

**KNOWLEDGE, ATTITUDE AND PERSPECTIVES
ON POPULATION RELATED PROBLEMS
AMONG COLLEGE STUDENTS**

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AND EXTENSION SERVICES
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2001

DECLARATION

I, Subrahmania Das, P.V, do hereby declare that this report "Knowledge, Attitude and Perspectives on Population Related Problems among College Students" has not been previously formed the basis for the award of a degree, diploma, title or recognition.

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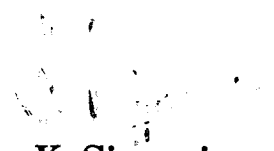

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C E R T I F I C A T E

I, Dr. K. Sivarajan, do hereby certify that this report "**Knowledge, Attitude and Perspectives on Population Related Problems among College Students**" is a record of bonafide study and research carried out by Sri. Subrahmania Das, P.V., under my supervision and guidance and that it has not been previously formed the basis for the award of a degree, diploma, title or recognition.


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INTRODUCTION

Subrahmania Das P.V. “Knowledge, attitude and perspectives on population related problems among college students ” Thesis. Department of Adult Education and Extension Services , University of Calicut, 2001

INTRODUCTION

-
- ❖ The Background
 - ❖ Need and Significance of the Study
 - ❖ Scope of the Study
 - ❖ Objectives of the Study
 - ❖ Hypotheses of the Study
 - ❖ Title of the Study
 - ❖ Definition of Key Terms
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CHAPTER I

INTRODUCTION

The Background

The major problems that mankind face today are poverty, pollution and disproportionate growth in population. The world is said to be on the threshold of a population explosion. It was estimated that the world population had been one billion by 1830. By 1930 this became about two billions. This means that it took about 100 years to become two fold. At the same time, in the next 30 years one more billion was added to this and by 1960 the world population approached three billions. The next addition of one billion happened just in 15 years that is, by 1975. It became five billion on 11th July, 1987 and six billion on 12th October, 1999. The United Nations' estimate shows that the world population is increasing at the rate of 1.6 percent per annum.

Growth of population in India far surpasses the rate of increase indicated above. It is alarmingly distressing. According to the 1991 Census, India's population was 846.3 million and it has crossed one billion by the turn of the century. Ours is the world's second largest populous country. It inhabits about 16 percent of the world population while it possesses only 2.42 percent of the total land area. It is estimated that by 1991 our population has become more than three and a half times of what it was in 1901, which shows a growth of 350 percent in nine decades. The number of people has increased by 161.12 million during the decade of 1981-1991 - an increase of about 24 percent. The density of population has increased from

73 in 1901 to 267 in 1991. On an average, our population increases by 17 million every year. This annual increase is equal to the total population of Australia which is having a land area of more than two times that of India. If the population goes on growing at this rate, India will be the highest populous country by 2030. All these statistics point to the explosive nature of population growth, especially in India.

Disproportionate increase in population is a serious threat to the economic development of any nation. The number of dependents will go on increasing with the growth of population. According to the 1991 census, 40 percent of India's population was dependent population. The larger the number of dependents the greater will be the need for investment in education, public health, and old age security measures. These types of demographic investments would naturally reduce the quantum of resources available for the development of productive activities in the agricultural and industrial sectors.

Population growth imposes heavy pressure on the limited supply of land. This leads to the sub-division and fragmentation of agricultural holdings. It prevents the utilisation of improved techniques and better methods of production and degrades the status of agriculture to an uneconomic activity.

Unemployment and underemployment are other disastrous effects of population growth. In India, the number of job seekers in the live registers of employment exchanges increased from 178.38 lakhs in December 1981 to 369.56 lakhs in December 1994. "The growth experiences of the country suggest that the rise in labour force has been larger than the absorptive

capacity of the economy” (Agrawal, 1989). The industrial sector is not developed enough to absorb the new entrants to its labour force. Agriculture and other non-formal sectors cannot absorb new entrants to their labour market because it is already experiencing the pressure of excess numbers. The result of all these are that the new job seekers either remain unemployed or will have to work for very low wages.

Population growth increases the demand for goods and services which in turn makes these extremely costly. Price hike adversely affects the purchasing power of the poor sections of the community and sows the seeds of poverty. Unemployment and the low level of income accelerate deprivation of basic necessities of life. This results in reduced standard of living, low level of consumption, malnutrition, ill health, ignorance, limited education, child labour, low life and work expectancy and in many cases a general sense of helplessness. High population growth exacerbates inequality among groups and individuals. The less educational and economic status resulting from population explosion results in a vicious circle in that less-educated and lower-income parents are likely to have more children which in turn further accelerates population growth. This is what is happening in most of the undeveloped and developing nations. In short population explosion happens to be the main cause for all the social evils that make human life miserable.

Though what was said above is true in general, the bad effects of this undesirable phenomenon is experienced more in urban areas. The rate of growth in urban population is found to be comparatively higher than in rural areas. The main reason being disproportionate increase in the

migration resulting from rapid urbanisation. In India the urban population was only 10.8% of the total in 1901, but it rose to 26% in 1991. The number of 'million plus' cities has increased from 5 to 23 during this period. Urbanisation which itself is an offshoot of the evils of population explosion imposes additional burden to the underdeveloped economies because it requires huge capital for maintaining the cities. Besides, uncontrolled urban growth creates the problems of congestion and slums leading to uncontrollable environmental pollution. Life in unhealthy situation increases the possibility for epidemics and other diseases. Disproportionate urban growth creates inequalities between rural and urban areas and prevents balanced regional development of the country. Uncontrolled growth of population leads also to the excessive exploitation of nature and environmental degradation. Massive deforestation, soil erosion, ruination of the natural fertility of the soil and the disappearance of natural flora and fauna are followed by excessive exploitation of nature. In addition to all these, the environment is threatened by global warming, increasing quantity of carbondioxide and trace-gases in the atmosphere, degradation of the Ozone layer, water pollution, noise pollution, radiation, etc. It is evident that a solution for environmental pollution cannot be made possible without curbing population growth.

Social disorganisation and political unrest also can be ascribed to population explosion. Human life in a congested area is characterised by isolation and superfluous relationships. Competition for satisfying economic and social needs creates social tension. The number of criminals, juvenile delinquents and other types of maladjusted individuals will go on increasing with the disproportionate growth in population.

It is clear from the above discussion that uncontrolled population growth is harmful to the society and environment alike and that its clutches will be extended to all aspects of life - both social and personal. That is why prevention of population explosion is at present considered as an issue of universal concern.

As far as our country is concerned, the need to control population growth was realised by the government as early as in 1952 and India became the first country to have an officially announced policy and programme for family planning. The National Family Planning Programme was initiated during the first five year plan. But the people in general did not have much motivation to respond to this endeavour. So in 1963 the government decided to strengthen the programme by corollary efforts in other areas such as communication, extension education and family welfare. National Population Policy was announced by the government in 1976 with a view to promoting family planning at a faster pace. The policy was revised in 1977, when it was redesignated as Family Welfare Programme. The revised policy advocated the educational and voluntary approach for the control of population growth.

The government took certain essential preliminary steps leading to the ultimate goal anticipated. These included conducting campaigns to let the people know about contraception and establishing the infrastructure for production and delivery of contraceptive devices. The service of family planning clinics has been made available for all. Propagation of small family norm is an important part of the programme. Moreover, the government is attempting to disseminate the knowledge and practice of

contraception among the people. As a result of the governmental efforts to curb population growth, forty nine percent of eligible couples was protected by 1991. However, in spite of all these efforts our population situation continues to be characterised by high birth rate and low death rate. India's birth rate in 1991 was found to be 29.9 and death rate 10.2.

Inadequate generation of public enthusiasm and community participation; inadequate spread of infrastructural facilities; lags in imparting knowledge and information regarding family planning and domination of religious and other traditional values are said to be the causes that stand in the way of reaching the anticipated goal in achieving population control. Poverty, illiteracy, gender inequality and poor public health facilities are also stumbling blocks that obstruct before the success of the measures designed to control population growth.

The success of population control in India depends on the voluntary acceptance of contraception by the people. Education can play a prominent role at this juncture because it can impart knowledge about the causes and consequences of population explosion and the need to control it. Besides, education is helpful to eradicate the traditional and unscientific beliefs and attitudes against birth control prevalent among many sections of the people and to motivate them to accept and practice the small family norm.

The role of education in the development of population awareness was realized by the social scientists and consequently Population Education emerged as a comparatively new idea in the field of education. It provides for a study of the population situation in the family, country, nation and

world with a purpose of developing in the students a rational and responsible attitude and behaviour towards that situation. To start with, the conceptual framework of Population Education was concentrated in demographic concerns such as behavioural and attitudinal changes among the learners. But the International Conference on Population and Development (ICPD) held at Cairo in September 1994 was an impetus for a paradigmatic shift in Population Education from demographic concern to the issue of sustainable development. This sustainable development approach necessitated to perceive population related problems in the context of development related issues such as poverty, nutrition, health, etc., along with issues like gender equality, literacy, cultural issues and behavioural patterns. Now-a-days, the reconceptualised framework of Population Education includes family life, gender equality and equity, adolescence and reproductive health, health and education, sustainable development and urbanisation and migration.

The Government of India in collaboration with the United Nations Fund for Population Activities (U.N.F.P.A.) launched the National Population Education Project (N.P.E.P) in India by 1980 to spread the message of small family norm among the school and college students, and the clientele of non-formal education. The project which was designed to institutionalise Population Education in the existing educational system started by implementing three projects. They are School Education Project, Non Formal Education Project and Higher Education Project.

Population Education Unit in the NCERT provides guidance and support to population education programmes in schools through the State

Councils for Educational Research and Training (SCERT). The Ministry of Human Resource Development is implementing the Non Formal Education Project through Nehru Yuvak Kendras and State Resource Centres. The Higher Education Project is being implemented by the University Grants Commission (U.G.C.) through the Universities and Colleges

The U.G.C. has already taken the following steps for promoting the cause of Population Education through Universities and Colleges.

1. Circulation of a set of 15 lecture series on various aspects of Population Education for use by Universities and Colleges.
2. Inclusion of Population Education in the scheme of restructuring courses at the under graduate level in foundation and applied courses.
3. Strengthening Population Education at the post graduate level and the provision of UGC assistance under its normal developmental programmes.
4. Assistance to the Universities and Colleges for surveys/research projects on Population Education to be undertaken by Universities/ Colleges with particular reference to small family norm, infant mortality, malnutrition, age composition, sex ratio, indigenous practice of population control etc.
5. Population Education as one of the major activities under the Programme of Adult, Continuing and Extension Education through the Universities and Colleges.

6. Promotion of television series on Population Education.
7. Institution of Population Education Clubs through the Universities and Colleges for students and the general community.

The National Education Policy of 1986 emphasised that "the growth of our population need to be brought down significantly over the coming decades." The observance of small family norm is included as a core element in the national curriculum.

Need and Significance of the Study

The introductory discussion made above reveals that control of population is an issue demanding universal concern. It also highlights the need for accepting Population Education as a measure that would help to reach a permanent solution to that issue. These basic ideas have motivated the investigator to consider these seriously with a view to arrive at strategies leading to the goal.

Education is considered a vital instrument for social progress. It inculcates in the student's mind those values, attitudes and behaviour which act as the propelling force leading to national goals. As the reduction of population growth is an important national goal, educational programmes at any level should be geared towards its attainment. Population related issues, therefore, could form an inevitable component of the curriculum for any course of study. Restructuring education in tune with this need will be the most effective step required for the successful accomplishment of the governmental measures to control undesirable population growth.

The college students are at the threshold of their married life. Therefore, it should be ensured that they would adopt a rational reproductive behaviour in their future life. The students should have access to the information regarding the causes and consequences of population growth to the individual, family, society and environment. They should be well-aware of the need to raise the age at marriage, observe the small family norm, adopt spacing and accept contraception. Undesirable attitudes and beliefs related to the size of the family, the idea of contraception, the special privileges of male issues, lower status of women in the family, etc. should be wiped out from the minds of students. They should be free from the prejudices and unwanted fears about the harmful effects of contraception for enabling them to accept birth control without any reluctance.

A healthy perspective about family life enables the students to mould decisions regarding the important aspects of their family life such as age at marriage, family size, contraception, sex preference and women's status in the family. This is necessary to prevent them from being influenced by pro-natalist ideologies.

The College students belong to the elites in the society. They are more likely to attain high social and occupational status by entering into professions such as teachers, public health workers, high officials, political leaders and social workers. The opinions of such persons on population-related issues can influence the layman to a great extent. So such persons should be helped to acquire scientific knowledge and to develop positive attitudes concerning the various issues of population, even while they are

students. In other words, effective implementation of Population Education in Colleges and Universities is highly necessary at this juncture.

Even though attempts have been made to provide such awareness to our college students, it is doubtful whether these efforts have been successful. Before passing a judgement and planning further programmes it would be better to assess the knowledge, interest and attitudes of college students, related to population problems. It is true that the students are being given provision to familiarise with population related problems through various curricular and co-curricular activities in schools and colleges. It is also true that they are exposed to the governmental efforts to disseminate small family norm among people through mass media. In this context, it is necessary to know the result of these efforts. The information regarding this would enable the teachers, curriculum constructors and personnel responsible for the preparation of learning materials, to provide better strategies and plans of action meant for revitalising programmes in Population Education.

Certain studies have been conducted to assess the knowledge of students about population related problems. These have shown that the level of knowledge differs from time to time and from place to place. Such findings warrant the need for occasional surveys of the level of exposure of college students to the issues concerned.

Even after four decades since the introduction of population control measures, the soil of India continues to be fertile for the growth of unfavourable attitudes towards population related problems. The government has introduced Population Education in institutions for higher

education as early as in 1986. If this programme has succeeded in its mission it could be expected that the Higher Education Project might have helped to avoid false notions and to create scientific thinking among its recipients, the effect of which could be reflected in society. At this juncture, it is felt necessary to know the attitude of college students towards population related problems. It is sure that mere information of a few facts is not sufficient. What is more important for the success of Population Education is the extent of attitudinal changes. This can be objectively evaluated only by conducting a scientific study meant for gathering valid and reliable data in this regard. The insight thus gained would help in taking up positive steps for the effective maintenance and restructuring of the related programmes.

The information regarding the perspectives of college students on their family life would help to know whether their perspectives are in consonance with the ideas of the programmes for population control. It would enable also to identify the drawbacks in the perspectives and to formulate suitable programmes for developing healthier perspectives among the students.

An exploration into the differences in the knowledge, attitude and perspectives among students of various groups formed in terms of sex, locale, religion, socio-economic status and subject of study is also necessary for the successful implementation of Population Education. This understanding about the group differences enables to plan differentiated treatment required for the specific groups.

The factors discussed above reveal that a study to explore the knowledge, attitude and perspectives of college students is inevitable for the improvement of Population Education programme in colleges. It is expected that the findings of the study will enable to put forward valuable recommendations for this improvement.

As a student of Economics, the investigator is aware of the disastrous consequences of population growth and the need to control it. He has recognised the relevance of education in solving the population problem from the knowledge he has acquired as a student of Education and the experience he has gained as a teacher. Besides, during his college life he could understand that there exists wide difference in the opinion of his colleagues about various aspects of population problem. All these have helped in arousing the interest of the investigator in this issue and have motivated him to take up a study meant to evaluate the nature of the knowledge, attitude and perspectives of college students concerning population problems.

The review of the related studies show that the number of such studies done in Kerala is quite small. Even among these, the studies conducted to assess the knowledge of college students about population related problems and their attitude towards the issue are very few in number. Moreover, no study conducted with a view to investigate the perspectives of college students about their family life could be located. All these show that the present study is highly significant.

Scope of the Study

According to the UNESCO "Population Education is an educational programme which provides opportunities for a study of the population situation in the family, community, nation and the world, with the purpose of developing in the students rational and responsible attitude and behaviour towards that situation". Hence in the present study the investigator has attempted to assess the students' knowledge about the population situation of our nation and the world, by examining its nature and extent from various angles. For example, an attempt has been made to assess the knowledge of the students about the various causes leading to population explosion in our country. It was also tried to understand how far they are aware of the consequences of over population. Another aspect that has been studied is the awareness of the students about the nature of the policy of the Government of India, as reflected in the programmes that were being implemented from 1952 onwards. This has been attempted as this awareness is a prerequisite for developing a proper insight into the issue.

Still another aspect that has been studied is the attitude of students towards population situation. This was done in view of the fact that Population Education has been conceived on the basis of the belief that uncontrolled growth of population is a formidable reality faced by the nation and the world alike and in order to face this menace proper attitudinal changes should be brought out among students who are the prospective citizens of the nation. They have to develop positive attitude towards population control, age at marriage, small family norm,

contraception, family welfare and Population Education in general. In order to make a thorough assessment of the attitude of students in the areas mentioned above all the objectives anticipated by Population Education and all the components included in the programmes for Population Education were thoroughly studied and these have been considered while collecting the data.

For example, behavioural changes among the students with respect to their future family life and reproduction is an aim of Population Education since the fertility behaviour of the individual has its direct impact on the country's population. But the students have not yet started their family life and it is impossible to observe their fertility behaviour. However, it is possible to assess the students' presuppositions about their family life they would like to lead in future. Therefore, the investigator decided to find out the perspectives of college students on age at marriage, number of children, spacing, delay for the birth of first offspring, limiting the reproductive period, sex preferences and birth control. Moreover, the investigator also decided to find out the students' perspectives on status of women in their family because it is an important factor influencing the women's decisions regarding their family life and fertility behaviour.

Moreover, an attempt has been made to find out the effect of knowledge of the issues on attitude, by considering knowledge as the independent variable and attitude as the dependent variable. The nature and extent of relationship between knowledge and attitude has been analysed for the purpose. The association of perspectives with sex, locale, religion, subject of study, Socio-Economic Status (SES), knowledge and

attitude was also studied to find out whether these variables have any influence on perspectives.

The impact of the variables, namely sex, locale, religion, subject of study and SES on knowledge about population issues and attitude towards these also been explored as the part of the study with a view to find out the group differences in respect of the variables included in the study.

Objectives of the Study

1. To assess the level of knowledge of college students about population related problems such as population situation of the nation and the world, causes and consequences of disproportionate population growth, population policy of the Government of India and the practices geared towards population control and family planning.
2. To ascertain the attitude of college students towards population related problems such as population growth, population control, small family norm, contraception, family welfare, population education, age at marriage and status of women in the family and society.
3. To find out the perspectives of college students on their age at marriage, number of children, spacing, delay for the birth of first offspring after the marriage, limiting the reproductive period, sex preference, birth control and status of women in the family.
4. To find out the main effects of the variables such as sex, locale, religion, subject of study and SES on knowledge and attitude.

5. To find out the interaction effect of the following variables on knowledge and attitude.
 - (a) sex and locale
 - (b) sex and religion
 - (c) sex and subject of study
 - (d) sex and SES
 - (e) locale and religion
 - (f) locale and subject of study
 - (g) locale and SES
 - (h) religion and subject of study
 - (i) religion and SES.
6. To find out the effect of knowledge of population related problems on attitude towards population related problems.
7. To find out the relationship between knowledge and attitude towards population related problems.
8. To find out the association of the variables such as sex, locale, religion, subject of study, SES, knowledge and attitude with perspectives on age at marriage, number of children, spacing, delay for the birth of first offspring after the marriage, limiting the reproductive period, sex preferences, birth control and status of women in the family.

Hypotheses of the Study

The investigator has formulated the following hypotheses for the study on the basis of the above mentioned objectives.

1. There will be significant main effects of the variables sex, locale, religion, subject of study and SES on knowledge.
2. The interaction effects of the variables (a) sex and locale, (b) sex and religion, (c) sex and subject of study, (d) sex and SES, (e) locale and religion, (f) locale and subject of study, (g) Locale and SES, (h) religion and subject of study, and (i) religion and SES on knowledge will be significant.
3. There will be significant main effects of the variables, such as sex, locale, religion, subject of study and SES on attitude.
4. The interaction effects of the variables (a) sex and locale, (b) sex and religion, (c) sex and subject of study, (d) sex and SES, (e) locale and religion, (f) locale and subject of study, (g) locale and SES, (h) religion and subject of study, and (i) religion and SES on attitude will be significant.
5. There will be significant effect of knowledge on attitude.
6. There will be significant and positive relationship between knowledge and attitude for the total sample and relevant subsamples based on sex, locale, religion and subject of study.
7. There will be significant association of perspectives on age at marriage with sex, locale, religion, subject of study, SES, knowledge and attitude.

8. There will be significant association of perspectives on number of children with sex, locale, religion, subject of study, SES, knowledge and attitude.
9. There will be significant association of perspectives on spacing with sex, locale, religion, subject of study, SES, knowledge and attitude.
10. There will be significant association of perspectives on delay for the birth of first offspring with sex, locale, religion, subject of study, SES, knowledge and attitude.
11. There will be significant association of perspectives on limiting the reproductive period with sex, locale, religion, subject of study, SES, knowledge and attitude.
12. There will be significant association of perspectives on sex preference with sex, locale, religion, subject of study, SES, knowledge and attitude.
13. There will be significant association of perspectives on birth control with sex, locale, religion, subject of study, SES, knowledge and attitude.
14. There will be significant association of perspectives on status of women in the family with sex, locale, religion, subject of study, SES, knowledge and attitude.

Title of the Study

The study is entitled as “knowledge, attitude and perspectives on population related problems among college students.”

Definition of Key Terms

knowledge

The term 'knowledge' is defined as "collection of facts, values, information, etc., to which man has access through study intuition or experience" (Page and Thomas, 1977).

In the present study the meaning of the term 'knowledge' is the knowledge about population related problems such as population situation of the nation and the world, the causes and consequences of disproportionate population growth, population policy of the Government of India and the practices geared towards population control and family planning.

Attitude

'Attitude' is the "degree of positive or negative affect towards a psychological object" (Thurstone & Chave, 1946).

In the present study the meaning of the term 'attitude' is the attitude towards population related problems such as population growth, population control, small family norm, contraception, family welfare, population education, age at marriage, and status of women in the family and society.

Perspectives

In the Oxford Dictionary (1933), the meaning of the term 'Perspective' is "a mental view, outlook or prospect, especially through an imagined

extent of time, past or present (usually) future; hence sometimes expectation."

In the present study 'perspectives' means the students' presupposition about their age at marriage, number of children, spacing, delay for the birth of first offspring after the marriage, limiting the reproductive period, sex preference, birth control and status of women in the family.

Population Related Problems

The concept 'population related problems' is considered as the factors related to the population like the uncontrolled growth of population, causes of population growth and unfavourable effects of population growth on the individual, family, economy, society and environment. These factors are in a problematic situation demanding urgent solution.

College Students

'College students' means those who are studying in the colleges, affiliated to a university. For the present study the term represents the degree students studying in colleges affiliated to the university.

Methodology in Brief

The present study has adopted mainly the technique of sample survey. However appropriate hypotheses were formulated based on the objectives of the study and the data gathered from a large sample, using standardized tools have been subjected to statistical treatment with a view to test the hypotheses.

Tools

The 'knowledge' was assessed using a Test constructed and standardized by the investigator. An Attitude Scale developed by the investigator was used to measure 'attitude'. A Questionnaire prepared by the investigator was used to obtain information regarding the 'perspectives.' The 'personal data' about the respondents were collected by using a Personal Data Sheet. The Socio-Economic Status Scale developed by Kuppaswami and modified by K.S. Pillai was adopted to measure the 'SES.'

Sample

The study was conducted on a representative sample of 960 degree students selected from the colleges in seven northern districts of Kerala State using the stratified random sampling technique.

Collection of data

The data were collected directly by the investigator from the sample, with the permission and cooperation of the principals of the colleges concerned.

Analysis and Interpretation

The data collected were analysed and interpreted using statistical techniques such as percentage, percentile ranks, arithmetic mean, median, mode, standard deviation, analysis of variance, test of significance of mean difference, Karl Pearson's co-efficient of correlation and chi-square test of independence.

Limitations of the Study

Though the study was intended to assess the knowledge, attitude and perspectives of college students, it was decided to limit the study on the degree students only. Moreover, the selection of sample was confined to the seven northern districts of Kerala State. The limitations of time and money compelled the investigator to take the above decisions.

Organisation of the Thesis

The introductory chapter explains the background of the study, need and significance, scope of the study, objectives of the study, hypotheses of the study, title, definition of key terms, a brief description of the methodology adopted and the limitation of the study.

In the second chapter, an attempt has been made to review the related studies available in the field of Population Education, family planning, demography, etc.

The third chapter contains a description of the methodology of the study. It provides a detailed explanation of the tools, sample, procedure of

data collection and statistical techniques adopted for the analysis and interpretation of data.

The fourth chapter includes the analysis and interpretation of data and discussion of the major findings.

The last chapter contains the summary of the procedure, conclusions and findings of the study. An attempt has been made to put forward some suggestions for improving educational practice and for conducting further related research.

As customary to every thesis, a bibliography is provided at the end. Copies of the tools used in this study are also appended.

REVIEW OF RELATED STUDIES

Subrahmania Das P.V. “Knowledge, attitude and perspectives on population related problems among college students ” Thesis. Department of Adult Education and Extension Services , University of Calicut, 2001

REVIEW OF RELATED STUDIES

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- ❖ K.A.P. Studies
 - ◆ Studies on population related issues and Population Education
 - ◆ Studies on Family Life
 - ❖ Studies on Fertility Behaviour
-

CHAPTER II

REVIEW OF RELATED STUDIES

With a view to gather an insight into the issue going to be studied and to pinpoint the scope of the study to be taken up an attempt was made to examine all the available literature related to the theme. The studies thus reviewed include those done in foreign countries as well as in India. The period of these studies ranges from 1970 to 1998. For convenience these have been classified into two major sections as follows:

- A. Knowledge, Attitude and Practice (K.A.P.) Studies
- B. Studies on Fertility Behaviour

The presentation under each category has been arranged in the chronological order.

A. K.A.P. STUDIES

This is further classified into:-

1. Studies on population related issues and Population Education.
2. Studies on family life.

1. Studies on population related issues and Population Education

Balasubramanian *et al.* (1970) conducted a study on the awareness of teachers about population problem of India and the reaction of teachers to the inclusion of Population Education in the school curricula. The study was conducted on a representative sample of 105 teachers in Bombay. They

noticed a very high awareness among the teachers about the population problem In India.

Poffenberger (1970) conducted a study to find out the opinion of college students (both boys and girls) towards population related issues, on a representative sample of 208 student of the Delhi University. Findings of the study are given below.

- a) Ninety six percent of boys and 100 percent of girls agreed with the statement that the population of India was growing too rapidly.
- b) Eighty three percent of boys and 92 percent of girls agreed that the population problem was serious.
- c) The students favoured the small family norm propagated by the government.
- d) The average number of children desired by the boys was 2.6 while the average number desired by the girls was 2.2.
- e) Majority of the boys and girls wanted at least one son among the children.
- f) While most of the girls approved family planning 19 percent of the boys disapproved because they believed that the methods were unnatural and dangerous.

Pohlman and Rao (1970) conducted a study to find out the perception of teachers of different aspects of population problem, on representative sample of 832 teachers in the rural as well as urban areas of Delhi and Haryana. They found that the teachers had recognised the seriousness of population problem in India. In the opinion of teachers, the people, especially the illiterate, should be made aware that one of the main causes of poverty was over population.

A study was conducted by Varghese (1970) to explore the attitude of different categories of teachers towards different aspects of population problem, on a sample of 276 primary and high school teachers of Bangalore city. He found that the teachers differed in their attitude towards Population Education with respect to their sex. The religion of teachers was significantly related to their attitude towards family planning though it was not related to their attitude towards Population Education.

Poffenberger's study (1971) on the perception and knowledge of secondary school students about population problem revealed that the secondary school students in Baroda district of Gujarath were well aware of population problem. Moreover, the students favoured small family norm and this was mainly prompted by the difficulty experienced by their parents in rearing a large family.

Maheswari (1972) conducted a study to find out the extent of awareness of population problem among school teachers, their opinion towards the adoption of small family norm and the introduction of Population Education in schools. The study was conducted on a sample of 300 teachers from south Delhi. It was found that the teachers had very high awareness of population problem faced by the country and the world, and majority of them agreed that a small family was advantageous to enable people to have higher standard of living and to lead a happy and comfortable life.

Srivastava (1973) conducted a study to find out the awareness of school teachers towards population problem in the country and their attitude towards introduction of Population Education in school

curriculum, among 300 teachers in Madhya Pradesh. The study revealed that majority of them were aware of the population problem and the relevance of introducing Population Education in schools.

The study conducted by Chaiwat (1974) to explore the knowledge, attitude and beliefs of Population Education of teachers in Thailand found that male teachers had significantly more knowledge of basic facts of population in Thailand than female teachers.

The study conducted by Nagda et al. (1974) to find out the existing knowledge and attitude of teachers towards population related problems among 100 teachers of Chittoor district in Andhra Pradesh, showed that majority of them were in favour of family planning, Population Education and small family norm.

Pathak (1974) examined the population awareness and the opinion towards the family size among the parents (fathers) of Varnama village. It was found that those fathers were not aware of the consequences of a large family size on the society or the nation. In addition to that, family size was considered as a personal matter by them.

The study conducted by Salkar (1974) assessed the degree of population awareness among Goan school children, teachers and parents and their preparedness for the inclusion of Population Education in the school programme. The study revealed that the students, teachers and parents were aware of the population problem of the country and they favoured the introduction of Population Education in the school curriculum.

Nagda et al. (1975) conducted a study to find out the perception of students of women's colleges in Andhra Pradesh towards the introduction of Population Education, and found that majority of the girls were aware of the meaning of population explosion and the need for curbing population growth. Moreover, majority of them agreed with the necessity of Population Education, late marriage, spacing and family planning.

The study conducted by Ammal (1976) to assess the awareness of adolescents in Tamil Nadu found urban - rural difference in the awareness of adolescent students towards population crisis. Further the same study showed that majority of the adolescents felt that boys and girls should receive Population Education in schools.

Hanumanulu (1976) conducted a study to find out the knowledge and attitude of parents of out of school youths in Delhi towards Population Education. He found that most of the parents were aware of the population problem. In addition to that, they favoured small family norm and the idea of their children receiving Population Education in schools.

The study conducted by Rao (1976) in Delhi to explore the perception or awareness of school teachers about population problems found that majority of the teachers had good knowledge of the causes and consequences of over population and they favoured the introduction of Population Education in schools.

The research project took up by the Korean Educational Development institute (1977) on population consciousness of students and teachers in secondary schools revealed that both the students and teachers opted for

the nuclear and small family, viewing a large family as having negative effects on the family members.

The research project took up by Trocki (1977) on attitude towards family planning and Population Education among teachers and students in Thailand found that majority of the students and teachers were in favour of family planning and a few opposed family planning on religious grounds.

Deshmukh (1979) conducted a study in Bangalore city to assess the awareness of second year pre-university students of the population problem. The main objective was to study their awareness of the effect of over-population on socio-economic conditions related to food, health, housing, education and development. The findings of the study were:

- a) The general awareness of students towards population problem was found to be moderate.
- b) Boys were found to be significantly more aware of the problem than girls.
- c) Family background and religion were not related to students' awareness of population problem.
- d) The involvement of students in the social service activities, the reading of newspaper or going to movies had no effect on their population awareness. On the other hand, reading general books and listening to radio talks had significant influence on the level of population awareness.

The Ministry of Education, Bangladesh (1979) reported that the knowledge of primary and secondary school teachers about population dynamics was poor.

The study conducted at the University of Assumptions, Philippines (1979) about knowledge and attitude towards population education

possessed by seniors and teachers in secondary schools in Papanga discovered that the respondents had adequate knowledge and favourable attitude towards Population Education. Moreover, the study also revealed that the knowledge of female seniors was significantly higher than that of their male counterparts.

Amrithagowri (1983) found the place of residence (urban/rural), education and income of higher secondary school students were significant variables influencing awareness, attitude and skills related to Population Education of higher secondary school students.

Bhandarkar (1983) in his study on Population Education Knowledge and attitude of secondary school teachers and students in Madhya Pradesh found a significant difference in Population Education knowledge and attitude of secondary school pupils with respect to sex. The study found a positive relationship between the family income of the students and their knowledge and attitude. On the other hand, family size was found to have an inverse relationship to knowledge and attitude. Religion had impact on knowledge though it had no influence on attitude.

The study took up by Sharma (1983) to find out the relationship between educational level, social status and family size of middle aged parents in Himachal Pradesh revealed that the attitude towards Population Education of graduate and post graduate persons was more favourable than matriculates and intermediates.

Amrithpal Kaur (1984) explored in to the population awareness of post-graduate students in Punjab and found that they had got significant population awareness. It was also found that there was no significant

difference in the population awareness of boys and girls, science and arts students, the students from joint families and nuclear families and the students from large families and small families.

Pushpa (1984) conducted a study to discover the attitude of teachers and educational administrators in Punjab towards the introduction of Population Education in schools and found no significant difference in the attitude with respect to locale. But there was significant differences with respect to sex.

Singh (1984) administered a standardised test for measuring Population Education concepts among eighth standard students in Patiala District and found significant difference in the test scores between boys and girls and rural and urban students. The test scores of boys were more than that of girls. The urban students attained higher scores than the rural students.

