.32**	.09	.28**
Talk-f3				.03	-.01	.43***	.19*	.16	.11
Talk-f4				.17	.24**	.26**	.52***	.15	.21*
Talk-f5				-.03	.00	.19*	.07	.56***	.17
Talk-f6				.05	.24**	.39***	.33**	.27**	.29**

Note: Comm 1-3 related to the frequency of talking with mates, difficulty of talking with mates, and ease in talking with others. Topics 1-6 related to food, child rearing, religion, roles, family planning, and spending practices.

^an = 80 couples.

^bComm-m, talk-m = responses of males.

^cComm-f, talk-f = responses of females.

* Significant at $p < 0.05$.

** Significant at $p < 0.01$.

*** Significant at $p < 0.001$.

with which males discuss the same topics with their mates.

Only 5 correlations were reported at the .05 level. Comm-f2 and 3 were significantly related to the responses of males for the three items on the communication scale. Comm-m1 and 3 were significantly related to the responses of females on each of the communication variables.

As shown in Table 26, mate communication was cross tabulated with topics talked about. The variables were dichotomized in order that two by two contingency tables could be set up for the calculation of chi-squares.

A significant relationship was found between the responses of males for item one on the communication scale, frequency in talking with mates and the frequency in talking about food practices and with child rearing practices. As males talked often with their mates, they often talked about food and child rearing practices. A significant chi-square for females was found between item 1 on the communication scale and religion. No significant relationship existed between item 2, difficulty in talking to mates, and selected topics for males. Significant positive relationships were found between item 2 and the topics on religion and family planning for females. The frequency with which females found it difficult to talk with mates is related to frequency of talking about religion and family planning. Item 3, ease in talking with someone else rather than mate, was significantly related with religion for

Table 26. Chi-squares for mate communication by topics talked about in Jamaica

Topic	Male ^a (n=80)	Female (n=80)
<u>Communication 1: Do you and your mate sit down and talk things over?</u>		
1. Food practices	5.29*	.27
2. Child rearing practices	5.90*	.74
3. Religion	.21	5.27*
4. Roles	.10	.33
5. Family planning	.28	.02
6. Family spending practices	.03	1.49
<u>Communication 2: Is it hard for you to talk to your mate?</u>		
1. Food practices	.03	.81
2. Child rearing practices	.02	.09
3. Religion	3.03	3.73*
4. Roles	.96	3.02
5. Family planning	.89	10.09**
6. Family spending practices	.82	3.80 ^b
<u>Communication 3: Is it easier for you to talk to someone else rather than your mate?</u>		
1. Food practices	.07	.75
2. Child rearing practices	1.22	.51
3. Religion	4.66*	5.62*
4. Roles	.07	3.36
5. Family planning	.05	4.65*
6. Family spending practices	2.01	4.99 ^b

^a1 df.

^bDid not meet χ^2 test criteria.

* Significant at $p < 0.05$.

** Significant at $p < 0.01$.

males, as well as religion and family planning for females.

Two cross tabulations that were found to have significant chi-square values were invalid because they did not meet the chi-square test criteria. Other chi-squares met the expected criteria.

Correlation between mate communication on topics and personal characteristics by sex Table 27 exhibits low but positive correlations between the topic of religion and the age of males. Education was positively related to talking about family planning. A significant inverse relationship was found between family planning and the age of females. That is, younger females tended to discuss family planning more than older females. On the other hand, as females attain a higher educational status, they tend to discuss family planning more.

Nonsignificant inverse relationships were found between the age of males and the frequency of discussing topics on child rearing practices, family planning, and family spending practices. Additional inverse relationships were reported between the education of males and the discussion of religion, family roles, and family spending practices as compared to education of females and topics about family food practices, child rearing practices, religion, and family roles.

Importance of topics Findings indicated (Tables 28 and 29) that discussing home economics/family planning topics was very important to males and females while concurrently

Table 27. Correlation between the frequency of mate communication on home economics/family planning topics and selected personal characteristics by sex in Jamaica^a

Topics talked about	Age		Education	
	Male	Female	Male	Female
Family food practices	.08	.19	.13	-.01
Child rearing	-.05	-.12	.03	-.18
Religion	.20*	.11	-.09	-.02
Family roles	.05	-.04	-.03	-.13
Family planning	-.10	-.38*	.26**	.39***
Family spending practices	-.05	-.12	-.04	.03

^an = 80 couples.

* Significant at $p < 0.05$.

** Significant at $p < 0.01$.

*** Significant at $p < 0.001$.

indicating that discussions on child rearing and family food practices were of particular importance to the couples. According to the tables, 93.8% of the males and 92.5% of females considered family food practices to be very important and 86.3% males, along with 92.5% females reported family spending practices as very important. The topic on family planning was reported by 81.3% of the males and 90% of females as being an important topic to discuss. In spite of the high percentages, both males and females (83.8%) reported the topic

Table 28. Importance of discussing home economics/family planning topics in Jamaica as reported by males^a (percentage distribution)

Topic	Very important	Somewhat important	Not important
Family food practices	93.8	6.3	0.0
Child rearing practices	95.0	5.0	0.0
Religion	75.0	22.5	2.5
Family roles	83.8	15.0	1.3
Family planning	81.3	10.0	8.8
Family spending practices	86.3	11.3	2.5

^a_n = 80.

Table 29. Importance of discussing home economics/family planning in Jamaica topics as reported by females^a (percentage distribution)

Topic	Very important	Somewhat important	Not important
Family food practices	92.5	6.3	1.3
Child rearing practices	96.3	2.5	1.3
Religion	81.3	17.5	1.3
Family roles	83.8	12.5	3.8
Family planning	90.0	6.3	3.8
Family spending practices	92.5	7.6	0.0

^a_n = 80.

of family roles as a lesser important topic for discussion as well as religion. Only 75% males and 81.3% females reported religion as a very important topic for discussion between mates.

Decision-making behavior

More than half of the male and female respondents indicated that the female made decisions about the kind and amount of food for family members. Respondents also indicated larger percentages of decisions made by males about the expenditure of resources (see Tables 30 and 31).

Whether male or female, findings indicated that both made decisions about the size of the family, decisions about spacing of pregnancies, contraceptive use, education of family members, assignment of household duties, child rearing practices, and ways to meet health care needs of family members. Considerable similarity was noted in the responses of males and females to the item on family size. Both (28.8%) reported that no decision had been made about family size. Both males and females reported no decision made concerning spacing of pregnancies and contraceptive use.

More than 47% of the males and slightly more than 41% of the females indicated that either some one else made the decision about the kind of information on human reproduction given to children or no decision was made. Over half of the respondents indicated no decision made concerning the kind of

Table 30. Percentage distribution of decision making in village families as reported by males in Jamaica^a

Decision	Male	Female	Both	Other ^b	No decision made
Kind of food for family members	2.5	58.8	35.0	0	3.8
Amount of food for family members	1.3	77.5	15.0	0	6.3
Expenditure of resources	17.5	25.0	56.3	0	1.3
Family size	0.0	3.8	66.3	1.3	28.8
Spacing of pregnancies	1.3	6.3	51.3	10.0	31.3
Contraceptive use	1.3	12.5	53.8	5.0	27.5
Education of family members	7.5	7.5	76.3	1.3	7.5
Assignment of household duties	8.8	38.8	46.3	0.0	6.3
Child rearing practices	2.5	10.0	70.0	12.5	5.0
Ways to meet health care needs of family members	5.0	16.3	72.5	5.0	1.3
Kind of information on human reproduction given to children	1.3	17.5	33.8	15.0	32.5
Kind of family planning information given to children	2.5	11.3	22.5	11.3	52.5

^a_n = 80 couples.

^b Decisions made by other members of the family, maids, doctors, etc.

Table 31. Percentage distribution of decision making in village families as reported by females in Jamaica^a

Decision	Male	Female	Both	Other ^b	No decision made
Kind of food for family members	1.3	71.3	25.0	0	2.5
Amount of food for family members	2.5	82.5	11.3	2.5	1.3
Expenditure of resources	13.8	22.5	62.5	0	1.3
Family size	3.8	8.8	58.8	1.3	27.5
Spacing of pregnancies	2.5	11.3	47.5	10.0	28.8
Contraceptive use	2.5	12.5	52.5	8.8	23.8
Education of family members	1.3	12.5	78.8	1.3	6.3
Assignment of household duties	3.8	43.8	46.3	1.3	5.0
Child rearing practices	1.3	18.8	65.0	11.3	3.8
Ways to meet health care needs of family members	3.8	23.8	61.3	6.3	5.0
Kind of information on human reproduction given to children	1.3	33.8	23.8	13.8	27.5
Kind of family planning information given to children	2.5	18.8	13.8	12.5	52.5

^an = 80 couples.

^bDecisions made by other members of the family, maids, doctors, etc.

family planning information given to children.

Need for home economics/family planning information

Inspection of Table 32 reveals that the highest percentage of respondents, 48.8% of males and 47.5% of females, expressed a need for more information about family planning. A need for more information about child rearing practices was expressed by 43.8% of males and 45% of the females. A lower percentage of responses by males and females was reported for the topic on religion. Similar percentages for males (40%) and females (38.8%) were noted when expressing the need for more information about family roles.

Table 32. The need for more information concerning home economics/family planning topics in Jamaica (percentage distribution)

Topic	<u>Male (n = 80)</u>		<u>Female (n=80)</u>	
	Yes	No	Yes	No
Family food practices	38.8	61.3	41.3	58.8
Child rearing practices	43.8	56.3	45.0	55.0
Religion	35.0	65.0	28.8	71.3
Family roles	40.0	60.0	38.8	61.3
Family planning	48.8	51.3	47.5	52.5
Family spending practices	37.5	62.5	41.3	58.8

Ghana

The sample size for Ghana was small, with only 18 couples participating in the study. Some of the test statistics applied to the data from El Salvador and Jamaica were not applicable to the data from this country. The reporting of findings will follow a similar format as used with the previous countries. The general characteristics reported in the first section include age, age at first marriage, education, religion, exposure to urban living, occupation, years living together, number of children born, number of children living together, and land ownership.

Characteristics of study population

Age Respondents ranged in age from 16 to 55 and over, with 36-45 being the modal age for males and 26-35 for females. As shown in Table 33, one-third of the males were less than 36 years of age as compared to two-thirds of the females.

Age at first marriage On the average, females married earlier than males. According to Table 33, 94.5% of the females and 50% of males married before the age of 25. Fifty percent of the females married before 19 as compared to about six percent of the males. Females in the sample were all married by age 27 and males by age 30.

Table 33. Personal characteristics of study population by sex in Ghana

Characteristic	Male (n=18)		Female (n=18)		Total (n=36)	
	Frequency	%	Frequency	%	Frequency	%
Age						
16-25	0	0	1	5.6	1	2.8
26-35	6	33.3	11	61.1	17	47.2
36-45	8	44.4	4	22.2	12	33.3
46-55	2	11.1	1	5.6	3	8.3
55 and over	2	11.1	1	5.6	3	8.3
Age at first marriage						
<16	0	0	1	5.6	1	2.8
16-18	1	5.6	8	44.4	9	25.0
19-21	2	11.1	5	27.8	7	19.4
22-24	6	33.3	3	16.7	9	25.0
25-27	4	22.2	1	5.6	5	13.9
28-30	5	27.8	0	0	5	13.9
30 and over	0	0	0	0	0	0
Education						
None	3	16.7	4	22.2	7	19.4
1-3	0	0	2	11.1	2	5.5
4-6	1	5.6	2	11.1	3	8.3
7-9	1	5.6	1	5.6	2	5.5
10-12	5	27.8	7	38.9	12	33.3
13-15	4	22.2	2	11.1	6	16.7
16 and over	4	22.2	0	0	4	11.1
Religion						
Anglican	0	0	0	0	0	0
Baptist	0	0	0	0	0	0
Catholic	3	16.7	3	16.7	6	16.7
Christian	11	61.1	10	55.6	21	58.3
Other	4	22.2	5	27.8	9	25.0
None	0	0	0	0	0	0
Exposure to urban living						
Yes	17	94.4	18	100	35	97.2
No	1	5.6	0	0	1	2.8

Education Over 19% of the respondents had not received any formal schooling. The modal number of years of schooling was in the 10-12 years category. Slightly over 72% of the males and 50% of the females had received more than 9 years of schooling.