Iqbal Kaur (1985) had noticed the following facts in her study meant to explore population awareness among post-graduate students of the Punjabi University.

- a) There was no significant difference between arts and science students as far as their population awareness was concerned.
- b) There was no significant difference in population awareness between the boys and girls.
- c) Income level of parents was not a variable affecting population awareness of the post-graduate students.
- d) Students belonging to nuclear and joint families were equally aware of the population problem.

The study made by Misra (1985) in the Dr. H.S. Gawr University found that there was no significant difference among the arts, science and commerce students in their awareness and attitude towards population policy.

The study by the Population Education Cell, (P.E.C.) Allahabad (1985) was on the seventh and eighth standard students in Uttar Pradesh. The study showed significant urban-rural difference in the level of awareness regarding Population Education ideas as well as in the extent of knowledge of curricular and other programmes. The study revealed that there exists no significant difference between boys and girls in respect of their awareness.

Rath (1985) conducted a comparative study of awareness about population dynamics among illiterate and neo-literate adults of Patiala and found significant difference in the awareness between urban and rural neo-literates.

Saksena (1985) in his study found that most of the university students in Kanpur, Kumaon, Rohilkhand, Banaras and Roorkee considered population problems as one of the major problems faced by India and that it is an important cause for India's poverty. Majority of the unmarried post graduate students belonging to upper caste groups of the Hindu religion residing in urban areas and having parents belonging to the professional and technical categories were in favour of having small family with only one or two children. Those who favoured large family were generally found to have a strong preference for male child.

The study conducted by Sukhpreeth Kaur (1985) to assess the population awareness of the post-graduate students of the Punjabi University found significant difference in the awareness between boys and girls. It was also found that science students had more population awareness than arts students.

The study took up by Sumanjith Kaur (1985) among the teachers under training in Punjab found urban - rural differences in the population awareness. The teachers having urban background were more aware of the population growth in comparison with those who had rural family background. Moreover, the study found that teachers under training having different occupational status were almost equal with regard to their awareness.

The study conducted by the P.E.C. Tamilnadu (1986) found that the rural lower primary students had more population awareness than their urban counterparts whereas in the case of the secondary school children, urban students were found to possess better awareness than the rural children.

Goyal (1987) in his study conducted to compare the attitude of professional and non-professional students of Rothak city towards population related issues found significant difference in the attitude between the two groups. Non professional students had better attitude which might be due to the impact of mass media.

Pillai (1987) in his study on awareness of parallel college students in Trivandrum on Population Education found that the majority of the students were not aware of the activities of the Population Education

Resource Centre and many of them believed that Population Education was Sex Education.

Pillai (1987) conducted another study to find out the extent of awareness about Population Education among college students in Trivandrum with special reference to : (a) male and female students, and (b) pre-degree and degree students. The major findings were the following:

- a) Degree students were more aware than pre-degree students.
- b) Majority of the students were not aware of the population statistics.
- c) Majority of the male students were aware of the social and economic problems created by population growth.
- d) Girl students were more aware of various aspects of family problems.
- e) Nearly 35 per cent of students believed that religion plays an important role in one's decision about the adoption of family planning methods.

The P.E.C. Bihar (1987) took up a study to assess the awareness about Population Education of secondary school pupils of Bihar by using an achievement test that included items belonging to the three levels (knowledge, understanding and application) of awareness. It was found that urban boys were at the top with respect to all three levels of awareness followed by urban girls, rural boys and rural girls.

Sharma (1987) who conducted a study related to population awareness programme meant for the secondary school students of Udaipur came to the following conclusions:

- a) There is no significant difference between urban and rural students with regard to knowledge about the different aspects of the population problem.
- b) There exists a significant difference in knowledge between boys and girls.
- c) There is significant difference in the attitude of rural and urban students towards different aspects of Population Education
- d) The attitude of boys and girls towards different aspects of Population Education also is significantly different.
- e) A significant correlation exists between knowledge of population issues and attitude towards them.

Akhtar (1988) assessed the knowledge and attitude of secondary school teachers in Karnataka, with respect to Population Education. No significant difference in the knowledge and attitude was seen between the respondents classified on the basis of age, sex, caste, locale, arts and science faculty, birth order and family type. But significant differences were found between the respondents classified on the basis of per capita income, exposure to mass media, contact with Population Education personnel and conceptualisation of Population Education programmes. Significant difference in the attitude was observed, when the respondents were classified on the basis of religion. But there was no significant difference in the knowledge between various religious groups. Moreover, the study revealed that knowledge was significantly related to the attitude.

Barapanda (1988) in his study to assess the awareness of secondary school teachers of Orissa towards population problem found significant and positive relationship between the awareness and attitude towards Population Education in the case of both male and female teachers.

Kathuria (1988) found that mother's education was a significant variable affecting the population awareness of secondary school students.

Misra conducted a study (1988) on the improvement of population awareness of the secondary school students in Orissa through exposure to population education materials. He found difference in the mean achievement of awareness of boys and girls. The girls were behind boys in respect of their population awareness.

Rout (1988) made a study to explore the awareness of undergraduate students of G.M. College Sambalpur about population explosion. He could find that there existed interaction between the subject of study and the levels of population awareness. The awareness scores of science students were found to be significantly higher than those of counterparts in arts and commerce.

Sahoo's study (1988) on the educational level of teachers in Orissa in relation to the size of their families and acceptance of Population Education in school curriculum revealed that teachers were aware of the causes and consequences of rapid population growth. The majority among them supported the introduction of Population Education in school curriculum.

The study conducted by Swain (1988) to assess the awareness of secondary school teachers in Orissa about Population Education and their

attitude towards it found no significant difference between male and female teachers.

Pareek's study (1989) about the knowledge and attitude towards Population Education among teachers in Rajasthan revealed that there was no significant rural-urban difference in respect of their knowledge. On the other hand, there was significant rural-urban difference in respect of their attitude towards Population Education.

Patnaik (1989) noted that the level of education of doctors and students seemed to be a significant variable in determining attitude towards Population Education.

Thambidurai (1989) in his study to assess the population awareness and attitudes towards Population Education and control among adult education programme functionaries in Tamil Nadu discovered the following facts.

a) There was positive relationship between (i) population awareness and attitudes toward Population Education, (ii) population awareness and attitude towards population control and (iii) attitude towards Population Education and attitude towards population control.

b) No significant difference was seen between the respondents, classified on the basis of sex, religion, birth order, parity level and type of families with regard to their population awareness, attitude towards Population Education and attitude towards population control.

c) When the respondents were classified on the basis of age, caste, marital status, age at the time of marriage, occupation, family size,

educational status, family per capita income and first and second generation and the groups were compared with respect to their scores attained in population awareness test and attitude scale, significant difference was noticed.

d) Significant difference was observed between the respondents with different family status with regard to their population awareness. But no significant difference was seen in their scores on attitude towards Population Education and population control.

e) Respondents having exposure to different kinds of mass media, having different level of contact with population education personnel, having various levels of social participation and having connection with different organisations were found to have significant difference with respect to their population awareness and attitude towards Population Education and population control.

Sharma and Chatterjee (1990) found that parental education was positively related with the level of population awareness among the school students of Orissa, Bihar, West Bengal and Andhra Pradesh.

Nair (1990) conducted a study among college teachers in Kerala and found significant relationship between sex and attitude towards Population Education. But he could not find any significant relationship between the economic status and attitude towards Population Education.

Sivan (1990) conducted an opinion survey on Population Education among the school teachers of Chinnalpatti in Tamil Nadu. He found that all the teachers were aware of family planning. But 64 per cent of the

teachers opined that it was difficult to get manual labour if we had small families.

Abraham (1991) found that religion, sex and education were significant variables in performance scores of knowledge test in population related issues among secondary school pupils of Hyderabad and Ranga Reddy districts.

The study conducted by Das (1991) to examine the population awareness of college students in Kerala found that the younger generation had more awareness about the population problem and its consequences. Majority of the students preferred two years as the best spacing and supported Population Education as a compulsory subject from high school level.

Kumari (1991) found that knowledge was significantly related to attitude towards Population Education among demographers, teachers and parents.

Pushpabai (1992) conducted a study about the awareness about population problems and opinion regarding sex preference among unmarried female students of the University of Kerala. The major findings were the followings:

- a) Majority of the students did not support large family irrespective of their religions.
- b) Majority of them favoured two children as the ideal number irrespective of their sex.
- c) Majority of them opined that women should have equal position and responsibility in household affairs.

- d) When 53.8 per cent regarded three years as the best period of spacing, 38.5 per cent favoured a gap of more than three years and 7.7 percent recommended a gap of only two years.
- e) Almost all the students supported the opinion that people should be given Population Education because it can create social responsibility.

Pillai et al. (1995) conducted a study to assess the knowledge, attitude and practice of degree students of Kerala with regard to the population scenario and allied areas. The sample consisted of 630 degree students selected from the colleges coming under the jurisdiction of the University of Kerala. The following conclusions emerged from the study.

- a) The degree students in Kerala had a high awareness in population related issues but their knowledge of ideas related to the population scenario and allied areas was meagre.
- b) The difference in the mean scores of boys and girls in population awareness was statistically significant, which showed that sex plays a significant role in moulding population awareness among degree students.
- c) The difference in the mean scores of boys and girls in knowledge of related ideas was statistically insignificant and it led to the conclusion that sex does not have any crucial role in acquiring knowledge in population related aspects.
- d) The difference in the mean scores of rural - urban sub samples in the both in population awareness and knowledge was statistically insignificant. This led to the conclusion that locale does not play any significant role in determining the population awareness and knowledge of degree students.
- e) No significant difference was observed in the mean scores of Hindu, Christian and Muslim students both in population awareness and knowledge and it was concluded that religion does not have any decisive role in influencing population awareness and knowledge of degree students.

- f) Degree students in Kerala generally had a moderate attitude towards population problems.
- g) There was no significant difference in the mean scores of rural and urban students in respect of their attitude. Therefore it was deduced that locale of degree students in Kerala does not determine the attitude towards population problem.
- h) The difference in mean scores of boys and girls in their attitude was not statistically significant. So it was concluded that sex does not play a decisive role in shaping the attitude of degree students.
- i) Students belonging to Hindu, Muslim and Christian religions did not differ significantly in their attitude towards population related issues. This finding led to the conclusion that religion does not influence the attitude of students towards population issues.

Rao and Baig (1995) in their study on the awareness about and attitude towards population education among teacher educators in B.Ed. colleges of the Southern Region found that awareness level and attitude towards population education among the teacher educators were not influenced either by sex of the respondents, formal training in Population Education or teaching experience related to Population Education. Moreover, it was found that attitude towards Population Education is independent of awareness level in Population Education.

Nagarajan *et al.* (1996) conducted a study on awareness of Population Education among college students of the Madras University and found a low level of awareness among the students about various aspects of Population Education. The study recommended for the strengthening of population education programme in the colleges.

Ranjithlal (1997) took up a study to assess the extent of awareness on Population Education of IXth standard students of Kerala and found that

there was no significant difference in the awareness among the students classified on the basis of their sex and locale.

Deouskar (1997) conducted a study to assess the perception of teachers and students of the Bhundelkand region of Madhya Pradesh on Population Education. Relevant findings of the study are given below.

- a) Both teachers and students were in favour of a suitably high age for marriage.
- b) Teachers and students were aware of population problems. They were conversant with the need for control of population and the spread, propagation and promotion of Population Education.
- c) Teachers and students expressed their choice in favour of two children as an ideal number for every financial group.
- d) Teachers and students made their choice in favour of Loop/Nirodh as a suitable means for fertility control. Similarly sterilisation was preferred to as a popular method for family planning by teachers and students.

2. Studies on Family Life

Bhatia's (1970) study about the knowledge and attitude of males towards family planning in Punjab revealed that all the government employees who responded to his questionnaire, had knowledge about family planning. But 42 per cent of them were not aware about any method of family planning.

Rao and Imbaraj (1970) conducted a study about the knowledge of and attitude towards family planning among residents of North Arcot. He found significant rural-urban difference in both the variables.

Bharathi Devi (1972) found very poor knowledge about and unfavourable attitude towards family planning among the vast majority of Kuvi-Kandha women of Orissa. Moreover, they perceived conception and birth as the gift of god.

Kumar's study (1972) meant to explore the attitude of Panchayath members in Punjab towards family planning revealed that the majority of the respondents were in favour of family planning and small family. But the fear of non survival of children in a small family was considered by the respondents as the outstanding disadvantage of a small family.

The study conducted by French (1975) to examine the attitude towards family planning among the Islamic leadership in south Thailand, found that many islamic leaders felt that economic rationalisation for birth control has no solid base because they believed that 'Allah' would provide for all those he put on earth. A good number of Islamic leaders did not see population growth as a problem but rather a positive trend ensuring the security of the Muslim population.

The study made by Sik (1975) about the relationship between specialisation and attitude towards population related issues among the professional students in Korea arrived at the following findings.

- a) The majority of the students in professional schools of education, nursing and medicine favoured family planning and the use of contraceptives.
- b) The majority of students pursuing a course on Education desired three children.
- c) More female students preferred a smaller family (the two-children) while more male students desired to have three children.

- d) More students from large metropolitan cities with more than one million population were found to prefer a small family (the two-children family) than those from cities with less than one million population.
- e) Health professionals in general had more favourable attitude towards family planning and population related issues than the teaching professionals. Consequently health professionals desired fewer children than the teaching professionals.

Bat Hae'e's study (1977) on the knowledge and attitude of Kurdish men in Iran with respect to vasectomy and other means of male fertility control revealed that they did not prefer to adopt any method of contraception and vasectomy was judged by them as a method that might reduce personal effectiveness, heighten personal anxiety and decrease marital harmony.

The Curriculum Development Centre, Tribhuvan University (1982) reported that there were mixed feelings and misconceptions about family size among University teachers. The majority among them were of the opinion that a big family was not a blessing; at the same time they believed that more number of children would be an economic asset and an insurance for old age.

The study conducted by Lavania (1982) among the people of Dheekli village, Rajasthan found that awareness about family planning methods was wide spread among the people who had higher level of education and those who belonged to upper income strata and service sector. Besides, the males had more awareness than the females.

The study conducted by Patel (1982) to examine the attitude of urban student youths towards age at marriage and family size found that the

mean age at marriage as preferred by them was 17.82 years for boys and 16.89 years for girls. Moreover, 73 percent of the subjects preferred small family.

Sivaraju (1982) conducted a study about the factors influencing the performance in family planning achievements among the people of Andhra. The study revealed that value attributed to children had influence on contraceptive behaviour. Most of the caste Hindus ascribed a higher value to the sons. Value of the sons was predominant among peasant families who utilise the service of their children in agriculture.

The study conducted by Jot (1984) to compare the attitude of primary and secondary school teachers in Punjab towards marriage and family size revealed that a sizable fraction of them had favourable attitude towards delayed marriage and small family norm. Moreover, there was significant difference in the attitude towards family size between male and female teachers.

Koteswar's study (1984) on small family norm among the industrial workers of Dharwad showed that Muslims were more opposed to family planning as compared to Hindus. Moreover, the couples from higher income groups were more likely to accept sterilisation as compared to couples from lower income groups. Educational level was found to be related to the acceptance of family planning. Moreover, most of the couples expressed the opinion that sons were a must in the family.

The study conducted by Krishnamoorthi (1984) among the acceptors and non-acceptors of family planning in Dharward revealed that religious disapproval has played a considerable role for the non-acceptance of family

planning. Muslim subjects were more anxious than Hindus about the side effects of family planning. Moreover, it was more frequently reported by Muslims than Hindus that the objection from spouse or parents (in-laws) is the cause for the non-acceptance of family planning.

The study conducted by Paramjith Kaur (1984) to explore the attitude of professional and non-professional college students in Patiala towards age at marriage and family size found no significant sex difference in their attitude towards delayed marriage and family size.

Audinarayana (1985) conducted a study to explore the opinions of the caste Hindus and Harijans in Chittor about the ideal age at marriage and found that the majority of the respondents considered 21 years and above as the ideal age at marriage for boys and 19 years for girls. Moreover, a large proportion of the caste Hindus favoured late marriage. The study revealed that the opinions of the Hindus on ideal age at marriage is associated with household income, occupation and possession of modern articles.

Kumari (1985) in his study on attitude of girls towards marriage age and planned family found that 54.3 percent of them considered 21 to 23 years as minimum age at marriage. Employed girls or girls engaged in higher education preferred late marriage. Majority of the girls supported small family norm and favoured family planning.

The study conducted by the Population Research Centre (P.R.C), Andhra Pradesh (1986) for identifying socio-cultural factors leading to the perpetuation of the practice of child marriage among the households of Andhra Pradesh found that a large percentage of Hindu respondents wished

to get their sons and daughters married before the legal age as compared to other religious groups. The unfavourable attitude towards early marriage was more prevalent among Muslims and Christians, Joint families, educated people, non-agricultural groups and higher income groups. The most important reason stated by all the religious groups for early marriage of girls was "difficulty in getting a girl married at late age". Moreover, the study showed that a large percentage of people performing early marriage were less educated agricultural labourers and those belonging to the low income groups.

The study conducted by Ganiger and Rajarathnam (1987) to explore the knowledge of and attitude towards family planning of male non-acceptors of family planning in Karnataka found that literacy, occupation in non-agricultural sectors and higher income were positively related to the knowledge of family planning. However fear of health consequences and objections from family were reported as the major reasons for their non-acceptance of family planning.

The study conducted by Kamal et al. (1987) about the knowledge, opinion and practice of family planning among the female industrial workers and housewives in Egypt concluded that employment is found to be associated with better understanding, sound knowledge, positive attitude regarding family planning, increased use of contraceptives, higher age at marriage, less number of children, and use of contraceptive as a method for planning of the family than for birth control.

Ranganekar et al. (1987) in their study to find the knowledge, attitude and practice of contraception among the people of Bhopal and surrounding

villages, found that contraceptive prevalence and fertility differ among various religious groups. The study showed differences in the knowledge, attitude and practice with respect to locale (urban and rural) and socio-economic status of the subjects.

The study conducted by the Centre for Research, Planning and Action (CERPA) (1988) to examine the knowledge, attitude and practice of family welfare programme among the Indigenous System of Medicine practitioners found that the majority of the subjects had poor knowledge about contraceptives.

Goyal (1988) conducted a study to examine the attitude of married females in Delhi towards age at marriage and came to the following major conclusions.

- a) A major section of the population considered 25 years and more for males and 20 years and more for females as appropriate age for marriage.
- b) A sizeable fraction of the people in the urban areas favoured the legal minimum age at marriage for boys and girls as 25 years and 20 years respectively.
- c) Preference for lower age at marriage was significantly higher amongst economically weaker sections of the population.

The study conducted by Rajeswari and Koteswar (1988) aimed to find out the knowledge and attitude towards family formation on a representative sample of 100 youngsters (between the age of 19 and 25) from Karnataka found that they had poor knowledge about the population situation of India. But they expressed willingness to accept family planning and favoured adoption of permanent methods for the purpose.

Urban subjects were more aware about need for raising the minimum age at marriage than their rural counterparts. Moreover, the study found that the majority of the subjects possessed the desire for a son.

The study conducted by Mohapatra et al. (1988) to find out the knowledge and opinion of couples regarding family planning programme among the women in Banarus found that 66 per cent of them had knowledge about family planning and 24.2 per cent of them were actually practising family planning.

The Family Planning Association of India (F.P.A.I) (1989) conducted a study to understand the attitudes and perceptions of urban youths concerning marriage and sexual behaviour and found that the majority of the respondents were in favour of small family norm. No sex preference was shown while having a child. Regarding sexual life, more males than females had adequate knowledge on the subject.

Verma et al. (1989) found that the majority of women in rural and urban areas in Varanasi had a desire for a child in order to satisfy their motherhood instincts as they thought that life is incomplete without a child.

Marimuthu (1990) examined the knowledge , attitude and practice related to family planning among the people of Dindigul and found religious differences in the readiness to adopt family planning. Hindus were more ready to adopt family planning than Christians and Muslims.

Singh and Misra (1990) in their study to ascertain the attitude of fathers in North-India belonging to different categories towards small

family norm found that 90 percent of them believed in that concept. Out of this 43 percent observed it strictly and 47 percent kept the tendency to deviate if pressed by socio-cultural values in the society. Almost all the respondents were of the opinion that advertisement related with family planning on radio/television had nothing more than nuisance value. Though the educational approach had played an important role in bringing change in the attitude, effects could be observed only amongst people belonging to middle and high socio-economic status.

Mohammed (1991) conducted a study to assess the knowledge, attitude and practice of male contraception among the people in Upper Egypt and Cairo. The main focus of the study was to identify the determinants of the practice of male contraception. The study showed that in Upper Egypt there was a higher level of KAP. The pattern of KAP seemed to be consistent among the people in urban and rural Upper Egypt and Cairo, with high levels of knowledge being accompanied by high levels of approval and practice.

Singh and Singh (1991) in their study to examine the psychological aspects of medical termination of pregnancy among Chandigarh women found that desire to reduce family size and economic pressure are the important reasons for abortion. Further, majority of the women expressed a favourable attitude towards abortion.

Sinha's study (1991) focused on the attitude of Hindus and Muslims towards family planning. The study conducted on 50 undergraduate students found significant difference in their attitude. He also found that religion had influence in shaping their attitudes.

Rathakrishnan (1992) conducted a study to find the perception of small family norm by agricultural labourers in Tamilnadu. He found that 32 percent of the subjects were of the opinion that small family would help them to educate their children. But 36 percent of the subjects were in favour of large family because they believed that children would help the parents in future. All the subjects were aware of small family norm.

Senthilkumar (1992) examined the knowledge, attitude and practice of family welfare programme among SC-neoliterates in Dindugal-Anna district of Tamil Nadu. He found that all the subjects were aware of the necessity of spacing and 92 percent were aware of the methods of population control.

Rao et al. (1993) found that there was a high level of knowledge about and favourable attitude towards family planning among the fisherman community in Tamil Nadu.

Sani's paper (1993) based on a field survey, conducted by the Institute of Social Sciences, New Delhi concluded that the slum dwellers of Baroda, Bhilwara, Sambalpur and Siliguri had very little awareness about the birth control norms and they were not adequately motivated to adopt them. Young couples were not interested in their family size and they had high preference for sons

Singh and Kaur (1993) conducted a study to find out the perceptions of traditional birth attendants regarding contraceptive methods and found that majority of them were in favour of family planning and advocates of permanent methods. But a minority had some prejudices about family

planning methods like vasectomy as they thought these would weaken sexual ability.

The study conducted by Hitesh (1994) to explore the family planning awareness, attitude and advocacy among traditional birth-attendants of Dausa District of Rajasthan found that pro-natalist beliefs such as male sterilisation would make the man impotent and reduce his 'male power' and female sterilisation would cause a number of physical problems such as excessive bleeding, stomachache, weakness etc. were prevalent among traditional birth attendants.

Vincent (1994) who examined the knowledge, attitude and practice of family planning among agriculturists in Tamilnadu, found that 82 percent of them were aware of family planning and 60 percent had favourable attitude towards it.

Katkova et al. (1995) conducted a study among the university students, medical students and doctors in the Tver District of Russia which revealed the following facts. 74.8 percent of the medical students and 56.4 percent of the university students agreed that some contraceptives negatively affect the health of women. 4.1 percent of the medical students did not know male and female sterilisation methods, nor did 31.7 percent of the university students. 72.2 percent of the students stated that two children were optimal, while 20.2 percent wanted to have only one child.

Thamilarasan (1995) examined the knowledge and attitude of youths in Tamil Nadu regarding small family norm. It was found that 50 percent of the subjects were aware of the adverse effects of population growth and 93 percent had favourable attitude towards small family norms. But 64

percent of the subjects preferred male children and 92 percent of them opined that a family should have at least a male child.

The study conducted by Ganesh et al. (1996) to examine the knowledge and opinion of rural women in Tamil Nadu about family planning found that the majority of them did not discuss family planning to anybody. Though all of them were aware of family planning, 25 percent of them were afraid of it. A few respondents reported that they had to face objection from their relatives to adopt family planning.

The study conducted by Murthy and Rao (1996) to examine the cultural practices leading to the preparation for child marriage in Andhra, revealed that a considerable portion of the subjects from all religions had the opinion that religion is favourable to early age at marriage.

The study conducted by Cesar et al. (1997) in Brazil among 1456 women of reproductive age to seek their opinions about giving legal sanction to abortion found that 30 percent of the women were in favour of legalising abortion. Only 13 percent of the illiterate women approved legalisation against 50 percent of women who had 12 or more years of education. Among the women who opposed the legalisation, 26 percent said that abortion should not be used for contraception and 20 percent considered it as a crime.

Khan and Patel (1997) conducted a study to assess the knowledge, attitude and practice of family planning among the married men and women in Agra. The study revealed the following facts. Both men and women were in favour of having three children: two sons and one daughter. Moreover, 35 percent of men and 46 percent of women believed

that girls should be married before the legally prescribed minimum age at marriage. Although 85 percent of men supported family planning, 56 percent felt it should be initiated only after having two children.

Vijaya Lakshmi (1997) found that attitude of women towards family planning was influenced by religion and literacy. Literate women had more favourable attitude towards family planning than the illiterates and the religious groups had more favourable attitude than the non religious groups.

Gorishti and Haffey (1998) in their study conducted among the women in Albania have detected the existence of pro-natalist beliefs and attitude. Many of the women believed that fertility was out of their control as it is in god's hands. Many of them expressed a preference towards male child. The main constraint to family planning was lack of information followed by the mistrust about safety.

The study conducted by Katz et al. (1998) to examine the impact of Community Based Distribution (CBD) on increasing contraceptive knowledge and access among the people of southern Mali has found that size of the ideal family as preferred by women has declined among the group from six children to just two.

B. STUDIES ON FERTILITY BEHAVIOUR

The study of Ram and Metha (1983) conducted among the villagers of Patna showed higher birth rate among Muslims as compared to Hindus.

Patil (1983) found that family planning practice was considerably higher among the modern couples of Dharwar.

Sharma (1983) found negative correlation between educational level of the husband and family size, among the peoples of Himachal Pradesh.

Radha Devi (1984) found that work participation in white-collar jobs did help in increasing the age at marriage of women in Thiruvananthapuram.

The study took up by Singh (1984) among the villagers of Punjab found that educational level of the subjects was negatively related to the number of live births and the number of births was higher among the highly religious respondents.

The study took up by Sarkar (1985) based on the fertility survey of Calcutta conducted in 1970 and 1974 revealed that during the period fertility did decline among higher educated females. Education was found to be positively related to the acceptance of family planning. Moreover, it was revealed that the acceptance of family planning among Muslims was low as 27.8 percent in 1974. It was also observed that about one fourth of the females with two children were unwilling to accept family planning irrespective of religion and caste. Besides, fertility was found to have declined among the educated females.

Sarkar (1985) found that the influence of education on age at marriage was weak among the Muslims of West Bengal and that a high percent of Muslim women got married before fifteen years of age in the seventies, not only in West Bengal but in other states also.

Chaudhary and Saikaia (1986) in their study on fertility, mortality and age at marriage in Assam found a negative relationship between educational level and fertility.

Goyal (1986) took up a study on age at marriage, based on the data of 1961 and 1971 census and found that female literacy was positively related to age at marriage of males as well as females. Moreover, the size of work force engaged in agriculture was negatively related to age at marriage of both females and males.

The study took up by Dash (1988) among the dock labourers of Paradeep port revealed that higher educational standard was associated with higher acceptance of family planning and vice versa.

Asari (1994) in his study to find out the determinants of contraceptive use in Kerala detected that the educated and economically advanced sections of the society opted small family irrespective of the number of sons or daughters. He concluded that family size preference was more important than gender preference in determining contraceptive use.

The international Institute for Population Sciences Bombay (1995) conducted an elaborate survey among 58,562 of married women aged 13-49 all over India in 1992-93. It is known as the National Family Health Survey or N.F.H.S. The main objective of the survey was to collect reliable data on fertility, nupitality, fertility preferences, knowledge and practice of family planning etc. The following findings of the survey are relevant to the present study.

- a) The factors like urbanisation, modernisation, income and education were found to have positive impact on acceptance of family planning.
- b) Contraceptive use in India reflects preference for sons. The rate of acceptance was lowest among the women with no sons and highest among those with two or more sons.

- c) Contraceptive use was lowest among the Muslims as compared to the other religious groups.
- d) The preference for two children was almost universal in Kerala.
- e) The desire for spacing child birth was very strong among the women in Kerala.
- f) Muslims had the lowest age at marriage in Kerala.

The study conducted by Zuanna et al. (1998) among the sexually active women in the Puglia region of Italy had revealed that less educated women had children at young ages.

Conclusion

Though a large number of investigations could be located from the review it can be noted that the studies conducted in Kerala are comparatively very few in number. Also it is found that the findings vary with time, locality and other related factors. This further substantiates the need for a study specifically concentrating on the current status of K.A.P. existing in the state. The review has also provided the investigator an understanding of various factors affecting knowledge attitude and perspectives and has enabled him to pinpoint the problem to be undertaken for study, formulate the objectives and hypotheses, develop appropriate tools for collecting the data and to select suitable techniques for the analysis of data. Besides, the findings of the relevant studies have provided a basis to compare the findings of the present study with the previous results.

METHODOLOGY

Subrahmania Das P.V. “Knowledge, attitude and perspectives on population related problems among college students ” Thesis. Department of Adult Education and Extension Services , University of Calicut, 2001

METHODOLOGY

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- ❖ Variables
 - ❖ Description of Tools
 - ❖ Selection of Sample
 - ❖ Collection of Data
 - ❖ Screening of the Data and Selection of the Final Sample
 - ❖ Classificatory Techniques Used
 - ❖ Statistical Techniques Used for the Analysis
-

CHAPTER III

METHODOLOGY

This research project was so designed as to facilitate collection of quantified data regarding the variables concerned through a sample survey. The data thus gathered were then subjected to statistical analysis and interpretation. To make this possible a number of tools had to be developed and standardised using scientific techniques. Wherever valid tools were available they were adopted. This chapter includes the description about the variables, preparation and selection of tools, selection of sample, strategy used for collecting and consolidating data and the statistical techniques used for their analysis and interpretation.

Variables

The following are the variables selected for the present study:

1. The knowledge/awareness about population related problems such as population situation of the nation and the world, the causes and consequences of disproportionate population growth, the population policy of the Government of India and the practices geared towards population control and family planning.
2. The attitude towards population related problems such as population growth, population control, small family norm, contraception, family welfare, Population Education, age at marriage and status of women in the family and society.

3. The perspectives on age at marriage, number of children, spacing, delay for the birth of first offspring, limiting the reproductive period, sex preference, birth control and status of women in the family.
4. In addition to the variables mentioned above, the study has taken into account the variables such as sex, locale, religion, subject of study and SES for the purpose of stratifying the sample for indepth study.

Classification of the variables into independent and dependent variables

The variables such as sex, locale, religion, subject of study and SES have been considered as independent variables to study their influence on the dependent variables viz., knowledge, attitude and perspectives. While studying the attitude of students towards the issues knowledge was considered as the independent variable and attitude as the dependent variable so that the effect of the former on the latter could be identified. In the same way, while exploring perspectives in relation to other variables knowledge and attitude were taken as independent variables and perspectives was considered as the dependent variable.

Description of Tools

The tools employed for the collection of data are the Knowledge Test, Attitude Scale, Questionnaire, Personal Data Sheet and Socio-Economic Status Scale. The description of these tools are given below.

(a) Tools Constructed by the Investigator

1. Knowledge Test

In order to assess the level of knowledge of college students on population related issues, the investigator prepared a Knowledge Test containing items concerning population situation of the nation and the world, causes and consequences of disproportionate population growth, and the population policy of the Government of India.

For the development of items, each of the aspects was thoroughly analysed into the components involved, each significant component leading to an item. Books and journals on Demography, Population Economics and Population Education were profusely referred for the purpose. The items thus developed by the investigator were subjected to careful scrutiny by experts in the field for which a series of discussions were arranged. The items were approved, rejected or refined on the basis of the insight thus gathered. Finally 50 items that got final approval were included in the preliminary test.

The format of the test was that of a forced choice type with multiple choice items. The item was in the form of a question and four alternate responses A, B, C and D were given for each. The testees were expected to select the response of their choice and mark 'X' against the letter concerned on a separate score sheet prepared for the purpose. Each correct response has been allotted a score of one point while each wrong response or an omitted item was scored as 0 (zero). As there were 50 items in the test, an individual could get a maximum score of 50.

An example for the items in the test is given below.

Which among the following factors is not helpful to prevent population growth?

- A. High literacy rate
- B. Eradication of poverty
- C. Knowledge and availability of contraceptives
- D. Mechanisation of agriculture

Malayalam and English versions of the preliminary test are given as Appendix I and II respectively.

Try out of the preliminary test

The preliminary test was administered on a sample of 370 degree students. The responses of the students were scored by using a punched scoring key for doing the item analysis.