Religion The respondents were predominately Christian (58.3%). Over 16% of the males and females were Catholic and 25% of other religious affiliations.

Exposure to urban living The majority of the respondents (97.2%) had lived in a large city or town. Only one male respondent had not been exposed to urban living.

Occupation All of the males and over 94% of the females were employed. Percentages of males in the occupational categories were as follows: 27.8% in a category including employers and civil servants in government, community, business and as accountants; 22.2% in a category including laborers, drivers, welders, and carpenters; 11.1% in health services; 11.1% in the military; 11.1% in day care; 11.1% in a category including teachers, extension workers, community development, social service, Ministry of Education and Ministry of Agriculture; and 5.6% in agriculture and farming. Slightly over 11% were in occupations not included in any of the categories.

Half of the females were employed as traders. Twenty-eight percent were equally distributed (5.6%) in the following

Table 34. Occupation of study population by sex (percentage distribution) in Ghana

Occupation	Male (n=18)	Female (n=18)
Agriculture, farming	5.6	0
Employers and civil servants in government, community, business and accountants	27.8	5.6
Health services	11.1	5.6
Teachers, extension workers, community development, social service, Ministry of Education, Ministry of Agriculture	11.1	5.6
Maid, housework, houseservant	0	5.6
Clerical, salesworker	0	0
Laborer, driver, welder, carpenter	22.2	0
Trader, trading	0	50.0
Military	11.1	0
Seamstress, textile worker, dressmaker	0	5.6
Day care	11.0	0
Factory worker, mechanic	0	0
Other	11.1	16.7
None	0	5.6

categories: employers and civil servants in government, community, business and accountants; health services; teachers, extension workers, community development, social service, Ministry of Education, and Ministry of Agriculture; maid, housework, houseservant; and seamstress, textile worker, dress-maker. Over 16% identified with other occupations.

Years living together Half of the couples had lived together less than 11 years. The modal years living together was in the 6-10 category.

Number of children born Table 35 indicates that slightly over 61% of the couples had 4 or less children. None of the couples had over 8 children. Females aged 36 and over had 5-8 children (see Table C3, Appendix C). According to Tables C9 and C10, Appendix C), males who married at 22-24 years and females at 16-18 years had 1-8 children. According to Tables C9 and C10 (Appendix C), there was an inverse relationship between the education of males and females and the number of children born to couples.

Number of children living at home Slightly over 61% of the couples had 1-2 children living at home. Only one couple had more than 6 children at home.

Land ownership The majority of couples did not own land. Only 16.7% of the couples owned the land that they lived on.

Table 35. Family characteristics of study population in Ghana

Characteristic	Frequency	Percentage
Years living together		
1-5	2	11.1
6-10	7	38.9
11-15	4	22.2
16-20	1	5.6
21-25	2	11.1
26 and over	2	11.1
Number of children born		
1-2	6	33.3
3-4	5	27.8
5-6	2	11.1
7-8	5	27.8
9-10	0	0
11 and over	0	0
Number of children living at home		
None	0	0
1-2	11	61.2
3-4	4	22.2
5-6	2	11.1
7-8	1	5.6
9-10	0	0.0
11 and over	0	0.0
Land ownership		
Yes	3	16.7
No	15	83.8

Mate communication

Male respondents often sat and talked with their mates. Only 5.6% indicated that they seldom or never talked things over with their mates. The majority of females often talked with their mates and only 11.1% reported seldom or never talking with mates. Both males and females agreed that it was hard to talk to mates, since slightly over 72% of the males and over 55% of the females often found it difficult to talk to mates. According to Table 36, 38.9% of the males and 44.4% of the females found it easier to talk to someone else rather than mates.

Absolute difference scores Scores were analyzed to determine the compatibility of couples as judged by their responses to the items. Nearly 78% of the couples had exact responses to item one, talking things over with mates. Nearly 67% of the couples reported exact responses to items 2, the difficulty in talking with mates, and item 3, the ease in talking with someone else rather than mates. For item 1, 94.5% of the couples had a difference score of 0-1, 88.9% for item 2, and 72.3 for item 3. Findings indicate compatibility in response patterns of couples (see Table 37).

Communication about home economics/family planning topics

Table 38 summarizes the percentages of males and females who communicate often and those who communicate less about selected topics. A very high percentage (94.4%) of the males

Table 36. Percentage distribution of mate communication in Ghana by sex

Item	Male (n=18)		Female (n=18)	
	Often, sometimes	Seldom, never	Often, sometimes	Seldom, never
1. Do you and your mate sit down and talk things over?	94.4	5.6	88.9	11.1
2. Is it hard for you to talk to your mate?	72.2	27.8	55.6	44.4
3. Is it easier for you to talk to someone else rather than your mate?	38.9	61.1	44.4	55.6

Table 37. Absolute difference scores of couple responses to mate communication in Ghana^a

Item	Difference score	Percentage
1. Do you and your mate sit down and talk things over?	0	77.8
	1	16.7
	2	5.6
2. Is it hard for you to talk to your mate?	0	66.7
	1	22.2
	2	11.1
3. Is it easier for you to talk to someone else rather than your mate?	0	66.7
	1	5.6
	2	5.6
	3	22.2

^an = 18 couples.

often talked about child rearing practices with their mates. Slightly over 83% of the females often discussed the topic with their mates. Whether male or female, 88.9% of the respondents often talked with their mates about family food practices. Consistent with other studies, fewer respondents discussed family planning than any other topic although nearly 62% of the males and slightly over 72% of the females often discussed family planning with mates. Other percentage distributions included: 77.8% of both males and females often

Table 38. Communication of mates about home economics/family planning topics in Ghana (percentage distribution)

Topic	Male (n=18)		Female (n=18)	
	Often, sometimes	Seldom, never	Often, sometimes	Seldom, never
Family food practices	88.9	11.1	88.9	11.1
Child rearing practices	94.4	5.6	83.3	16.7
Religious customs, beliefs, and influences	72.2	27.8	83.3	16.7
Family roles	66.7	33.3	83.3	16.7
Family planning	61.6	38.9	72.2	27.8
Family spending practices	77.8	22.2	77.8	22.2

discussing family spending practices; 72.2% of males and 83.3% of females often discussing religion; and 66.7% males and 83.3% females discussing family roles with their mates. Males and females differed more in the frequency of discussing family roles than for any other topic.

Absolute difference scores of couple responses As reported in Table 39, fewer couples (55.6%) reported exact responses relating to the frequency of discussing family planning with mates than for any other topic. Percentages for the remaining exact responses ranged from 66.7% to 88.9%. For items 1, talking about family food practices and item 6, discussing family spending practices, 100% of the couples had a difference score of 0 or 1. This suggests that couples strongly agree about the frequency with which they discuss selected topics with their mates.

Correlation between absolute difference scores The relationships between absolute couple difference scores on mate communication and topics talked about are reported in Table 40. Couples who tend to agree on whether they often talk to their mates tended to agree on the frequency of talking about family roles and family spending practices. Significant positive correlations existed between absolute difference scores of talking things over with mates and talking about family roles (.56), as well as with talking about family spending practices (.47). Findings also indicate that couples who were highly

Table 39. Absolute difference scores of couple responses to topics talked about in Ghana^a

Item	Difference score	Percentage
1. How often do you and your mate talk about family food practices?	0	88.9
	1	11.1
2. How often do you and your mate talk about child rearing?	0	83.3
	1	5.6
	2	11.1
3. How often do you and your mate talk about religious customs, beliefs, and influences?	0	72.2
	1	16.7
	2	5.6
	3	5.6
4. How often do you and your mate talk about family roles?	0	72.2
	1	11.1
	2	11.1
	3	5.6
5. How often do you and your mate talk about family planning?	0	55.6
	1	27.8
	2	5.6
	3	11.1
6. How often do you and your mate talk about family spending practices?	0	66.7
	1	33.3

^a_n = 18 couples.

Table 40. Correlations between absolute couple difference scores on mate communication and absolute couple difference scores on topics talked about in Ghana^a

	Topics talked about					
	Family food practices	Child rearing	Religion	Family roles	Family planning	Family spending
1. Do you and your mate sit down and talk things over?	-.19	-.24	-.33	.56**	.06	.47*
2. Is it hard for you to talk to your mate?	-.25	.0	-.44*	.35	.32	.0
3. Is it easier for you to talk to someone else rather than your mate?	-.25	.32	.09	.09	.08	-.25

^an = 18 couples.

* Significant at $p < 0.05$.

** Significant at $p < 0.01$.

compatible in their responses to the difficulty in talking with mates were less compatible in their responses on the frequency of discussing religion with mates. No relationships were found between the absolute difference scores of couples concerning the difficulty of talking with mates and scores relating to the frequency of discussing child rearing practices and family spending practices with mates.

Mate responses to communication variables Correlations

between female responses to mate communication and topics talked about and the responses of their mates to the same variables are reported in Table 41. Twenty-two significant correlations were found to exist between the responses of the mates. Two positive significant correlations were found between the responses on the mate communication scale. Comm-f2, the difficulty in talking to mates, and Comm-m2 were significant (.74) at the .001 level. As females responded that they found it not difficult to talk to mates, males tended to respond in the same manner. Comm-f1 was related to Comm-m1, talking with mates. Mates tended to agree that they often talked with each other.

A highly significant positive relationship (.94) was found between the responses of mates concerning the frequency of talking about family food practices with their mates on the same topic. Mates tended to agree in their responses concerning talking about family food practices. Significant positive

Table 41. Correlations between mate responses on the communication and topics talked about in Ghana^a

Item	Comm-m1 ^b	Comm-m2	Comm-m3	Talk-m1	Talk-m2	Talk-m3	Talk-m4	Talk-m5	Talk-m6
Comm-f1 ^c	.75***	.25	.02						
Comm-f2	-.14	.74***	-.09						
Comm-f3	-.16	-.22	.22						
Talk-f1				.94***	.71***	.41*	.34	.61**	.22
Talk-f2				.68***	.72***	.81***	.65**	.43*	.33
Talk-f3				.13	.43*	.64**	.49*	-.08	-.01
Talk-f4				.03	.00	.41*	.63**	.13	.61**
Talk-f5				.48*	.26	.12	.07	.37	.21
Talk-f6				.28	.12	.54**	.58**	.46*	.84***

Note: Comm 1-3 related to the frequency of talking with mates, difficulty of talking with mates, and ease in talking with others. Topics 1-6 related to food, child rearing, religion, roles, family planning, and spending practices.

^an = 18 couples.

^bComm-m, talk-m = responses of males.

^cComm-f, talk-f = responses of females.

* Significant at $p < 0.05$.

** Significant at $p < 0.01$.

*** Significant at $p < 0.001$.

correlations between .71 and .84 were found between Comm-f1, talking with mates and Comm-m1; between Comm-f2, the difficulty of talking with mates and Comm-m2; between Talk-f1, family food practices and Talk-m2, child rearing practices; between Talk-f2, child rearing practices and Talk-m2; between Talk-f2, child rearing practices and Talk-m3, religion; and between Talk-f6, family spending practices and Talk-m6. Findings suggest that the responses of females about the frequency with which they discussed family food practices were related to the responses of their mates about the frequency with which they talked about child rearing practices; the responses of females about the frequency with which they talked about child rearing practices were related to the responses of their mates about the frequency with which they talked about child rearing practices and religion; and the responses of females about the frequency with which they discussed family spending practices were related to the responses of their mates on the same topic. The more the females reported talked about one topic, the more the males tended to report discussing the topic that was significantly related to it.

Percentage distribution about mate communication and topics talked about Percentages are reported for male and female respondents who often sat and talked with mates and the degree to which they discussed selected topics. More than 94% of the males and nearly 89% of females often sat and talked

with their mates. Of that percentage, 88.9% often talked about child rearing practices. This was also the topics of which the highest percentage (83.3%) of females often talked about with their mates. Of the male and female respondents who often talked with their mates, lower percentages (61.2% and 66.7% respectively) were recorded for family planning as a topic often discussed by mates. Females reported the same percentages (77.8%) for child rearing practices, religion, and family roles as topics they often discussed with their mates (see Table 42).