The process of item analysis

The score sheets were arranged in the descending order of the total score. The first 100 answer sheets and the last 100 answer sheets (100 being 27% of the total number of respondents falling under each category) were then separated. These contributed the high group and the low group respectively. The number of respondents answering each item correctly was determined with respect to each group and on the basis of this information the difficulty index and the discriminating power of each item was determined.

The standard formulae given below were applied for the purpose.

$$\text{Item Difficulty} = \frac{\text{PCH} + \text{PCL}}{2} \quad (\text{Brown, 1976})$$

$$\text{Item Discrimination} = \text{PCH} - \text{PCL} \quad (\text{Brown, 1976})$$

where

PCH - Proportion of correct answers in the High group

PCL - Proportion of correct answers in the Low group

It was decided to include items having a difficulty value between 0.5 and 0.7 and a discriminating power more than .15 in the final test. 26 items of the preliminary test that satisfied the above criteria were selected for the final test. These items were arranged in the order of difficulty from easy to difficult.

To examine the relevance of the distractors, the percentage of responses to every distracter against each item was calculated. It was found that more than two percent of the 370 testees have chosen every distractor against each item. So no distractor was removed or modified. The data and results of the item analysis are given in the following table.

TABLE 1
Data and Results of the Item Analysis of Knowledge Test

Item No.	Number of correct answers in the high group	number of correct answers in the low group	Difficulty index	Discriminating value	Selected (S) or Rejected (R)
1	70	49	.59	.21	S
2	79	49	0.64	.3	S
3	76	28	.52	.48	S
4	33	19	.26	.14	R
5	80	65	.72	.15	R
6	73	56	.64	.17	S
7	60	41	.51	.19	S
8	90	59	.74	.31	R
9	24	10	.17	.14	R
10	31	20	.26	.11	R
11	32	6	.19	.26	R
12	22	15	.18	.07	R
13	43	30	.36	.13	R
14	32	32	.32	0	R
15	66	41	.54	.25	S
16	13	6	.09	.07	R
17	21	18	.19	.03	R
18	95	75	.85	.2	R
19	71	35	.53	.36	S
20	73	38	.55	.35	S
21	20	21	.21	-.01	R
22	70	32	.51	.38	S
23	33	17	.25	.16	R
24	98	72	.85	.26	R
25	19	9	.14	.1	R
26	77	36	.56	.41	S
27	83	72	.77	.11	R
28	71	53	.62	.18	S
29	85	49	.67	.36	S
30	47	29	.38	.18	R
31	89	72	.81	.17	R
32	98	78	.88	.2	R
33	75	44	.59	.31	S
34	92	46	.69	.46	S
35	88	66	.77	.22	R
36	81	36	.58	.45	S
37	86	46	.66	.4	S
38	40	22	.31	.18	R
39	93	41	.67	.52	S
40	75	42	.58	.33	S
41	67	39	.53	.28	S
42	58	20	.39	.38	R
43	82	36	.59	.46	S
44	74	36	.55	.38	S
45	92	42	.67	.5	S
46	91	39	.65	.52	S
47	94	75	.85	.19	R
48	73	49	.61	.24	S
49	77	31	.54	.46	S
50	74	33	.53	.41	S

Validity of the test

Since the test items were prepared after referring the books and journals on Demography, Population Economics and Population Education, followed by discussion with experts the test has content validity. The empirical validity of the test was established by correlating the scores of the present test with the scores attained in the knowledge test of population scenario and allied areas prepared by the Population Education Resource Centre (PERC), University of Kerala. The study was conducted on a sample of 30 degree students. The data used for computing the validity of the test is given in the following table.

TABLE 2
Data Used for Computing the Validity of Knowledge Test

Sl. No.	X*	Y**	X ²	Y ²	XY
1	18	15	324	225	270
2	5	8	25	64	40
3	8	10	64	100	80
4	12	9	144	81	108
5	13	11	169	121	143
6	15	13	225	169	195
7	14	12	196	144	168
8	16	14	256	196	224
9	13	11	169	121	143
10	13	11	169	121	143
11	13	8	169	64	104
12	13	10	169	100	130
13	13	7	169	49	91
14	22	10	484	100	220
15	15	16	225	256	240
16	17	17	289	289	289
17	16	10	256	100	160
18	18	10	324	100	180
19	17	15	289	225	255
20	16	13	256	169	208
21	16	15	256	225	240
22	16	12	256	144	192
23	17	13	289	169	221
24	18	17	324	289	306
25	13	9	169	81	117
26	16	16	256	256	256
27	19	10	361	100	190
28	18	16	324	256	288
29	15	12	225	144	180
30	16	14	256	196	224

$$\Sigma x = 451 \quad \Sigma y = 364 \quad \Sigma x^2 = 7087 \quad \Sigma y^2 = 4654 \quad \Sigma xy = 5605$$

Note: *indicates the scores attained in the knowledge Test
**indicates the scores attained in the knowledge test of PERC.

The correlation coefficient for the two sets of scores was calculated by using the following formula.

$$r = \frac{N\Sigma xy - (\Sigma x)(\Sigma y)}{\sqrt{[N\Sigma x^2 - (\Sigma x)^2][N\Sigma y^2 - (\Sigma y)^2]}} \quad (\text{Ferguson, 1981})$$

The correlation coefficient worked out for the two sets of scores was found to be 0.49. This shows that the test is valid enough for the purpose of the study.

Reliability of the test

The reliability of the test was estimated by test-retest method. The test was administered to 30 degree students with an interval of two weeks time. The data used for computing the reliability of the test is given in the following table.

TABLE 3

Data Used for Computing the Test-Retest Reliability of Knowledge Test

Sl. No.	X*	Y**	X ²	Y ²	XY
1	17	21	289	441	357
2	11	12	121	144	132
3	5	9	25	81	45
4	14	15	196	225	210
5	16	19	256	361	304
6	16	19	256	361	304
7	13	15	169	225	195
8	16	14	256	196	224
9	13	13	169	169	169
10	14	16	196	256	224
11	15	15	225	225	225
12	17	20	289	400	340
13	17	19	289	361	323
14	16	15	256	225	240
15	16	18	256	324	288
16	11	13	121	169	143
17	16	16	256	256	256
18	12	14	144	196	168
19	14	13	196	169	182
20	15	14	225	196	210
21	12	13	144	169	156
22	8	10	64	100	80
23	16	13	256	169	208
24	19	21	361	441	399
25	14	16	196	256	224
26	16	18	256	324	288
27	15	15	225	225	225
28	13	15	169	225	195
29	16	18	256	324	288
30	21	22	441	484	462

$\Sigma x = 434$

$\Sigma y = 471$

$\Sigma x^2 = 6558$

$\Sigma y^2 = 7697$

$\Sigma xy = 7064$

Note: * indicates the scores attained in the pre-test

** indicates the scores attained in the post-test

The correlation coefficient was found to be 0.86. This shows that the test is highly reliable.

Malayalam and English versions of the final test and the scoring scheme are given as Appendix III, IV and V respectively.

2. Attitude Scale

The investigator decided to develop a five-point Lickert-type Attitude Scale to measure the attitude of college students towards population related problems. The scale included statements to elicit the students' attitude towards population growth, population control, small family norm, contraception, family welfare, Population Education, age at marriage and status of women in the family and society.

The statements for the scale were prepared by referring books, journals and research reports on Demography, Family Planning and Population Education. The personal experience of the investigator also helped him to prepare some statements. Positive and negative statements were intermingled.

The statements were edited on the basis of the informal criteria suggested by Edwards (1969). The edited statements were subjected to expert criticism and some statements were deleted from the scale. The final form of the preliminary scale included 70 statements of which some were positive and some negative. Each statement was followed by the five indications viz., strongly agree, agree, undecided, disagree and strongly disagree each meant to rate the attitude on a five point scale. One example

each for positive and negative statements and the weightages assigned to them are presented in Table 4.

TABLE 4
Examples of the Statements in Attitude Scale

Item	Strongly Agree	Agree	Un-decided	Dis-agree	Strongly Disagree
Example of positive statement: Political parties should give importance to population control					
Weightage	5	4	3	2	1
Example of negative statement: Contraception is against the natural law					
Weightage	1	2	3	4	5

A separate score sheet was prepared for marking the responses to the statements. The testees were required to mark 'X' against any one of the five alternative responses to show their degree of acceptance or rejection of a statement. The testee's agreement towards a positive statement has been taken to indicate his/her favourable attitude towards population related problems, while agreement towards a negative statement has been taken to indicate unfavourable attitude. The scoring procedure of the scale is on the basis of the weightage assigned to each response category. The total score of the scale could be calculated by summing up the weightages. Since the

draft scale includes 70 statements an individual could get a maximum score of 350.

Malayalam and English versions of the preliminary scale are given as Appendix VI and VII respectively.

Try out of the preliminary scale

The draft scale was tried out on a sample of 100 degree students for the purpose of item analysis and finalisation of the scale.

Item analysis

The response sheets were then scored using the scheme of weightage for responses, described above and the total score for each was arrived at. These were then arranged in the descending order on the basis of the total score. Then the top 25 and the bottom 25 of the answer sheets were separated. These were categorised as High group and Low group respectively. The discriminating power of each statement was then determined by calculating the 't' value using the following formula:

$$t = \frac{\bar{X}_H - \bar{X}_L}{\sqrt{\frac{\sum (X_H - \bar{X}_H)^2 + \sum (X_L - \bar{X}_L)^2}{n(n-1)}}} \quad (\text{Edwards, 1969})$$

Where

\bar{X}_H = The mean score on a given statement for the high group.

\bar{X}_L = The mean score on the same statement for the low group.

n = Number of cases.

The statements having the 't' value greater than or equal to 1.75 were selected for the final scale. 45 (19 positive and 26 negative) statements could be then selected. The 't' values of the items of the draft scale is given in the following table.

TABLE 5
t-values of the Items of Draft Attitude Scale

Statement No.	t-value	Selected/ Rejected	Statement No.	t-value	Selected/ Rejected
1	.99	R	36	1.73	R
2	1.36	R	37	.9	R
3	1.29	R	38	.43	R
4	1.72	R	39	3.2	S
5	1.28	R	40	4.2	S
6	1.42	R	41	2.85	S
7	3	S	42	3.09	S
8	1.7	R	43	4.6	S
9	1.14	R	44	3.3	S
10	3.3	S	45	.7	R
11	3.6	S	46	5.65	S
12	1.57	R	47	6	S
13	.77	R	48	2.1	S
14	4.7	S	49	3.3	S
15	6.8	S	50	1.6	R
16	1.45	R	51	.9	R
17	4	S	52	.22	R
18	3.93	S	53	7.0	S
19	3.7	S	54	3.44	S
20	3.1	S	55	3.72	S
21	0.8	R	56	5.1	S
22	1.44	R	57	1.7	R
23	1.68	R	58	4	S
24	1.58	R	59	1.7	R
25	4.6	S	60	6.1	S
26	5.4	S	61	3.9	S
27	3.24	S	62	2.2	S
28	4.2	S	63	5	S
29	2.4	S	64	4.3	S
30	6.5	S	65	3.1	S
31	2.5	S	66	10.7	S
32	2.07	S	67	2.9	S
33	6.4	S	68	3	S
34	1.17	R	69	5.6	S
35	3.3	S	70	3.6	S

Validity of the scale

The Attitude Scale was subjected to the scrutiny of experts in educational research and demography. Moreover, Attitude Scale was distributed to 30 degree students. Thus the construct validity and the face validity of the scale was established.

To establish the empirical validity, the present scale and the scale of attitude towards population scenario and allied areas prepared by the PERC, University of Kerala were administered on a sample of 30 degree students. The scores obtained were correlated using Pearson's Product Moment Correlation coefficient. Data used for computing the validity of the scale are given in table 6. The correlation was found to be 0.6 which indicates that the scale is valid for the purpose of the study envisaged.

TABLE 6

Data used for Computing the Validity of Attitude Scale

Sl. No.	X*	Y**	X ²	Y ²	XY
1	100	34	10000	1156	3400
2	102	36	10404	1296	3672
3	104	40	10816	1600	4160
4	106	43	11236	1849	4558
5	103	53	10609	2809	5459
6	102	45	10404	2025	4590
7	233	41	54289	1681	9553
8	185	46	34225	2116	8510
9	170	44	28900	1936	7480
10	165	42	27225	1764	6930
11	195	48	38025	2304	9360
12	205	40	42025	1600	8200
13	247	53	61009	2809	13091
14	250	40	62500	1600	10000
15	102	44	10404	1936	4488
16	101	30	10201	900	3030
17	212	51	44944	2601	10812
18	102	36	10404	1296	3672
19	233	51	54289	2601	11883
20	246	49	60516	2401	12054
21	100	32	10000	1024	3200
22	245	49	60025	2401	12005
23	100	37	10000	1369	3700
24	195	48	38025	2304	9360
25	195	47	38025	2209	9165
26	179	46	32041	2116	8234
27	204	50	41616	2500	10200
28	102	44	10404	1936	4488
29	100	34	10000	1156	3400
30	195	48	38025	2304	9360

$$\Sigma x = 4878 \quad \Sigma y = 1301 \quad \Sigma x^2 = 890586 \quad \Sigma y^2 = 57599 \quad \Sigma xy = 218014$$

Note: * indicates the scores obtained in the Attitude Scale

** indicates the scores obtained in the Attitude scale of PERC

Reliability of the scale

The reliability of the scale was established by test-retest method. The scale was administered on 30 degree students with an interval of two weeks time. The data used for computing the test-retest reliability of the scale are given in table 6. The correlation coefficient of the two sets of scores was found to be 0.8. The result indicates that the scale is highly reliable. The following table shows the data used for computing the reliability of the scale.

TABLE 7

Data used for Computing the Test-Retest Reliability of Attitude Scale

Sl. No.	X*	Y**	X ²	Y ²	XY
1	125	128	15625	16384	16000
2	134	142	17956	20164	19028
3	148	165	21904	27225	22420
4	161	172	25921	29584	27692
5	165	172	27225	29584	28380
6	165	176	27225	30976	29040
7	170	176	28900	30976	29920
8	171	188	29241	35344	32148
9	178	189	31684	35721	33642
10	180	191	32400	36481	34380
11	185	192	34225	36864	35520
12	186	194	34596	37636	36084
13	179	190	32041	36100	34010
14	187	195	34969	38025	36465
15	181	193	32761	37249	34933
16	194	203	37636	41209	39382
17	177	187	31329	34969	33099
18	193	197	37249	38809	38021
19	191	201	36481	40401	38391
20	181	180	32761	32400	32580
21	209	233	43681	54289	48697
22	152	169	23104	28561	25688
23	206	210	42436	44100	43260
24	204	205	41616	42025	41820
25	187	188	34969	35344	35156
26	136	212	18496	44944	28832
27	100	105	10000	11025	10500
28	103	108	10609	11664	11124
29	136	212	18496	44944	28832
30	179	184	32041	33856	32936

$\Sigma x = 5063$

$\Sigma y = 5457$

$\Sigma x^2 = 877577$

$\Sigma y^2 = 1016853$

$\Sigma xy = 939980$

Note: *indicates the scores obtained in the pre-test

**indicates the scores obtained in the post-test

Malayalam and English versions of final scale and scoring scheme are given as Appendix VIII, IX and X respectively.

3. Questionnaire

The investigator developed a Questionnaire to explore the perspectives of college students about their family life. The Questionnaire includes items meant to elicit perspectives of college students on the eight aspects listed below viz., age at marriage, number of children, spacing, delay for the birth of first offspring after the marriage, limiting the reproductive period, sex preference, birth control and status of women in the family.

The items of the Questionnaire were prepared after thoroughly studying books, journals and research reports on Population Education and Family Planning. The Questionnaire includes eight questions, one for each aspect. Six among them are subdivided into two parts viz., 'a' and 'b' to elicit specific responses of the students perspectives on age at marriage, number of children, spacing, delay for the birth of first offspring after the marriage limiting the reproductive period and the type of birth control they prefer. The responses to the items are either restricted to forced choices or the students are required to respond to a question by writing a specific answer. The respondents have to mark or write their responses in separate columns in the Questionnaire. An example of the items in the questionnaire is given below:

- Item No.2 (a) Do you wish to limit the number of children in your family life? [Yes] [No]
- (b) If 'Yes', how many children do you wish to have? [..... children] / [undecided]

Validity of the questionnaire

The Questionnaire was subjected to the judgement of the experts in the area. Moreover, the copies of the Questionnaire was distributed to 20 degree students to know whether they have any difficulty or unwillingness to respond to the items. The students did not feel any difficulty or unwillingness. Thus the validity of the Questionnaire was established.

Reliability of the Questionnaire

To establish the reliability, the questionnaire was administered on 30 degree students with an interval of two weeks time and the responses were compared. There were consistency in the responses of almost all students.

Malayalam and English versions of the questionnaire are given as Appendix XI and XII respectively.

4. Personal Data Sheet

The investigator prepared a data sheet to collect information about the students name, sex, religion, marital status, locale and the subject of study. The Personal Data Sheet also includes the request of the investigator to the students to co-operate with his effort to collect the data and to feel free to answer sincerely and without any hesitation.

Malayalam and English versions of the data sheet are given as Appendix XIII and XIV respectively.

(b) Tools adopted by the investigator

1. Socio-Economic Status Scale

The socio-economic status of the college students was measured by using the Socio-Economic Status Scale developed by Kuppaswamy and modified by K. S. Pillai in 1973. However certain modifications were made to suit contemporary trends and status. These are described afterwards. The following table shows the weightages given in the original scale mentioned above..

TABLE 8

Weightages given in Socio-Economic Status Scale

No.	Education	Weightage	Occupation	Weightage	Income per month (Rs.)	Weightage
1.	Masters Degree/Professional Degree and above	10	Professional	10	Above 1000/-	10
2.	Bachelor's Degree	8	Semi-professional	8	751-1000	8
3.	Pre-Degree/Pre-University	5	Skilled workers	7	501-750	6
4.	S.S.L.C.	4	Semi-skilled workers	4	301-500	4
5.	Upto Standard VII	2	Unskilled workers/Labourers	2	101-300	2
6.	Literate	1	Unemployed	0	100 and below	1
7.	Illiterate	0	--	--	---	--

The investigator felt that the criteria adopted for giving weightage to the income of the individual as mentioned in table 8 are not suitable for the

present study. It is apparent that the wages for all types of jobs have been increased from 1973 to 1996, when the scale was administered for measuring the socio-economic status of college students included in the sample. Moreover, the prices of goods and services have increased during this period.

It is obvious that the socio-economic status of the individuals is influenced by their standard of living. Standard of living is determined by the goods and services they consume. The mode of consumption is influenced by the prices of goods and services and the income of the individuals because they are the determinants of the purchasing power. Since the majority of the population of our society belongs to lower and middle income groups, the rise in the price level can affect their standard of living to a great extent. Price hike has its adverse impact on the purchasing power of the major section of the society and is capable to alter their consumption pattern and standard of living, and hence their socio-economic status.

The devices for measuring the socio-economic status should be in congruence with the price hike in the economy. The criteria for giving weightages to the income of the individuals should be subjected to occasional modification along with the rising prices. So it was decided to change the criteria in the present scale on the basis of the increase in the cost of living index of Kerala State from 1970 to April 1996 prepared by the Bureau of Economics and Statistics of Kerala Government.

The cost of living index or consumer price index indicates the change in the price of a basket of goods and services of a particular period with

reference to some fixed (base) period. It enables to understand the changes in the cost to maintain a particular level of standard of living at different times.

According to the Bureau of Economics and Statistics, the cost of living index of Kerala State has increased by 8.175 times from 1970 to April 1996. It can be exemplified that an individual having the monthly income of Rs.100/- in 1970 should have the monthly income of Rs.817.5 in April 1996 to maintain his standard of living equivalent to that in 1970.

The investigator sought the opinion of economists and educationists about his decision to change the criteria in the present scale for giving weightage to the income. Majority of them expressed the opinion that the criteria could be changed in the present scale. by an eight time increase in the level of monthly income. The following table shows the new criteria adopted for giving weightage to the level of monthly income in the Socio-Economic-Status Scale adopted for the present study.

TABLE 9

**Modified Criteria to give Weightage
to Monthly Income in Socio-Economic Status Scales**

Income per month (Rs.)	Weightage
Above 8000	10
6001 - 8000	8
4001 - 6000	6
2401 - 4000	4
801 - 2400	2
800 and below	1

Malayalam and English versions of the SES scale are given as Appendix XV and XVI respectively.

Selection of Sample

The population of the present study is degree students. Since it was rather difficult to consider all the degree students in the state as members of the population the investigator decided to follow the strategy described below.

It was proposed to conduct the study among the college students coming under the jurisdiction of the University of Calicut. When the study was initially taken up, the colleges in the seven northern districts of Kerala were under the jurisdiction of the University of Calicut. Though later the jurisdiction of the University was limited to four districts due to the formation of the Kannur University, the investigator decided to collect the data from all the seven northern districts which covers half of the geographical area of Kerala State. They are Kasaragod, Kannur, Wayanad, Kozhikode, Malappuram, Palakkad and Trichur. These seven districts not only include the population of the northern areas of Kerala State but also consist the people migrated from the middle and southern districts of Kerala State. Therefore, it was felt that the students selected as the sample would represent the different societal strata available in the state. While selecting the colleges, when once this decision was taken the sample was selected as follows.

The selection of sample involved two stages I(i) the selection of the colleges and (ii) selection of students from each college thus identified. For both these, stratification was considered to be most important. This was

required not only for making the sample representative but also to ensure that appropriate sub-samples were available for the different types of analysis anticipated. Therefore stratification was carefully done. In the case of colleges locale of situation (rural-urban), management (Govt.-Private) and sex of students admitted (women's, men's and co-education) were the strata considered. When there were more colleges than the number required in each strata, selection of institutions was made at random. In the case of students the strata considered were sex (female-male) and locale of residence (rural-urban), religion (Hindu, Christian, Muslim) and subject of specialisation (science, arts and commerce). Under each of these categories, the number of the sample was fixed by considering the proportion of the students available under each stratum, in the population considered for the study. When once the number to be selected from each institution under each stratum was decided, the selection was made in clusters, whereby the required number of cases were selected as a cluster from a class division or a batch selected for the study.

It was decided to conduct the study on a representative sample of 1000 degree students. For obtaining 1000 cases for the final analysis, the investigator decided to collect data from 1100 students.

Collection of Data

As requested by the investigator, the Head of the Department of Adult Education and Extension Services sent a letter to the principals of the colleges requesting to render necessary facilities and help to the investigator for the successful conduct of the study. Then the investigator approached the principals of the colleges, who were gracious enough to

render necessary help by arranging classes for the collection of data. The investigator himself distributed the tools among the students. Brief explanation was given to make the students familiar with the tools.

Screening of the Data and Selection of the Final Sample

The data collected were subjected to screening and the response sheets, which were complete in all respects were selected for the final study. Thus the responses of 960 students were selected for the purpose. The details of the final sample are given in table 10.

TABLE 10
Details of Final Sample

Sl. No.	Name of the college	Locality Urban/Rural	Type of Management. Govt/Private	Boys/Girls / Co-educational	No. of Females	No. of Males	Total
1	Govt. College Manjeswar	Rural	Govt.	Co-educational	20	23	43
2	Nehru College Kanhangad	Urban	Private	Co-educational	30	22	52
3	N.S.S. College Mattannur	Rural	Private	Co-educational	20	24	44
4	Nirmalgi College Koothuparamb	Urban	Private	Co-educational	26	22	48
5	Govt. college Mananthavady	Rural	Govt.	Co-educational	18	24	42
6	St. Mary's College S. Battery	Rural	Private	Co-educational	23	25	48
7	W.M.O. College Muttil	Rural	Private	Co-educational	21	24	45
8	Govt. College Kalpatta	Urban	Govt.	Co-educational	18	14	32
9	Govt. arts and Science College Meenchanda	Urban	Govt.	Co-educational	25	28	53
10	Providence college Malapparamb	Urban	Private	Girls	42	--	42
11	St. Joseph's college Devagiri	Urban	Private	Boys	--	45	45
12	M.A.M.O. College Morkkam	Rural	Private	Co-educational	18	10	28
13	E.M.E.A. College Kondotty	Rural	Private	Co-educational	24	19	43
14	N.S.S. College Manjeri	Urban	Private	Co-educational	30	12	42
15	Govt. college Malappuram	Urban	Govt.	Co-educational	21	24	45
16	M.E.S. College Mampad	Rural	Private	Co-educational	27	13	40
17	Govt. Sanskrit College Pattambi	Urban	Govt.	Co-educational	21	20	41
18	V.T.B.M.College Sreekrishnapuram	Rural	Private	Co-educational	19	25	44
19	Govt. Victoria College Palakkad	Urban	Govt.	Co-educational	27	13	40
20	N.S.S. College Vadakancheri	Rural	Private	Co-educational	18	27	45
21	Govt. College Thrissur	Urban	Govt.	Co-educational	17	15	32
22	S.N.College, Natika	Rural	Private	Co-educational	20	13	33
23	Christ college Irinhalakkuda	Urban	Private	Co-educational	18	15	33
Total					503	457	960

Classificatory Techniques Used

As already stated the students had to be classified into the different strata formed on the basis of sex, locale, religion and subject of study. The data collected using the Personal Data Sheet was the basis for this classification. While deciding the locale, the students residing in Panchayaths were considered as rural and those who residing in Municipalities and Corporations were considered as urban. From the point of view of religion, students were classified into Hindu, Muslim and Christian. On the basis of subject of study, the students were classified into three groups, namely science, arts and commerce.

Later, at the time of analysis, the respondents had to be classified on the basis of their performance in the tests/scale administered to measure knowledge and attitude. Also their level of SES also had to be fixed using the norms prescribed. For making these classifications, the following procedure was adopted.

The response sheets were scored according to the scoring scheme already described. Then the arithmetic mean and standard deviation of the scores were determined for each variable. The individuals with the scores greater than arithmetic mean plus one standard deviation ($> M+\sigma$) were considered as high group. Individuals having the score less than the arithmetic mean minus one standard deviation ($< M-\sigma$) were included in the low group. Individuals having the scores between $M+\sigma$ and $M-\sigma$ were included in the average group.

Statistical Techniques Used for the Analysis

Preliminary Analysis on the basis of basic statistics

Basic statistical constants such as mean, median, mode and standard deviation of the variable viz., knowledge, attitude and SES were computed. The averages and standard deviation were used for interpreting the level of knowledge on population issues and attitude towards these. This was done for the total sample and the sub-samples based on sex, locale, religion and subject of study. The percentages of the mean scores out of the maximum scores of the Knowledge Test and Attitude Scale were calculated for comparing the mean scores to the maximum scores with a view to pass meaningful judgement on the level of knowledge and attitude. To have a clear picture of the distributing series of the means for the total sample and the sub-samples, the percentile ranks were also calculated.

Analysis of Variance (ANOVA)

The Analysis of Variance (ANOVA) has been used when more than two groups had to be compared. This technique is known to facilitate establishing causal link between two variables by examining the significance of the F-ratio. In the present study, One way ANOVA has been used to analyse the effect of knowledge on attitude. Moreover, Two-way ANOVA has been used to analyse the main effects and interaction effects of the variables such as sex, locale, religion, subject of study and SES on knowledge and attitude. The standard procedure suggested by statisticians has been used for the purpose.

Test of significance of Mean Difference

The two tailed test of significance of mean difference between large independent samples has been used to conduct the follow-up study of the significant main effects and interaction effects.

Karl Pearsons Co-efficient of Correlation

The extent of relationship between knowledge and attitude for the total sample and the relevant sub-sample based on sex, locale, religion and subjects of study was studied in terms of statistical correlation. For this Karl Pearson's Co-efficient of correlation was calculated using standard formula. The correlation coefficients were interpreted on the basis of the sign, magnitude and co-efficient of determination.

Percentages

The perspectives of students on issues such as age at marriage, number of children, spacing, delay for the birth of first offspring after the marriage, limiting the reproductive period, sex preference, birth control and status of women in the family has been one of the most important aspects studied. Data regarding these were gathered by using a questionnaire. These data have been analysed in terms of percentages of the number of cases responding to each of the opinions called for.

Mode

The perspectives of the respondents on five of the issues, namely the age at which they wish to be married, the number of children they wish to have, period of spacing, period of delay for the birth of first offspring after

the marriage and the period within which they wish to limit the reproduction have been interpreted in terms of the modal scores showing the views of the respondents on each of these issues. Modes were calculated for the purpose.

Chi-square Test of Independence

The investigator attempted to gather insight into the extent of association of the variables viz., sex, locale, religion, subject of study, SES, level of knowledge on population issues and the degree of attitude towards these with the variable 'perspective' on relevant issues. For this purpose the chi-square test of independence was applied.

The significant chi-square values thus identified were further analysed by the post hoc analysis of chi-square as suggested by Haberman (1973), using the following formula.

$$d = \frac{e}{\sqrt{\hat{V}}} \quad (\text{Haberman, 1973})$$

where

$$d = \text{standard normal deviate}$$

$$e = \frac{O_{ij} - E_{ij}}{\sqrt{E_{ij}}}$$

$$\hat{V} = \left(1 - \frac{O_{i.}}{O_{..}} \right) \left(1 - \frac{O_{.j}}{O_{..}} \right)$$

where

O_{ij}	=	Observed frequency of a particular cell
E_{ij}	=	Expected frequency of the cell
$O_{i.}$	=	Observed frequency of the row corresponding to the cell
$O_{.j}$	=	Observed frequency of the column corresponding to the cell
$O_{..}$	=	Total frequency

The technique suggested by Haberman calculates the index of deviation of the observed frequency of each cell in a contingency table from the expected frequency. If the value of the 'd' is negative, it is obvious that the observed frequency is less than the expected frequency. On the other hand if the value of the 'd' is positive, the observed frequency is greater than the expected frequency. The index of deviation ('d') is approximately related to a standard normal deviate, the z-score. Therefore, the interpretation of this index is similar to the interpretation of the z-score. If the two tailed test is used and set $\alpha = 0.05$ or 0.01 , then any value of 'd' exceeds ± 1.96 or ± 2.58 respectively will be statistically significant.

The statistical techniques viz., mean, median, mode, analysis of variance, significance of mean difference, co-efficient of correlation and chi-square test of independence were computed by using the software, Statistical Procedure for Social Sciences (S.P.S.S).

ANALYSIS AND INTERPRETATIONS

Subrahmania Das P.V. "Knowledge, attitude and perspectives on population related problems among college students " Thesis. Department of Adult Education and Extension Services , University of Calicut, 2001

ANALYSIS AND INTERPRETATIONS

-
- ❖ Preliminary Analysis
 - ❖ Assessment of the Level of Knowledge
 - ❖ Assessment of the Level of Attitude
 - ❖ Assessment of Perspectives
-

CHAPTER IV

ANALYSIS AND INTERPRETATIONS

The study was aimed at to find out the knowledge, attitude and perspectives concerning population related problems among college students. The data were collected from a representative sample of degree students of colleges in seven northern districts of Kerala, with the help of the tools constructed or adopted by the investigator.

The present chapter includes the analysis and interpretation of the data collected using the Knowledge Test, Attitude Scale, Questionnaire and General Data Sheet. The analysis was done based on the objectives and hypotheses of the study. This chapter is divided into four parts. Part A includes the analysis of data and interpretation of results regarding knowledge. Part B and C contain the analysis and interpretation regarding attitude and perspectives respectively. Part D includes the discussion of the major findings.

Preliminary Analysis of the Data

The important statistical constants such as mean, median, mode, standard deviation, skewness and kurtosis of the variables namely knowledge, attitude and SES were determined for the total sample. This is presented in table 11.

TABLE 11
Statistical Constants of the Variables

Sl. No.	Variable	Mean	Median	Mode	Standard Deviation	Skewness	Kurtosis
1	Knowledge	13.43	13	14	3.85	0.08	-0.02
2	Attitude	173.05	175	187	21.31	0.08	0.81
3	S.E.S.	13.82	14	10	5.98	0.08	-0.49

The statistical constants show that the distributions of the variables are approximately normal and not highly skewed. Moreover, the graphical representations of the frequency distributions of the variables were examined to understand the shape of the curves. It also revealed that the distributions are almost normal. Therefore the sample selected can be considered as the representative chunk of the population.

Part A

Assessment of the Level of Knowledge

This part of the analysis includes the assessment of the level of knowledge of college students for the total sample and the relevant sub-samples. As the part of the assessment, the arithmetic means of the scores obtained by the students for the total sample and the sub-samples have been calculated. Moreover, the percentage of the mean score for the total sample and the sub-samples out of the maximum score in the Knowledge Test has been found for the purpose of assessment. The percentile rank of the mean score of the total sample and the sub-samples in the distribution

of test scores for the total sample has also been found with a view to make the assessment more meaningful. The results are presented in the following table.

TABLE 12
**Results of the Assessment of the
 Level of Knowledge of College Students**

Sample category	Mean score	Percentage (%) of the mean score out of the maximum score	Percentile Rank (PR) of the mean score
Total sample	13.43	51.65	39.6
Subsamples:			
<u>Sex:</u>			
Female	12.24	47	30.3
Male	14.75	56.7	61.1
<u>Locale</u>			
Urban	13.7	52.6	50.1
Rural	13.4	51.5	39.6
<u>Religion</u>			
Hindu	13.4	51.5	39.6
Muslim	13.1	50.4	39.6
Christian	14.05	54.0	50.1
<u>Subject</u>			
Science	12.82	49.3	39.6
Arts	14.34	55.0	50.1
Commerce	12.98	49.9	39.6

Note: Maximum score in the knowledge test is 26.

Interpretation of the results

The mean knowledge score is 13.43 (51.65 percent of the maximum score with PR = 39.6) for the total sample. The percentile rank indicates that 39.6 percent of students lies below the mean score of college students in the distribution of knowledge scores for the total sample.

When the total sample is classified on the basis of sex, the mean knowledge scores are 12.24 (47 percent of the maximum score with PR = 30.3) for female students and 14.75 (56.7 percent of the maximum score with PR = 61.1) for male students. This shows that the mean score attained by female students is less than the scores of 69.7 percent (100-30.3) cases of the total sample. Regarding male students, their mean score is less than the score obtained by only 38.9 percent (100-61.1) of the cases in the total sample.

When the total sample is classified on the basis of locale, the mean knowledge scores are 13.7 (52.6 percent of the maximum score with PR = 50.1) for urban students and 13.4 (51.5 percent of the maximum score with PR = 39.6) for rural students. The percentile ranks indicate that the mean score attained by urban students is less than the scores of 49.9 percent (100-50.1) cases of the total sample. In the case of rural students the same is less than 60.4 percent (100-39.6) of the cases in the total sample.

When the total sample is classified on the basis of religion, the mean knowledge scores are 13.4 (51.5 percent of the maximum score with PR = 39.6) for Hindu students, 13.1 (50.4 percent of the maximum score with PR = 39.6) for Muslim students and 14.05 (54 percent of the maximum score with PR = 50.1) for Christian students. The percentile ranks indicate that the

mean scores of Muslims and Hindus are less the scores of 60.4 percent of the total sample and the same of the Christians are less than 49.9 percent of the total sample.

When the total sample is classified on the basis of subject of study the mean knowledge scores are 12.82 (49.3 percent of the maximum score with PR = 39.6) for science students, 14.34 (55 percent of the maximum score with PR = 50.1) for arts students and 12.98 (49.9 percent of the maximum score with PR = 39.6) for commerce students. The percentile ranks indicate the mean knowledge scores of science and commerce students are less than 60.4 percent of the cases in the total sample and that of arts students is less than 49.9 percent of the cases in the total sample.

The mean knowledge score for the total sample indicates that the level of knowledge of college students is moderate because it is nearer to 50 percent of the maximum score in the Knowledge Test. The mean knowledge scores of different sub-samples also suggest that the level of knowledge is moderate. But the mean knowledge scores of males and arts students reveal that they are ostensibly ahead of the 50 percent of the total score in the Knowledge Test.

1. Interaction Effect of Sex and Locale on Knowledge

The influence of sex and locale on knowledge has been analysed by using Two-way ANOVA with 2x2 factorial design. The sex and locale was considered as the independent variables and knowledge as the dependent variable.

The data and results of the Two-way ANOVA for the main effects and interaction effect of sex and locale on knowledge are presented in table 13.

TABLE 13
ANOVA of Knowledge by Sex x Locale (2x2)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
<u>Main Effects</u>				
Sex	1499.689	1	1499.689	112.975**
Locale	10.577	1	10.577	0.797
Two-way interaction (sex x locale)	10.463	1	10.463	0.788
Residual	12690.415	956	13.274	
Total	14219.996	959	14.828	

** Significant at 0.01 level.

Interpretation of the results

The main effect of sex on knowledge is significant because the F-value 112.975 is greater than 6.64, which is the table value of F for significance at 0.01 level with 1,956 degrees of freedom. It suggests that there is significant difference between female and male students in respect of the level of knowledge. The F-value of the main effect of locale on knowledge 0.797 is not significant because it is less than 3.84, which is the table value of F for significance at 0.05 level with 1,956 degrees of freedom. It implies that there is no significant difference between urban and rural students with respect to the level of knowledge. The interaction effect of sex and locale on knowledge is not significant because the F-value 0.788 is less than 3.84, which is the table value of F for significance at 0.05 level with

1,956 degrees of freedom. It indicates that the joint effect of sex and locale on knowledge is not significant.

2. Interaction Effect of Sex and Religion on Knowledge

The data and results of the Two-way ANOVA showing the main effects and interaction effect of sex and religion on knowledge are presented in table 14.

TABLE 14
ANOVA of Knowledge by Sex x Religion (2x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
Main Effects				
Sex	1510.524	1	1510.524	114.159**
Religion	74.137	2	37.068	2.801
Two-way interactions (sex x religion)	14.174	2	7.087	0.536
Residual	12623.145	954	13.232	
Total	14219.996	959	14.828	

** Significant at 0.01 level.

Interpretation of the results

The main effect of sex on knowledge is significant because the F-value 114.159 is greater than 6.64, which is the table value of F for significance at 0.01 level with 1,954 degrees of freedom. The main effect of religion on knowledge is not significant for the F-value 2.801 is below 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. This suggests that there is no significant difference in the level of knowledge between Hindu, Muslim and Christian students. There is no

significant interaction effect of sex and religion on knowledge for the F-value 0.536 is less than 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. It indicates that the joint effect of sex and religion on knowledge is not significant.

3. Interaction Effect of Sex and Subject of Study on Knowledge

The data and results of the two-way ANOVA for the main effects and interaction effect of sex and subject of study on knowledge are presented in table 15.

TABLE 15
ANOVA of Knowledge by Sex x Subject (2x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
<u>Main Effects</u>				
Sex	1550.120	1	1550.120	121.276**
Subject of study	511.931	2	255.966	20.026**
Two-way interaction (sex x subject)	5.713	2	2.856	0.223
Residual	12193.811	954	12.782	
Total	14219.996	959	14.828	

** Significant at 0.01 level.

Interpretation of the results

The main effect of sex on knowledge is significant because the F-value 121.276 is greater than 6.64, which is the table value of F for significance at 0.01 level with 1,954 degrees of freedom. There is significant main effect of subject of study on knowledge because the F-value 20.026 is greater than 4.60, which is the table value of F for significance at 0.01 level

with 2,954 degrees of freedom. It implies that the level of students knowledge is different for different subjects, viz., science, arts and commerce. The interaction effect of sex and subject of study on knowledge is not significant because the F-value 0.223 is less than 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. It suggests that the joint effect of sex and subject of study on knowledge is not significant.

4. Interaction Effect of Sex and SES on Knowledge

The data and results of the Two-way ANOVA for the main effects and interaction effect of sex and SES on knowledge is presented in table 16.

TABLE 16
ANOVA of Knowledge by Sex x SES (2x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
<u>Main Effects</u>				
Sex	1547.179	1	1547.179	117.468**
SES	145.587	2	72.793	5.527**
Two-way interaction (sex x SES)	0.697	2	0.349	0.026
Residual	12565.171	954	13.171	
Total	14219.996	959	14.828	

** Significant at 0.01 level.

Interpretation of the results

The main effect of sex on knowledge is significant because the F-value 117.468 is greater than 6.64, which is the table value of F for

significance at 0.01 level with 1,954 degrees of freedom. The main effect of SES on knowledge is significant because the F-value 5.527 is greater than 4.6, which is the table value of F for significance at 0.01 level with 2,954 degrees of freedom. This indicates that the students' knowledge level is different for different levels of SES, viz., low, average and high SES groups. There is no significant interaction effect of sex and SES on knowledge for the F-value 0.026 is below 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. It implies that the joint effect of sex and SES on knowledge is not significant.

5. Interaction Effect of Locale and Religion on Knowledge

The data and results of the Two-way ANOVA for the main effects and interaction effect of locale and religion on knowledge are presented in table 17.

TABLE 17
ANOVA of Knowledge by Locale x Religion (2x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
<u>Main Effects</u>				
Locale	17.410	1	17.410	1.176
Religion	70.135	2	35.067	2.368
Two-way interaction (locale x religion)	3.070	2	1.535	0.104
Residual	14127.362	954	14.809	
Total	14219.996	959	14.828	

Interpretation of the results

Since the F-value 1.176 is less than 3.84, which is the table value of F for significance at 0.05 level with 1,954 degrees of freedom, the main effect of locale on knowledge is not significant. The main effect of religion on knowledge is not significant for the F-value 2.368 is less than 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. There is no significant interaction effect of locale and religion on knowledge because the F-value 0.104 is less than 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. It suggests that the joint effect of locale and religion on knowledge is not significant.

6. Interaction Effect of Locale and Subject of Study on Knowledge

The data and results of the two-way ANOVA for the main effects and interaction effect of locale and subject of study on knowledge are presented in table 18.

TABLE 18
ANOVA of Knowledge by Locale x Subject (2x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
<u>Main Effects</u>				
Locale	14.289	1	14.289	0.995
Subject	465.212	2	232.606	16.2**
Two-way interaction (locale x subject)	37.154	2	18.577	1.294
Residual	13698.202	954	14.359	
Total	14219.996	959	14.828	

** Significant at 0.01 level.

Interpretation of the results

Since the F-value 0.995 is less than 3.84, which is the table value of F for significance at 0.05 level with 1,954 degrees of freedom, it is evident that there is no significant main effect of locale on knowledge. The F-value for the main effect of subject of study 16.2 is significant because it is greater than 4.6, which is the table value of F for significance at 0.01 level with 2,954 degrees of freedom. There is no significant interaction effect of locale and subject of study on knowledge because the F-value 1.294 is less than 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. It indicates that the joint effect of locale and subject of study on knowledge is not significant.

7. Interaction Effect of Locale and SES on Knowledge

The data and results of the Two-way ANOVA for the main effects and interaction effect of locale and SES on knowledge are presented in table 19.

TABLE 19
ANOVA of Knowledge by Locale x SES (2x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
<u>Main Effects</u>				
Locale	13.869	1	13.869	0.942
SES	101.389	2	50.695	3.443*
Two-way interaction (locale x SES)	51.326	2	25.663	1.743
Residual	14047.852	954	14.725	
Total	14219.996	959	14.828	

* Significant at 0.05 level.

Interpretation of the results

The main effect of locale on knowledge is not significant for the F-value 0.942 is less than 3.84, which is the table value of F for significance at 0.05 level with 1,954 degrees of freedom. The main effect of SES on knowledge is significant because the F-value 3.443 is greater than 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. There is no significant interaction effect of Locale and SES on knowledge because the F-value 1.743 is less than 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. It suggests that the joint effect of locale and SES on knowledge is not significant.

8. Interaction Effect of Religion and Subject of Study on Knowledge

The data and results of the Two-way ANOVA for the main effects and interaction effect of religion and subject of study on knowledge are presented in table 20.

TABLE 20
ANOVA of Knowledge by Religion x Subject (3x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
<u>Main Effects</u>				
Religion	67.437	2	33.718	2.362
Subject	465.635	2	232.818	16.308**
Two-way interaction (religion x subject)	105.813	4	26.453	1.853
Residual	13576.394	951	14.276	
Total	14219.996	959	14.828	

** Significant at 0.01 level.

Interpretation of the results

The F-value for the main effect of religion on knowledge 2.362 is not significant because it is less than 2.99, which is the table value of F for significance at 0.05 level with 2,951 degrees of freedom. The F-value for the main effect of subject of study 16.308 is significant because it is greater than 4.6 which is the table value of F for significance at 0.01 level with 2,951 degrees of freedom. There is no significant interaction effect of religion and subject of study on knowledge because the F-value 1.853 is less than 2.37, which is the table value of F for significance at 0.05 level with 4.951 degrees of freedom. It suggests that the joint effect of religion and subject of study on knowledge is not significant.

9. Interaction Effect of Religion and SES on Knowledge

The data and results of the Two-way ANOVA for the main effects and interaction effect of religion and SES on knowledge are presented in table 21.

TABLE 21
ANOVA of Knowledge by Religion x SES (3x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
<u>Main Effects</u>				
Religion	53.046	2	26.523	1.779
SES	89.942	2	44.971	3.05*
Two-way interactions (religion x SES)	37.228	4	9.307	0.631
Residual	14022.773	951	14.745	
Total	14219.996	959	14.828	

* Significant at 0.05 level.

Interpretation of the results

The main effect of religion on knowledge is not significant because the F-value 1.799 is below the table value of significance (i.e., 2.99) at 0.05 level with 2,951 degrees of freedom. There is significant main effect of SES on knowledge because the F-value 3.05 is greater than 2.99 which is the table value of F for significance at 0.05 level with 2,951 degrees of freedom. There is no significant interaction effect of religion and SES on knowledge because the F-value 0.631 is below the table value (i.e., 2.37) of F for significance at 0.05 level with 4,951 degrees of freedom. It suggests that the joint effect of religion and SES on knowledge is not significant.

10. Follow-up Study of the Significant Main Effects

Since the main effects of the variables sex, subject of study and SES have been found significant, follow-up study of the effects were conducted applying the 't' test to understand the nature and extent of group differences. The results are summarised in subsequent paragraphs.

i. Group Difference in Knowledge between the two sexes

The data and result of the 't' test of significance between female and male students is presented in table 22.

TABLE 22
**Test of Significance of Mean
 Difference in Knowledge of Females and Males**

Female			Male			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
503	12.24	3.59	457	14.75	3.69	10.65**

** Significant at 0.01 level.

Interpretation of the result

The critical ratio is 10.65. Since this exceeds 2.58, there is significant difference at 0.01 level between female and male with respect to knowledge. Even though the two-tailed test does not consider the direction of the difference, the higher mean value for the male students than that of their female counterparts implies that the male students possess a significantly higher degree of knowledge than females.

ii. Group difference of subject of study on knowledge

The mean knowledge scores of science, arts and commerce students were compared by using 't' test to determine the comparative levels of knowledge on population problems.

i) Comparison between science and arts students

The data and results of the 't' test for science and arts students are presented in table 23.

TABLE 23
**Test of Significance of Mean
 Difference in Knowledge of Science and Arts Students**

Science			Arts			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
307	12.82	3.86	357	14.34	3.87	5.05**

** Significant at 0.01 level.

Interpretation of the results

The critical ratio is 5.05. Since this exceeds 2.58, there is significant difference at 0.01 level between science and arts students with respect to their knowledge. In spite of this being a two-tailed test, the comparatively higher mean obtained by the arts students indicate that their level of knowledge is significantly higher than that of their counterparts attending courses in science.

ii) Comparison between science and commerce students

The data and result of the 't' test for science and commerce students are shown in table 24.

TABLE 24
**Test of Significance of Mean Difference in
 Knowledge of Science and Commerce students**

Science			Commerce			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
307	12.82	3.86	296	12.98	3.62	0.5

Interpretation of the result

The CR is 0.5. Since this is below 1.96, there is no significant difference at 0.05 level between science and commerce students in respect of their knowledge.

iii) Comparison between Arts and Commerce Students

The data and result of the 't' test for arts and commerce students are presented in table 25.

TABLE 25
Test of Significance of Mean Difference in
Knowledge of Arts and Commerce Students

Arts			Commerce			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
357	14.34	3.87	296	12.98	3.62	4.65**

** Significant at 0.01 level.

Interpretation of the result

The CR is 4.65. Since it exceeds 2.58, there is significant difference at 0.01 level between arts and commerce students in respect of their knowledge on population related problems. The mean score of arts students is greater than that of commerce students. Therefore it can be concluded that arts students possess significantly higher level of knowledge of the issues concerned, than students of commerce.

iii. Group Difference in Knowledge among different SES levels

The mean knowledge scores of the students classified on the basis of the levels of SES viz., low, average and high SES groups, were compared in pairs to get a clear insight into the nature and extent of the difference among the groups.

i. Comparison between the low SES group and the average SES group

The data and result of the 't' test for the low SES group and the average SES group are presented in table 26.

TABLE 26

Test of Significance of Mean Difference in Knowledge of the Low SES group and the Average SES group

Low SES group			Average SES group			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
236	12.91	3.76	542	13.7	3.7	2.72**

** Significant at 0.01 level.

Interpretation of the result

The CR is 2.72. Since this exceeds 2.58, there is significant difference at 0.01 level between the low SES and the average SES groups with respect to knowledge. Even though the two tailed test has been applied the higher mean score achieved by the average group shows that the level of their knowledge on population problems is significantly higher than that of the low SES group.

ii) Comparison between the low SES group and the high SES group

The data and result of the 't' test for the low SES group and the high SES group are presented in table 27.

TABLE 27
**Test of Significance of Mean Difference in
 Knowledge of the Low SES group and the High SES group**

Low SES group			High SES group			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
236	12.91	3.76	182	13.31	4.33	1.0

Interpretation of the result

The CR is 1.0. Since it is below 1.96, it can be concluded that there is no significant difference between the low SES group and the high SES group in respect of their knowledge.

iii) Comparison between the average SES group and the high SES group

The data and result of the 't' test for the average SES group and the high SES group are presented in table 28.

TABLE 28
**Test of Significance of Mean difference in
 Knowledge of the Average SES group and the High SES group**

Average SES group			High SES group			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
542	13.7	3.7	182	13.31	4.33	1.09

Interpretation of the result

The C.R. is 1.09. Since it is below 1.96, there is no significant difference at 0.05 level between the average SES group and the high SES group in respect of their knowledge.

Part B

Assessment of the Level of Attitude

One of the objectives of the study was to find out the level of attitude of college students towards the population problems. The investigator constructed and standardized an Attitude Scale and administered it on a sample selected for the project. The data collected were subjected to statistical manipulations.

The arithmetic means of the scores attained by the students in the Attitude Scale for the total sample and the relevant sub-samples, the percentage of the mean scores out of the maximum score in the Attitude Scale and the percentile ranks of the mean scores of the groups with respect to the distribution of attitude scores for the total sample are presented in table 29.

TABLE 29
Results of the Assessment of the
Level of Attitude of College Students

Sample category	Mean attitude score	Percentage (%) of the mean score out of the maximum score	Percentile Rank (PR) of the mean score
Total sample	173.05	76.9	44.3
<u>Subsamples</u>			
<u>Sex</u>			
Female	171.50	76.2	41.7
Male	174.75	77.7	48.2
<u>Locale</u>			
Urban	174.57	77.6	48.2
Rural	172.74	76.8	44.3
<u>Religion</u>			
Hindu	177.31	78.8	52.5
Muslim	159.85	71.0	24.0
Christian	172.65	76.7	44.3
<u>Subject</u>			
Science	175.95	78.2	50.1
Arts	172.18	76.5	41.7
Commerce	171.07	76.0	39.7

Note: Maximum score in the Attitude Scale is 225.

Interpretation of the results

The mean attitude score is 173.05 (76.9 percent of the maximum score with PR = 44.3) for the total sample. The percentile rank of the mean indicates that 44.3 percent of students have scores below the mean score attained by the members of the sample.

When the total sample is classified on the basis of sex, the mean attitude scores are 171.5 (76.2 percent of the maximum score with PR = 41.7) for female students and 174.75 (77.7 percent of the maximum score with PR = 48.2) for male students. The percentile ranks indicate that the mean score indicating the average level of attitude of the female students is less than the attitude score of 58.3 percent (100-41.7) among the members of the total sample. At the same time the average level of the attitude of male students is less than the attitude scores of 51.8 percent of the cases in the sample.

When the total sample is classified on the basis of locale, the mean attitude scores are 174.57 (77.6 percent of the maximum score with PR = 48.2) for urban students and 172.74 (76.8 percent of the maximum score with PR = 44.3) for rural students. The percentile ranks indicate that the mean attitude score of urban students is less than the scores of 51.8 percent of the members in the total sample. In the case of rural students, the mean attitude score is less than the scores 55.7 percent of the members in the total sample.

When the total sample is classified on the basis of religion, the mean attitude scores are 177.31 (78.8 percent of the maximum score with PR = 52.5) for Hindu students, 159.85 (71 percent of the maximum score with PR = 24.0) for Muslim students and 172.65 (76.7 percent of the maximum score with PR = 44.3) for Christian students. The percentile ranks of the mean attitude scores for the three religions with respect to the scores of the total sample are very revealing. The mean scores of the Hindus is less than the scores obtained by only 47.5 percent (100 - 52.5) of the members in the total group. In the case of Muslims the mean attitude score is found to be less

than the attitude scores of 76 percent of the cases. For Christian students, the mean attitude score is less than the attitude scores of 55.7 percent of the cases in the total sample.

The classification of the total sample on the basis of subject of study reveals that mean attitude scores are 175.95 (78.2 percent of the maximum score with PR = 50.1) for science students, 172.18 (76.5 percent of the maximum score with PR = 41.7) for arts students and 171.07 (76 percent of the maximum score with PR = 39.7) for commerce students. The mean attitude scores of the science, arts and commerce students are found to be less than the attitude scores of 49.9 percent, 58.3 percent and 60.3 percent respectively of the members of the total sample.

The mean attitude scores for the total sample indicates that the college students have a favourable attitude towards population related problems because it exceed 75 percent of the maximum score in the Attitude Scale. The mean attitude scores of the various sub-samples also exceeds 75 percent of the maximum score except in the case of Muslim students. The mean attitude score of the Muslim students is only 71 percentage of the maximum score of the Attitude Scale.

1. Interaction Effect of Sex and Locale on Attitude

The data and results of the Two-way ANOVA for the main effects and interaction effects of sex and locale on attitude are presented in table 30.

TABLE 30
ANOVA of Attitude by Sex x Locale (2x2)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
<u>Main Effects</u>				
Sex	2480.494	1	2480.494	5.482*
Locale	383.351	1	383.351	0.847
Two-way interaction (Sex x Locale)	122.426	1	122.426	0.271
Residual	432577.019	956	452.486	
Total	435623.983	959	454.248	

* Significant at 0.05 level.

Interpretation of the results

The main effect of sex on attitude is significant because the F-value 5.482 is greater than 3.84, which is the table value of F for significance at 0.05 level with 1,956 degrees of freedom. It suggests that sex has significant association with attitude. The main effect of locale on attitude is not significant because the F-value 0.847 is less than 3.84 which is the table value of F for significance at 0.05 level with 1,956 degrees of freedom. It indicates that there is no significant association between locale and attitude. The interaction effect of sex and locale on attitude is not significant because the F-value 0.271 is less than 3.84, which is the table value of F for significance at 0.05 level with 1,956 degrees of freedom. It suggests that the joint effect of sex and locale on attitude is not significant.

2. Interaction Effect of Sex and Religion on Attitude

The data and results of the Two-way ANOVA for the main effects and interaction effect of sex and religion on attitude are presented in table 31.

TABLE 31
ANOVA of Attitude by Sex x Religion (2x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
<u>Main Effects</u>				
Sex	4557.459	1	4557.459	11.844**
Religion	48279.322	2	24139.661	60.096**
Two-way interaction (sex x religion)	1594.734	2	797.367	1.985
Residual	383208.741	954	401.686	
Total	435623.983	959	454.248	

** Significant at 0.01 level.

Interpretation of the results

The main effect of sex on attitude is significant because the F-value 11.844 exceeds 6.64 which, is the table value of F for significance at 0.01 level with 1,954 degrees of freedom. The main effect of religion on attitude is also significant, for the F-value 60.096 exceeds 4.60, which is the table value of significance of F at 0.01 level with 2,954 degrees of freedom. It suggests that both sex and religion have significant association with attitude. There is no significant interaction effect of sex and religion on attitude because the F-value 1.985 is below 2.99, which is the table value of

F for significance at 0.05 level with 2,954 degrees of freedom. It implies that the joint effect of sex and religion on attitude is not significant.

3. Interaction Effect of Sex and Subject of Study on Attitude

The data and results of the Two-way ANOVA for the main effects and interaction effect of sex and subject of study on attitude is presented in table 32.

TABLE 32
ANOVA of Attitude by Sex x Subject (2x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
<u>Main Effects</u>				
Sex	3553.553	1	3553.553	7.938**
Subject	5030.312	2	2515.156	5.618**
Two-way interaction (sex x subject)	983.023	2	491.511	1.098
Residual	427069.461	954	447.662	
Total	435623.983	959	454.248	

** Significant at 0.01 level.

Interpretation of the results

There is significant main effect of sex on attitude because the F-value 7.938 is greater than 6.64, which is the table value of F for significance at 0.01 level with 1,954 degrees of freedom. The main effect of subject of study on attitude is significant because the F-value 5.618 is greater than 4.60 which is the table value of F for significance at 0.01 level with 2,954 degrees of freedom. These results indicate that sex and subjects of study viz.,

science, arts and commerce and attitude towards population problems are significantly associated. There is no significant interaction effect of sex and subject of study on attitude because the F-value 1.098 is less than 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. It implies that the joint effect of sex and subject of study on attitude is not significant.

4. Interaction Effect of Sex and SES on Attitude

The Data and results of the Two-way ANOVA for the main effects and interaction effect of sex and SES on attitude is presented in table 33.

TABLE 33
ANOVA of Attitude by Sex x SES (2x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
<u>Main Effects</u>				
Sex	2616.586	1	2616.586	5.813*
SES	2652.304	2	1326.152	2.946
Two-way interaction (sex x SES)	1039.904	2	519.952	1.155
Residual	429390.588	954	450.095	
Total	435623.983	959	454.248	

* Significant at 0.05 level.

Interpretation of the results

The main effect of sex on attitude is significant at 0.05 level, because the F-value 5.813 is greater than 3.84, which is the table value of F for significance at 0.05 level with 1,954 degrees of freedom. This indicates

significant association between the variables. The main effect of SES on attitude is not significant because the F-value 2.946 is less than 2.99 which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. This suggests that the level of student's attitude is not having significant association with the levels of SES viz., low, average and high SES groups. There is no significant interaction effect of sex and SES on attitude because the F-value 1.55 is less than 2.99 which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. It indicates that the joint effect of sex and SES on attitude is not significant.

5. Interaction Effect of Locale and Religion on Attitude

The data and results of the Two-way ANOVA showing the main effects and interaction effect of locale and religion on attitude is presented in table 34.

TABLE 34
ANOVA of Attitude by Locale x Religion (2x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
<u>Main Effects</u>				
Locale	6.467	1	6.467	0.016
Religion	45625.472	2	22812.736	56.181**
Two-way interaction (locale x religion)	2174.510	2	1087.255	2.678
Residual	387379.958	954	406.059	
Total	435623.983	959	454.248	

** Significant at 0.01 level.

Interpretation of the results

The main effect of locale on attitude is not significant because the obtained F-value 0.016 is less than 3.84, which is the table value of F for significance at 0.05 level with 1,954 degrees of freedom. The main effect of religion on attitude is significant because the F-value 56.181 is greater than 4.6, which is the table value of F for significance at 0.01 level with 2,954 degrees of freedom. There is no significant interaction effect of locale and religion on attitude because the F-value 2.678 is below 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. It indicates that the joint effect of locale and religion on attitude is not significant.

6. Interaction Effect of Locale and Subject of Study on Attitude

The data and results of the Two-way ANOVA for the main effects and interaction effect of locale and subject of study on attitude is presented in table 35.

TABLE 35
ANOVA of Attitude by Locale x Subject (2x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean Square	F-value
<u>Main Effects</u>				
Locale	236.034	1	236.034	0.524
Subject	3809.937	2	1904.968	4.226*
Two-way interaction (locale x subject)	1310.931	2	655.466	1.454
Residual	430059.071	954	450.796	
Total	435623.983	959	454.248	

* Significant at 0.05 level.

Interpretation of the results

The main effect of locale on attitude is not significant because the F-value 0.524 is less than 3.84, which is the table value of F for significance at 0.05 level with 1,954 degrees of freedom. The main effect of subject of study on attitude is significant because the F-value 4.226 is greater than 2.99 which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. There is no significant interaction effect of locale and subject of study on attitude because the F-value 1.454 is less than 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. It implies that the joint effect of locale and subject of study on attitude is not significant.

7. Interaction Effect of Locale and SES on Attitude

The data and results of the Two-way ANOVA for the main effects and interaction effect of locale and SES on attitude is presented in table 36

TABLE 36
ANOVA of Attitude by Locale x SES (2x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean Square	F-value
<u>Main Effects</u>				
Locale	192.104	1	192.104	0.425
SES	2324.965	2	1162.483	2.570
Two-way interaction (locale x SES)	1364.224	2	682.112	1.508
Residual	431490.751	954	452.296	
Total	435623.983	959	454.248	

Interpretation of the results

The main effect of locale on attitude is not significant because the F-value 0.425 is less than 3.84, which is the table value of F for significance at 0.05 level with 1,954 degrees of freedom. The main effect of SES on attitude is not significant because the F-value 2.57 is less than 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. There is no significant interaction effect of locale and subject of study on attitude, because the F-value 1.508 is less than 2.99, which is the table value of F for significance at 0.05 level with 2,954 degrees of freedom. It indicates that the joint effect of the locale and SES on attitude is not significant.

8. Interaction Effect of Religion and Subject of Study on Attitude

The data and results of the Two-way ANOVA for the main effects and interaction effect of religion and subject of study on attitude is presented in table 37.

TABLE 37
ANOVA of Attitude by Religion x Subject (3x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean Square	F-value
<u>Main Effects</u>				
Religion	44952.368	2	22476.184	56.549**
Subject	2907.265	2	1453.632	3.657*
Two-way interaction (religion x sbject)	8668.674	4	2167.169	5.453**
Residual	377984.995	951	397.461	
Total	435623.983	959	454.248	

* Significant at 0.05 level.

**Significant at 0.01 level.

Interpretation of the results

The main effect of religion on attitude is significant because the F-value 56.549 is greater than 4.60, which is the table value of F for significance at 0.01 level with 2,951 degrees of freedom. There is significant main effect of subject of study on attitude because the F-value 3.657 is greater than 2.99, which is the table value of F for significance at 0.05 level with 2,951 degrees of freedom. The interaction effect of religion and subject of study on attitude is significant because the F-value 5.453 is greater than 3.02 which is the table value of F for significance at 0.01 level with 4,951 degrees of freedom. It suggests that there is significant difference in the mean attitude scores of Hindu, Muslim and Christian students when they are classified on the basis of subject of study, i.e., science, arts and commerce.

9. Interaction Effect of Religion and SES on Attitude

The data and results of the Two-way ANOVA for the main effects and interaction effect of religion and SES on attitude is presented in the following table.

TABLE 38
ANOVA of Attitude by Religion x SES (3x3)

Source of Variation	Sum of squares	Degrees of freedom	Mean square	F-value
Main Effects				
Religion	44774.995	2	22387.498	55.125**
SES	1288.852	2	644.426	1.587
Two-way interaction (religion x SES)	2049.698	4	512.424	1.262
Residual	386222.385	951	406.122	
Total	435623.983	959	454.248	

** Significant at 0.01 level.

Interpretation of the results

The main effect of religion on attitude is significant because the F-value 55.125 is greater than 4.60, which is the table value of F for significance at 0.01 level with 2,951 degrees of freedom. The main effect of SES on attitude is not significant because the F-value 1.587 is less than 2.99, which is the table value of F for significance at 0.05 level with 2,951 degrees of freedom. The interaction effect of religion and SES on attitude is not significant because the F-value 1.262 is less than 2.37 which is the table value of F for significance at 0.05 level with 4,951 degrees of freedom. It suggests that the joint effect of religion and SES on attitude is not significant.

10. Follow-up Study of the Significant Main Effects

Since the main effects of the variables sex, religion and subject of study on attitude were found significant, follow-up study of the effects

were conducted by means of 't' test to recognise the group differences. The results are presented in subsequent pages.

i. Group Difference of Sex on Attitude

The data and result of the 't' test of significance between female and male students are presented in table 39.

TABLE 39
Test of Significance of Mean
Difference in Attitude of Females and Males

Female			Male			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
503	171.5	20.75	457	174.75	21.81	2.37*

* Significant at 0.05 level.

Interpretation of the results

The C.R. 2.37 exceeds 1.96, which is the table value of 't' for significance at 0.05 level. This indicates that there exists significant difference between female and male students in their mean level of attitude towards population problems. The mean attitude score of male students is comparatively higher than that of the female students, which shows that male students have higher level of attitude compared to female students.

ii. Group Difference of Religion on Attitude

The mean attitude scores of Hindu, Muslim and Christian students were compared to examine the nature and extent of the group differences. The comparison was done with respect to pairs, using 't' test.

i) Comparison between Hindu and Muslim students

The data and result of the 't' test of Hindu and Muslim students is presented in table 40.

TABLE 40
**Test of Significance of Mean
 Difference in Attitude of Hindus and Muslims**

Hindus			Muslims			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
628	177.31	19.33	199	159.85	23.72	9.44**

** Significant at 0.01 level.

Interpretation of the results

The CR 9.44 exceeds 2.58, which is the table value needed for significance of 't' at 0.01 level. This implies that there is significant difference between Hindu and Muslim students with respect to their attitude. The mean score of Hindus being greater than that of Muslims it can be concluded that Hindu students possess significantly higher level of attitude than their Muslim counterparts.

ii) Comparison between Hindu and Christian students

The data and result of the 't' test of Hindu and Christian students is presented in table 41.