Table 42. Percentage distribution between mate communication and topics talked about in Ghana

Topic	Male (n=18)	Female (n=18)
	Often	Often
Do you sit and talk with your mate?	94.4	88.9
Family food practices	83.3	83.3
Child rearing practices	88.9	77.8
Religion	66.7	77.8
Roles	66.7	77.8
Family planning	61.1	66.7
Family spending practices	72.2	72.2

Correlation between mate communication on topics and personal characteristics by sex Findings (Table 43) indicate two significant relationships between selected topics and personal characteristics of males. No significant relationships were found for females. The frequency with which males discuss family roles is positively related (.44) to age. Discussing family planning is significantly related to the education of males. Inverse relationships were noted for seven of twelve correlations between discussing selected topics and personal characteristics of females.

Table 43. Correlation between the frequency of mate communication on home economics/family planning topics and selected personal characteristics by sex in Ghana^a

Topics talked about	Age		Education	
	Male	Female	Male	Female
Family food practices	.05	-.03	.08	-.01
Child rearing	.05	.07	.07	-.27
Religion	-.06	-.20	.00	-.08
Family roles	.44*	-.05	.20	-.12
Family planning	-.31	.05	.41*	.25
Family spending practices	.13	.11	.32	.24

^a_n = 18 couples.

* Significant at $p < 0.05$.

Importance of topics All but two of the topics were considered to be very important for discussion by the majority of both males and females. Males (55.6%) and females (61.1%) considered religion as a somewhat important or not important topic to discuss with their mates. Males (55.6%) and females (61.1%) agreed that family planning was a somewhat or not important topic for mates to discuss.

Decision making behavior

A majority of the respondents reported the male as making the decision about the expenditure of resources. Males and females (Tables 44 and 45) identified the female as the person responsible for making decisions about the kind and amount of food for family members and the assignment of household duties. Respondents agreed that decisions relating to family planning, education of family members, child rearing, and health were joint decisions. Males and females (27.8%) reported no decision made about the spacing of pregnancies. Over thirty-three percent of the respondents indicated no decision made about contraceptive use. Both mates made decisions concerning the kind of information on human reproduction given to children, but males (44.4%) and females (38.9%) reported no decision made about the kind of family planning information given to children (see Tables 46 and 47).

Table 44. Importance of discussing home economics/family planning topics in Ghana as reported by males^a (percentage distribution)

Topic	Very important	Somewhat important	Not important
Family food practices	72.3	27.8	0
Child rearing practices	72.2	22.2	5.6
Religion	44.4	50.0	5.6
Family roles	66.7	22.2	11.1
Family planning	44.4	50.0	5.6
Family spending practices	61.1	33.3	5.6

^a_n = 18.

Table 45. Importance of discussing home economics/family planning topics in Ghana as reported by females^a (percentage distribution)

Topic	Very important	Somewhat important	Not important
Family food practices	72.2	27.8	0
Child rearing practices	77.8	22.2	0
Religion	38.9	50.0	11.1
Family roles	55.6	33.3	11.1
Family planning	38.9	50.0	11.1
Family spending	61.1	33.3	5.6

^a_n = 18.

Table 46. Percentage distribution of decision making in village families by males in Ghana^a

Decision	Male	Female	Both	Other ^b	No decision made
Kind of food for family members	5.6	55.6	33.3	5.6	0
Amount of food for family members	16.3	38.9	33.3	5.6	5.6
Expenditure of resources	55.6	0	38.9	5.6	0
Family size	27.8	5.6	55.6	0	11.1
Spacing of pregnancies	22.2	11.1	38.9	0	27.8
Contraceptive use	22.2	5.6	38.9	0	33.3
Education of family members	16.7	16.7	66.7	0	0
Assignment of household duties	22.2	50.0	22.2	5.6	0
Child rearing practices	11.1	11.1	72.2	0	5.6
Ways to meet health care needs of family members	16.7	22.2	61.1	0	0
Kind of information on human reproduction given to children	11.1	22.2	33.3	0	33.3
Kind of family planning information given to children	5.6	11.1	38.9	0	44.4

^a_n = 18.

^b Decisions made by other members of the family, maids, doctors, etc.

Table 47. Percentage distribution of decision making in village families as reported by females in Ghana^a

Decision	Male	Female	Both	Other ^b	No decision made
Kind of food for family members	5.6	55.6	33.3	5.6	0
Amount of food for family members	16.7	55.6	22.2	5.6	0
Expenditure of resources	55.6	0	38.9	5.6	0
Family size	27.8	0	55.6	0	16.7
Spacing of pregnancies	22.2	0	50.0	0	27.8
Contraceptive use	16.7	0	50.0	0	33.3
Education of family members	22.2	5.6	72.2	0	0
Assignment of household duties	5.6	77.8	16.7	0	0
Child rearing practices	5.6	16.7	72.2	0	5.6
Ways to meet health care needs of family members	11.1	5.6	83.3	0	0
Kind of information on human reproduction given to children	5.6	27.8	50.0	0	16.7
Kind of family planning information given to children	11.1	16.7	33.3	0	38.9

^an = 18.

^bDecisions made by other members of the family, maids, doctors, etc.

Need for home economics/family planning information

As shown in Table 40, half of the male sample and 44.4% of the female sample expressed a need for more information on family spending practices. Nearly thirty-nine percent (38.9) of the males need more information on family planning as compared with 61.6% of females. The topic receiving the lowest demand for information was religion.

Table 48. The need for more information concerning home economics/family planning topics in Ghana

Topic	<u>Male (n=18)</u>		<u>Female (n=18)</u>	
	Yes	No	Yes	No
Family food practices	16.7	83.3	27.8	72.2
Child rearing practices	27.8	72.2	33.3	66.7
Religion	11.1	88.9	27.8	72.2
Family roles	33.3	66.7	38.9	61.1
Family planning	38.9	61.6	61.1	38.9
Family spending practices	50.0	50.0	44.4	55.6

The Philippines

The sample size for the Philippines was small, with 16 couples participating in the study. Some of the test statistics applied to the data from El Salvador and Jamaica were not applicable to the data from this country. The reporting of findings will follow a similar format as used with the previous countries. The general characteristics reported in the first section include age, age at first marriage, education, religion, exposure to urban living, occupation, years living together, number of children born, number of children living together, and land ownership.

Characteristics of study population

Age Respondents ranged in age from 26 to 55 years old, with 36-45 being the modal age of males and 26-35 for females. Only one respondent was included in the 46-55 year category (see Table 49).

Age at first marriage According to Table 49, 68.9% of the females and 62.6% of males married before the age of 25. The modal age at marriage for the respondents was in the 22-24 year category. Females in the sample were all married by age 27.

Education The modal number of years of schooling was in the 4-6 years category, even though the majority of the males and females received more than 9 years of schooling.

Table 49. Personal characteristics of study population by sex in the Philippines

Characteristic	Male (n=16)		Female (n=16)		Total (n=32)	
	Frequency	%	Frequency	%	Frequency	%
Age						
16-25	0	0	0	0	0	0
26-35	7	43.8	10	62.5	17	53.1
36-45	8	50	6	37.5	14	43.7
46-55	1	6.3	0	0	1	3.1
55 and over	0	0	0	0	0	0
Age at first marriage						
<16	0	0	1	6.3	1	3.1
16-18	2	12.5	1	6.3	3	9.4
19-21	1	6.3	4	25.0	5	15.3
22-24	7	43.8	5	31.3	12	37.5
25-27	3	18.8	5	31.3	8	25.0
28-30	1	6.3	0	0	1	3.1
30 and over	2	12.5	0	0	2	6.2
Education						
None	1	6.3	0	0	1	3.1
1-3	1	6.3	0	0	1	3.1
4-6	5	31.3	5	31.3	1	3.1
7-9	2	12.5	1	6.3	3	9.4
10-12	3	18.8	5	31.3	8	25.0
13-15	3	18.8	5	31.3	8	25.0
16 and over	1	6.3	0	0	1	3.1
Religion						
Anglican	0	0	0	0	0	0
Baptist	0	0	0	0	0	0
Catholic	13	81.3	14	87.5	27	84.4
Christian	1	6.3	1	6.3	2	6.2
Other	1	6.3	1	6.3	2	6.2
None	1	6.3	0	0	1	3.1
Exposure to urban living						
Yes	7	43.8	9	56.3	16	50
No	9	56.3	7	43.8	16	50

Religion The respondents were predominately Catholic. Twenty-seven of the thirty-two respondents were Catholics. One male failed to identify any religious affiliation.

Exposure to urban living Nearly 44% of the males and slightly over 56% of the females had lived in a large city or town.

Occupation All of the males and 62.5% of the females were employed. Percentages of males in the occupational categories were as follows: 18.8% in a category including employers and civil servants in government, community, business and as accountants; 31.3% in a category including laborers, drivers, welders, and carpenters; and 6.3% in a category including teachers, extension workers, community development, social service, Ministry of Education, and Ministry of Agriculture. Slightly over 31% were in occupations not included in any of the categories.

Nearly 19% of the females were employed in a category including seamstress, textile worker, dressmaker. Over 31% were equally distributed (6.3% each) in the following categories: trader, trading; laborer, driver, welder, carpenter; teachers, extension workers, community development, social service, Ministry of Education, and Ministry of Agriculture; maid, housework, houseservant; and clerical, salesworker. Over 12% identified with other occupations (see Table 50).

Table 50. Occupation of study population by sex (percentage distribution) in the Philippines

Occupation	Male (n=16)	Female (n=16)
Agriculture, farming	0	0
Employers and civil servants in government, community, business and accountants	18.8	0
Health services	0	0
Teachers, extension workers, community development, social service, Ministry of Education, Ministry of Agriculture	6.3	6.3
Maid, housework, houseservant	0	6.3
Clerical, salesworker	0	6.3
Laborer, driver, welder, carpenter	31.3	6.3
Trader, trading	6.3	6.3
Military	0	0
Seamstress, textile worker, dressmaker	0	18.8
Day care	0	0
Factory worker, mechanic	6.3	0
Other	31.3	12.5
None	0	37.5

Years living together The majority of the couples had lived together less than 11 years. The modal years living together was in the 6-10 years category. None of the couples reported living together more than 20 years.

Number of children born Table 51 indicates that nearly 69% of the couples had 4 or less children. None of the couples had over 8 children. Females 36-45 had more than 6 children (see Table C4, Appendix C). As shown in Tables C11 and C12 (Appendix C) males who married between 22-24 years of age and females between 25-27 years of age had more children than those married at other ages. As shown in Tables C11 and C12 (Appendix C), the percentage of children born to respondents tended to decrease as the educational status increased.

Number of children living at home At the time of the interview, half of the couples had 1-2 children living at home. Only one couple had 7-8 children living at home.

Land ownership The majority of couples did not own land. Slightly over 56% of the couples did not own the land they lived on.

Mate communication

Male respondents often sat and talked with their mates. Only 6.3% indicated that they seldom or never talked things over with their mates. The majority of females often talked with their mates and only 18.8% reported seldom or never talking with mates. Both males and females agreed that it was not

Table 51. Family characteristics of study population in the Philippines^a

Characteristic	Frequency	Percentage
Years living together		
1-5	0	0
6-10	9	56.3
11-15	5	31.3
16-20	2	12.5
21-25	0	0
26 and over	0	0
Number of children born		
1-2	7	43.8
3-4	4	25.0
5-6	3	18.8
7-8	2	12.5
9-10	0	0
11 and over	0	0
Number of children living at home		
None	0	0
1-2	8	50
3-4	5	31.3
5-6	2	12.5
7-8	1	6.3
9-10	0	0
11 and over	0	0
Land ownership		
Yes	7	43.8
No	9	56.3

^a_n = 16 couples.

hard to talk to mates, since 75% of the males and nearly 69% of the females seldom or never found it difficult to talk to mates. According to Table 52, only 37.5% of the males found it easier to talk to someone else rather than their mates as compared to over half of the females.

Absolute difference scores Scores were analyzed to determine the compatibility of couples as judged by their responses to the items. Three-fourths of the couples had exact responses to item one, talking things over with mates; to item 2, the difficulty in talking with mates; and to item 3, the ease in talking with someone else rather than mates. Findings indicate compatibility in response patterns of couples (see Table 53).

Communication about home economics/family planning topics

Table 54 summarizes the percentages of males and females who communicate often and those who communicate less about selected topics. Males and females reported exact responses to each of the items. Whether male or female, 87.5% often talked about family food practices and family spending practices with their mates. Seventy-five percent of the respondents often talked with their mates about child rearing practices. Fewer respondents discussed religion than any other topic although slightly over 56% often talked about it with their mates. Nearly 69% of the respondents often discussed family roles. Over 62% reported family planning as a topic

Table 52. Percentage distribution of mate communication in the Philippines by sex

Item	Male (n=16)		Female (n=16)	
	Often, sometimes	Seldom, never	Often, sometimes	Seldom, never
1. Do you and your mate sit down and talk things over?	93.8	6.3	81.3	18.8
2. Is it hard for you to talk to your mate?	25.0	75.0	31.3	68.8
3. Is it easier for you to talk to someone else rather than your mate?	37.5	62.5	56.3	43.8

Table 53. Absolute difference scores of couple responses to mate communication in the Philippines^a

Item	Difference score	Percentage
1. Do you and your mate sit down and talk things over?	0	75.0
	1	25.0
2. Is it hard for you to talk to your mate?	0	75.0
	1	18.8
	3	6.3
3. Is it easier for you to talk to someone else rather than your mate?	0	75.0
	1	12.5
	2	6.3
	3	6.3

^a_n = 16 couples.

often discussed by mates.

Absolute difference scores of couple responses As reported in Table 55, fewer couples (56.3%) reported exact responses relating to the frequency of discussing religion with mates than for any other topic. Percentages for the remaining exact responses ranged from 62.5% to 87.5%. This suggests that couples strongly agree about the frequency with which they discussed selected topics with their mates.

Table 54. Communication of mates about home economics/family planning topics in the Philippines (percentage distribution)

Topic	Male (n=16)		Female (n=16)	
	Often, sometimes	Seldom, never	Often, sometimes	Seldom, never
Family food practices	87.5	12.5	87.5	12.5
Child rearing practices	75.0	25.0	75.0	25.0
Religious customs, beliefs, and influences	56.3	43.8	56.3	43.8
Family roles	68.8	31.3	68.8	31.3
Family planning	62.5	37.5	62.5	37.5
Family spending practices	87.5	12.5	87.5	12.5

Table 55. Absolute difference scores of couple responses to topics talked about in the Philippines^a

Item	Difference score	Percentage
1. How often do you and your mate talk about family food practices?	0	87.5
	1	12.5
2. How often do you and your mate talk about child rearing?	0	75.0
	1	18.8
	2	6.3
3. How often do you and your mate talk about religious customs, beliefs, and influences?	0	56.3
	1	31.3
	2	6.3
	3	6.3
4. How often do you and your mate talk about family roles?	0	62.5
	1	6.3
	2	25.0
	3	6.3
5. How often do you and your mate talk about family planning?	0	75.0
	1	25.0
6. How often do you and your mate talk about family spending practices?	0	68.8
	1	31.3

^an = 16 couples.

Correlation between absolute difference scores The relationships between absolute couple difference scores on mate communication and topics talked about are reported in Table 56. Couples who tend to agree on whether they often talk to their mates tended to agree on the frequency of talking about child rearing practices, religion, family roles, and family spending practices. Significant positive correlations existed between absolute difference scores of talking things over with mates and talking about child rearing practices (.67), talking about religion (.65), talking about family roles (.45), as well as with talking about family spending practices (.54). Findings also indicate that couples who were highly compatible in their responses to the difficulty in talking with mates were less compatible in their responses on the frequency of discussing family food practices with mates. No significant relationships were found between the absolute difference scores relating to the difficulty of talking with mates and scores relating to the topics talked about, nor between scores relating to the ease in talking with others and topics talked about. No relationships were found between absolute difference scores relating to the difficulty in talking with mates and family planning, nor between scores related to the ease in talking with other and family planning.

Mate responses to communication variables Correlations between female responses to mate communication and topics

Table 56. Correlations between absolute couple difference scores on mate communication and absolute couple difference scores on topics talked about in the Philippines^a

	Topics talked about					
	Family food practices	Child rearing	Religion	Family roles	Family planning	Family spending
1. Do you and your mate sit down and talk things over?	.22	.67**	.65**	.45*	.33	.54*
2. Is it hard for you to talk to your mate?	-.22	.33	.36	.15	.0	.23
3. Is it easier for you to talk to someone else rather than your mate?	-.22	.33	.07	-.15	.0	-.08

^an = 16 couples.

* Significant at $p < 0.05$.

** Significant at $p < 0.01$.

talked about and the responses of their mates to the same variables are reported in Table 57. Thirteen significant correlations were found between the responses of the mates. Three positive significant correlations were found between the responses on the mate communication scale. Mates agreed whether they often talked with each other (.78), whether it was not hard to talk with mates (.61), and whether it was not easy to talk with some one else rather than mates (.69).

A highly significant positive relationship (.92) was found between the responses of females concerning the frequency of talking about family planning and the responses of their mates about the same topic. Significant positive correlations between .68 and .87 were found between Talk-f1, family food practices and Talk-m1; between Talk-f2, child rearing practices and Talk-m2; and between Talk-f6, family spending practices and Talk m6. Findings suggest that the responses of females about the frequency with which they discussed selected topics were related to the responses of their mates about the same topics. Other positive relationships were found between Talk-f1, family food practices and Talk-m6, family spending practices; between Talk-f2, child rearing practices and Talk-m1, family food practices and Talk-m4, family roles; between Talk-f4, family roles and Talk-m2, child rearing practices; between Talk-f5, family planning and Talk-m6, family spending practices; and between Talk-f6, family spending practices and Talk-m1, family

Table 57. Correlations between mate responses on the communication and topics talked about scales in the Philippines^a

Item	Comm-m1 ^b	Comm-m2	Comm-m3	Talk-m1	Talk-m2	Talk-m3	Talk-m4	Talk-m5	Talk-m6
Comm-f1 ^c	.78***	.0	.32						
Comm-f2	.02	.61**	.14						
Comm-f3	.18	.26	.69**						
Talk-f1				.87***	.19	-.13	.30	.17	.61**
Talk-f2				.67**	.71***	.22	.54*	-.08	.19
Talk-f3				.03	.0	.41	.05	.35	.12
Talk-f4				.25	.44*	.02	.22	.19	.25
Talk-f5				.04	-.18	.01	.13	.92***	.53*
Talk-f6				.56**	-.09	-.09	-.09	.25	.68**

Note: Comm 1-3 related to the frequency of talking with mates, difficulty of talking with mates, and ease in talking with others. Topics 1-6 related to food, child rearing, religion, roles, family planning, and spending practices.

^an = 16 couples.

^bComm-m, talk-m = responses of males.

^cComm-f, talk-f = responses of females.

* Significant at $p < 0.05$.

** Significant at $p < 0.01$.

*** Significant at $p < 0.001$.

food practices.

Percentage distribution about mate communication and topics talked about Percentages are reported for male and female respondents who often sat and talked with mates and the degree to which they discussed selected topics. Nearly 94% of the males and slightly over 81% of females often sat and talked with their mates. Of that percentage, 81.3% often talked about family food practices and child rearing practices. These were also the topics of which the highest percentage (75%) of females often talked about with their mates. Over 62% of the males often talked about family roles and family planning with their mates. Slightly over 56% of the females talked about family roles while nearly 69% often discussed family planning with their mates. Of the male and female respondents who often talked with their mates, lower percentages (56.3% and 43.8% respectively) were recorded for religion as a topic often discussed by mates (see Table 58).

Correlation between mate communication on topics and personal characteristics by sex Findings (Table 59) indicate one significant inverse relationship between selected topics and personal characteristics of males. No significant relationships were found for females. The frequency with which males discuss family roles was inversely related (-.43) to age. Younger males tend to talk more about religion with their mates. Discussing religion was significantly related to the

Table 58. Percentage distributions between mate communication and topics talked about in the Philippines

	Male (n=16)	Female (n=16)
	Often	Often
Do you sit and talk with your mate?	93.8	81.3
Family food practices	81.3	75.0
Child rearing practices	68.8	62.5
Religion	56.3	43.8
Family roles	62.5	56.3
Family planning	62.5	68.8
Family spending practices	81.3	75.0

Table 59. Correlation between the frequency of mate communication on home economics/family planning topics and selected personal characteristics by sex in the Philippines

Topics talked about	Age		Education	
	Male (n=16)	Female (n=16)	Male (n=16)	Female (n=16)
Family food practices	-.28	.09	.38	.27
Child rearing	-.05	.14	.39	.33
Religion	-.43*	.15	.59**	.31
Family roles	.10	.09	.27	.48*
Family planning	-.12	.19	.25	.05
Family spending practices	.09	.07	.10	.30

* Significant at $p < 0.05$.

** Significant at $p < 0.01$.

education of males. The frequency of talking about family roles was significantly related (.48) to the education of females. A nonsignificant negative relationship was found between the frequency of discussing family planning and the age of males.

Importance of topics Males (62.5%) and females (68.8%) considered religion as a somewhat important or not important topic to discuss with their mates. Half of the males and nearly 44% of the females considered family roles to be somewhat important or not important for mates to discuss. Family planning was considered by males (75%) and females (68.8%) to be a very important topic for mates to discuss (see Tables 60 and 61).

Decision-making behavior

Males and females (Tables 62 and 63) identified the female as the person making decisions about the kind and amount of food for family members and the assignment of household duties. Respondents agreed that decisions relating to family size, contraceptive use, education of family members, child rearing, and health were joint decisions. Over 62% of the females indicated that both mates made decisions about spacing of pregnancies. Only 43.8% of the males reported it to be a joint decision. One-fourth of the males and slightly over 31% of the females reported males as making decisions

Table 60. Importance of discussing home economics/family planning topics in the Philippines as reported by males^a (percentage distribution)

Topic	Very important	Somewhat important	Not important
Family food practices	68.8	25.0	6.3
Child rearing practices	68.8	12.5	18.8
Religion	37.5	37.5	25.0
Family roles	50.0	25.0	25.0
Family planning	75.0	0	25.0
Family spending practices	75.0	6.3	18.8

^a_n = 16.

Table 61. Importance of discussing home economics/family planning topics in the Philippines as reported by females^a (percentage distribution)

Topic	Very important	Somewhat important	Not important
Family food practices	68.8	25.0	6.3
Child rearing practices	62.5	31.3	6.3
Religion	31.3	50.0	18.8
Family roles	56.3	25.0	18.8
Family planning	62.5	18.8	18.8
Family spending practices	68.8	18.8	12.5

^a_n = 16.

Table 62. Percentage distribution of decision making in village families as reported by males in the Philippines^a

Decision	Male	Female	Both	Other ^b	No decision made
Kind of food for family members	6.3	75.0	18.8	0	0
Amount of food for family members	0	68.8	25.0	0	6.3
Expenditure of resources	18.8	31.3	50.0	0	0
Family size	18.8	6.3	75.0	0	0
Spacing of pregnancies	31.3	25.0	43.8	0	0
Contraceptive use	12.5	25.0	50.0	0	12.5
Education of family members	25.0	6.3	62.5	6.3	0
Assignment of household duties	6.3	62.5	31.3	0	0
Child rearing practices	6.3	43.8	50.0	0	0
Ways to meet health care needs of family members	6.3	43.8	50.0	0	0
Kind of information on human reproduction given to children	6.3	25.0	43.8	18.8	6.3
Kind of family planning information given to children		6.3	43.8	31.3	18.8

^a_n = 16.

^b Decisions made by other members of the family, maids, doctors, etc.