TABLE 41
**Test of Significance of Mean
 Difference in Attitude of Hindus and Christians**

Hindus			Christians			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
628	177.31	19.33	133	172.65	18.22	2.65**

** Significant at 0.01 level.

Interpretation of the results

The CR 2.65 exceeds 2.58, which is the table value of 't' for significance at 0.01 level. This suggests that there exists significant difference in attitude between Hindu and Christians students. The table also shows that the mean score of Hindus is greater than that of Christians. So it can be concluded that students belonging to the Hindu religion are maintaining significantly higher level of attitude towards population problems, than students belonging to the Christian religion.

iii) Comparison between Muslim and Christian students

The data and results of the t-test of significance for Muslim and Christian students is presented in table 42.

TABLE 42
**Test of Significance of Mean
 Difference in Attitude of Muslims and Christians**

Muslims			Christians			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
199	159.85	23.72	133	172.65	18.22	5.55**

** Significant at 0.01 level.

Interpretation of the results

The CR 5.55 exceeds 2.58, which is the table value of 't' needed for significance at 0.01 level. This suggests that there is significant difference between Muslim and Christian students in respect of their attitude towards population problems. The mean score of the Christian students is found to be greater than that of the Muslims students from which it can be concluded that they are having comparatively higher level of attitude than Muslim students.

iii. Group Difference of Subject of Study on Attitude

The mean attitude scores of science, arts and commerce students were compared by applying 't' test to recognise which groups make the difference.

i) Comparison between science and arts students

The data and result of the 't' test for science and arts students is presented in table 43.

TABLE 43
**Test of Significance of Mean
 Difference in Attitude of Science and Arts students**

Science			Arts			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
307	175.95	20.23	357	172.18	22.56	2.27*

* Significant at 0.05 level.

Interpretation of the results

The CR 2.27 exceeds 1.96, which is the table value of 't' required for significance at 0.05 level. This indicates that there is significant difference in attitude towards population problems between students of arts and science subjects. The mean score of science students is found to be greater than that of arts students. Therefore it can be concluded that students learning science subjects are having significantly higher level of attitude towards the issues than their counterparts studying arts subjects.

ii) Comparison between science and commerce students

The data and results of the 't' test for science and commerce students is presented in table 44.

TABLE 44
**Test of Significance of Mean
 Difference in Attitude of Science and Commerce students**

Science			Commerce			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
307	175.95	20.23	296	171.07	20.60	2.94**

**Significant at 0.01 level.

Interpretation of the results

The CR 2.94 exceeds 2.58, which is the table value of 't' required for significance at 0.01 level. This finding implies that there is significant difference in attitude towards population problems between science and commerce students. Since the mean score of science students is higher than that of commerce students, it can be concluded that they possess significantly higher level of positive attitude towards the issues considered than students of commerce.

iii) Comparison between arts and commerce students

The data and result of the 't' test for arts and commerce students is presented in table 45.

TABLE 45
**Test of Significance of Mean
 Difference in Attitude of Arts and Commerce students**

Arts			Commerce			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
357	172.18	22.56	296	171.07	20.60	0.66

Interpretation of the results

The CR 0.66 is below 1.96, which is the table value of 't' required for significance at 0.05 level. It suggests that there is no significant difference between arts and commerce students in respect of their attitude.

12. Follow-up Study of the Significant Interaction Effect

Since it has been found that there exists significant interaction effect of religion and subject of study on attitude, the results were further analysed by test of significance of mean difference ('t' test) of attitude scores between various groups of students classified on the basis of both religion and subject of study. The details of the statistical constants used for the computation of 't' values is presented in table 46.

TABLE 46
Mean, Standard Deviation and Number of
Cases of Students Grouped on the basis of Religion and Subject of Study

S. No.	Name of the group	Mean	Standard deviation	No. of cases
1	Hindu - science	179.3	19.1	210
2	Hindu - arts	175.7	20.1	261
3	Hindu - commerce	177.3	18.2	157
4	Muslim - science	167.1	20.8	45
5	Muslim - arts	148.9	26.7	49
6	Muslim - commerce	161.9	21.8	105
7	Christian - science	170	20.7	52
8	Christian - arts	177.1	15.8	47
9	Christian - commerce	170.6	16.5	34

The results of 't' tests are presented in the following table.

TABLE 47
Results of t-tests between the
Students Grouped on the basis of Religion and Subject of Study

Sl. No.	Name of the groups compared	Critical Ratio (CR)
1	Hindu - science Vs. Hindu - arts	2.0*
2	Hindu - science Vs. Hindu - commerce	1.02
3	Hindu - arts Vs. Hindu - commerce	0.84
4	Muslim - science Vs. Muslim - arts	3.7**
5	Muslim - science Vs. Muslim - commerce	1.38
6	Muslim - arts Vs. Muslim - commerce	2.95**
7	Christian - science Vs. Christian - arts	1.9
8	Christian - science Vs. Christian - commerce	0.15
9	Christian - arts Vs. Christian - commerce	1.97*
10	Hindu - science Vs. Muslim - science	3.58**
11	Hindu - science Vs. Christian - science	3.0**
12	Muslim - science Vs. Christian - science	0.7
13	Hindu - arts Vs. Muslim - arts	6.7**
14	Hindu - arts Vs. Christian - arts	0.5
15	Muslim - arts Vs. Christian - arts	6.4**
16	Hindu - commerce Vs. Muslim - commerce	5.9**
17	Hindu - commerce Vs. Christian - commerce	2.09*
18	Muslim - commerce Vs. Christian - commerce	2.5*

* Significant at 0.05 level.

** Significant at 0.01 level.

Interpretation of the results

Table 47 shows that there exist significant difference in the mean attitude scores of Hindu - science and Hindu - arts students, Christian - arts and Christian - commerce students, Hindu - commerce and Christian -

commerce students and Muslim - commerce and Christian - commerce students, because the respective values of 't' 2.0, 1.97, 2.09 and 2.5 exceed 1.96 which is the table value of 't' for significance at 0.05 level. Moreover the difference in the mean attitude scores between Muslim - science and Muslim - arts students, Muslim - arts and Muslim - commerce students, Hindu - science and Muslim - science students, Hindu - science and Christian - science students, Hindu - arts and Muslim - arts students, Muslim - arts and Christian - arts students and Hindu - commerce and Muslim - commerce students are also significant because the respective values of 't' 3.7, 2.95, 3.58, 3.0, 6.7, 6.4 and 5.9 exceeds 2.58 which is the table value of 't' for significance at 0.01 level. There is no significant difference in remaining cases.

Table 47 also shows that Hindu - science students have the highest mean attitude score. Therefore the conclusion is that higher scores in the attitude scale is more associated with Hindu - science students as compared to the other groups classified on the basis of both the religion and subject of study.

13. The effect of knowledge on Attitude

The One-way ANOVA showing the effect of knowledge on attitude is presented in table 48.

TABLE 48
One-way ANOVA Showing the Effect of Knowledge on Attitude

Source	Degrees of freedom	Sum of squares	Mean square	F-value
Between groups	2	25478.5011	12739.2506	29.7247**
Within groups	957	410145.4822	428.5742	
Total	959	435623.9833		

** Significant at 0.01 level.

Interpretation of the results

The F-value of 29.7247 obtained for the effect of knowledge of population problems on attitude towards these problems is greater than 4.60 which is the table value of F for significance at 0.01 level with 2,957 degrees of freedom. Therefore it can be concluded that there exists significant association between the level of attitude of the members of the sample and their levels of knowledge viz., low, average and high knowledge groups. This indicates that the attitude levels of these groups based on levels of knowledge will differ significantly.

i. Follow-up study of the effect of knowledge

Since the F-value for the effect of knowledge on attitude is found significant a follow up study by means of 't' test was conducted to find the nature and extent of the group differences. The mean attitude scores attained by the students classified on the basis of the level of knowledge (low, average and high) were compared in pairs for the purpose. The results are summarised in the subsequent tables.

i) *Comparison between the low knowledge group and the average knowledge group*

Data and result of the 't' test for the low knowledge group and the average knowledge group is presented in table 49.

TABLE 49
**Test of Significance of Mean Difference in
 Attitude of the Low and the Average Knowledge Groups**

Low knowledge group			Average knowledge group			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
143	163.26	21.31	615	172.81	20.64	4.85**

**Significant at 0.01 level.

Interpretation of the results

The critical ratio 4.85 is greater than 2.58, which is the table value of 't' required for significance at 0.01 level. This indicates that there exists significant difference in the mean level of attitude between the low knowledge group and the average knowledge group. The test applied is two tailed; but the finding that the mean attitude score of the average knowledge group is greater than that of the low knowledge group, shows the average knowledge group is possessing significantly higher level of attitude towards population problems than the low knowledge group.

ii) *Comparison between the low knowledge and the high knowledge group*

Data and results of the 't' test for the low knowledge group and the high knowledge group are presented in table 50.

TABLE 50
**Test of Significance of Mean Difference in
 Attitude of the Low and the High Knowledge Groups**

Low knowledge group			High knowledge group			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
143	163.26	21.31	202	180.68	20.45	7.6**

** Significant at 0.01 level.

Interpretation of the results

The critical ratio 7.6 is greater than 2.58 which is the table value of 't' required for significance at 0.01 level. It indicates that there is significant difference in the mean attitude between the students belong to the low knowledge group and the high knowledge group. The table shows that the mean score of the high knowledge group is greater than that of the low group. Therefore it can be concluded that the high level knowledge group is having significantly higher level of attitude also, when compared to the low level knowledge group.

iii) Comparison between the average and the high knowledge groups

Data and results of the 't' test for the average knowledge group and the high knowledge group are presented in table 51.

TABLE 51
**Test of Significance of Mean Difference in
 Attitude of the Average and the High Knowledge Groups**

Average knowledge group			High knowledge group			Critical Ratio (CR)
N ₁	M ₁	σ_1	N ₂	M ₂	σ_2	
615	172.81	20.64	202	180.68	20.45	4.73**

** Significant at 0.01 level.

Interpretation of the results

The CR 4.73 is greater than 2.58 which is the table value of 't' required for significance at 0.01 level. This indicates that there is significant difference in the attitude between the average level knowledge group and the high level knowledge group. The mean score of the high level knowledge group is found to be greater than that of the mean of the average level knowledge group. Therefore it can be concluded that those possessing higher level of knowledge are having significantly higher level of attitude also.

14. The relationship between knowledge and attitude

The results of correlation study done to find the extent of relationship between knowledge and attitude towards population problems on the total sample and the sub samples are presented in table 52.

TABLE 52
**Correlation between Knowledge and
 Attitude for the Total Sample and Sub-samples**

Sample category	Correlation coefficient	Coefficient of determination ($r^2 \times 100$)
Total sample	0.275**	7.56
Subsamples		
Sex		
Female	0.299**	8.94
Male	0.229**	5.24
Locale		
Urban	0.161	
Rural	0.298**	8.88
Religion		
Hindu	0.284**	8.06
Muslim	0.270**	7.29
Christian	0.298**	8.88
Subject		
Science	0.218**	4.75
Arts	0.356**	12.67
Commerce	0.267**	7.12

** Significant at 0.01 level.

Interpretation of the results

The table shows that there is significant and positive relationship between knowledge and attitude for the total sample and the subsamples based on sex, locale, religion and subject of study except in the case of urban students. It suggests that an increase in knowledge will result in an increase in attitude also. Therefore the conclusion is that knowledge has a

positive role to play in enhancing the attitude of college students in respect of population related problems. The magnitude of correlations for the total sample and the subsamples depicts that there exists only a low degree of relationship between knowledge and attitude in all the cases where significant relation exists.

The co-efficient of determination for the total sample indicates that 7.56 percent of the attitude towards population problems can be ascribed to knowledge of the problem. The coefficient of determination is found to differ among the various subgroups. In the case of females and males these are 8.94 percent and 5.24 percent respectively. The percentage of attitude that can be attributed to knowledge in the case of rural students is 8.88. When the total sample is classified on the basis of religion the percentages of attitude that can be ascribed to knowledge are found to be 8.06 for Hindu, 7.29 for Muslims and 8.88 for Christians. The coefficient of determination shows that the percentage of attitude related to knowledge in the case of science, arts and commerce students are 4.75, 12.67 and 7.12 respectively.

Part C

Assessment of Perspectives

One of the objectives of the study was to find out the perspectives of college students about their family life. The data collected with the help of the Questionnaire was analysed for the purpose. The results of the analysis are presented below.

As mentioned in chapter three, assessment of perspectives was made on the basis of frequency and percentages of responses to the different aspects included in the Questionnaire. The association of perspectives with the variables namely, sex, locale, religion, subject of study, SES, level of knowledge and level of attitude have been found by using the chi-square test of independence. Moreover, the specific responses of students regarding their age at marriage, number of children, period of spacing, limiting the reproductive period and type of birth control they wish to adopt have been analysed in terms of the modal values arrived at. This was done for the total sample as well as for all the relevant sub-samples.

1. Perspectives on Age at Marriage

Table 53 shows the frequency of the responses to item No.1(a) of the Questionnaire, ie. "Do you have a clear idea about your age at marriage?" The response category 'A' indicates the response 'Yes', and the response category 'B' indicates, 'No'.

TABLE 53

Frequency of the Response to Item No.1(a) for the Total Sample

Response category	Frequency	Percentage (%)
A	789	82.2
B	171	17.8
Total	960	100

The above table shows that 82.2 percent (N=789) students have their own views about their age at marriage and only 17.8 percent (N=171) have no idea about it.

The frequency of responses to Item No. 1(a) of various sub-samples and group of students classified on the basis of the three (i.e., low, average and high) levels of SES knowledge and attitude is presented in Table 54.

TABLE 54
Frequency of the Responses to Item No. 1(a) for the Sub-samples and Groups

Res- ponse Category	Sex		Locale		Religion			Subject			SES			Knowledge			Attitude		
	Fe- male	Male	Ur- ban	Ru- ral	Hindu	Mu- slim	Chri- stian	Sci- ence	Arts	Com- merce	Low	Ave- rage	High	Low	Ave- rage	High	Low	Ave- rage	High
A	425	364	133	656	530	146	113	259	290	240	182	450	157	108	510	171	97	571	121
B	78	93	26	145	98	53	20	48	67	56	54	92	25	35	105	31	37	121	13
Total	503	457	159	801	628	199	133	307	357	296	236	542	182	143	615	202	134	692	134

The table shows that the majority of the students have a clear idea about their age at marriage when they are classified on the basis of sex, locale, religion, subject of study and the levels of SES, knowledge and attitude.

Specific Responses on Age at Marriage

The students who reported that they have a clear idea about their age at marriage were asked to mention the specific age at which they wish to get married, by responding to Item No. 1(b) "ie. If 'Yes', at which age you would like to be married?" The frequency distribution showing the age preferred is given in table 55.

TABLE 55

Frequency of the Responses to Item No.1(b) for the Total Sample

Sl. No.	Age at marriage (in years)	Frequency	Percentage (%)
1	18	2	0.25
2	19	2	0.25
3	20	32	4.0
4	21	40	5.1
5	22	83	10.5
6	23	106	13.4
7	24	78	9.9
8	25	186	23.5
9	26	59	7.5
10	27	55	7.0
11	28	92	11.7
12	29	10	1.3
13	30	40	5.1
14	33	2	0.25
15	35	2	0.25
Total		789	100

Lowest age = 18 years, Highest age = 35 years, Mode = 25 years

The above table shows that the responses range from 18 years to 35 years. The mode of the responses for the total sample is 25 years, because maximum number of the students wish to be married at the age of 25.

The frequency of responses to Item No.1(b) of various sub-samples and groups of students classified on the basis of the levels of SES, knowledge and attitude is presented in table 56.

TABLE 56
Frequency of the Responses to Item No. 1(b) for the Sub-samples and Groups

Age at marriage (in years)	SEX		LOCALE		RELIGION			SUBJECT			S E S			KNOWLEDGE			ATTITUDE		
	Female	Male	Urban	Rural	Hindu	Muslim	Chris- tian	Science	Arts	Comm- erce	Low	Ave- rage	High	Low	Ave- rage	High	Low	Ave- rage	High
18	2	--	--	2	2	--	--	--	2	--	1	1	--	1	1	--	1	1	--
19	2	0	1	1	1	1	--	1	1	--	--	1	1	1	1	--	--	1	1
20	28	4	5	27	17	12	3	7	12	13	13	16	3	11	18	3	7	22	3
21	38	2	6	34	24	16	--	16	12	12	12	20	8	10	25	5	4	33	3
22	79	4	10	73	66	14	3	18	30	35	23	43	17	14	61	8	12	62	9
23	99	7	30	76	82	12	12	47	41	18	13	71	22	20	72	14	16	75	15
24	62	16	7	71	54	10	14	37	25	16	10	44	24	10	52	16	7	61	10
25	96	90	29	157	113	45	28	56	79	51	51	108	27	20	121	45	27	131	28
26	10	49	8	51	37	13	9	19	14	26	16	31	12	7	40	12	7	46	6
27	2	53	11	44	37	7	11	10	18	27	11	35	9	5	31	19	5	39	11
28	4	88	15	77	59	13	20	27	38	27	21	49	22	8	54	30	8	63	21
29	2	8	6	4	10	0	--	6	1	3	2	3	5	--	10	--	--	7	3
30	1	39	5	35	25	2	13	14	15	11	7	27	6	1	22	17	1	28	11
33	--	2	--	2	1	1	--	--	2	--	2	--	--	--	1	1	1	1	--
35	--	--	0	2	2	0	--	1	--	1	--	1	1	--	1	1	1	1	--
Total	425	364	133	656	530	146	113	259	290	240	182	450	157	108	510	171	97	571	121
Lowest age	18	20	19	18	18	19	20	19	18	20	18	18	19	18	18	20	18	18	19
Highest Age	30	35	30	35	35	33	30	35	33	35	33	35	35	30	35	35	35	35	30
Mode	23	25	23	25	25	25	25	25	25	25	25	25	25	30	25	25	25	25	25

The above table shows that most of the female students and male students wish to be married at the age of 23 and 25 respectively. Hence, 23 years is the mode of the age at marriage preferred by the female students and 25 that of the male students'. When the students are classified on the basis of locale, the mode of the responses of urban students is 23 years and that of rural students is 25 years. It is also seen that 25 years is the modal age at marriage for the Hindu, Muslim and Christian students. The same is found true in the case of science, arts and commerce students also. With respect to the level of knowledge in population problems, the mode of the preferred age is found to be 30 years for the low knowledge group and 25 for the average and the high knowledge groups. When the students are classified on the basis of SES and attitude towards population problems into three groups each, viz., high, average and low and their preferences studied on the basis of the modal values obtained. It was found that all the groups preferred the age to be 25.

As indicated earlier association of perspectives with all the relevant classificatory variables used to form sub-samples was studied using the chi-square test. The results of this analysis are given below:

i. Association between Sex and Perspectives on Age at Marriage

The data and results of the chi-square test of independence of item No.1(a) by sex is presented in the following table.

TABLE 57

Chi-square Test of Independence of Item No. 1(a) by Sex

Response category	Sex	Female	Male	Row Total
A		425	364	789
d		1.96*	-1.96*	
B		78	93	171
d		-1.96*	1.96*	
Column Total		503	457	960
Chi-square = 3.86*		DF = 1		

*Significant at 0.05 level.

Interpretation of the results

The value of chi-square 3.86 exceeds 3.84 which is the table value of chi-square for significance at 0.05 level with one degree of freedom. It suggests that perspectives on age at marriage is dependent on sex. In other words, there exists association between sex and perspectives on age at marriage.

The table shows that the observed frequency of females who have a clear idea about their age at marriage significantly exceeds the expected frequency because the value of 'd' is 1.96. On the other hand, the 'd' value of females who have no idea about their age at marriage -1.96 indicates that the observed frequency is significantly less than the expected frequency. The table also shows that the observed frequency of males who have a clear idea about their age at marriage is significantly less than the expected frequency as shown by the 'd' value -1.96. On the contrary, the observed frequency of males who have no idea about their age at marriage exceeds

the expected frequency for the 'd' value is 1.96. Hence it can be concluded that the degree of uncertainty about age at marriage is greater among males as compared to their female counterparts.

ii. Association between Locale and Perspectives on Age at Marriage

The data and results of the chi-square test of independence of Item No.1(a) by locale is presented in the following table.

TABLE 58

Chi-square Test of Independence of Item No. 1(a) by Locale

Locale	Urban	Rural	Row Total
Response category			
A	133	656	789
B	26	145	171
Column Total	159	801	960
Chi-square = 0.28		DF = 1	

Interpretation of the results

The value of chi-square 0.28 is below 3.84, which is the table value of chi-square for significance at 0.05 level with one degree of freedom. It indicates that perspectives on age at marriage is independent of locale. In other words there is no association between locale and perspectives on age at marriage.

iii. Association between Religion and Perspectives on Age at Marriage

The data and results of the chi-square test of independence of Item No. 1(a) by religion is presented in the following table.

TABLE 59

Chi-square Test of Independence of Item No. 1(a) by Religion

Religion	Hindu	Muslim	Christian	Row Total
Response category				
A	530	146	113	789
d	2.5*	-3.7**	0.9	
B	98	53	20	171
d	-2.5*	3.7**	-0.9	
Column Total	628	199	133	960
Chi-square = 13.4** DF = 2				

* Significant at 0.05 level

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 13.4 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level with two degrees of freedom. It indicates that perspectives on age at marriage is dependent on religion. In other words, there exists association between religion and perspectives on age at marriage.

The table shows that the observed frequency of Hindus who have a clear idea about their age at marriage significantly exceeds the expected frequency because the 'd' value 2.5 is beyond ± 1.96 . On the other hand, the observed frequency of Hindus who have no idea about their age at marriage is significantly less than the expected frequency because the 'd' value -2.5 exceeds ± 1.96 . The table also shows that the observed frequency of Muslims who have a clear idea about their age at marriage is significantly less than the expected frequency because the 'd' value -3.7

exceeds ± 2.58 . But the observed frequency of Muslims who have no idea about their age at marriage is greater than the expected frequency for the 'd' value 3.7 is beyond ± 2.58 . This implies that the degree of uncertainty about age at marriage is greater among Muslims as compared to Hindus.

iv. **Association between Subject of Study and Perspective on Age at Marriage**

The data and results of the chi-square test of independence of Item No.1(a) by subject of study is presented in the following table.

TABLE 60

Chi-square Test of Independence of Item No. 1(a) by Subject

Subject Response category	Science	Arts	Commerce	Row Total
A	259	290	240	789
B	48	67	56	171
Column Total	307	357	296	960
Chi-square = 1.5 DF = 2				

Interpretation of the results

The value of chi-square 1.5 is below 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It indicates that perspectives on age at marriage is independent of subject of study. In other words there is no association between subject of study and perspectives on age at marriage.

v. Association between SES and Perspectives on Age at Marriage

The data and results of the chi-square test of independence of Item No.1(a) by SES is presented in the following table.

TABLE 61

Chi-square Test of Independence of Item No. 1(a) by SES

SES group	Low	Average	High	Row Total
Response category				
A	182	450	157	789
d	-2.2*	0.7	1.5	
B	54	92	25	171
d	2.4*	-0.8	-1.6	
Column Total	236	542	182	960
Chi-square = 6.5* DF = 2				

* Significant at 0.05 level

Interpretation of the results

The value of chi-square 6.5 exceeds 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It indicates that perspectives on age at marriage is dependent on SES. In other words there is association between SES and perspectives on age at marriage.

The table shows that the observed frequencies of the low SES group who have a clear idea about their age at marriage and who don't have the same significantly deviate from the expected frequencies because the respective values of 'd' are found to be -2.2 and 2.4 which are beyond ± 1.96 . Here the observed frequency of the low SES group who have a clear idea

about their age at marriage is less than the expected frequency and that of those who have no idea about their age at marriage is greater than the expected frequency. Therefore the conclusion is that the prevalence of uncertainty about age at marriage is significant among the low SES group.

vi. Association between Knowledge and Perspectives on Age at Marriage

The data and results of the chi-square test of independence of Item No.1(a) by knowledge is presented in the following table.

TABLE 62

Chi-square Test of Independence of Item No. 1(a) by Knowledge

Knowledge group Response category	Low	Average	High	Row Total
A	108	510	171	789
B	35	105	31	171
Column Total	143	615	202	960
Chi-square = 5.4 DF = 2				

Interpretation of the results

The value of chi-square 5.4 is below 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It indicates that perspectives on age at marriage is independent of knowledge about population related problems. In other words, there is no association between knowledge about population related problems and perspectives on age at marriage.

vii. Association between Attitude and Perspectives on Age at Marriage

The following table shows the data and results of the chi-square test of independence of item No. 1(a) by attitude.

TABLE 63

Chi-square Test of Independence of Item No. 1(a) by Attitude

Attitude group Response category	Low	Average	High	Row Total
A	97	571	121	789
d	-3.2**	0.44	2.6**	
B	37	121	13	171
d	3.2**	-0.44	-2.6**	
Column Total	134	692	134	960
Chi-square = 14.9** DF = 2				

** Significant at 0.01 level.

Interpretation of the results

The value of chi-square 14.9 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level. It indicates that perspectives on age at marriage is dependent on attitude towards population related problems. In other words, there exists association between attitude towards population related problems and perspectives on age at marriage.

The table shows that the observed frequencies of those who have a clear idea about their age at marriage and those who have no idea about this, among the low attitude group deviate from the expected frequencies because the respective values of 'd' -3.2 and 3.2 lie beyond ± 2.58 . The table also shows that the observed frequencies of the high attitude group who

have a clear idea about their age at marriage and who have no idea about their age at marriage significantly deviate from expected frequencies because the respective values of 'd' 2.6 and -2.6 exceed ± 2.58 . The 'd' values imply that the observed frequency of the low attitude group who have a clear idea about their age at marriage is less than the expected frequency and the observed frequency of the same group who don't have an idea about their age at marriage is greater than the expected frequency. On the other hand, the observed frequency of the high attitude group who have a clear idea exceeds the expected frequency and that of the same group who have no idea is less than the expected frequency. This leads to the conclusion that the degree of uncertainty about age at marriage is greater among the low attitude group than the high group.

2. Perspectives on Number of Children

The frequency of the responses to item No. 2(a) ie., "Do you wish to limit the number of children in your future family life?", is presented in the following table. In this table, the response category 'A' denotes the response 'Yes' and 'B' denotes the response 'No'.

TABLE 64

Frequency of the Responses to Item No. 2(a) for the Total Sample

Response category	Frequency	Percentage (%)
A	912	95
B	48	5
Total	960	100

The table shows that 95 percent (N=912) of the students out of the total sample wish to limit the number of children in their future family life and five percent (N=48) don't wish to limit the number of children.

The frequency of the responses to Item No. 2(a) of the sub-samples and groups classified on the basis of the three levels of SES, knowledge and attitude is given in the following table.

TABLE 65

Frequency of the Responses to Item No. 2(a) for the Sub-samples and Groups

Response Category	Sex		Locale		Religion			Subject			SES			Knowledge			Attitude		
	Female	Male	Urban	Rural	Hindu	Muslim	Christian	Science	Arts	Commerce	Low	Average	High	Low	Average	High	Low	Average	High
A	482	430	159	753	619	166	127	297	336	279	217	520	175	131	587	194	105	674	133
B	21	27	0	48	9	33	6	10	21	17	19	22	7	12	28	8	29	18	1
Total	503	457	159	801	628	199	133	307	357	296	236	542	182	143	615	202	134	692	134

As shown by the table presented above, it is clear that majority of the students wish to limit the number of children, when they are classified into various sub-samples and groups as explained earlier.

Specific Responses on Number of Children

The students responded that they wish to limit the number of children were asked to mention the specific number of children they wish to have by responding to the Item No.2(b) of the Questionnaire "ie. If 'Yes', how many children do you wish to have?". The frequency of the responses are given in the following table.

TABLE 66

Frequency of the Responses to Item No.2(b) for the Total Sample

Sl. No.	Number of children	Frequency	Percentage (%)
1	1	58	6.3
2	2	703	77.1
3	3	50	5.5
4	4	7	0.8
5	Undecided	94	10.3
Total		912	100

Smallest number = 2, Largest number = 4, Mode = 2

The table shows that the responses on the number of children range from one to four. Moreover, 10.3 percent (N=94) of students has not decided the number of children they wish to have. The mode of the responses for the total sample is two children, because most of the students wish to have two children in their family.

The frequency of the responses to Item No.2(b) of the sub-samples and the groups classified on the basis of the levels of SES, knowledge and attitude is presented in the following table.

The above table shows that the mode of the specific responses on number of children is two, for females and males, urban and rural students, Hindu, Muslim and Christian students, and science, arts and commerce students, when the total sample is classified on the basis of sex, locale, religion and subject of study. The mode of the responses is two children, for the low, average and high groups, when the total sample is classified on the basis of the three levels of SES, knowledge and attitude.

i. Association between Sex and Perspectives on Number of Children

The data and results of the chi-square test of independence of Item No.2(a) by sex is presented in the following table.

TABLE 68

Chi-square Test of Independence of Item No. 2(a) by Sex

Response category	Sex	Female	male	Row Total
A		482	430	912
B		21	27	48
Column Total		503	457	960
Chi-square = 1.5 DF = 1				

Interpretation of the results

The table shows that the value of chi-square 1.5 is below 3.84, which is the table value of chi-square for significance at 0.05 level with one degree of freedom. It suggests that perspectives on number of children is independent of sex. In other words there is no association between sex and perspectives on number of children.

ii. Association between Locale and Perspectives on Number of Children

The data and results of the chi-square test of independence of Item No.2(a) by locale is presented in the following table.

TABLE 69
Chi-square Test of Independence of Item No. 2(a) by Locale

Locale	Urban	Rural	Row Total
Response category			
A	159	753	912
d	3.2**	-3.2**	
B	0	48	48
d	-3.2**	3.2**	
Column Total	159	801	960
Chi-square = 10.02** DF = 1			

** Significant at 0.01 level.

Interpretation of the results

The value of chi-square 10.02 exceeds 6.64, which is the table value of chi-square for significance at 0.01 level with one degree of freedom. It indicates that perspectives on number of children is dependent on locale. In other words there exists association between locale and perspectives on number of children.

The table shows that the observed frequencies of urban students who wish to limit the number of children and who don't wish so deviate significantly from the expected frequencies, because the respective values of 'd' 3.2 and -3.2 fall beyond the limit ± 2.58 . The table also shows that the observed frequencies of rural students who wish to limit the number of

children and who don't wish so significantly deviate from the expected frequencies because the respective values of 'd' -3.2 and 3.2 lie beyond ± 2.58 . If the same logic which is used to interpret the 'd' values on the basis of the nature of deviations of the observed frequencies from the expected frequencies is applied here, it will lead to the conclusion that urban students are more willing to limit the number of children than their rural counterparts.

iii. Association between Religion and Perspectives on Number of Children

The data and results of the chi-square test of independence of Item No.2(a) by religion is presented in the following table.

TABLE 70

Chi-square Test of Independence of Item No. 2(a) by Religion

Response category	Religion	Hindu	Muslim	Christian	Row Total
A		619	166	127	912
d		4.6**	-11.2**	0.45	
B		9	33	6	48
d		-4.6**	11.2**	-0.45	
Column Total		628	199	133	960
Chi-square = 73.1** DF = 2					

** Significant at 0.01 level.

Interpretation of the results

The table shows that the value of chi-square 73.1 is greater than 9.21, which is the table value of chi-square for significance at 0.01 level with two

degrees of freedom. It indicates that perspectives on number of children is dependent on religion. In other words, there exists association between religion and perspectives on number of children.

The table shows that among Hindus the observed frequencies of those who wish to limit the number of children and those who don't wish so significantly deviate from the expected frequencies because the respective values of 'd' are 4.6 and -4.6 respectively are beyond ± 2.58 . The table also shows that the observed frequencies of Muslims who wish to limit the number of children and who don't wish so significantly deviate from the expected frequencies as the respective values of 'd' -11.2 and 11.2 are beyond ± 2.58 . The deviations of the observed frequencies from the corresponding expected frequencies as indicated by the 'd' values lead to the conclusion that the extent of willingness to limit the number of children is greater among Hindu students as compared to Muslim students.

iv. Association between Subject of Study and Perspectives on Number of Children

The table below shows that the data and results of the chi-square test of independence of Item No.2(a) by subject of study.

TABLE 71

Chi-square Test of Independence of Item No. 2(a) by Subject

Response category	Subject	Science	Arts	Commerce	Row Total
A		297	336	279	912
B		10	21	17	48
Column Total		307	357	296	960
Chi-square = 2.9 DF = 2					

Interpretation of the results

The value of chi-square 2.9 is below 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It suggests that perspectives on number of children is independent of subject of study. In other words, there is no association between subject of study and perspectives on number of children.

v. Association between SES and Perspectives on Number of Children

The table below shows that the data and results of the chi-square test of independence of Item No.2(a) by SES.

TABLE 72

Chi-square Test of Independence of Item No. 2(a) by SES

SES group	Low	Average	High	Row Total
Response category				
A	217	520	175	912
d	-2.5*	1.6	0.8	
B	19	22	7	48
d	2.5*	-1.6	-0.8	
Column Total	236	542	182	960
Chi-square = 6.14*		DF = 2		

* Significant at 0.05 level.