Table 63. Percentage distribution of decision making in village families as reported by females in the Philippines^a

Decision	Male	Female	Both	Other ^b	No decision made
Kind of food for family members	0	81.3	18.8	0	0
Amount of food for family members	0	81.3	12.5	0	6.3
Expenditure of resources	18.8	37.5	43.8	0	0
Family size	18.8	0	81.3	0	0
Spacing of pregnancies	25.0	12.5	62.5	0	0
Contraceptive use	12.5	25.0	56.0	0	12.5
Education of family members	12.5	6.3	75.0	6.3	0
Assignment of household duties	6.3	50	43.8	0	0
Child rearing practices	6.3	43.8	50.0	0	0
Ways to meet health care needs of family members	6.3	43.8	50.0	0	0
Kind of information on human reproduction given to children	12.5	25.0	43.8	18.8	0
Kind of family planning information given to children	0	18.8	25.0	25.0	31.3

^a_n = 16.

^b Decisions made by other members of the family, maids, doctors, etc.

about spacing pregnancies. Only 12.5% of the respondents reported no decision made about contraceptive use. Less than half of the respondents indicated that the decision about the kind of information on human reproduction given to children was made by both mates. Over 18% indicated that the decision about the kind of information on human reproduction given to children was made by some other individual. Over 18% males and slightly over 31% of females reported no decision made about the kind of family planning information given to children (see Tables 62 and 63). Less than half of the males and 25% of females reported the decision to be a joint decision. According to the tables, males (31.3%) and females (25%) agreed that some other individual made the decision about the kind of family planning information given to children.

Need for home economics/family planning information

As shown in Table 64, the majority of males expressed a need for more information on all topics except religion. The topics receiving the lowest demand for information by females were religion and family spending practices. Slightly over 56% of males and 50% of females expressed the need for more information about family planning.

Table 64. The need for more information concerning home economics/family planning topics

Topic	Male (n=80)		Female	
	Yes	No	Yes	No
Family food practices	56.3	43.8	50.0	50.0
Child rearing practices	68.8	31.3	56.3	43.8
Religion	37.5	62.5	37.5	62.5
Family roles	62.5	37.5	56.3	43.0
Family planning	56.3	43.8	50.0	50.0
Family spending practices	50.0	50.0	43.8	56.3

Discussion

The findings of this study were reported in five sections: a) general characteristics of the study population; b) mate communication; c) communication about home economics/family planning topics; d) decision-making behavior; and e) need for home economics/family planning information.

A study of the personal and family characteristics of the respondents indicated that a majority of the males and females from each country were less than 36 years of age. The number of children born to the couples ranged from 1 to 11 and over, however a majority of the couples reported having less than five children. Few couples had more than 5 children living at home.

Findings in this study imply that a target population for home economics/family planning materials exists among young couples including those with smaller family sizes. Many of the couples, because of young ages, have not fully realized their potential family size; thus information focusing on the need to plan families as well as on the available and alternative means of doing so could most usefully be directed at such groups.

Females married earlier than males. Age at marriage tended to be negatively related to the number of children born to the respondents from El Salvador, Jamaica, and Ghana. The influence of age at marriage on fertility was discussed by Smith and Zopf, Jr. (1970).

A number of the couples had lived together less than 11 years. Except for Ghana, nearly half of the respondents had lived in rural areas for a life time. Nearly all males were employed and more females from Jamaica were unemployed than the females from the other three countries in the study.

Males and females reported in varied percentages that they communicated verbally with their mates. Couples tended to discuss family planning, as well as religion, less than any of the other home economics/family planning topics. Seethalakshmi (1969), Subba Rao (1968), and Mukherjee (1975) studied husband-wife communication and found an absence of interspouse communication in matters relating to family planning. Such findings have implications for developing

materials about planning families and finding ways of encouraging couples to discuss the information.

Agreement by mates influences the adoption of family planning practices. Carlaw, Reynolds, Green, and Khan (1971) attempted to identify patterns of spousal agreement or correlations among questions on which mates independently expressed agreement or disagreement. In the present study, Pearson correlation was used to determine the relationship between female responses to items on mate communication and topics talked about and the responses of their mates to the same items. A majority of the females, from each of the four participating countries in the study, agreed with the responses of their mates to each of the three selected items on mate communication and the topics talked about.

Nevertheless, findings showed nonsignificant relationships between the responses of females and the responses of their mates about the frequency with which they talked with each other in El Salvador; about whether they found it easier to talk to others rather than their mates and the frequency of discussing family planning in Ghana; and about the frequency of discussing religion and family roles with mates in the Philippines. Continuous opportunities for spouses to discuss information related to the topics described above can be provided through careful planning of program materials. A majority of the couples reported exact responses to items

concerning mate communication and topics talked about. Absolute couple difference scores suggest compatibility of couples as judged by responses to the items.

Cross tabulations revealed an inverse relationship between educational status of a majority of the respondents and the percentages of children born to couples. This is consistent with Mitchell (1972). In El Salvador and Jamaica, a significant negative correlation was found between the frequency of discussing family planning and the age of females, as well as for males in El Salvador.

A number of respondents found it easier to talk to others rather than their mates and identified "other" as having made some of the decisions about family planning and the kind of human reproduction and family planning information given to children. Further information is needed in this area because this group may consist of opinion leaders, health personnel, and program innovators who may influence mass communication about home economics/family planning program materials.

In general, males were active in family decision-making, and thus any program materials should not ignore males. The finding that males and females reported males as being a part of joint decision-making about family matters and making decisions about the expenditure of resources tends support to to this view.

Respondents expressed a need for more information about selected topics. A smaller percentage of respondents expressed a need for more information about religion. These findings are important to program planners as they attempt to integrate home economics and family planning substantive content for use at the micro level in developing countries.

SUMMARY AND CONCLUSIONS

Efforts in the past decade to improve the quality of rural life in developing countries have resulted in an increased emphasis on developing home economics/family planning program materials for out-of-school audiences of childbearing ages. The expressed need for more information about population pressures and their influence on social, psychological, and economic wellbeing of family members, as well as the socio-cultural differences of potential audiences will assist in determining the involvement of home economics in developing materials.

The American Home Economics Association (AHEA), supported by a grant from the U.S. Agency for International Development (AID), has been actively involved in establishing population education and family planning substantive content as an integrated part of nonformal home economics programs in developing countries. This study was carried out as part of the International Family Planning Project conducted at Iowa State University in cooperation with AHEA.

The purpose of this study was to obtain information about learners at the micro level that could serve as a basis for the development of home economics/family planning program materials for use in developing countries. The objectives of the study were to identify selected demographic characteristics of

village families that have implications for developing program materials needed at the micro level; to investigate the possibility of a relationship between current status of family planning behavior and couple communication, decision making patterns, and topics talked about; and to make recommendations for developing home economics/family planning program materials to be used with village families in developing countries.

Of the 236 couples invited to participate in the study, 216 returned the questionnaire. Thirteen couples returned instruments that contained incomplete data. As a result, data from 203 couples from 4 developing countries were used in the analysis. The sample included 89 couples from El Salvador, 80 couples from Jamaica, 18 couples from Ghana, and 16 couples from the Philippines. Subjects were married or cohabiting, living together at the time of the interview, parents of at least one child, and females within the child-bearing years.

A structured interview was used to collect the data in the present study. The questionnaire contained four parts: personal characteristics, mate communication, decision-making, and topics you talk about. The items in the personal characteristics part were designed to obtain background information about the general characteristics of the respondents. An existing instrument was adapted and modified to determine communication patterns between mates. In order to ascertain information on the decision-making patterns of village couples,

a 12 item section dealing with who makes decision was developed. A three-column scale was developed to obtain information about the content and level of mate communication about selected home economics/family planning topics, the importance of discussing the topics, and the expressed need for additional information on each of the topics.

Data were collected during winter and spring quarters, 1977. Instruments were taken to village workers in Jamaica by the researcher and to El Salvador by another home economist from Iowa. Trainer level home economics/family program materials were field tested in the two countries. Instruments were sent to home economists in Ghana and the Philippines who were participants in the AHEA International Family Planning Project. Interviews were conducted by village workers who were participating in the project described above.

A descriptive analysis of the general characteristics of village couples indicated similarities and differences on many of the characteristics. A majority of the males and females in the samples from each country were less than 36 years of age. Because of the young ages of the respondents, couples were considered in their active childbearing years. The number of children born to couples ranged from 1 to more than 11, with a majority of couples from each of the countries having less than five children.

Generally, females married younger than males. A small percentage of females from each of the countries married as early as 15 or younger. By the age of 21, over 59% of the respondents from El Salvador had married, nearly 49% from Jamaica, 47% from Ghana, and nearly 28% from the Philippines.

The predominant religion in El Salvador (86%) and the Philippines (84.4%) was Catholic. Respondents from Jamaica reported "other" more than any religion as well as 21.3% Anglican. Slightly over 58% of the respondents from Ghana identified "Christian" rather than a specific religion.

Data indicated that the number of years of formal education varied widely from country to country. In El Salvador, over 80% of the respondents had received less than 6 years of schooling, with 20% of that total receiving no formal education. In Jamaica, less than one-fifth of the respondents had received less than 7 years of schooling. The modal number year of schooling was in the 7-9 years category. Less than half of the males from Ghana and a smaller percentage of females had received only 6 years or less of formal schooling. Over 60% of the respondents had more than 10 years of education. Slightly over 31% of the respondents from the Philippines had received less than 7 years of schooling. Over half of the respondents had more than 10 years of schooling.

In Ghana, nearly 3% had lived in rural areas only. Nearly half of the males and females in each country had lived in rural areas for a life time. Frequently identified occupations were

included in the categories of agriculture, farming, employers, civil servant, and accountants; maids and houseservants; laborers; drivers, welders, carpenters; factory workers or mechanics. A low percentage of the males reported being unemployed. More females were unemployed in Jamaica (41.2%) than in any of the other three countries.

Data from three of the items on the communication scale were reported in the study. Respondents were asked: "Do you and your mate sit down and talk things over?" "Is it hard for you to talk to your mate?" "Is it easier for you to talk to someone else rather than your mate?" Mates from El Salvador often talked with each other (85%). Over 41% of the males and slightly over 46% of the females reported it difficult to talk with mates. Over 68% of the males and nearly 53% of the females found it easier to talk to someone else rather than their mates. Mates from Jamaica (94.4%) often talked with each other. In Ghana, males (72.2%) and females (55.6%) found it difficult to talk with mates. Males from the Philippines (93.8%) often talked with mates, although females found it easier to talk to someone else rather than mates.

Absolute difference scores provided measures of compatibility of couples as judged by their responses to items about mate communication and communication about selected home economics/family planning topics. The majority of couples from each country reported exact responses to each item included in

the two scales. Over half of the absolute couple difference scores for each item were 0 or 1.

The frequency with which mates discussed family food practices, child rearing practices, religion, family roles, family planning and family spending practices was similar for the samples in each of the countries. Excluding religion, couples tended to discuss family planning less than any of the selected topics. Nearly 42% of the male respondents from El Salvador seldom or never discussed family planning as compared to 26% from Jamaica, 38% from Ghana and more than 37% from the Philippines. Similar percentages were noted for female respondents. Both males and females included in the study (81.3 to 88.9%) often discussed family food practices. The males and females from Jamaica (86.3%) and the Philippines (87.5%) often talked about family spending.

Absolute couple difference scores were correlated between responses to mate communication and responses to communication about home economics/family planning topics. Difference scores for topics talked about were collapsed into a dichotomy to correct positively skewed responses. In El Salvador, significant relationships were found between absolute couple difference scores related to sitting and talking with mates and scores related to talking about family food practices, religion and family roles; between talking with mates and the topic on child rearing in Jamaica; between talking with mates and the

topics about child rearing practices, religion, family roles, and family spending practices in the Philippines; and between talking with mates and family roles as well as family spending practices in Ghana. A majority of the females and their mates agreed to the frequency with which they talked with each other, whether they found it difficult or not difficult to talk to each other, and whether they found it easier to talk with others rather than their mates. A nonsignificant relationship was found between the responses of females and the responses of their mates about the frequency with which they talked with each other in El Salvador. Excluding the mates from Ghana who did not agree on the frequency with which they discussed family planning and from the Philippines about religion and family roles, the other mates agreed with their responses concerning the frequency with which they discussed the selected home economics/family planning topics.

The X^2 test was used to analyze cross tabulations between the frequency of talking with mates and the frequency of discussing selected topics. For females from El Salvador, significant chi-squares were found between the frequency of talking with mates and the frequency of talking about family food practices and religion.

In Jamaica, significant relationships were found between the frequency of talking with mates and the frequency of talking about family food practices and child rearing practices as

reported by males. The ease with which males talked with others rather than with mates was significantly related to the frequency of discussing religion. Significant chi-squares were reported between the frequency with which females talked with mates and the frequency with which they talked about religion; between the frequency with which they found it difficult to talk to mates and the frequency of talking about religion and family planning; and the ease of talking with others rather than mates and the frequency of discussing religion and family planning.

Male respondents from Ghana who often talked with mates (83.3%), talked about family food practices and child rearing practices (88.9%). A lesser percentage often talked about family planning. Similar percentages of females indicated frequency in discussing the same topics. In the Philippines, respondents who often talked with spouses often talked about food practices and family spending. Lower percentages were recorded for the topics of family planning and family spending practices.

A number of significant correlations were found between the frequency of discussing selected topics and age and education by sex. Significant correlations for males in El Salvador were found between discussing family planning and age (inverse relationship); between family planning and education; and between family spending practices and education. A significant

inverse relationship was found between the discussion of family planning and the age of females. In Jamaica, positive correlations were found between the age of males and the discussion of religion; between the education of males and the discussion of child rearing practices; and between the education of females and discussion child rearing practices. A significant negative correlation between the age of females and discussing family planning was found.

The age of males in Ghana was positively related to the frequency of discussing family roles, whereas the education of males was significantly related to discussing family planning. The age of males in the Philippines was significantly related (inversely) to the frequency of discussing religion. The education of males was positively related to the frequency of talking about religion. A significant relation was found between the education of females and the frequency of discussing family roles.

Similarities were noted in responses about decision-making. Data suggest that the female made decisions about the kind and amount of food for family members. Decisions concerning family planning were generally joint decisions although between 11.1 and 28.8% of respondents from El Salvador, Jamaica, and Ghana reported no decision made about determining family size. In the same 3 countries, percentages ranged from 25.8 to 36% of the respondents who reported no decision made about the

spacing of children. Between 23.8 and 34.8% of the respondents from El Salvador, Jamaica, and Ghana, as well as 12.5% from the Philippines reported no decision made about the use of birth control.

The responses of the study samples varied about decision-making concerning the kind of human reproduction and family planning information given to children. Whereas a number of respondents agreed that these were joint decisions, over 50% of the respondents from El Salvador and Jamaica and between 18% and 44.4% from Ghana and the Philippines reported no decision made about the kind of family planning information given to children.

Data suggested that respondents considered a majority of the selected topics to be very important when talking with mates. Males and females from Ghana and the Philippines considered religion less important for mates to discuss. Over half of the respondents from Ghana considered family planning as somewhat or not important to discuss. Topics on family food practices, child rearing practices, and family spending practices were popular topics of discussions by both males and females.

Respondents from the countries expressed, in varied percentages, a need for more information about the selected home economics/family planning topics. Lower percentages were recorded for the need of more information about religion.

The general characteristics of the study population, study of mate communication and topics talked, analysis of the decision-making behavior of couples, and the expressed need for more information about home economics/family topics were reported in this summary. The findings will be used as a basis for forming conclusions and making further recommendations.

Several conclusions were made based upon the results of this study. First, the differences in the educational level of respondents were widely varied. Therefore, consideration should be given to educational levels of the intended audience when planning program materials. Second, females married young and may not have completed their family sizes. Third, absolute couple difference scores were low and suggested compatibility as judged by responses of mates. Fourth, age and education of mates influenced the frequency in which selected home economics/family planning topics were discussed. Therefore, program planners may gear materials to the general characteristics of the intended audience. Fifth, more information is needed about family planning. Data indicated that couples tend to talk less about family planning and a percentage of mates did not make decisions about family planning. Finally, village couples need and want more information concerning a majority of the home economics/family planning topics included in the study.

How to go about identifying the purposes and plans of a program is a major concern for individuals who plan and develop

materials. An important avenue would be to achieve an awareness and an understanding of the characteristics and needs of the individuals who will be served by the materials. This researcher suggests that program planners and those responsible for developing materials examine the results reported in this study. It has attempted to describe the environment of a study population and identify unmet needs that may be essential to others in developing programs for use at the micro level.

Implications for further research prior to developing program materials are infinite. If a similar study is conducted or this study replicated, it is recommended that more information be obtained from a larger sample to include more out-of-school adults under the age of 21. This would focus on a prime target audience within the childbearing years.

Future research should examine more closely the relative influences that various patterns of mate communications have on discussing selected home economics/family planning topics and ascertain the extent to which these reinforce one another or act as barriers. The influence of other influential communicators may be analyzed for use in mass communication projects.

Recommendations

Personal and family characteristics of the couples in this study varied greatly with each of the four countries studied as well as among the countries. The ages of the respondents

ranged from 16 to 55 and over. Females married earlier than males. The age at first marriage ranged from 15 and under to over 30. Respondents received from 0 to more than 16 years of education. Couples had experienced urban and rural living. Family sizes varied and the number of children living at home ranged from 1 to over 11. It is recommended that a broad range of content and topics should be planned for them so that they can have the possible means for decision-making.

Based on this study, adults less than 36 years of age should be considered as the prime target for home economics/family planning materials. Materials should be planned and developed with younger adults as well as older adults in mind.

It was found that mates communicate infrequently about family planning, religion, and family roles. It is recommended that family planning materials include these topics in program materials to be used at the micro level in developing countries.

Based on findings that indicate early age at marriage, it is recommended that materials include information on pregnancies at early ages and the physiologic and psychologic demands of pregnancy upon the stresses of immaturity.

Because this study focused primarily on personal and family characteristics as a basis for planning topics and content, it is recommended that other studies focus on target characteristics such as learning patterns, attitudes toward learning, and attention span. This would enable program

planners and developers to better focus on length of programs and the composition of learning groups.

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ACKNOWLEDGMENTS

The investigator is indebted to many people who through support and assistance made this study possible. Among those to whom the investigator wishes to express appreciation are:

Dr. Ruth Hughes, advisor and major professor, for her understanding, encouragement, and guidance throughout the graduate program;

Associate Dean Julia Anderson, Dr. Mary Heltsley, Dr. Robert Strahan, and Dr. Virginia Thomas for their willingness to serve as committee members;

Dr. Rex Thomas for his willingness to serve as a committee member during the final oral examination;

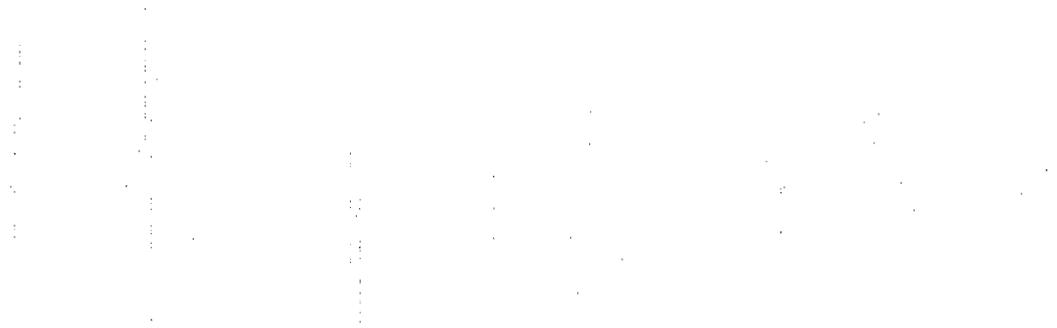
Dr. Jerelyn Schultz for her sharing and reacting to ideas and plans throughout graduate study, as well as her support and encouragement during the field testing of home economics/family planning program materials;

Participants in the American Home Economics International Family Planning Project for their interest in developing program materials;

Mrs. Kizzie Strother for her encouragement during the writing of the dissertation;

Mother, Mrs. Lee Heather Tillis, for her prayers throughout graduate study;

Melvin, Melva, Sherita, and Stephanie for their patience and love during graduate study.



APPENDIX A: CORRESPONDENCE

IOWA STATE
UNIVERSITY

Telephone 515-294-5980
November 8, 1976

You and your country have been involved in the American Home Economics Family Planning Project in which program materials are being developed for out-of-school populations in developing countries.

To develop program materials requires adequate knowledge of certain demographic factors and an insight into various aspects of family life. You may remember that we discussed this when you were attending the workshop this summer in Ames. In an attempt to assess these materials, we really want you to help us in getting this needed information in the areas of mate communication and decision-making. The following will further explain what we talked about this summer.

At the same time you are training village workers and securing their reactions to the topics on 1) Spacing, 2) Parent/Adolescent Relationships and 3) Infant Nutrition we would like you to train ten (10) village workers to interview ten (10) couples each using the enclosed questionnaire. It would be helpful to have a total of one-hundred couples from your country participate. If you can not get one-hundred couples, please get as many as possible. These couples should be the same or similar to those who would participate in a Home Economics/Family Planning program where the materials you helped to develop would be used.

As the village workers will be the interviewers, they will be responsible for recording the responses on the coded sheets. The interviews are coded with an identification number and an M (for male) and F (for female). Each couple should be assigned an identification number and therefore, two responses should come back for each identification number. For example, two interviews will come back with an identification number 24, one for the male of the couple and one for the female of the couple. Other instructions are included with the questionnaire. Please respond as quickly as possible.

We will be looking for the materials by January 31, 1977 along with the other requested information concerning the Home Economics/Family Planning prototype materials.

Sincerely yours,

Lenola Busby Allen

Lenola Busby Allen
Home Economics Education

Ruth P. Hughes

Ruth P. Hughes
Home Economics Education

Jana F. Anderson

IOWA STATE
UNIVERSITY

Telephone 515-294-5980
November 8, 1976

You and your country have been involved in the American Home Economics Family Planning Project in which program materials are being developed for out-of-school populations in developing countries.

To develop program materials requires adequate knowledge of certain demographic factors and an insight into various aspects of family life. You may remember that we discussed this when you were attending the workshop this summer in Ames. In an attempt to assess these materials, we really want you to help us in getting this needed information in the areas of mate communication and decision-making. The following will further explain what we talked about this summer.

At the same time you are training village workers and securing their reactions to the topics on 1) Spacing, 2) Parent/Adolescent Relationships and 3) Infant Nutrition we would like you to train three (3) village workers to interview (6) couples each using the enclosed questionnaire. It would be helpful to have a total eighteen couples from your country participate. If you can not get eighteen couples, please get as many as possible. These couples should be the same or similar to those who would participate in a Home Economics/Family Planning program where the materials you helped to develop would be used.

As the village workers will be the interviewers, they will be responsible for recording the responses on the coded sheets. The interviews are coded with an identification number and an M (for male) and F (for female). Each couple should be assigned an identification number and therefore, two responses should come back for each identification number. For example, two interviews will come back with an identification number 24, one for the male of the couple and one for the female of the couple. Other instructions are included with the questionnaire. Please respond as quickly as possible.

We will be looking for the materials by January 31, 1977 along with the other requested information concerning the Home Economics/Family Planning prototype materials.

Sincerely yours,

Lenola Busby Allen

Lenola Busby Allen
Home Economics Education

Ruth P. Hughes

Ruth P. Hughes
Home Economics Education

Jane F. Anderson

IOWA STATE
UNIVERSITY

Telephone 515-294-6444

In November, you and your country assisted us in site-testing programs materials for out-of-school populations that had been developed as part of the American Home Economics Association Family Planning Project. In a further attempt to assess those materials, you were asked to interview ten (10) couples in order to supply needed information about their communication patterns, decision-making patterns, and topics of interest.