Interpretation of the results

The value of chi-square 6.14 exceeds 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It suggests that perspectives on number of children is dependent on SES. In other words, there exists association between SES and perspectives on number of children.

The table shows that in the low SES group, the observed frequencies of those who wish to limit the number of children and those who don't wish so significantly deviate from the expected frequencies because the respective values of 'd' -2.5 and 2.5 fall beyond the limit ± 1.96 . The deviations of the observed frequencies from the expected frequencies suggest that the prevalence of unwillingness to limit the number of children is apparent among the low SES group.

vi. Association between Knowledge and Perspectives on Number of Children

The data and results of the chi-square test of independence of Item No.2(a) by knowledge is presented in the following table.

TABLE 73

Chi-square Test of Independence of Item No. 2(a) by Knowledge

Knowledge group Response category	Low	Average	High	Row Total
A	131	587	194	912
B	12	28	8	48
Column Total	143	615	202	960
Chi-square = 4.2 DF = 2				

Interpretation of the results

The value of chi-square 4.2 is below 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It suggests that perspectives on number of children is independent of knowledge about population related problems. In other words, there is no association between knowledge about population related problems and perspectives on number of children.

vii. Association between Attitude and Perspectives on Number of Children

The table below shows the data and results of the chi-square test of independence of Item No. 2(a) by attitude.

TABLE 74
Chi-square Test of Independence of Item No. 2(a) by Attitude

Attitude group	Low	Average	High	Row Total
Response category				
A	105	674	133	912
d	-9.5**	5.6**	2.4*	
B	29	18	1	48
d	9.5**	-5.6**	-2.4*	
Column Total	134	692	134	960
Chi-square 91.6** DF = 2				

* Significant at 0.05 level.

** Significant at 0.01 level.

Interpretation of the results

The value of chi-square 91.6 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level with two degrees of freedom. It indicates that perspectives on number of children is dependent on attitude towards population related problems. In other words, there exists relationship between attitude and perspectives on number of children.

The table shows that in the low attitude group, the observed frequencies of those who wish to limit the number of children and who don't wish so significantly deviate from the observed frequencies because both the respective values of 'd' -9.5 and 9.5 are beyond ± 2.58 . In the average attitude group also the observed frequencies of those who wish to limit the number of children and those who don't wish so significantly deviate from the expected frequencies as shown by the respective values of 'd' 5.6 and -5.6 both of which exceed ± 2.58 . In the case of the high attitude

group, the observed frequencies of the two views significantly deviate from the expected frequencies as the respective values of 'd' 2.4 and -2.4 are beyond the limit ± 1.96 . The 'd' values imply that the average attitude group and the high attitude group are more prone to limit the number of children than the low attitude group.

3. Perspectives on Spacing

The frequency of the responses to Item No. 3(a) ie., "Do you wish to have age difference between the children appropriate for their growth?" is presented in the following table. The response category 'A' in the table denotes the response 'Yes' and 'B' denotes the response 'No'.

TABLE 75

Frequency of the Response to Item No.3(a) for the Total Sample

Response category	Frequency	Percentage (%)
A	863	89.9
B	39	4.1
No response	58	6
Total	960	100.0

The above table shows that, 89.9 Percent (N=863) of the respondents wish to adopt spacing and 4.1 percent (N=39) do not wish to adopt spacing. Six percent (N=58) of the students had not responded to item because they wish to have only one child.

The frequency of the responses to Item No. 3(a) of the sub-samples and groups of students having different levels of SES, knowledge and attitude is presented in the table given below.

TABLE 76
Frequency of the Responses to Item No. 3(a) for the Sub-samples and Groups

Response Category	Sex		Locale		Religion			Subject			SES			Knowledge			Attitude		
	Female	Male	Urban	Rural	Hindu	Muslim	Christian	Science	Arts	Commerce	Low	Average	High	Low	Average	High	Low	Average	High
A	461	402	142	721	554	181	128	274	312	277	216	491	156	130	556	177	117	633	113
B	19	20	5	34	21	15	3	13	19	7	15	19	5	9	23	7	12	26	1
Total	480	422	147	755	575	196	131	287	331	284	231	510	161	139	579	184	129	659	114

The above table shows that majority of the students wish to adopt spacing when they are classified into relevant sub-samples and groups as explained earlier.

Specific Responses on Period of Spacing

Those students who wish to adopt spacing were asked to mention the minimum age difference between their children they wish to have, in response to Item No.3(b) ie. "If 'Yes', what will be the minimum age difference between the children you wish to have?" The frequency of the responses towards the item is given in the following table.

TABLE 77

Frequency of the Responses to Item No.3(b) for the Total Sample

Sl. No.	Minimum age difference (in years)	Frequency	Percentage (%)
1	1	3	0.3
2	2	222	25.7
3	3	259	30
4	4	147	17
5	5	155	18
6	6	12	1.4
7	7	3	0.3
8	8	1	0.1
9	Undecided	61	7.1
Total		863	100

Lowest difference = 1 year

Highest difference = 8 years

Mode = 3 years

The table shows that the responses on minimum age difference between the children range from one year to eight years. Moreover 7.1

percent ($N = 61$) of the students has not decided the number of children they wish to have. Since most of the students wish to have three years' minimum age difference between the children, the Mode is three years for the total sample.

The frequency of the responses to Item No.3(b) of the sub-samples and the groups classified on the basis of the levels of SES, knowledge and attitude is presented in the following table.

TABLE 78
Frequency of the Responses to Item No. 3(b) for the Sub-samples and Groups

Period of spacing (in year)	SEX		LOCALE		RELIGION			SUBJECT			S E S			KNOWLEDGE			ATTITUDE		
	Female	Male	Urban	Rural	Hindu	Muslim	Chris-tian	Science	Arts	Comm-erce	Low	Ave-rage	High	Low	Ave-rage	High	Low	Ave-rage	High
1	2	1	1	2	2	--	1	--	3	--	--	3	--	--	2	1	1	1	1
2	115	107	30	192	139	50	33	84	81	57	52	134	36	41	138	43	45	156	21
3	122	137	50	209	177	47	35	81	88	90	74	133	52	33	170	56	32	190	37
4	83	64	26	121	97	30	20	44	53	50	32	84	31	20	100	27	17	109	21
5	91	64	25	130	107	27	21	45	63	47	37	94	24	22	97	36	13	116	26
6	7	5	1	11	4	5	3	4	4	4	3	6	3	1	8	3	2	7	3
7	2	1	--	3	2	1	--	1	1	1	1	1	1	--	1	2	1	2	--
8	--	1	--	1	--	1	--	--	--	1	1	--	--	--	--	1	--	--	1
Un-decided	39	22	9	52	26	20	15	15	19	27	16	36	9	13	40	8	6	52	3
Total	461	402	142	721	554	181	128	274	312	277	216	491	156	130	556	177	117	633	113
Shortest period	1	1	1	1	1	2	1	2	1	2	2	1	2	2	1	1	1	1	1
Longest period	7	8	6	8	7	8	6	7	7	8	8	7	7	6	7	8	7	7	8
Mode	3	3	3	3	3	2	3	2	3	3	3	2	3	2	3	3	2	3	3

The above table shows that the mode of the responses is three years for females and males and urban and rural students, when the total sample is classified on the basis of sex and locale. When the total sample is classified on the basis of religion, the mode of the responses of Hindus and Christians is three years and that of Muslims is two years. The mode of the responses of science students is two years and that of arts and commerce students is three years, when the total sample is classified on the basis of subject of study. The mode becomes three years for the low and high SES group and two years for the average SES group. The mode is two years for the low knowledge group and three for the average and the high knowledge group. The mode of the responses of the low attitude group is two years and that of the average and high attitude groups is three years.

i. Association between Sex and Perspectives on Spacing

The table below presents the data and results of the chi-square test of independence of Item No. 3(a) by sex.

TABLE 79

Chi-square Test of Independence of Item No.3(a) by Sex

Response category	Sex	Female	Male	Row Total
A		461	402	863
B		19	20	39
Column Total		480	422	902
Chi-square = 0.33 DF = 1				

Interpretation of the results

The value of chi-square 0.33 is below 3.84, which is the table value of chi-square for significance at 0.05 level with one degree of freedom. It indicates that perspectives on spacing is independent of sex. In other words, there is no association between sex and perspectives on spacing.

ii. Association between Locale and Perspective on Spacing

The data and results of the chi-square test of independence of Item No.3(a) by locale is presented in the following table.

TABLE 80

Chi-square Test of Independence of Item No.3(a) by Locale

Response category	Urban	Rural	Row total
A	142	721	863
B	5	34	39
Column Total	147	755	902
Chi-square = 0.36 DF = 1			

Interpretation of the results

The value of chi-square 0.36 is below 3.84, which is the table value of chi-square for significance at 0.05 level with one degree of freedom. It indicates that perspectives on spacing is independent of locale. In other words, there is no association between locale and perspectives on spacing.

iii. Association between Religion and Perspectives on Spacing

The table below presents the data and results of the chi-square test of independence of Item No. 3(a) by religion.

TABLE 81

Chi-square Test of Independence of Item No.3(a) by Religion

Religion	Hindu	Muslim	Christian	Row Total
Response category				
A	554	181	128	863
d	1.4	-2.65**	1.3	
B	21	15	3	39
d	-1.4	2.54*	-1.2	
Column Total	575	196	131	902
Chi-square = 7.2* DF = 2,				

* Significant at 0.05 level

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 7.2 exceeds 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It signifies that perspectives on spacing is dependent on religion. In other words, there is association between religion and perspectives on spacing.

The table shows that in the case of Muslim students, the observed frequencies of those who wish to adopt spacing and those who do not wish so significantly deviate from the expected frequencies because the respective values of 'd' -2.65 and 2.54 are beyond ± 2.58 and ± 1.96

respectively. This suggests that the reluctance to adopt spacing is apparent among Muslim students.

iv. Association between Subject of Study and Perspectives on Spacing

The data and results of the chi-square test of independence of Item No.3(a) by subject of study is presented in the following table.

TABLE 82

Chi-square Test of Independence of Item No. 3(a) by Subject

Response category	Subject	Science	Arts	Commerce	Row Total
A		274	312	277	863
B		13	19	7	39
Column Total		287	331	284	902
Chi-square = 4.01		DF = 2			

Interpretation of the results

The value of chi-square 4.01 is below 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It suggests that perspectives on spacing is independent of subject of study. In other words, there is no association between subject of study and perspectives on spacing.

v. Association between SES and Perspectives on Spacing

The data and results of the chi-square test of independence of Item No.3(a) by SES is presented in the following table.

TABLE 83

Chi-square Test of Independence of Item No. 3(a) by SES

SES group	Low	Average	High	Row Total
Response category				
A	216	491	156	863
B	15	19	5	39
Column Total	231	510	161	902
Chi-square = 3.65		DF = 2		

Interpretation of the results

The value of chi-square 3.65 is below 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It indicates that perspectives on spacing is independent of SES. In other words, there is no association between SES and perspectives on spacing.

vi. Association between Knowledge and Perspectives on Spacing

The data and results of the chi-square test of independence of Item No.3(a) by knowledge is presented in the following Table.

TABLE 84

Chi-square Test of Independence of Item No. 3(a) by Knowledge

Knowledge group	Low	Average	High	Row Total
Response category				
A	130	556	177	863
B	9	23	7	39
Column Total	139	579	184	902
Chi-square = 1.85		DF = 2		

Interpretation of the results

The value of chi-square 1.85 is below 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It suggests that perspective on spacing is independent of knowledge about population related problems. In other words, there is no association between knowledge and perspectives on spacing.

vii. Association between Attitude and Perspectives on Spacing

The data and results of the chi-square test of independence of Item No.3(a) by attitude is presented in the following table.

TABLE 85

Chi-square Test of Independence of Item No. 3(a) by Attitude

Attitude group Response category	Low	Average	High	Row Total
A	117	633	113	863
d	-3.0**	1.0	1.8	
B	12	26	1	39
d	3.0**	-1.0	-1.8	
Column Total	129	659	114	902
Chi-square = 11.2** DF = 2				

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 11.2 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level with two degrees of freedom. It indicates that perspectives on spacing is dependent on attitude towards

population related problems. In other words, there exists association between attitude and perspectives on spacing.

The table shows that in the low attitude group the observed frequencies of those who wish to adopt spacing and those who don't wish so significantly deviate from the expected frequencies because the respective values of 'd' -3.0 and 3.0 lie beyond ± 2.58 . This signifies that the existence of unwillingness to adopt spacing is clear among the low attitude group.

4. Perspectives on Delay for the Birth of First Offspring after the Marriage

The Item No. 4(a) of the Questionnaire ie., "Do you wish to not to have children immediately after the marriage?" elicits the students' perspectives regarding delay for the birth of first offspring after the marriage. The response category 'A' indicates 'Yes' and 'B' indicates 'No'. The frequency of the responses is presented in the following table.

TABLE 86

Frequency of the Responses to Item No.4(a) for the Total Sample

Response category	Frequency	Percentage (%)
A	666	69.4
B	294	30.6
Total	960	100

The table shows that 69.4 percent (N=666) of students wish to delay the birth of first offspring and 30.6 percent (N = 294) don't wish to delay the birth of first offspring after the marriage.

The frequency of the responses to Item No. 4(a) of the sub-samples and groups classified on the basis of the levels of SES, knowledge and attitude is presented in the table given below.

TABLE 87
Frequency of the Responses to Item No. 4(a) for the Sub-samples and Groups

Res- ponse Category	Sex		Locale		Religion			Subject			SES			Knowledge			Attitude		
	Fe- male	Male	Ur- ban	Ru- ral	Hindu	Mu- slim	Chri- stian	Sci- ence	Arts	Com- merce	Low	Ave- rage	High	Low	Ave- rage	High	Low	Ave- rage	High
A	339	327	121	545	451	136	79	203	257	206	150	371	145	84	435	147	72	488	106
B	164	130	38	256	177	63	54	104	100	90	86	171	37	59	180	55	62	204	28
Total	503	457	159	801	628	199	133	307	357	296	236	542	182	143	615	202	134	692	134

The above table shows that the majority of the students wish to delay the birth of first offspring after the marriage when they are classified into the relevant subsamples and groups on the basis of the different levels of SES, knowledge and attitude.

Specific Responses on Period of Delay for the Birth of First Offspring

The students who responded that they wish to delay the birth of first offspring were asked to mention the specific period of delay for the birth of first offspring by responding to Item No.4(b) of the Questionnaire, ie., "If 'Yes', after how many years of your marriage do you wish to have children"? The frequency of the responses are presented in the following table.

TABLE 88
Frequency of the Response
to Item No.4(b) for the Total Sample

Sl. No.	Period of delay (In year)	Frequency	Percentage (%)
1	1	149	22.4
2	2	278	41.7
3	3	78	11.7
4	4	12	1.8
5	5	14	2.1
6	Undecided	135	20.3
Total		666	100

Shortest Period = 1 year
Longest Period = 5 years
Mode = 2 years

The table shows that the specific responses on the period of delay for the first offspring after the marriage range from one to five years. Moreover, 20.3 percent (N = 135) of the students has not decided the specific period of delay for the birth of first offspring after the marriage. Since most of the students wish to delay the birth of first offspring for two years after the marriage, the mode of the responses is two years for the total sample.

The frequency of the responses to Item No.4(b) of sub-samples and the groups classified on the basis of the levels of SES, knowledge and attitude is presented in the following table.

The table shows that the mode of the responses is two years for different strata, when the total sample is classified on the basis of sex, locale, religion and subject of study. Similarly, when the total sample is classified on the basis of the three levels of SES, knowledge and attitude, the mode of the responses is two years for the low, average and high groups.

i. Association between Sex and Perspectives on Delay for the Birth of First Offspring after the Marriage

Table below shows the data and results of the chi-square test of independence of Item No.4(a) by sex.

TABLE 90
Chi-square Test of Independence of Item No. 4(a) by Sex

Response category	Sex	Female	Male	Row Total
A		339	327	666
B		164	130	294
Column Total		503	457	960
Chi-square = 1.95		DF = 1		

Interpretation of the results

The value of chi-square 1.95 is below 3.84, which is the table value of chi-square for significance at 0.05 level with one degree of freedom. It indicates that perspectives on delay for the birth of first offspring after the marriage is independent of sex. In other words, there is no association

between sex and perspectives on delay for the birth of first offspring after the marriage.

ii. **Association between Locale and Perspectives on Delay for the Birth of First Offspring after the Marriage**

The data and results of the chi-square test of independence of Item No.4(a) by locale is presented in the following table.

TABLE 91
Chi-square Test of Independence of Item No. 4(a) by Locale

Locale	Urban	Rural	Row Total
Response category			
A	121	545	666
d	2.0*	-2.0*	
B	38	256	294
d	-2.0*	2.0*	
Column Total	159	801	960
Chi-square = 4.06* DF = 1			

* Significant at 0.05 level.

Interpretation of the results

The value of chi-square 4.06 exceed 3.84, which is the table value of chi-square for significance at 0.05 level with one degree of freedom. It indicates that perspectives on delay for the birth of first offspring after the marriage is dependent on locale. In other words, there exists association between locale and perspectives on delay for the birth of first offspring after the marriage.

The table shows that among the urban students, the observed frequencies of those who wish to delay the birth of first offspring after the marriage and who don't wish so deviate from the expected frequencies because the respective values of 'd' 2.0 and -2.0 lie beyond ± 1.96 . In the case of rural students also the observed frequencies deviate from the expected frequencies, as the respective values of 'd' -2.0 and 2.0 lie beyond the limit ± 1.96 . The deviations suggest that the degree of willingness to delay the birth of first offspring is greater among urban students as compared to their rural counterparts.

iii. Association between Religion and Perspectives on Delay for the Birth of First Offspring after the Marriage

The data and results of the chi-square test of independence of Item No.4(a) by religion is presented in the following table.

TABLE 92

Chi-square Test of Independence of Item No. 4(a) by Religion

Religion	Hindu	Muslim	Christian	Row Total
Response category				
A	451	136	79	666
d	2.3*	-0.4	-2.6**	
B	177	63	54	294
d	-2.3*	0.4	2.6**	
Column Total	628	199	133	960
Chi-square = 8.1* DF = 2				

* Significant at 0.05 level

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 8.1 exceeds 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It signifies that perspectives on delay for the birth of first offspring after the marriage is dependent on religion. In other words, there exists association between religion and perspectives on delay for the birth of first offspring after the marriage.

The table shows that among Hindus, the observed frequencies of those who wish to delay the birth of first offspring and who don't wish to do so significantly deviate from the expected frequencies as seen from the respective values of 'd' 2.3 and -2.3 both of which lie beyond ± 1.96 . In the case of Christians also the observed frequencies showing the two views significantly deviate from the expected frequencies because the respective values of 'd' -2.6 and 2.6 lie beyond ± 2.58 . It suggests that the degree of willingness to delay the birth of first offspring is greater among Hindus as compared to Christians.

iv. Association between Subject of Study and Perspectives on Delay for the Birth of First Offspring after the Marriage

The data and results of the chi-square test of independence of Item No.4(a) by subject of study is presented in the following table.

TABLE 93

Chi-square Test of Independence of Item No. 4(a) by Subject

Response category	Subject	Science	Arts	Commerce	Row Total
A		203	257	206	666
B		104	100	90	294
Column Total		307	357	296	960
Chi-square = 2.7 DF = 2					

Interpretation of the results

The value of chi-square 2.7 is below 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It indicates that perspectives on delay for the birth of first offspring after the marriage is independent of subject of study. In other words, there is no association between subject of study and perspectives on delay for the birth of first offspring after the marriage.

v. Association between SES and Perspectives on Delay for the Birth of First Offspring after the Marriage

The table below presents the data and results of the chi-square test of independence of Item No.4(a) by SES.

TABLE 94

Chi-square Test of Independence of Item No. 4(a) by SES

Response category	SES group	Low	Average	High	Row Total
A		150	371	145	666
d		-2.2*	-0.7	3.4**	
B		86	171	37	294
d		2.2*	0.7	-3.4**	
Column Total		236	542	182	960
Chi-square = 13.05** DF = 2					

* Significant at 0.05 level

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 13.05 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level with two degrees of freedom. It indicates that perspectives on delay for the birth of first offspring after the marriage is dependent on SES. In other words, there exists association between SES and perspectives on delay for the birth of first offspring after the marriage.

The table shows that the observed frequencies of those who wish to delay the birth of first offspring and who don't wish so in the low SES group significantly deviate from the expected frequencies because the respective values of 'd' -2.2 and 2.2 lie beyond ± 1.96 . In the case of the high SES group also the observed frequencies of those possessing the two views significantly deviate from the expected frequencies because the respective values of 'd' 3.4 and -3.4 are beyond the limit ± 2.58 . This leads to

the conclusion that the high SES group is more willing to delay the birth of first offspring than the low SES group.

vi. **Association between Knowledge and Perspectives on Delay for the Birth of First Offspring after the Marriage**

Table given below presents the data and results of the chi-square test of independence of Item No. 4(a) by Knowledge.

TABLE 95

Chi-square Test of Independence of Item No. 4(a) by Knowledge

Knowledge group Response category	Low	Average	High	Row Total
A	84	435	147	666
d	-3.0**	1.2	1.2	
B	59	180	55	294
d	3.0**	-1.2	-1.2	
Column Total	143	615	202	960
Chi-square = 9.24** DF = 2				

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 9.24 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level with two degrees of freedom. It indicates that perspectives on delay for the birth of first offspring after the marriage is dependent on knowledge about population related problems. In other words, there exists association between knowledge and perspectives on delay for the birth of first offspring after the marriage.

The table shows that the observed frequencies of students of the low knowledge group who wish and who don't wish to delay the first offspring significantly deviate from the expected frequencies because the respective values of 'd' -3.0 and 3.0 lie beyond the limit ± 2.58 . This leads to the conclusion that the unwillingness to delay the birth of first offspring after the marriage is ostensible among the low knowledge group.

vii. Association between Attitude and Perspectives on Delay for the Birth of First Offspring after the Marriage

The data and results of the chi-square test of independence of Item No.4(a) by attitude is presented in the following table.

TABLE 96

Chi-square Test of Independence of Item No. 4(a) by Attitude

Attitude group Response category	Low	Average	High	Row Total
A	72	488	106	666
d	-4.2**	1.25	2.6**	
B	62	204	28	294
d	4.3**	-1.25	-2.6**	
Column Total	134	692	134	960
Chi-square = 21.8** DF = 2				

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 21.8 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level with two degrees of freedom. It indicates that perspectives on delay for the birth of first offspring after the

marriage is dependent on attitude towards population related problems. In other words, there exists association between attitude and perspectives on delay for the birth of first offspring after the marriage.

The table shows that the observed frequencies of students in the low attitude group who wish to delay the birth of first offspring and who don't wish so significantly deviate from the expected frequencies as the respective values of 'd' -4.2 and 4.3 lie beyond the limit ± 2.58 . In the case of high attitude group also, the observed frequencies of the two views are found to deviate from the expected frequencies as shown by the respective values of 'd' 2.6 and -2.6 both of which are beyond the limit ± 2.58 . This leads to the conclusion that the extent of willingness to delay the first offspring is grater among the high attitude group than the low attitude group.

5. Perspectives on Limiting the Reproductive Period

The frequency of the responses to Item No.5(a) ie. "Do you wish to limit the reproduction within a particular age limit?" is presented in the following table. The response category 'A' indicates the response 'Yes' and 'B' indicates 'No'.

TABLE 97

Frequency of the Responses to Item No.5(a) for the Total Sample

Response category	Frequency	Percentage (%)
A	728	75.8
B	232	24.2
Total	960	100

The table shows that 75.8 percent (N=728) of the students wish to limit the reproduction within a particular age limit and 24.2 percent (N=232) of the students don't wish to limit the reproductive period.

The frequency of the responses to Item No. 5(a) of the different subsamples and the groups is presented in Table 98.

TABLE 98

Frequency of the Responses to Item No. 5(a) for the Sub-samples and Groups

Res- ponse Category	Sex		Locale		Religion			Subject			SES			Knowledge			Attitude		
	Fe- male	Male	Ur- ban	Ru- ral	Hindu	Mu- slim	Chri- stian	Sci- ence	Arts	Com- merce	Low	Ave- rage	High	Low	Ave- rage	High	Low	Ave- rage	High
A	372	356	134	594	496	134	98	247	267	214	170	414	144	102	456	170	78	529	121
B	131	101	25	207	132	65	35	60	90	82	66	128	38	41	159	32	56	163	13
Total	503	457	159	801	628	199	133	307	357	296	236	542	182	143	615	202	134	692	134

From the above table, it is vivid that majority of the students belong to the different sub-samples and having the different levels of SES, knowledge and attitude wish to limit the reproductive period.

Specific Responses on Limiting the Reproductive Period

The students who responded that they wish to limit the reproductive period were asked to mention the specific age limit within which they wish to limit the reproduction in response to Item No.5(b), ie., "If 'Yes', within which age limit do you wish to limit the reproduction?" The frequency of the responses is presented in the following table.

TABLE 99

Frequency of the Responses to Item No.5(b) for the Total Sample

Sl. No.	Age limit to the reproduction (in years)	Frequency	Percentage (%)
1	25	8	1.1
2	26	3	0.4
3	27	7	1.0
4	28	19	2.6
5	29	7	1.0
6	30	116	15.9
7	31	2	0.3
8	32	28	3.8
9	33	6	0.8
10	34	7	1.0
11	35	142	19.5
12	36	8	1.1
13	37	3	0.4
14	38	16	2.2
15	39	2	0.3
16	40	57	7.8
17	45	9	1.2
18	48	2	0.3
19	Undecided	286	39.3
Total		728	100

Lowest age limit = 25 years

Highest age limit = 48 years

Mode = Undecided

The table shows that specific responses on limiting the reproductive period ranges from 25 years to 48 years. Moreover, 39.3 percent (N=286) of

the students has not decided the specific age limit within which they wish to limit the reproduction. Since most of the students are undecided about the age limit, the 'undecided' is the mode of the responses for the total sample.

The frequency of the responses to Item No.5(b) of the sub-samples and the groups classified on the basis of the levels of SES, knowledge and attitude is presented in the following table.

TABLE 100
Frequency of the Responses to Item No. 5(b) for the Sub-samples and Groups

Age limit (in years)	SEX		LOCALE		RELIGION			SUBJECT			S E S			KNOWLEDGE			ATTITUDE		
	Female	Male	Urban	Rural	Hindu	Muslim	Chris- tian	Science	Arts	Comm- erce	Low	Ave- rage	High	Low	Ave- rage	High	Low	Ave- rage	High
25	5	3	--	8	6	2	--	2	2	4	5	3	--	2	6	--	1	7	--
26	3	--	--	3	3	--	--	1	1	1	1	2	--	--	3	--	--	2	1
27	6	1	3	4	6	1	--	2	4	1	--	7	--	--	6	1	2	2	3
28	17	2	6	13	19	--	--	6	11	2	5	10	4	1	14	4	3	13	3
29	7	--	--	7	6	1	--	2	2	3	4	--	3	1	4	2	--	7	--
30	88	28	25	91	90	15	11	45	48	23	18	72	26	15	80	21	11	84	21
31	1	1	--	2	2	--	--	2	--	--	--	1	1	1	1	--	--	1	1
32	17	11	5	23	21	4	3	8	12	8	7	12	9	2	17	9	2	18	8
33	3	3	2	4	4	1	1	1	2	3	1	1	4	--	5	1	--	4	2
34	2	5	--	7	4	3	--	1	3	3	2	3	2	2	4	1	--	7	--
35	46	96	23	119	95	26	21	43	50	49	28	81	33	14	80	48	10	101	31
36	1	7	2	6	3	1	4	--	2	6	1	5	2	--	6	2	--	5	3
37	1	2	--	3	3	--	--	--	2	1	--	3	--	--	2	1	--	2	1
38	--	16	6	10	12	1	3	10	2	4	1	11	4	2	10	4	2	12	2
39	--	2	1	1	--	2	--	--	1	1	--	1	1	--	1	1	2	--	--
40	5	52	6	51	31	14	12	19	17	21	16	31	10	6	35	16	3	42	12
45	1	8	--	9	6	1	2	1	5	3	2	3	4	--	5	4	--	8	1
48	--	2	--	2	1	1	--	1	1	--	--	1	1	--	1	1	2	--	--
Un- decided	169	117	55	231	184	61	41	103	102	81	79	167	40	56	176	54	40	214	32
Total	372	356	134	594	496	134	98	247	267	214	170	414	144	102	456	170	78	529	121
Lowest age limit	25	25	27	25	25	25	30	25	25	25	25	25	28	25	25	27	25	25	26
Highest age limit	45	48	40	48	48	48	45	48	48	45	45	48	48	40	48	48	48	45	45
Mode	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD	UD

UD = Undecided

The table shows that most of the females and males, urban and rural students, Hindu, Muslim and Christian students, and science, arts and commerce students are undecided about the specific age limit within which they wish to limit the reproduction. Moreover, most of the low, average and high groups are also undecided about the specific age limit when the students are classified on the basis of the levels of SES, knowledge and attitude. Hence the response category 'undecided' is considered as the mode of the specific responses on limiting the reproductive period for different sub-samples and the groups of students based on the levels of SES, knowledge and attitude.

i. Association between Sex and Perspectives on Limiting the Reproductive Period

Table below shows the data and results of the chi-square test of independence of Item No.5(a) by sex.

TABLE 101

Chi-square Test of Independence of Item No.5(a) by Sex

Response category	Sex	Female	Male	Row Total
A		372	356	728
B		131	101	232
Column Total		503	457	960
Chi-square = 2.03		DF = 1		

Interpretation of the results

The value of chi-square 2.03 is below 3.84, which is the table value of chi-square for significance at 0.05 level with one degree of freedom. It indicates that perspectives on limiting the reproductive period is independent of sex. In other words, there is no association between sex and perspectives on limiting the reproductive period.

ii. Association between Locale and Perspectives on Limiting the Reproductive Period

The data and results of the chi-square test of independence of Item No.5(a) by locale is presented in the following table.

TABLE 102

Chi-square Test of Independence of Item No.5(a) by Locale

Response category	Locale	Urban	Rural	Row Total
A		134	594	728
d		2.7**	-2.7**	
B		25	207	232
d		-2.7**	2.7**	
Column Total		159	801	960
Chi-square = 7.41** DF = 1				

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 7.41 exceeds 6.64, which is the table value of chi-square for significance at 0.01 level with one degree of freedom. It indicates that perspectives on limiting the reproductive period is dependent

on locale. In other words, there exists association between locale and perspectives on limiting the reproductive period.

The table shows that in the case of urban students, the observed frequencies of those who wish to limit the reproductive period and who don't wish so significantly deviate from the expected frequencies because the respective values of 'd' 2.7 and -2.7 fall beyond ± 2.58 . The observed frequencies of the rural students who wish to limit the reproductive period and who don't wish so significantly deviate from the expected frequencies as seen from the respective values of 'd' -2.7 and 2.7 which lie beyond the limit ± 2.58 . Hence it can be concluded that the degree of willingness to limit the reproductive period is greater among urban students than rural students.

iii. Association between Religion and Perspectives on Limiting the Reproductive Period

The data and results of the chi-square test of independence of Item No.5(a) by religion is presented in the following table.

TABLE 103

Chi-square Test of Independence of Item No.5(a) by Religion

Response Category	Religion	Hindu	Muslim	Christian	Row Total
A		496	134	98	728
d		3.2**	-3.2**	-0.6	
B		132	65	35	232
d		-3.2**	3.2**	0.6	
Column Total		628	199	133	960
Chi-square = 11.57** DF = 2					

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 11.57 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level with two degrees of freedom. It indicates that perspectives on limiting the reproductive period is dependent on religion. In other words, there exists association between religion and perspectives on limiting the reproductive period.

The table shows that among Hindus, the observed frequencies of those who wish to limit the reproductive period and those who don't wish so significantly deviate from the expected frequencies because the respective values of 'd' 3.2 and -3.2 fall beyond ± 2.58 . In the case of Muslims also the observed frequencies and expected frequencies differ significantly as indicated by the respective values of 'd' -3.2 and 3.2. It leads to the conclusion that Hindu students are more willing to limit the reproductive period as compared to Muslim students.

iv. Association between Subject of Study and Perspectives on Limiting the Reproductive Period

Table below shows the data and results of the chi-square test of independence of Item No.5(a) by subject of study.

TABLE 104
Chi-square Test of Independence of Item No.5(a) by Subject

Response category	Subject	Science	Arts	Commerce	Row Total
A		247	267	214	728
B		60	90	82	232
Column Total		307	357	296	960
Chi-square = 5.8 DF = 2					

Interpretation of the results

The value of chi-square 5.8 is below 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It indicates that perspectives on limiting the reproductive period is independent of subject of study. In other words, there is no association between subject of study and perspectives on limiting the reproductive period.

v. Association between SES and Perspectives on Limiting the Reproductive Period

The data and results of the chi-square test of independence of Item No.5(a) by SES is presented in the following table.