As yet, we have not received the responses from your interviews. These responses are one way in which you can help us make these materials more useful to you and Jamaica. We will continue to look for them in the coming mail.

Sincerely yours,

Lenola Busby Allen
Home Economics Education

Julia F. Anderson
Associate Dean

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Information Sheet

Name _____

Country _____

Position _____

Directions: Please a check (✓) in the space that most accurately answers the questions with respect to your country.

1. Who is responsible for the training of village workers in your country?

____ Ministry level personnel

____ Regional level personnel

2. How many individuals will be using the program materials to train village workers during the next year?

____ 1-5

____ 6-10

____ 11-15

____ more than 15

3. How many village workers, who work directly with families, will be trained in the use of the program materials during next year?

____ 1-10

____ 11-20

____ 21-30

____ 31-40

____ more than 40

4. How many families does each of these village workers usually contact or work with?

____ 1-10

____ 11-20

____ 21-30

____ 31-40

____ more than 40

5. Which members of the families most actively participate in the program?

____ women only

____ men only

____ both men and women

6. How many years of schooling has each couple had?
- ___ 5 years of less
___ 6-8 years
___ more than 8
7. Which would be the most effective method of getting information from the families?
- ___ questionnaire
___ interview
8. Which would be the most effective method of getting information from the village workers?
- ___ questionnaire
___ interview

APPENDIX B: QUESTIONNAIRE

INTERVIEWING VILLAGE COUPLES

IN ORDER TO ASSESS HOME ECONOMICS/FAMILY PLANNING PROGRAM MATERIALS THAT HAVE BEEN DEVELOPED FOR USE WITH VILLAGE FAMILIES IN DEVELOPING COUNTRIES, WE NEED TO HAVE THE INFORMATION REQUESTED IN THIS QUESTIONNAIRE. IT IS AN INTERVIEW TO EXPLORE SOME ASPECTS OF FAMILY LIVING. THE QUESTIONNAIRE HAS FOUR SECTIONS-- (A) PERSONAL CHARACTERISTICS; (B) MATE COMMUNICATION; (C) DECISION-MAKING; AND (D) TOPICS YOU TALK ABOUT.

INSTRUCTIONS TO THE INTERVIEWER

1. INTERVIEW COUPLES THAT MEET THE FOLLOWING CRITERIA:
 - A. MATES SHOULD BE MARRIED OR COHABITING.
 - B. MATES MUST BE LIVING TOGETHER.
 - C. ALL COUPLES MUST HAVE CHILDREN (AT LEAST ONE CHILD).
 - D. FEMALES SHOULD BE WITHIN THE CHILD-BEARING YEARS.
2. INTERVIEW THE MALE AND FEMALE AT DIFFERENT TIMES. DO NOT ASK THEM TO RESPOND TO THE INSTRUMENT WHEN THEY ARE IN THE PRESENCE OF EACH OTHER.
3. READ EACH ITEM TO THE MALE OR FEMALE, MAKING SURE THAT EACH HAS UNDERSTOOD IT.
4. RECORD THE ANSWER ON THE CODED SHEETS THAT HAVE BEEN PROVIDED.

PERSONAL CHARACTERISTICS

1. WHAT IS YOUR SEX? MALE ____ FEMALE ____
2. HOW OLD ARE YOU? _____
3. ARE YOU MARRIED? YES ____ NO ____
4. IS YOUR MATE LIVING WITH YOU? YES ____ NO ____
5. HOW LONG HAVE YOU LIVED WITH THIS MATE? _____
6. HOW MANY CHILDREN HAVE BEEN BORN TO YOU AND THIS MATE? _____
7. ARE YOU PREGNANT, NOW? YES ____ NO ____
8. HOW MANY OF THESE CHILDREN ARE LIVING? _____
9. WHAT ARE THE AGES AND SEX OF THESE CHILDREN?

SEX	AGES
BOY	
GIRL	

10. HOW MANY OF THESE CHILDREN ARE LIVING AT HOME? _____ AWAY FROM HOME? _____
11. HOW MANY CHILDREN DID YOU HAVE BY ANOTHER MATE? _____ HOW MANY ARE LIVING? _____
12. HOW OLD WERE YOU WHEN YOU FIRST MARRIED OR WHEN YOU LIVED WITH YOUR FIRST MATE? _____
13. ARE THERE OTHER PEOPLE LIVING WITH YOU AND YOUR MATE? _____ IF YES, WHO ARE THEY?

RELATIONSHIP TO YOU	AGES

14. HOW MANY YEARS DID YOU GO TO SCHOOL? _____

15. HOW LONG HAVE YOU LIVED IN OR NEAR THIS AREA? _____
16. HAVE YOU EVER LIVED IN A LARGE TOWN OR CITY? YES _____ NO _____
17. DO YOU OWN THE LAND THAT YOU LIVE ON? YES _____ NO _____
18. DO YOU WORK TO SUPPORT OR HELP TO SUPPORT THE FAMILY? _____ IF YES, WHAT KIND OF WORK DO YOU DO? _____
19. WHO TAKES CARE OF YOUR CHILDREN WHILE YOU WORK? _____
20. WHAT IS YOUR RELIGION? _____

MATE COMMUNICATION

DIRECTIONS: LISTEN TO EACH QUESTION CAREFULLY. ANSWER EACH QUESTION AS QUICKLY AS YOU CAN. IF YOU CANNOT GIVE THE EXACT ANSWER TO A QUESTION, ANSWER THE BEST YOU CAN BUT BE SURE TO ANSWER EACH ONE. THERE ARE NO RIGHT OR WRONG ANSWERS. ANSWER ACCORDING TO THE WAY YOU FEEL AT THE PRESENT TIME.

	OFTEN	SOME-TIMES	SELDOM	NEVER
1. DO YOU AND YOUR MATE SIT DOWN AND TALK THINGS OVER?	_____	_____	_____	_____
2. IS IT HARD FOR YOU TO TALK TO YOUR MATE?	_____	_____	_____	_____
3. IS IT EASIER FOR YOU TO TALK TO SOMEONE ELSE (FRIEND, COMMUNITY WORKER, ETC.) RATHER THAN YOUR MATE?	_____	_____	_____	_____
4. DOES YOUR MATE SEEM TO BE LISTENING WHEN YOU ARE TALKING?	_____	_____	_____	_____
5. DO YOU SEEM TO BE LISTENING TO YOUR MATE WHEN ACTUALLY YOU ARE NOT?	_____	_____	_____	_____
6. DO YOU HELP YOUR MATE TO UNDERSTAND YOU BY TALKING ABOUT WHAT YOU BELIEVE AND HOW YOU FEEL ABOUT THINGS?	_____	_____	_____	_____
7. DO YOU AND YOUR MATE AGREE ON IMPORTANT THINGS IN LIFE?	_____	_____	_____	_____
8. ARE YOU SATISFIED WITH THE AMOUNT OF TIME YOU AND YOUR MATE SPEND TOGETHER?	_____	_____	_____	_____
9. IS YOUR MATE SATISFIED WITH THE AMOUNT OF TIME THE TWO OF YOU SPEND TOGETHER?	_____	_____	_____	_____
10. DO YOU GET ANGRY WHEN YOUR MATE DISAGREES WITH YOU?	_____	_____	_____	_____
11. IS IT HARD FOR YOU TO EXPRESS YOUR FEELINGS WHEN YOUR MATE DISAGREES WITH YOU?	_____	_____	_____	_____
12. ARE YOU AFRAID TO EXPRESS YOUR DISAGREEMENT WITH YOUR MATE?	_____	_____	_____	_____

DECISION-MAKING

EVERY COUPLE MAKES SOME DECISIONS. WHO IN YOUR FAMILY MAKES THE FOLLOWING DECISIONS?

	MAN 1	WOMAN 2	BOTH 3	OTHER (EXPLAIN) 4	NO DECISION MADE
1. THE KIND OF FOOD FOR EACH FAMILY MEMBER.					
2. THE AMOUNT OF FOOD FOR EACH FAMILY MEMBER.					
3. THE AMOUNT OF RESOURCES SPENT FOR DAILY FAMILY NEEDS.					
4. THE NUMBER OF CHILDREN TO HAVE.					
5. THE SPACING OF PREGNANCIES.					
6. THE USE OF BIRTH CONTROL.					
7. THE SCHOOLING OF FAMILY MEMBERS.					
8. THE ASSIGNMENT OF HOUSEHOLD DUTIES TO FAMILY MEMBERS.					
9. THE CHILD REARING PRACTICES TO USE.					
10. THE WAYS TO MEET HEALTH CARE NEEDS OF FAMILY MEMBERS.					
11. THE KIND OF INFORMATION ON HUMAN REPRODUCTION GIVEN TO CHILDREN.					
12. THE KIND OF INFORMATION ON FAMILY PLANNING GIVEN TO CHILDREN IN THE FAMILY.					

ENTREVISTANDO PAREJAS DE VILLAS

Para evaluar los materiales de Planificación Familiar/Economía del hogar que ha sido desarrollado para el uso con familias de villas de países en desarrollo necesitamos tener la información pedida en este cuestionario. Es una entrevista para explorar algunos aspectos de vida familiar. El cuestionario tiene 4 secciones - (A) características personales (B) comunicación con tu compañero(a) (C) haciendo-decision (D) cosas acerca de las cuales vols hablan.

DIRECCIONES A EL ENTREVISTADOR

1. Entreviste parejas que vengnan el siguiente criterio:
 - A. Los compañeros(as) deben ser casados o cohabitando.
 - B. Los compañeros(as) deben estar viviendo juntos.
 - C. Todas las parejas deben tener niños(as) (al menos uno/a).
 - D. Las mujeres deben estar en la edad de dar a luz niños(as).
2. Entreviste al masculino y al femenino a horas distintas. No les hará responder a el cuestionario cuando ellos están al frente uno de el otro.
3. Leale cada pregunta a el masculino o femenino, asegurandose de que cada uno ha comprendido.
4. Registre la respuesta en las hojas con códigos que le han sido dadas.

CARACTERISTICAS PERSONALES

1. Cual es tu sexo? Masculino _____ Femenino _____
2. Cuantos anos tiene ud? _____
3. Eres casado(a)? Si _____ No _____
4. Esta to compañero(a) viviendo contigo? Si _____ No _____
5. Cuantotiempo has vivido con tu compañero(a)? _____
6. Cuantos ninos(as) tienes con este compañero(a)? _____
7. Estas embarazada, ahora? Si _____ No _____
8. Cuantos de estos ninos estan vivos? _____
9. Cuales son las edades y sexo de estos niños?

Sexo	Edades
Varon	
Hembra	

10. Cuantos de estas ninos(as) estan viviendo en el hogar? _____ Fuera de el hogar? _____
11. Cuantos ninos(as) tuvistes con otro(a) compañero(a)? _____ Cuantos estan vivos? _____
12. Cuantos anos tenias cuando te casastes por primeva vez o cuando vivias con tu primer compañero(a)? _____
13. Hay otras personas viviendo contigo y tu compañero(a)? Si escierto, quienes son ellos(as)?

Parentesco Contigo	Edades

14. Por cuantos años fuiste a la escuela? _____

15. Cuanto tiempo has vivido cerca o en esta region? _____
16. Has vivido alguna ves on una civdad o pueblo grande? Si _____ No _____
17. Es de tu propiedad la tierra donde vives? Si _____ No _____
18. Trabajas para soportar o ayudar la familia? _____ Si es cierto, que
clase de trabjo tu haces? _____
19. Quien cuida tus ninos(as) mientras trabajas? _____
20. Cual es tu religion? _____

Comunicacion con tu companero(a)

Instrucciones: Escucha cuidadosamente. Responda cada pregunta tan pronto como puedas. Si tu no puedes dar la respuesta exacta, responde lo mejor que puedas pero esta seguro de responderias today. No hay respuestas verdaderas o falsas. Responda de acuerdo a la forma que ud siente en este momento.

	AMENUDO	ALGUNAS VECES	RARAVEZ	NUNCA
1. Tienes tu y tu companero(a) comunicacion sobre los problemas?	_____	_____	_____	_____
2. Es dificil para ti hablar con tu companero(a)?	_____	_____	_____	_____
3. Es mas facil para ti hablar con algvien mas (amigo(a), trabajador social, etc.) Que con tu companero(a)?	_____	_____	_____	_____
4. Te escucha tu companero(a) cuando tu estas hablando?	_____	_____	_____	_____
5. Pareces prestavle atencion a tu companero(a) cuando realmente no lo haces?	_____	_____	_____	_____
6. Ayudas a tu companero(a) a entenderte cuando le hablas acerca de tus creencias y sentimientos?	_____	_____	_____	_____
7. Estan de acuerdo tu y tu companero(a) acerca de la vida?	_____	_____	_____	_____
8. Estas satisfecho(a) con la cantidad de tiempo que tu y tu companero(a) pasan juntos(as)?	_____	_____	_____	_____
9. Esta tu companero(a) satisfecho(a) con el ticupo que uds dos pasan juntos?	_____	_____	_____	_____
10. Te disgustas cuando tu companero(a) No esta de acuerdo contigo?	_____	_____	_____	_____
11. Es dificil para ti expresav tus sentimientos cuando tu companero(a) no esta de acuerolo contigo?	_____	_____	_____	_____
12. Te da miedo expresar tu desacuerdo con tu companero(a)?	_____	_____	_____	_____

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HACIENDO-DECISION

Cada pareja hace algunas decisiones. Quien en tu familia hace las siguientes decisiones?

	HOMBRE	MUJER	AMBOS	OTRO (EXPLAIN)	NO DECISION MADE
1. El tipo de comida para cada miembro de la familia.					
2. La cantidad de comida para cada miembro de la familia.					
3. La cantidad de recursos gastados para la manutencion diaria.					
4. El numero de ninos(as) a tener.					
5. A cuanto tiempo debe quedar embarazada.					
6. El uso de contraceptivos.					
7. La educacion que la familia recibe.					
8. Las asignaciones y deberes a los miembros de la familia.					
9. El tipo de crianza que usar con el nino(a).					
10. Las formas de cuidado y salud de los miembro de la familia.					
11. El tipo de informacion acerca de la reproduccion humana dada a los ninos.					
12. En el tipo de informacion dada a los ninos(as) acerca de la planificacion familiar.					

APPENDIX C: TABLES

Table C1. Percentage distribution of the age of females in El Salvador by number of children born (n=89)

Age	Number of children born					
	1-2	3-4	5-6	7-8	9-10	11 and more
16-25	19.1	9.0	1.1	0	0	0
26-35	5.6	20.2	12.4	3.4	0	0
36-45	0	3.4	5.6	5.6	4.5	2.2
46-55	0	0	2.2	1.1	2.2	2.2
55 and over	0	0	0	0	0	0
Total	24.7	32.6	21.3	10.1	6.7	4.5

Table C2. Percentage distribution of the age of females in Jamaica by number of children born (n=80)

Age	Number of children born					
	1-2	3-4	5-6	7-8	9-10	11 and more
16-25	15	7.5	2.5	0	0	0
26-35	12.5	18.8	6.3	5.0	0	1.3
36-45	6.3	8.8	2.5	3.8	2.5	0
46-55	1.3	1.3	0	0	0	1.3
55 and over	1.3	1.3	0	0	0	1.3
Total	36.3	37.5	11.3	8.8	2.5	3.8

Table C3. Percentage distribution of the age of females in Ghana by number of children born (n=18)

Age	Number of children born			
	1-2	3-4	5-6	7-8
16-25	5.6	0	0	0
26-35	27.8	27.8	0	5.6
36-45	0	0	5.6	16.7
46-55	0	0	5.6	0
55 and over	0	0	0	5.6
Total	33.3	27.8	11.1	27.8

Table C4. Percentage distribution of the age of females in the Philippines by number of children born (n=16)

Age	Number of children born			
	1-2	3-4	5-6	7-8
16-25				
26-35	31.3	18.8	12.5	0
36-45	12.5	6.3	6.3	12.5
46-55				
55 and over				
Total	43.8	25.0	18.8	12.5

Table C5. Age at first marriage and education by number of children born to couples in El Salvador as reported by mates (percentage distribution) (n=89)

Number of children born to couples	Age at first marriage						
	<16	16-18	19-21	22-24	25-27	28-30	30>
1-2	0	2.2	2.2	5.6	6.7	1.1	6.7
3-4	1.1	6.7	9.0	6.7	3.4	2.2	3.4
5-6	0	10.1	4.5	2.2	2.2	1.1	1.1
7-8	0	3.4	1.1	2.2	3.4	0	0
9-10	1.1	0	1.1	1.1	0	3.4	0
11 and more	0	2.2	1.1	1.1	0	0	0

	Education in years						
	0	1-3	4-6	7-9	10-12	13-15	16>
1-2	2.2	3.4	9.0	2.2	3.4	4.5	
3-4	9.0	9.0	6.7	5.6	1.1	1.1	
5-6	4.5	9.0	5.6	1.1	0.0	1.1	
7-8	1.1	4.5	4.5	0	0	0	
9-10	4.5	0.0	1.0	1.1	0.0	0	
11 and more	2.2	2.2	0	0	0.0	0	

Table C6. Age at first marriage and education by number of children born to couples in El Salvador as reported by females (percentage distribution) (n=89)

Number of children born to couples	Age at first marriage						
	<16	16-18	19-21	22-24	25-27	28-30	30>
1-2	1.1	9.0	9.0	2.2	2.2	0	1.1
3-4	5.6	14.6	4.5	2.2	4.5	1.1	0
5-6	2.2	6.7	5.6	3.4	3.4	0	0
7-8	1.1	4.5	2.2	1.1	0	0	1.1
9-10	0	2.2	1.1	3.4	0	0	0
11 and more	0	1.1	2.2	0	0	0	1.1

	Education in years						
	0	1-3	4-6	7-9	10-12	13-15	16>
1-2	0	3.4	14.6	5.6	1.1	0	0
3-4	6.7	12.4	9.0	3.4	1.1	0	0
5-6	3.4	10.1	3.4	3.4	1.1	0	0
7-8	2.2	2.2	5.6	0	0	0	0
9-10	2.2	3.4	1.1	0	0	0	0
11 and more	2.2	1.1	1.1	0	0	0	0

Table C7. Age at first marriage and education by number of children born to couples in Jamaica as reported by males (percentage distribution) (n=80)

Number of children born to couples	Age at first marriage						
	<16	16-18	19-21	22-24	25-27	28-30	30>
1-2	0	3.8	6.3	8.8	10.0	2.5	5.0
3-4	0	2.5	6.3	7.5	11.3	5.0	5.0
5-6	0	0	7.5	1.3	1.3	1.3	0
7-8	0	0	1.3	1.3	1.3	2.5	2.5
9-10	0	1.3	0	0	1.3	0	0
11 and more	0	1.3	0	1.3	0	1.3	0

	Education in years						
	0	1-3	4-6	7-9	10-12	13-15	16>
1-2	2.5	2.5	1.3	15.0	6.3	7.5	1.3
3-4	0	1.3	3.8	25.0	5.0	1.3	1.3
5-6	0	0	0	6.3	1.3	3.8	0
7-8	0	1.3	0	6.3	1.3	0	0
9-10	0	0	0	2.5	0	0	0
11 and more	1.3	0	0	2.5	0	0	0

Table C8. Age at first marriage and education by number of children born to couples in Jamaica as reported by females (percentage distribution) (n=80)

Number of children born to couples	Age at first marriage						
	<16	16-18	19-21	22-24	25-27	28-30	30>
1-2	1.3	7.5	17.5	6.3	1.3	2.5	0
3-4	0	13.8	8.8	6.3	3.8	3.8	1.3
5-6	0	2.5	6.3	0	2.5	0	0
7-8	0	1.3	3.8	3.8	0	0	0
9-10	0	1.3	0	1.3	0	0	0
11 and more	0	1.3	1.3	1.3	0	0	0

	Education in years						
	0	1-3	4-6	7-9	10-12	13-15	16>
1-2			5.0	10.0	16.3	5.0	
3-4			3.8	23.8	7.5	2.5	
5-6			0	5.0	3.8	2.5	
7-8			1.3	6.3	1.3	0	
9-10			1.3	1.3	0	0	
11 and more			3.8	0	0	0	

Table C9. Age at first marriage and education by number of children born to couples in Ghana as reported by males (percentage distribution) (n=18)

Number of children born to couples	Age at first marriage						
	<16	16-18	19-21	22-24	25-27	28-30	30>
1-2	0	5.6	0	5.6	11.1	11.1	
3-4	0	0	0	16.7	11.1	0	
5-6	0	0	0	5.6	0	5.6	
7-8	0	0	0	5.6	0	11.1	
9-10	0	0	0	0	0	0	
11 and more	0	0	11.1	0	0	0	

	Education in years						
	0	1-3	4-6	7-9	10-12	13-15	16>
1-2	11.1	0	0	5.6	5.6	5.6	5.6
3-4	0	0	0	0	0	16.7	11.1
5-6	0	0	5.6	0	5.6	0	0
7-8	5.6	0	0	0	16.7	0	5.6
9-10	0	0	0	0	0	0	0
11 and more	0	0	0	0	0	0	0

Table C10. Age at first marriage and education by number of children born to couples in Ghana as reported by females (percentage distribution) (n=18)

Number of children born to couples	Age at first marriage						
	<16	16-18	19-21	22-24	25-27	28-30	30>
1-2	0	16.7	11.1	0	5.6		
3-4	5.6	5.6	16.7	0	0		
5-6	0	5.6	0	5.6	0		
7-8	0	16.7	0	11.1	0		
9-10	0	0	0	0	0		
11 and more	0	0	0	0	0		

	Education in years						
	0	1-3	4-6	7-9	10-12	13-15	16>
1-2	11.1	0	5.6	5.6	5.6	5.6	0
3-4	5.6	0	0	0	22.2	0	0
5-6	0	0	5.6	0	5.6	0	0
7-8	5.6	11.1	0	0	5.6	5.6	0
9-10	0	0	0	0	0	0	0
11 and more	0	0	0	0	0	0	0

Table C11. Age at first marriage and education by number of children born to couples in the Philippines as reported by males (percentage distribution) (n=16)

Number of children born to couples	Age at first marriage						
	<16	16-18	19-21	22-24	25-27	28-30	30>
1-2	0	6.3	0	25.0	6.3	6.3	0
3-4	0	6.3	0	6.3	12.5	0	0
5-6	0	0	0	12.5	0	0	6.3
7-8	0	0	6.3	0	0	0	6.3
9-10	0	0	0	0	0	0	0
11 and more	0	0	0	0	0	0	0

	Education in years						
	0	1-3	4-6	7-9	10-12	13-15	16>
1-2	0	6.3	12.5	0	12.5	6.3	6.3
3-4	6.3	0.0	6.3	0	6.3	6.3	0
5-6	0	0.0	0	12.5	0	0	0
7-8	0	0.0	6.3	0	0	6.3	0
9-10	0	0.0	6.3	0	0	0	0
11 and more	0	0.0	0	0	0	0	0

Table C12. Age at first marriage and education by number of children born to couples in the Philippines as reported by females (percentage distribution) (n=16)

Number of children born to couples	Age at first marriage						
	<16	16-18	19-21	22-24	25-27	28-30	30>
1-2	0	6.3	0	25.0	12.5	0	0
3-4	6.3	0	6.3	0	12.5	0	0
5-6	0	0	6.3	6.3	6.3	0	0
7-8	0	0	12.5	0.0	0	0	0
9-10	0	0	0	0.0	0	0	0
11 and more	0	0	0	0	0	0	0

	Education in years						
	0	1-3	4-6	7-9	10-12	13-15	16>
1-2	0	0	12.5	0	12.5	18.8	0
3-4	0	0	6.3	0	6.3	12.5	0
5-6	0	0	6.3	0	12.5	0	0
7-8	0	0	6.3	6.3	0	0	0
9-10	0	0	0	0	0	0	0
11 and more	0	0	0	0	0	0	0