TABLE 105

Chi-square Test of Independence of Item No.5(a) by SES

SES group	Low	Average	High	Row Total
Response category				
A	170	414	144	728
B	66	128	38	232
Column Total	236	542	182	960
Chi-square = 3.02 DF = 2				

Interpretation of the results

The value of chi-square 3.02 is below 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It indicates that perspectives on limiting the reproductive period is independent of SES. In other words, there is no association between SES and perspectives on limiting the reproductive period.

vi. **Association between Knowledge and Perspectives on Limiting the Reproductive Period**

Table below shows the data and results of the chi-square test of independence of Item No.5(a) by knowledge.

TABLE 106

Chi-square Test of Independence of Item No.5(a) by Knowledge

Knowledge group Response category	Low	Average	High	Row Total
A	102	456	170	728
d	-1.4	-1.6	3.1**	
B	41	159	32	232
d	1.4	1.6	-3.1**	
Column Total	143	615	202	960
Chi-square = 10.2** DF = 2				

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 10.2 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level with two degrees of freedom. It suggests that perspectives on spacing is dependent on knowledge about population related problems. In other words, there exists association between knowledge and perspectives on limiting the reproductive period.

In the case of the high knowledge group, the observed frequencies of those who wish to limit the reproductive period and those who don't wish so significantly deviate from the expected frequencies because the respective values of 'd' 3.1 and -3.1 lie beyond ± 2.58 . This indicates that the prevalence of willingness to limit the reproductive period is significant among the high knowledge group.

vii. **Association between Attitude and Perspectives on Limiting the Reproductive Period**

The data and results of the chi-square test of independence of Item No.5(a) by attitude is presented in the following table.

TABLE 107

Chi-square Test of Independence of Item No.5(a) by Attitude

Attitude group Response category	Low	Average	High	Row Total
A	78	529	121	728
d	-5.1**	0.7	4.2**	
B	56	163	13	232
d	5.1**	-0.7	-4.2**	
Column Total	134	692	134	960
Chi-square = 38.15** DF = 2				

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 38.15 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level with two degrees of freedom. It indicates that perspectives on limiting the reproductive period is dependent on attitude towards population related problems. In other words, there exists association between attitude and perspectives on limiting the reproductive period.

The table shows that in the low attitude group, the observed frequencies of those who wish to limit the reproductive period and those who don't wish so significantly deviate from the expected frequencies as

seen from the respective values of 'd' -5.1 and 5.1 both of which lie beyond ± 2.58 . The observed frequencies of the high attitude group who wish to limit the reproductive period and who don't wish to limit the reproductive period also significantly deviate from the expected frequencies because the respective values of 'd' 4.2 and -4.2 exceed ± 2.58 . These deviations lead to the conclusion that the degree of willingness to limit the reproductive period is greater among the high attitude group as compared to the low group.

6. Perspectives on Sex Preference

The frequency of the responses to Item No.6. i.e. "What is your choice regarding the sex of the children you wish to beget?", is presented in the following table. The response category 'A' in the table denotes the preference for boy or boys only and 'B' denotes the preference for girl or girls only. The response category 'C' is the preference for greater number of boys and 'D' is the preference for greater number of girls. The preference for equal number of boys and girls is represented by the response category 'E' and no special preference about the sex of the children or indifference towards the sex of the children they wish to beget is represented by the response category 'F'.

TABLE 108

Frequency of the Responses to Item No.6 for the Total Sample

Response category	Frequency	Percentage (%)
A	13	1.4
B	10	1.0
C	22	2.3
D	7	0.7
E	197	20.5
F	711	74.1
Total	960	100

The table shows that 1.4 percent (N=13) of the students wish to have only boy or boys, one percent (N=10) prefers only girl or girls, 2.3 percent (N=22) prefers greater number of boys and 0.7 percent (N=7) prefers greater number of girls. Equal number of boys and girls are preferred by 20.5 percent (N=197) of the students. The majority (ie., 74.1 percent, N=711) responded that they are indifferent towards the sex or they have no special preferences about the sex of the children they wish to beget.

Frequency of the responses to Item No.6 of the sub-samples and the groups classified on the basis of the levels of SES, knowledge and attitude is presented in the following table.

TABLE 109

Frequency of the Responses to Item No. 6 for the Sub-samples and Group

Response category	SEX		LOCALE		RELIGION			SUBJECT			S E S			KNOWLEDGE			ATTITUDE		
	Female	Male	Urban	Rural	Hindu	Muslim	Chris- tian	Science	Arts	Comm- erice	Low	Ave- rage	High	Low	Ave- rage	High	Low	Ave- rage	High
A	5	8	2	11	9	2	2	7	5	1	3	10	0	1	9	3	0	10	3
B	5	5	2	8	7	2	1	3	4	3	0	10	0	0	9	1	2	7	1
C	7	15	1	21	4	9	9	5	8	9	6	15	1	3	14	5	6	14	2
D	3	4	2	5	4	2	1	0	3	4	2	5	0	1	4	2	2	5	0
E	97	100	35	162	135	41	21	53	72	72	63	106	28	24	137	36	24	146	27
F	386	325	117	594	469	143	99	239	265	207	162	396	153	114	442	155	100	510	101
Total	503	457	159	801	628	199	133	307	357	296	236	542	182	143	615	202	134	692	134

The table shows that majority of the students are indifferent towards the sex of the children or they have no special preference about the sex of the children they wish to beget when they are subdivided into different sub-samples based on sex, locale, religion and subject of study. Similarly, the majority responded that they have no special preferences about the sex of the children they wish to beget when the students are classified on the basis of the three (ie., low, average and high) levels of SES knowledge and attitude.

i. Association between Sex and Perspectives on Sex Preference

Table below presents the data and results of the chi-square test of independence of Item No.6 by sex.

TABLE 110

Chi-square Test of Independence of Item No.6 by Sex

Response category	Sex	Female	Male	Row Total
A		5	8	13
B		5	5	10
C		7	15	22
D		3	4	7
E		97	100	197
F		386	325	711
Column Total		503	457	960
Chi-square = 6.83 DF = 5				

Interpretation of the results

The value of chi-square 6.83 is below 11.07, which is the table value of chi-square for significance at 0.05 level with five degrees of freedom. It indicates that perspectives on sex preference is independent of sex of the students. In other words, there exists no association between sex and perspectives on sex preference.

ii. Association between Locale and Perspectives on Sex Preference

Table below presents the data and results of the chi-square test of independence of Item No.6 by locale.

TABLE 111

Chi-square Test of Independence of Item No.6 by Locale

Response category	Locale	Urban	Rural	Row Total
A		2	11	13
B		2	8	10
C		1	21	22
D		2	5	7
E		35	162	197
F		117	594	711
Column Total		159	801	960
Chi-square = 3.34 DF = 5				

Interpretation of the results

The value of chi-square 3.34 is below 11.07, which is the table value of chi-square for significance at 0.05 level with five degrees of freedom. It indicates that perspectives on sex of preference is independent of locale. In other words, there is no association between locale and perspectives on sex preference.

iii. Association between Religion and Perspectives on Sex Preference

Table below presents the data and results of the chi-square test of independence of Item No.6 by religion.

TABLE 112

Chi-square Test of Independence of Item No.6 by Religion

Response category	Religion	Hindu	Muslim	Christian	Row Total
A		9	2	2	13
d		0.3	-0.5	0.16	
B		7	2	1	10
d		0.3	-0.07	-0.36	
C		4	9	9	22
d		-4.7**	2.3*	3.7**	
D		4	2	1	7
d		-0.5	0.5	0	
E		135	41	21	197
d		1.0	0.03	-1.46	
F		469	143	99	711
d		0.6	-0.79	0.1	
Column Total		628	199	133	960
Chi-square = 26.0** DF = 10					

* Significant at 0.05 level

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 26.0 exceeds 23.21, which is the table value of chi-square for significance at 0.01 level with 10 degrees of freedom. It indicates that perspectives on sex preference is dependent on religion. In other words, there is association between religion and perspectives on sex preference.

The table shows that the observed frequency of Hindus who responded that they wish to beget greater number of boys than girls is significantly less than the expected frequency because the value of 'd' -4.7 exceeds ± 2.58 . The observed frequencies of Muslims and Christians who wish to beget greater number of boys than girls are significantly greater than the expected frequencies because the respective 'd' values 2.3 and 3.7 exceed ± 1.96 and ± 2.58 respectively. The nature of deviations leads to the conclusion that son preference is weaker among Hindus as compared to Muslims and Christians.

iv. Association between Subject of Study and Perspectives on Sex Preference

Table below shows the data and results of the chi-square test of independence of Item No.6 by subjects of study.

TABLE 113

Chi-square Test of Independence of Item No. 6 by Subject

Response category	Subject	Science	Arts	Commerce	Row Total
A		7	5	1	13
B		3	4	3	10
C		5	8	9	22
D		0	3	4	7
E		53	72	72	197
F		239	265	207	711
Column Total		307	357	296	960
Chi-square = 14.4 DF = 10					

Interpretation of the results

The value of chi-square 14.4 is below 18.31, which is the table value of chi-square for significance at 0.05 level with 10 degrees of freedom. It indicates that perspectives on sex preference is independent of subject of study. In other words, there is no association between subject of study and perspectives on sex preference.

v. Association between SES and Perspectives on Sex Preference

The data and results of the chi-square test of independence of Item No.6 by SES is presented in the following table.

TABLE 114

Chi-square Test of Independence of Item No.6 by SES

Response Category	SES group	Low	Average	High	Row Total
A		3	10	0	13
d		-0.1	1.5	-1.8	
B		0	10	0	10
d		-1.8	2.86**	-1.5	
C		6	15	1	22
d		0.3	1.1	-1.7	
D		2	5	0	7
d		0.26	0.76	-1.28	
E		63	106	28	197
d		2.7**	-0.84	-1.9	
F		162	396	153	711
d		-2.2*	-0.8	3.4**	
Column Total		236	542	182	960
Chi-square = 26.25** DF = 10					

* Significant at 0.05 level

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 26.25 exceeds 23.21, which is the table value of chi-square for significance at 0.01 level with 10 degrees of freedom. It indicates that perspective on sex preference is dependent on SES. In other words, there exists association between SES and perspectives on sex preference.

The table shows that the observed frequencies of those who wish to beget equal number of boys and girls and those who have no special

preferences regarding the sex of children they wish to beget significantly deviate from the expected frequencies in the case of the low SES group, as the respective values of 'd' 2.7 and -2.2 exceed ± 2.58 and ± 1.96 respectively. The observed frequency of the average SES group who responded that they wish to beget only girl or girls significantly deviates from the expected frequency because the value of 'd' 2.86 exceeds ± 2.58 . The observed frequency of the high SES group who responded that they have no special preferences regarding the sex of children also significantly deviates from the expected frequency for the value of 'd' 3.4 exceeds ± 2.58 . The 'd' values show that the indifference towards the sex of the children is stronger among the high SES group than the low and average groups.

vi. Association between Knowledge and Perspective on Sex Preference

The data and results of the chi-square test of independence of Item No.6 by knowledge is presented in the following table.

TABLE 115

Chi-square Test of Independence of Item No.6 by Knowledge

Response category	Knowledge group	Low	Average	High	Row Total
A		1	9	3	13
B		0	9	1	10
C		3	14	5	22
D		1	4	2	7
E		24	137	36	197
F		114	442	155	711
Column Total		143	615	202	960
Chi-square = 7.8 DF = 10					

Interpretation of the results

The value of chi-square 7.8 is below 18.31, which is the table value of chi-square for significance at 0.05 level with 10 degrees of freedom. It indicates that perspectives on sex preference is independent of knowledge about population related problems. In other words, there is no association between knowledge and perspectives on sex preference.

vii. Association between Attitude and Perspectives on Sex Preference

Table below presents the data and results of the chi-square test of independence of Item No.6 by attitude.

TABLE 116

Chi-square Test of Independence of Item No.6 by Attitude

Attitude group Response category	Low	Average	High	Row Total
A	0	10	3	13
B	2	7	1	10
C	6	14	2	22
D	2	5	0	7
E	24	146	27	197
F	100	510	101	711
Column Total	134	692	134	960
Chi-square = 9.1 DF = 10				

Interpretation of the results

The value of chi-square 9.1 is below 18.31, which is the table value of chi-square for significance at 0.05 level with 10 degrees of freedom. It indicates that perspectives on sex preference is independent of attitude towards population related problems. In other words, there is no association between attitude and perspectives on sex preference.

7. Perspectives on Birth Control

The frequency of the responses to Item No.7(a) ie., "Do you wish to accept any type of birth control in the future?" is presented in the following table. The response category 'A' denotes the response 'Yes' and 'B' denotes the response 'No'.

TABLE 117

Frequency of the Responses to Item No. 7(a) for the Total Sample

Response category	Frequency	Percentage (%)
A	773	80.5
B	187	19.5
Total	960	100

The table shows that 80.5 percent (N=773) of the students wish to accept any type of birth control in the future and the remaining 19.5 percent (N=187) don't wish to accept birth control.

Frequency of the response to item No. 7(a) of the relevant sub-samples and groups classified on the basis of the levels of SES, knowledge and attitude is presented in the table given below.

TABLE 118
Frequency of the Responses to Item No. 7(a) for the Sub-samples and Groups

Res- ponse Category	Sex		Locale		Religion			Subject			SES			Knowledge			Attitude		
	Fe- male	Male	Ur- ban	Ru- ral	Hindu	Mu- slim	Chri- stian	Sci- ence	Arts	Com- merce	Low	Ave- rage	High	Low	Ave- rage	High	Low	Ave- rage	High
A	388	385	134	639	530	143	100	251	284	238	178	441	154	95	501	177	73	570	130
B	115	72	25	162	98	56	33	56	73	58	58	101	28	48	114	25	61	122	4
Total	503	457	159	801	628	199	133	307	357	296	236	542	182	143	615	202	134	692	134

The above table shows that majority of the students belong to the different sub-samples and having the different levels of SES, knowledge and attitude wish to accept birth control in their future family life.

Specific Responses on Type of Birth Control

Those students who responded that they wish to accept any type of birth control were asked to mention the type of birth control (ie., the permanent or temporary methods) they prefer by responding to Item No.7(b) ie., "If 'Yes' which among the following methods do you prefer?" The frequency of the responses is presented in the following table.

TABLE 119

Frequency of the Responses to Item No. 7(b) for the Total Sample

Type of Birth control	Frequency	Percentage (%)
Permanent methods	343	44.4
Temporary methods	430	55.6
Total	773	100

The table shows that majority (55.6 percent, N = 430) of the students prefer temporary methods and the remaining 44.6 percent (N = 343) of the students wish to accept permanent methods of birth control.

Frequency of the responses to Item No.7(b) of the sub-samples and the groups classified on the basis of the levels of SES, knowledge and attitude is presented in the following table.

TABLE 120
Frequency of the Response to Item No.7(b) for the Sub-samples and Groups

Sub-samples and Groups		Permanent methods	Temporary methods	Total	Preference of the majority
Sex	Female	217	171	388	Permanent method
	Male	126	259	385	Temporary method
Locale	Urban	45	89	134	Temporary methods
	Rural	298	341	639	Temporary methods
Religion	Hindu	262	268	530	Temporary methods
	Muslim	48	95	143	Temporary methods
	Christian	33	67	100	Temporary methods
Subject	Science	122	129	251	Temporary methods
	Arts	121	163	284	Temporary methods
	Commerce	100	138	238	Temporary methods
SES	Low	82	96	178	Temporary methods
	Average	198	243	441	Temporary methods
	High	63	91	154	Temporary methods
Knowledge	Low	48	47	95	Permanent methods
	Average	223	278	501	Temporary methods
	High	72	105	177	Temporary methods
Attitude	Low	26	47	73	Temporary methods
	Average	250	320	570	Temporary methods
	High	67	63	130	Permanent methods

The table shows that the majority of female students wish to accept permanent method and that of male students wish to accept temporary method. When the total sample is classified on the basis of locale, religion and subject of study the majority of the urban and rural students, Hindu, Muslim and Christian students, and science, arts and commerce students wish to accept temporary methods. Moreover, majority of the low, average and high SES groups wish to accept temporary methods, when the total sample is classified on the basis of the level of SES. When the total sample is classified on the basis of the level of knowledge, the majority of the low knowledge group wish to accept permanent methods and that of the average and high knowledge groups wish to accept temporary methods. The majority of the low and average groups wish to accept temporary methods and that of the high group wish to accept permanent methods of birth control when the students are classified on the basis of the level of attitude.

i. Association between Sex and Perspectives on Birth Control

Table below presents the data and results of the chi-square test of independence of Item No.7(a) by sex.

TABLE 121

Chi-square Test of Independence of Item No. 7(a) by Sex

Response category	Sex	Female	Male	Row Total
A		388	385	773
d		-2.77**	2.77**	
B		115	72	187
d		2.77**	-2.77**	
Column Total		503	457	960
Chi-square = 7.71**		DF = 1		

** Significant at 0.01 level.

Interpretation of the results

The value of chi-square 7.71 exceeds 6.64, which is the table value of chi-square for significance at 0.01 level with one degree of freedom. It indicates that perspectives on birth control is dependent on sex. In other words, there exists association between sex and perspectives on birth control.

The table shows that the observed frequencies of those females who wish to accept any type of birth control and who don't wish so significantly deviate from the expected frequencies, because the respective values of 'd' -2.77 and 2.77 lie beyond ± 2.58 . The observed frequencies of males who wish to accept birth control and those who don't wish so significantly deviate from the expected frequencies because the respective values of 'd' 2.77 and -2.77 fall beyond ± 2.58 . This implies that the extent of willingness to accept birth control is greater among males as compared to females.

ii. Association between Locale and Perspectives on Birth Control

Table below shows the data and results of the chi-square test of independence of Item No.7(a) by locale.

TABLE 122

Chi-square Test of Independence of Item No. 7(a) by Locale

Response category	Urban	Rural	Row Total
A	134	639	773
B	25	162	187
Column Total	159	801	960
Chi-square = 1.71 DF = 1			

Interpretation of the results

The value of chi-square 1.71 is below 3.84, which is the table value of chi-square for significance at 0.05 level with one degree of freedom. It indicates that perspectives on birth control is independent of locale. In other words, there is no association between locale and perspectives on birth control.

iii. Association between Religion and Perspectives on Birth Control

The data and results of the chi-square test of independence of Item No.7(a) by religion is presented in the following table.

TABLE 123

Chi-square Test of Independence of Item No. 7(a) by Religion

Response category	Religion	Hindu	Muslim	Christian	Row Total
A		530	143	100	773
d		4.2**	-3.4**	-1.65	
B		98	56	33	187
d		-4.2**	3.4**	1.68	
Column Total		628	199	133	960
Chi-square = 18**		DF = 2			

** Significant at 0.01 level.

Interpretation of the results

The value of chi-square 18 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level with two degrees of freedom. It indicates that perspectives on birth control is dependent on religion. In other words, there exists association between religion and perspectives on birth control.

The observed frequencies of Hindus who wish to accept birth control and who don't wish deviate significantly from the expected frequencies as shown by the respective values of 'd' 4.2 and -4.2 which are beyond ± 2.58 . In the case of Muslims also the observed frequencies of the students having the two alternative views significantly deviate from the observed frequencies as shown by the 'd' values -3.4 and 3.4 which are beyond ± 2.58 . These deviations lead to the conclusion that Hindus are more willing to accept birth control than Muslims.

iv. Association between Subject of Study and Perspectives on Birth Control

The data and results of the chi-square test of independence of Item No.7(a) by subject of study is presented in the following table.

TABLE 124
Chi-square Test of Independence of Item No. 7(a) by Subject

Response category	Subject	Science	Arts	Commerce	Row Total
A		251	284	238	773
B		56	73	58	187
Column Total		307	357	296	960
Chi-square = 0.52		DF = 2			

Interpretation of the results

The value of chi-square 0.52 is below 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It indicates that perspectives on birth control is independent of subject of study. In other words, there is no association between subject of study and perspectives on birth control.

v. Association between SES and Perspectives on Birth Control

Table below presents the data and results of the chi-square of test of independence of Item No.7(a) by SES.

TABLE 125

Chi-square Test of Independence of Item No. 7(a) by SES

SES group	Low	Average	High	Row Total
Response category				
A	178	441	154	773
d	-2.2*	0.8	1.5	
B	58	101	28	187
d	2.3*	-0.8	-1.6	
Column Total	236	542	182	960
Chi-square = 6.1* DF = 2				

* Significant at 0.05 level.

Interpretation of the results

The value of chi-square 6.1 exceeds 5.99, which is the table value of chi-square for significance at 0.05 level with two degrees of freedom. It indicates that perspectives on birth control is dependent on SES. In other words, there exists association between SES and perspectives on birth control.

The table shows that in the case of the low SES group, the observed frequencies of those who wish to accept any type of birth control and those who don't wish so significantly deviate from the expected frequencies because the respective values of 'd' -2.2 and 2.3 lie beyond the limit ± 1.96 . This implies that the unwillingness to accept birth control is significant among the low SES groups.

vi. Association between Knowledge and Perspectives on Birth Control

Table below presents the data and results of the chi-square test of independence of Item No.7(a) by knowledge.

TABLE 126

Chi-square Test of Independence of Item No. 7(a) by Knowledge

Knowledge group	Low	Average	High	Row Total
Response category				
A	95	501	177	773
d	-4.7**	0.97	2.8**	
B	48	114	25	187
d	4.7**	-0.98	-2.8**	
Column Total	143	615	202	960
Chi-square = 24.9** DF = 2				

** Significant at 0.01 level.

Interpretation of the results

The value of chi-square 24.9 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level with two degrees of freedom. It indicates that perspectives on birth control is dependent on knowledge about population related problems. In other words, there exists association between knowledge and perspectives on birth control.

The observed frequencies of the low knowledge group who wish to accept birth control and who don't wish to accept significantly deviate from the expected frequencies as indicated by the respective values of 'd' -4.7 and 4.7 which are found to be beyond ± 2.58 . In the case of the high knowledge

group, the students having the two alternative views also deviate from the expected frequencies because the 'd' values (2.8 and -2.8) exceed ± 2.58 . The deviations mentioned above suggest that the extent of willingness to accept birth control is greater among the high knowledge group as compared to the low knowledge group.

vii. Association between Attitude and Perspectives on Birth Control

Table below presents the data and results of the chi-square test of independence of Item No.7(a) by attitude.

TABLE 127

Chi-square Test of Independence of Item No. 7(a) by Attitude

Attitude group	Low	Average	High	Row Total
Response category				
A	73	570	130	773
d	-8.0**	2.3*	5.0**	
B	61	122	4	187
d	8.0**	-2.4*	-5.0**	
Column Total	134	692	134	960
Chi-square = 82.7** DF = 2				

* Significant at 0.05 level

** Significant at 0.01 level

Interpretation of the results

The value of chi-square 82.7 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level with two degrees of freedom. It indicates that perspectives on birth control is dependent on attitude

towards population related problems. In other words, there exists association between attitude and perspectives on birth control.

As shown by the 'd' values -8.0 and 8.0, the observed frequencies of the low attitude group who wish to accept birth control and not significantly deviate from the observed frequencies. The 'd' values of the average group (2.3 and -2.4) and the high group (5.0 and -5.0) also indicate significant deviations between the observed frequencies and expected frequencies. The nature of deviations suggests that the average and high attitude groups are more in favour of birth control than the low group.

8. Perspectives on Status of Women in the Family

The frequency and percentage of the responses to Item No.8 i.e., "What will be the status of the women in your family?" is presented in the table below. The response category 'A' denotes the response higher status for women than men, 'B' denotes lower status for women than men and 'C' represents equal status for women.

TABLE 128

Frequency of the Response to Item No.8 for the Total Sample

Response category	Frequency	Percentage (%)
A	3	0.3
B	126	13.1
C	831	86.6
Total	960	100

The table shows that only 0.3 percent ($N = 3$) of the students wish to give higher status for women than men, 13.1 percent ($N = 126$) wish to give lower status for women than men and the majority (i.e., 86.6 percent, $N=831$) wish to give equal status for women in their future family life.

Frequency of the responses to Item No.8 for the sub-samples and the groups classified on the basis of the levels of SES, knowledge and attitude is presented in the following table.

TABLE 129
 Frequency of the Responses to Item No. 8 for the Sub-samples and Groups

Response category	SEX		LOCALE		RELIGION			SUBJECT			S E S			KNOWLEDGE			ATTITUDE		
	Female	Male	Urban	Rural	Hindu	Muslim	Chris-tian	Science	Arts	Comm-erice	Low	Ave- rage	High	Low	Ave- rage	High	Low	Ave- rage	High
A	1	2	0	3	3	0	0	1	1	1	0	2	1	0	3	0	1	2	0
B	48	78	24	102	58	48	20	29	50	47	37	69	20	14	85	27	31	87	8
C	454	377	135	696	567	151	113	277	306	248	199	471	161	129	527	175	102	603	126
Total	503	457	159	801	628	199	133	307	357	296	236	542	182	143	615	202	134	692	134

The table shows that majority of the students wish to give equal status for women, when they are subdivided into different sub-samples based on sex, locale, religion and subject of study. Similarly, the majority wish to give equal status for women, when the students are classified on the basis of the three (i.e., low, average and high) levels of SES, knowledge and attitude.

i. Association between Sex and Perspectives on Status of Women in the Family

The table below presents the data and results of the chi-square test of independence of Item No.8 by Sex.

TABLE 130
Chi-square Test of Independence of Item No.8 by Sex

Response category	Sex	Female	Male	Row total
A		1	2	3
d		-0.7	0.7	
B		48	78	126
d		-3.5**	3.5**	
C		454	377	831
d		3.6**	-3.6**	
Column Total		503	457	960
Chi-square = 12.43** DF = 2				

** Significant at 0.01 level.

Interpretation of the results

The value of chi-square 12.43 exceeds 9.21, which is the table value of chi-square for significance at 0.01 level with two degrees of freedom. It indicates that perspectives on status of women in the family is dependent on sex. In other words, there exists association between sex and perspectives on status of women.

As shown by the 'd' values -3.5 and 3.6 it is clear that the observed frequencies of females who wish to give lower status for women and equal status for them in the family significantly deviate from the expected frequencies. The 'd' values of males (3.5 and -3.6) who expressed the same opinions also indicate significant deviations. These deviations lead to the conclusion that the desire for equality of sexes in family life is stronger among females as compared to males.

ii. Association between Locale and Perspectives on Status of Women in the Family

The data and results of the chi-square test of independence of Item No.8 by locale is presented in the following table.

TABLE 131
Chi-square Test of Independence of Item No.8 by Locale

Response category	Locale	Urban	Rural	Row total
A		0	3	3
B		24	102	126
C		135	696	831
Column Total		159	801	960
Chi-square = 1.2 DF = 2				

Interpretation of the results

The value of chi-square 1.2 is below 5.99, which is the table value of Chi-square for significance at 0.05 level with two degrees of freedom. It indicates that perspectives on status of women is independent of locale. In other words, there is no association between locale and perspectives on status of women.

iii. Association between Religion and Perspectives on Status of Women in the Family

The data and results of the chi-square test of independence of Item No.8 by religion is presented in the following table.

TABLE 132

Chi-square Test of Independence of Item No.8 by Religion

Response category	Religion	Hindu	Muslim	Christian	Row Total
A		3	0	0	3
d		1.22	-0.8	-0.7	
B		58	48	20	126
d		-5.0**	5.0**	0.7	
C		567	151	113	831
d		5.0**	-5.0**	-0.6	
Column Total		628	199	133	960
Chi-square 31.2** DF = 4					

** Significant at 0.01 level.

Interpretation of the results

The value of chi-square 31.2 exceeds 13.28, which is the table value of chi-square for significance at 0.01 level with four degrees of freedom. It indicates that perspectives on status of women is dependent on religion. In other words, there exists association between religion and perspectives on status of women.

The observed frequencies of Hindus who wish to give lower status for women and equal status for them significantly deviate from the expected frequencies as shown by the 'd' values -5.0 and 5.0. The 'd' values of Muslims (5.0 and -5.0) who expressed the same opinions also indicate significant deviations. These deviations lead to the conclusion that the desire for equality of sexes in family life is stronger among Hindus as compared to Muslims.

iv. **Association between Subject of Study and Perspectives on Status of Women in the Family**

The data and results of the chi-square test of independence of Item No.8 by subject of study is presented in the following table.

TABLE 133

Chi-square Test of Independence of Item No.8 by Subject

Response category	Subject	Science	Arts	Commerce	Row Total
A		1	1	1	3
B		29	50	47	126
C		277	306	248	831
Column Total		307	357	296	960
Chi-square = 5.9		DF = 4			

Interpretation of the results

The value of Chi-square 5.9 is lower than 9.49, which is the table value of chi-square for significance at 0.05 level with four degrees of freedom. It indicates that perspective on status of women is independent of subject of study. In other words, there is no association between subject of study and perspectives on status of women.

v. **Association between SES and Perspectives on Status of Women in the Family**

The data and results of chi-square test of independence of Item No.8 by SES is presented in the following table.

TABLE 134

Chi-square Test of Independence of Item No.8 by SES

SES group	Low	Average	High	Row Total
Response category				
A	0	2	1	3
B	37	69	20	126
C	199	471	161	831
Column Total	236	542	182	960
Chi-square = 3.2		DF = 4		

Interpretation of the results

The value of chi-square 3.2 is below 9.49, which is the table value of Chi-square for significance at 0.05 level with four degrees of freedom. It indicates that perspectives on status of women is independent of SES. In other words, there is no association between SES and perspectives on status of women.

vi. **Association between Knowledge and Perspectives on Status of Women in the Family**

The data and results of the chi-square test of independence of Item No.8 by knowledge is presented in the following table.

TABLE 135

Chi-square Test of Independence of Item No.8 by Knowledge

Knowledge group	Low	Average	High	Row Total
Response category				
A	0	3	0	3
B	14	85	27	126
C	129	527	175	831
Column Total	143	615	202	960
Chi-square = 3.4		DF = 4		

Interpretation of the results

The value of chi-square 3.4 is less than 9.49, which is the table value of chi-square for significance at 0.05 level with four degrees of freedom. It indicates that perspectives on status of women is independent of knowledge about population related problems. In other words, there is no association between knowledge and perspectives on status of women.

vii. Association between Attitude and Perspectives on Status of Women in the Family

The table below presents the data and results of the chi-square test of independence of Item No.8 by attitude.

TABLE 136
Chi-square Test of Independence of Item No.8 by Attitude

Attitude group	Low	Average	High	Row Total
Response category				
A	1	2	0	3
d	1.03	-0.3	-0.7	
B	31	87	8	126
d	3.7**	31.2**	-2.6**	
C	102	603	126	831
d	-3.9**	0.87	2.78**	
Column Total	134	692	134	960
Chi-square = 19.4** DF = 4				

** Significant at 0.01 level.

Interpretation of the results

The value of Chi-square 19.4 exceeds 13.28, which is the table value of Chi-square for significance at 0.01 level with four degrees of freedom. It indicates that perspectives on status of women is dependent on attitude towards population related problems. In other words, there exists association between attitude and perspectives on status of women.

The observed frequencies of the low attitude group who wish to give lower status for women and equal status for them significantly deviate from the expected frequencies as indicated by the 'd' values 3.7 and -3.9. The 'd' values of the high group (-2.6 and 2.78) who expressed the same opinions also indicate significant deviations. The 'd' value (31.2) of the average group who wish to give lower status for women also depicts

significant deviation. The deviations suggest that the desire to give lower status for women in the family is significant among the low group and the average group. On the other hand the desire for equality of sexes in family life is apparent among the high group. This leads to the conclusion that the desire for equality of sexes is stronger among the high attitude group than the low and average groups.

Part D

Discussion of the Major Findings

In this part, the major findings are compared to the findings of the studies pertinent to the area of research. A discourse about the impacts of the variables, on knowledge, attitude and perspectives and the probable reasons for the impacts cited by the investigator are also included in this part.

1. Findings on Knowledge

The result of the Knowledge Test has revealed that the students have moderate knowledge about population related problems. The finding of the present study is compared to the findings of similar studies conducted among college students. The study took up by Deshmukh (1979) among pre-university students found that the general awareness of students towards population problem was moderate. Amrithpal Kaur (1984) found that post-graduate students in Punjab have got significant population awareness. Pillai (1987) found that the degree students in the University of Kerala were not aware of the population statistics. Pillai et al. (1995) found

that though the degree students in Kerala have high awareness on population related issues, their knowledge in population scenario and allied areas was meagre.

The findings of the present study and Pillai et al. (1995) indicate that the students haven't attained proficiency with regard to their level of knowledge. It upholds the necessity of the effective implementation of the programmes which are aimed to inculcate knowledge about population related problems among the college students of Kerala.

The impact of sex, locale, religion, subject of study and SES on knowledge is discussed in subsequent paragraphs.

i. Sex

The impact of sex on knowledge has revealed that there is significant difference between female and male students in respect of their knowledge about population related problems and the mean knowledge score of male students exceeds that of female students. The present findings agree with the findings of the studies conducted by Chaiwat (1974), Bhandarkar (1983), Singh (1984), Sukhpreeth Kaur (1985), Sharma (1987), Misra (1988) and Abraham (1991) all of which noticed that there exists impact of sex on population knowledge or awareness. Pillai et al. (1995) had concluded that sex plays a significant role in moulding the population awareness of degree students. On the contrary they concluded that sex does not have a crucial role in acquiring knowledge in population related issues. The finding of the University of Assumptions (1979) which had revealed that female subject have higher level of population education knowledge than their male counterparts disagrees with the present finding. Moreover, the findings of

Amritpal Kaur (1984), Iqbal Kaur (1985), the P.E.C., Allahabad (1985). Akhtar (1988), Swain (1988), Rao and Baig (1995) and Ranjithlal (1997) couldn't find the impact of sex on knowledge or awareness are contradictory with the present finding.

The difference between female and male students in knowledge can be ascribed to the inequality of opportunity to acquire knowledge. Generally, the boys have more leisure time as compared to the girls who have to play the double-role of a student and domestic servant. The boys can utilise their leisure time to engage in the activities which are helpful to expand the horizons of their knowledge such as reading, listening radio and T.V. etc. Therefore, the boys are more likely to receive more information and acquire more knowledge about population related problems.

ii. Locale

The present study which has found no significant effect of locale on knowledge resembles the findings of Sharma (1987), Akhtar (1988), Pareek (1989), Pillai et al. (1995) and Ranjithlal (1997). The findings of Ammal (1976), Amrithagawri (1983), Singh (1984), the P.E.C., Allahabad (1985), Rath (1985), Sumanjith Kaur (1985), the PEC, Tamilnadu (1986) and the P.E.C., Bihar (1987) that locale has impact on population knowledge or awareness disagree with the present finding.

There is no marked difference between urban and rural areas in communication facilities in Kerala. Hence the students residing in urban and rural areas are similarly exposed to any source of information providing knowledge about population related problems. Moreover, both

the urban and rural educational institutions in Kerala provide similar learning experiences related to Population Education to the students. Hence there is no possibility for significant difference between urban and rural students in their knowledge.

iii. Religion

No significant effect of religion on knowledge has been detected in the present study. It is consonant with the findings of Deshmukh (1979), Akhtar (1988), Tambidurai (1989) and Pillai et al. (1995) who had found no impact of religion on population awareness or knowledge. On the other hand, Bhandarkar (1983) and Abraham (1991) who had detected the impact of religion on the knowledge of population related issues disagrees with the present finding.

The students in Kerala have the opportunity to imbibe knowledge about population problems from various sources irrespective of their religion. Moreover, the result of the study indicates that religious beliefs or practices do not encourage or discourage the students to attain knowledge about population problems.

iv. Subject of study

The impact of subject of study on knowledge shows the preponderance of arts students in their knowledge as compared to science and commerce students. The findings of Sukhpreeth Kaur (1985) and Rout (1988) who detected higher population awareness for science students deviate from the present finding. The findings of Amritpal Kaur (1984) Iqbal Kaur (1985) and Misra (1985) which hadn't detected significant

difference in population awareness between the students classified on the basis of subject of study disagree with the present finding.

The students who opt arts subjects get more chances to understand population related problems because the syllabi of the subjects such as Economics and Sociology include topics on Demography and Population Studies. But the science and commerce students don't have such chances. It may be the reason for the weaker performance of science and commerce students in the Knowledge Test as compared to arts students.

v. Socio-Economic Status

The impact of SES on knowledge cites significant difference between the low SES group and the average SES group in knowledge. Besides, the mean knowledge score of the average group is greater than that of the low group. The differences in knowledge between the low group and the high group, and the average group and the high group are not significant. The findings of Bhandarkar (1983), Akhtar (1988), Thambidurai (1989) and Sharma and Chatterjee (1990) resemble the present finding. But Sumanjith Kaur (1985) and Iqbal Kaur (1985) disagree with it.

The finding of the present study doesn't allow to conclude that SES has a positive impact on knowledge though the main effect is statistically significant. If it were so, the difference in knowledge between the two extreme (ie., the low SES group and the high SES group) groups should have been significant. Moreover, the high SES group should have attained the highest mean knowledge score. But the mean knowledge score of the average SES group (ie., 13.7) is greater than that (ie., 13.31) of the high

group. It may be due to the effect of the confounding variables which were not controlled by the investigator.

2. Findings on Attitude

The results of the assessment of attitude have revealed that the students have favourable attitude towards population related problems. Pillai et al. (1995) concluded that the degree student of Kerala state possess moderate level of attitude towards population problems.

The social environment of Kerala is characterised by high literacy rate, wide network of communication facilities, educational institutions and public health facilities. Moreover, when it is compared to the other states, Kerala has a prominent place with regard to the orientation of scientific and progressive outlooks among the people. Such factors might have influenced the students in shaping their attitude.

The impact of sex, locale, religion, subject of study SES and knowledge on attitude is discussed in subsequent paragraphs.

i. Sex

It has been revealed that, there is significant difference between female and male students in respect of their attitude and the mean attitude score of male students exceeds that of their female counterparts. The findings of Varghese (1970) Bhandarkar (1983), Jot (1984) and Nair (1990) which cited the impact of sex on attitude agree with the present finding. On the other hand, Paramjith Kaur (1984), Akhtar (1988), Thambidurai (1989) and Rao and Baig (1995) could not detect the impact of sex on attitude. Moreover, Pillai et al. (1995) concluded that sex does not play a

decisive role in shaping the attitude of degree students towards population related issues.

The low level of attitude of female students as compared to their male counterparts connotes that they are more affected by pro-natalist beliefs than male students. The low level of knowledge about population related problems and the misconceptions about contraception etc., might have influenced the attitude of female students.

ii. Locale

It has been found that there is no significant effect of locale on attitude. The findings of Akhtar (1988) and Pillai et al. (1995) which hadn't detected significant urban-rural difference in attitude agree with the present finding. But Rao and Imbaraj (1970), Amrithagowri (1983), Sharma (1987) and Ranganekar et al. (1987) who found the impact of locale on attitude disagree with it.

As in the case of knowledge the environmental conditions of the place of residence do not exerts its influence on attitude also. It implies that the rural or urban environment in Kerala is not a crucial factor which inculcates pro-natalist or anti-natalist attitude in students' mind.

iii. Religion

The study has discerned that there exists significant difference between Hindu, Muslim and Christian students with respect to their attitude. Moreover, the mean attitude score of Hindu students exceeds that of Muslim and Christian students. Varghese (1970) had revealed significant relationship between religion and attitude towards family

planning. But in the same study he hadn't found significant difference between various religious groups in respect of their attitude towards Population Education. Akhtar (1988) and Sinha (1991) had also detected the impact of religion on attitude. On the other hand, Bhandarkar (1983) Thambidurai (1989) and Pillai et al. (1995) hadn't found the impact of religion on attitude.

Religion is a powerful social institution influencing the social attitudes of the people. Religious beliefs and traditions related to marriage, birth, contraception, role of the son etc. can influence their population related beliefs and attitudes. The findings of the present study shows that Hindu students are relatively free from the grasp of pro-natalist religious beliefs as compared to Muslim and Christian students.

iv. Subject of Study

The impact of subject of study on attitude has been established by this study. Significant difference in attitude between science and arts students and science and commerce students and the preponderance of science students in attitude score are evidences to this finding. The study took up by Misra (1985), which hadn't detected significant difference in the attitude towards population policy between arts, science and commerce students disagrees with the present finding.

The science subjects give emphasis to the empirical knowledge and scientific method of enquiry towards the realities of the material world. The scientific temper attained by the students through the method of enquiry they follow might have influenced the science students in shaping their attitude.

Interaction effect of religions and subject of study on attitude

The significant interaction effect of religion and subject of study on attitude and the highest mean attitude score of Hindu-science students authenticate the significant role played by liberal and scientific approach in developing responsible social attitudes. The organisational structure of Hinduism is liberal. The social reform movements and the land reforms in Kerala which have abolished the predominance of the extra-economic forces from our society have reinforced the liberal nature of Hinduism. The liberal and secular nature of beliefs do not create defense mechanisms which act as a stumbling block before the orientation of progressive ideas about population situation, population policy, family planning etc. among Hindus. The liberal nature of Hinduism and the scientific temper attained through the learning of science subjects might have interacted each other to formulate a scientific and progressive attitude among Hindu-science students.

v. Socio -Economic status

The finding of the present study has revealed that the effect of SES on attitude is not significant. Nair (1990), too had found no significant relationship between economic status and attitude towards Population Education. On the other hand, Bhandarkar (1983) Ranganekar et al. (1987), Kamal et al. (1987), Akhtar (1988) and Thambidurai (1989) who detected significant impact of the variables like educational, occupational and economic status on attitude disagree with the present finding.

The present finding implies that SES is not a significant variable influencing the attitude of students towards population related problems.

In other words, SES of the students does not help to inculcate pro-natalist or anti-natalist attitude in students mind.

vi. Knowledge

The findings of the present study imply that knowledge about population related problems has a positive impact on attitude towards population related problems. The studies conducted by Sharma (1987), Akhtar (1988), Barapanda (1988), Thambidurai (1989) and Kumari (1991) had also revealed the relationship between variables like knowledge, awareness and attitude. But Rao and Baig (1995) had found that attitude towards population education is independent of awareness.

The positive impact of knowledge on attitude suggests that the installation of proper knowledge about population related problems will be helpful to nurture rational and responsible attitude towards population related problems. The students, who are well aware of population situation and the causes and disastrous consequences of population growth are likely to favour the nation's efforts to control the population growth, small family norm and contraception. The need for delayed marriage and gender equality can also be recognized by them. Population Education is aimed to impart population knowledge among the people with a view to develop rational and responsible attitude and behaviour. Naturally, the students, who have felt the need for curbing population growth are likely to favour Population Education programmes.

3. Findings on perspectives

The students' perspectives on age at marriage show that the majority (82.2 percent) of the students have a clear idea about their age at

marriage and most of the female students who have a clear idea about their age at marriage wish to be married at the age of 23 and most of the males wish to be married at the age of 25. The present findings are in agreement with the findings of Nagda et al. (1975), Kumari (1985), Audinarayana (1985), Goyal (1988) and Deouskar (1997), who found that the subjects preferred late marriage. On the other hand, Patel (1982) found that the urban student youths preferred early marriage. Moreover, Khan and Patel (1997) found that people of Agra favoured early marriage for girls.

The perspectives on number of children show that the majority (95 percent) of the students wish to limit the number of children. Most of the students who wish to limit the number wish to have two children in their family. The findings resembles those of Poffenberger (1970 and 1971), Hanumanulu (1976), the Korean Educational Development Institute (1977), Patel (1982), Kumari (1985), Singh and Misra (1990), Pushpabai (1992), Katkova et. al. (1995) and Deouskar (1997). The N.F.H.S. of 1992-93 had also revealed that the preference for two children is almost universal in Kerala.

The perspectives on spacing show that majority (89.9 percent) of the students wish to adopt spacing and most of them wish to have three years as the specific period of spacing. The studies conducted by Nagda et al. (1975), Das (1991) and Pushpabai (1992) have also drawn similar findings. The N.F.H.S., 1992-93 had also found that the desire for spacing children is very strong among the women of Kerala.

The students' perspectives on delay for the birth of first offspring after the marriage has shown that majority (69.4 percent) of the students

wish to delay the birth of first offspring and most of them wish to have the first offspring after two years of their marriage. The available literature shows that no other study has been conducted in this regard.

The students' perspectives on limiting the reproductive period has shown that majority (75.8 percent) of the students wish to limit the reproductive period within a particular age. However, most of the students who wish to limit the period were undecided about the period within which they wish to limit reproduction. As in the case of delay for the birth of first offspring, the available literature shows that no study has been conducted to explore the perspectives on limiting the reproductive period.

The students' perspectives on sex preference has revealed that majority (74.1 percent) of the students have no special preference about the sex of children they wish to beget. It resembles the findings of the F.P.A.I. (1989) which had revealed that the subjects hadn't shown any sex preference. On the other hand, the studies conducted by Poffenberger (1970), Koteswar (1984), Saksena (1985), the N.F.H.S., 1992-93, Sani (1993), Tamilarasan (1995), Khan and Patel (1997) and Gorishti and Haffey (1998) had reported the existence of son preference among the subjects.

Perspectives on birth control has shown that majority (80.5 percent) of the students wish to adopt any type of birth control in their future family life and majority of them wish to adopt temporary methods. Rajeswari and Koteswar (1988) had found that youngsters of Karnataka were ready to accept family planning through permanent methods. Deouskar (1997) had revealed that teachers and students of Bhundelkhand region of Madhya

Pradesh have made their choice in favour of loop/Nirodh as a suitable means for fertility control.

The perspectives on status of women in the family has shown that majority (86.6 percent) of the students wish to give equal status for women in the family. The study conducted by Pushpabai (1992) among the students of the University of Kerala had also drawn similar finding.

The findings discussed above shows that the students have healthy perspectives about their future family life. It can be expected that the students' fertility behaviour in the future will cherish the nation's efforts to curb the population growth unless some undesirable elements try to prevent the realisation of their perspectives.

The association of sex, locale, religion, subject of study, SES knowledge and attitude on perspectives are discussed in subsequent paragraphs.

i. Sex

The results of the study have shown that sex is associated with perspectives on age at marriage, birth control and status of women in the family. On the other hand, perspectives on number of children, spacing, delay for the birth of first offspring, limiting the reproductive period and sex preference about children are independent of sex.

The association of sex with perspectives on age at marriage indicates that the extent of uncertainty regarding the age at marriage is greater among males than females.

Usually the age at marriage of females are lower than that of males. Therefore, female students are likely to reach their married life faster as compared to male students. Men are supposed to be the earning members of the family and generally they do not think of their marriage till attaining economic self sufficiency. In this context it is quite natural that female students are more aware of their married life and age at marriage than male students.

The association between sex and perspectives on birth control indicates that the extent of willingness to accept birth control is greater among males as compared to females. The studies conducted by Sarkar (1985) and Ganesh et al. (1996) also revealed the unwillingness of female subjects to accept family planning. The unwillingness of female students to accept birth control in the future can be ascribed to the factors such as poor knowledge and misconceptions about contraception. Moreover, the submissive nature of those female students who believe that the male member of the family is the authority to take decisions about family planning might have discouraged them to favour birth control in their future family life.

The findings about the association of sex with perspectives on status of women in the family suggests that the desire for equality of sexes in family life is stronger among females as compared to males. The study took up by Pushpabai (1992) in the University of Kerala also had revealed that majority of the female students are in favour of equal status for women in the family.

Despite the strong prevalence of the lamentations for gender equality, male dominance continues as a social fact. The privileges enjoyed by males in a patriarchal society are quite apparent, and generally a male, who enjoys such privileges, is likely to favour the superiority of man in the family. On the contrary, the female, who is the beneficiary of gender equality is likely to favour equal status for women in the family.

ii. Locale

The findings show that locale is associated with perspectives on number of children, delay for the birth of first offspring after the marriage and limiting the reproductive period. On the other hand, perspectives on age at marriage, spacing, sex preference, birth control and status of women in the family are independent of locale or they are moulded irrespective of the place of residence of the students.

The association of locale with perspectives indicates that the effect of anti-natalist elements on urban students is stronger than that on rural students with regard to their perspectives on number of children, delay for the birth of first offspring and limiting the reproductive period. Saksena (1985) had also drawn similar results.

The above findings indicate that urban dwelling has a positive impact on the eradication of misconceptions regarding family planning. The studies on fertility behaviour conducted by Patil (1983) and the N.F.H.S., 1992-93 had revealed that urbanization and modernisation have positive impact on contraception. The perspectives of rural students might have been influenced by the factors like misconceptions about contraception and religious dogma.

iii. Religion

The analysis has revealed that religion is associated with perspectives on age at marriage, number of children, spacing, delay for the birth of first offspring, limiting the reproductive period, sex preference, birth control and status of women in the family.

The association of religion with perspectives on age at marriage implies that the extent of uncertainty regarding the age at marriage is greater among Muslims than Hindus.

Generally Muslims get married at an earlier age as compared to other religious groups. The findings of Sarkar (1985) and the N.F.H.S., 1992-93 reveal this fact. The factors which encourage early marriage among the Muslims might have made Muslim students think so that it would be better to get married as early as possible.

The association of religion with perspectives implies that the extent of influence of anti-natalist elements on perspectives on number of children, limiting the reproductive period and birth control is greater among Hindu students as compared to Muslim students. Moreover, the finding that Hindus are more willing to delay the birth of first offspring than Christians also indicates the extrication of Hindus from pro-natalist beliefs. On the other hand, the reluctance of Muslim students to adopt spacing further affirms the impact of pro-natalism among Muslims.

The traditional beliefs and practices of the three major religions in Kerala are not free from pro-natalist elements. The findings of the present study implies that Muslim students have not yet redeemed from pro-

natalist beliefs. The findings of the pertinent studies took up by French (1975) Ram and Metha (1983), Krishnamoorthi (1984), Koteswar (1984), Sarkar (1985), Marimuthu (1990) and the N.F.H.S., 1992-93 also indicate the prevalence of pro-natalist beliefs and practices among Muslims. In addition to their pro-natalist religious beliefs, the feeling of insecurity among the Muslims as they are the minority and their quest for strengthening themselves by increasing the number might have influenced the perspectives of Muslim students.

The association of religion with sex preference implies that Hindu students have rather extricated from son preference than Muslims and Christians. The present finding is contradictory to the conclusion made by Sivaraju (1982), who found that most of the Hindus in Andhra ascribed high value to the son.

By traditional beliefs, Hinduism ascribe high ritual value to the son because he is supposed to liberate the father from the hell. Moreover, the society conceive son as an old age security. However, Hindu students are being redeemed from such beliefs. On the other hand, the extent of son preference is greater among Muslims and Christian students as compared to Hindus.

The association of religion with perspectives on status of women in the family indicates that the desire for equality of sexes in family life is stronger among Hindus as compared to Muslims.

The religious scriptures of Hindu, Islam and Christianity ascribe high status for men in the family and society. The orthodox religious beliefs and practices not only magnify the status and role of men but also neglect the

abilities and potentialities of women. However, the present finding implies the orthodoxy regarding the status of women is less among Hindu students as compared to Muslims.

iv. Subject of study

The Association of subject of study with perspectives indicate that perspectives on age at marriage, number of children, spacing delay for the birth of first offspring, limiting the reproductive period, sex preference, birth control and status of women in the family are independent of subject of study. In other words they are moulded irrespective of the subject of study opted by the students.

v. Socio Economic Status

The results shows that SES is associated with perspectives on age at marriage, number of children, delay for the birth of first offspring after the marriage, sex preference and birth control. On the other hand, perspectives on spacing, limiting the reproductive period and status of women in the family are not associated with SES or they are moulded irrespective of the level of SES of college students.

The association of SES with perspectives on age at marriage implies that the extent of uncertainty regarding age at marriage is apparent among the low SES groups. It further means that the students with low SES rely up on chance rather than choice with regard to their age at marriage.

The students including in the high SES group generally belong to the high income group. Moreover, their parents are likely to be well educated and engaged in the occupations, which belong to the professional and high

professional categories or profitable business. They get enough economic support for higher education and they wish to be married only after the attainment of the commanding heights of their academic and professional career. Hence they are more likely to have a clear idea about their age at marriage which is suitable to their level of aspiration. On the other hand, the students belong to the low SES group may not have such aspirations regarding their academic and professional career because they haven't enough economic support to realize them. Generally, they wish to receive low-waged jobs as early as possible in order to escape from the economic insecurity. In this context there is no need of moulding an idea about the age at which they wish to be married for the low SES group in relation to their level of aspiration. Besides, the dowry system which is being strengthened in the society might have made the girls included in the low SES group to think that it had better get married as early as possible.

The association of perspectives with SES implies the influence of pro-natalist elements on the low SES group with respect to their perspectives on number of children and birth control. Moreover, the impact of anti-natalist elements on the high SES group with regard to their perspectives on delay for the birth of first offspring is stronger than that on the low SES group.

The findings mentioned above implies that the high SES group is relatively free from the misconceptions about contraception. The studies took up by Koteswar (1984), Sarkar (1985), Chaudhary and Saikaia (1986), Dash (1988), the N.F.H.S. 1992-93 and Zuanna et al. (1998) had revealed that income and education had negative impact on fertility or positive impact on the acceptance of family planning. The beliefs such as the

children as an economic asset, anxieties about the side effect of contraception and religious dogma about contraception might have influenced the perspectives of the students belong to the low SES group.

The association of SES with perspectives on sex preference shows that the indifference towards the sex of the children is stronger among the high SES group as compared to the other two groups.

Preference for sons or daughters is often governed by economic points of view. Some people think that there is no 'returns' for the money spent for rearing a girl as she has to serve her husband's family after the marriage. Moreover, huge amount of money is required to arrange for her marriage. But the boy is supposed to look after the parents in their old age. The finding mentioned above indicates that the students belong to the high SES group might have been redeemed from such beliefs as compared to the other groups.

vi. Knowledge

The findings have shown the association of knowledge with perspectives on delay for the birth of first offspring, limiting the reproductive period and birth control. On the other hand, perspectives on age at marriage, number of children, spacing, sex preference and status of women in the family are not associated with knowledge or they are moulded irrespective of the level of knowledge of college students.

The association of knowledge with perspectives indicates that the influence of pro-natalist elements on the low knowledge group is strong with regard to their perspectives on delay for the birth of first offspring and

the influence of anti-natalist element is strong on the high knowledge group with respect to their perspectives on limiting the reproductive period. The perspectives on birth control shows that the extent of influence of anti-natalist elements on the high knowledge group is greater than that on the low knowledge group. The finding of Mohammed (1991) which had revealed that the pattern of knowledge, attitude and practice of male contraception seemed to be consistent among the people with high level of knowledge being accompanied by high level of approval and practice resembles the present finding.

The findings of the present study suggest that the students with high level of knowledge might have been redeemed from the misconceptions about contraception. Moreover, the improvement in the level of knowledge about population related problems installs a sense of responsibility among the students to follow small family norms.

vii. Attitude

The findings have proved the association of attitude with perspectives on age at marriage, number of children, spacing, delay for the birth of first offspring, limiting the reproductive period, birth control and status of women in the family. On the other hand, perspectives on sex preference is not associated with attitude or it is moulded irrespective of the level of attitude of college students.

The association of attitude with perspectives indicates that the extent of uncertainty regarding the age at marriage is greater among the low attitude group as compared to the high group. The impact of anti-natalist elements on the high attitude group and the average attitude group is

stronger than that on the low attitude group with respect to their perspectives on number of children and birth control. Besides, the impact of anti-natalist elements on the high attitude group is stronger than that on the low attitude group with regard to perspectives on delay for the birth of first offspring and limiting the productive period. The students' perspectives on spacing shows that the impact of pro-natalist elements on the low attitude group is strong. The students' perspectives on status of women in the family has shown that the desire for equality of sexes in family life is stronger among the high attitude group as compared to the low and average groups.

The above mentioned findings imply that attitude has a positive impact on perspectives. The students with high attitude towards population related problems are more likely to favour delayed marriage, small family norm, contraception and gender equality and these factors might have influenced them to mould healthy perspectives regarding their future family life. On the other hand, the perspectives of the students with low levels of attitude might have been influenced by misconceptions about contraception and orthodox religious beliefs. The findings of the present study point out the necessity for the development of favourable attitude towards population related problems among the students through all the possible means in order to develop a healthy perspectives regarding their future family life.

4. Conclusion

The above discussion shows that sex exerts its direct influence on knowledge, attitude and perspectives on age at marriage, birth control and

status of women in the family. The direct impact of locale on perspectives on number of children, delay for the birth of first offspring and limiting the reproductive period is also evident. Religion exerts its influence on attitude, and perspectives on age at marriage, number of children, spacing, delay for the birth of first offspring, limiting the reproductive period, sex preference, birth control and status of women in the family directly. Subject of study exerts its direct influence on knowledge and attitude. The effect of SES on knowledge is statistically significant. The variable SES also influences perspectives on age at marriage, number of children, delay for the birth of first offspring, sex preference and birth control. The impact of knowledge on attitude is found to be direct and positive. Besides, knowledge exerts its direct influence on perspectives on delay for the birth of first offspring, limiting the reproductive period and birth control. Moreover, there exist direct impact of attitude on perspectives on age at marriage, number of children, spacing, delay for the birth of first offspring, limiting the reproductive period, birth control and status of women in the family.

It is quite relevant to emphasise the impact of knowledge on attitude and perspectives. Knowledge exerts its direct and positive impact on attitude and perspectives on delay for the birth of first offspring, limiting the reproductive period and birth control. Besides, it also exerts its indirect impact on perspectives on age at marriage, number of children, spacing, delay for the birth of first offspring, limiting the reproductive period, birth control and status of women in the family through its impact on attitude. Therefore, it can be concluded that the development of scientific knowledge about population related problems can lead to the

development of rational and responsible attitude and healthy perspectives among college students. These findings have high operational value in the context of the national endeavor to develop rational and responsible attitude and behaviour concerning the population situation among the students.

SUMMARY, CONCLUSIONS AND SUGGESTIONS

Subrahmania Das P.V. “Knowledge, attitude and perspectives on population related problems among college students ” Thesis. Department of Adult Education and Extension Services , University of Calicut, 2001

SUMMARY, CONCLUSIONS AND SUGGESTIONS

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- ❖ Title of the Study
 - ❖ Objectives of the Study
 - ❖ Hypotheses of the Study
 - ❖ Major Findings
 - ❖ Tenability of the Hypotheses
 - ❖ Suggestions
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CHAPTER V

SUMMARY, CONCLUSIONS AND SUGGESTIONS

Title of the Study

The present study is entitled as "Knowledge, Attitude and Perspectives on Population Related Problems among College Students."

Objectives of the Study

The following were the objectives of the study.

1. To assess the level of knowledge of college students about population related problems such as population situation of the country and the world, causes and consequences of disproportionate population growth, population policy of the Government of India and the practices geared towards population control and family planning.
2. To ascertain the attitude of college students towards population related problems such as population growth, population control, small family norm, contraception, family welfare, population education, age at marriage and status of women in the family and society.
3. To find out the perspectives of college students on their age at marriage, number of children, spacing, delay for the birth of first offspring after the marriage, limiting the reproductive period, sex preference, birth control and status of women in the family.

4. To find out the main effect of the variables such as sex, locale, religion, subject of study and SES on knowledge and attitude.
5. To find out the interaction effect of the following variables on knowledge and attitude.
 - a) sex and locale
 - b) sex and religion
 - c) sex and subject of study
 - d) sex and SES
 - e) locale and religion
 - f) locale and subject of study
 - g) locale and SES
 - h) religion and subject of study
 - i) religion and SES
6. To find out the effect of knowledge on attitude.
7. To find out the relationship between knowledge and attitude towards population related problems.
8. To find out the association of the variables such as sex, locale, religion, subject of study, SES, knowledge and attitude with perspectives on age and marriage, number of children, spacing, delay for the birth of first offspring after the marriage, limiting the reproductive period, sex preference, birth control and status of women in the family.

Hypotheses of the Study

The investigator has formulated the following hypotheses for the study on the basis of the above mentioned objectives.

1. There will be significant main effects of the variables sex, locale, religion, subject of study and SES on knowledge.
2. The interaction effects of the variables (a) sex and locale (b) sex and religion, (c) sex and subject of study, (d) sex and SES, (e) locale and religion, (f) locale and subject of study, (g) locale and SES, (h) religion and subject of study and (i) religion and SES on knowledge will be significant.
3. There will be significant main effects of the variables such as sex, locale, religion, subject of study and SES on attitude.
4. The interaction effects of the variables (a) sex and locale, (b) sex and religion, (c) sex and subject of study, (d) sex and SES, (e) locale and religion, (f) locale and subject of study, (g) locale and SES, (h) religion and subject of study and (i) religion and SES on attitude will be significant.
5. There will be significant effect of knowledge on attitude.
6. There will be significant and positive relationship between knowledge and attitude for the total sample and relevant sub-samples based on sex, locale, religion, and subject of study.

7. There will be significant association of perspectives on age at marriage with sex, locale, religion, subject of study, SES, knowledge and attitude.
8. There will be significant association of perspectives on number of children with sex, locale, religion, subject of study, SES, knowledge and attitude.
9. There will be significant association of perspectives on spacing with sex, locale, religion, subject of study, SES, knowledge and attitude.
10. There will be significant association of perspectives on delay for the birth of first offspring with sex, locale, religion, subject of study, SES, knowledge and attitude.
11. There will be significant association of perspective on limiting the reproductive period with sex, locale, religion, subject of study, SES, knowledge and attitude.
12. There will be significant association of perspectives on sex preference with sex, locale, religion, subject of study, SES, knowledge and attitude.
13. There will be significant association of perspectives on birth control with sex, locale, religion, subject of study, SES, knowledge and attitude.
14. There will be significant association of perspectives on status of women in the family with sex, locale, religion, subject of study, SES, knowledge and attitude.

Methodology in Brief

The study mainly adopted the design of a sample survey. The knowledge was assessed with a Knowledge Test constructed by the investigator. An Attitude Scale was developed by the investigator to measure the Attitude. The investigator prepared a Questionnaire to obtain information regarding the perspectives. The personal data about the respondents was collected by using a Personal Data Sheet. The Socio-Economic Status Scale developed by Kuppuswami and modified by K.S. Pillai was adopted to measure the Socio-Economic Status. The study was conducted on a representative sample of 960 degree students selected from the seven northern districts of Kerala State. The data collected were analysed and interpreted using statistical techniques such as percentages, percentile ranks, arithmetic mean, median, mode standard deviation, analysis of variance, test of significance of mean difference, Karl Pearson's co-efficient of correlation and chi-square test of independence.

Major Findings of the Study

The important findings of the study are presented below.

A. Major Findings of the Assessment of the Level of Knowledge

1. The analysis of the data of the Knowledge Test has revealed that the students have moderate level of knowledge regarding population issues. The mean knowledge score is found to be 13.43, (51.65 percent of the maximum score in the Knowledge Test) for the total sample. The mean knowledge score has been 12.24 (47 percent of the maximum score) and 14.75 (56.7 percent of the maximum score) for

female and male students respectively, when the total sample is classified on the basis of sex. When the total sample is classified on the basis of locale the mean knowledge scores are found to be 13.7 (52.6 percent of the maximum score) for urban students and 13.4 (51.5 percent of the maximum score) for rural students. When the total sample is classified on the basis of religion, the mean knowledge scores are found to be 13.4 (51.5 percent of the maximum score) for Hindu students, 13.1 (50.4 percent of the maximum score) for Muslim students and 14.05 (54 percent of the maximum score) for Christian students. When the total sample is classified on the basis of subject of study the mean knowledge scores obtained have been 12.82 (49.3 percent of the maximum score) for science students, 14.34 (55 percent of the maximum score) for arts students and 12.98 (49.9 percent of the maximum score) for commerce students.

2. The results of the Two-way ANOVA have proved that there exists significant main effects of the variables sex, subject of study and SES on knowledge. On the other hand, the main effects of locale and religion are not significant.
3. The follow up study for the significant main effect of sex on knowledge by mean of the 't' test has revealed that there exists significant difference between male and female students in respect of their knowledge. Moreover, it has been found that the mean knowledge score of male students is greater than that of female students.

4. The follow-up study for the significant main effect of subject of study on knowledge has revealed that there exists significant difference between science and arts students and arts and commerce students in respect of their knowledge. On the other hand, there is no significant difference in knowledge between science and commerce students. Moreover it has been found that the mean knowledge score of arts students exceeds that of science and commerce students.
5. The follow up study of the significant main effect of SES on knowledge has revealed that there exists significant difference in knowledge between the low SES group and the average SES group. Moreover it has also been revealed that the mean knowledge score of the average SES group exceeds that of the low SES group. On the other hand, no significant difference has been found between the low SES group, and the high SES group, and the average SES group and the high SES group in respect of their knowledge.
6. The results of the ANOVA have also proved that the interaction effects of the variables (a) sex and locale, (b) sex and religion, (c) sex and subject of study, (d) sex and SES, (e) locale and religion, (f) locale and subject of study, (g) locale and SES, (h) religion and subject of study and (i) religion and SES on knowledge are not significant.

B. Major Findings of the Assessment of the Level of Attitude

1. The analysis of the data of the Attitude Scale has revealed that the students have favourable attitude towards population related problems. The mean attitude score for the total sample was found to be 173.05 (76.9 percent of the maximum score in the Attitude Scale).

The mean attitude score has been 171.5 (76.2 percent of the maximum score) for females and 174.75 (77.7 percent of the maximum score) for males, when the total sample is classified on the basis of sex. When the total sample is classified on the basis of locale, the mean attitude score is found to be 174.57 (77.6 percent of the maximum score) for urban students and 172.74 (76.8 percent of the maximum score) for rural students. The mean attitude scores have been 177.31 (78.8 percent of the maximum score) for Hindu students, 159.85 (71 percent of the maximum score) for Muslim students and 172.65 (76.7 percent of the maximum score) for Christian students, when the total sample is classified on the basis of religion. When the total sample is classified on the basis of subject of study, the mean attitude scores are found to be 175.95 (78.2 percent of the maximum score) for science students, 172.18 (76.5 percent of the maximum score) for arts students and 171.07 (76 percent of the maximum score) for commerce students.

2. The results of the Two-way ANOVA have proved that the main effects of the variables, sex, religion and subject of study on attitude are significant. On the other hand, the main effects of the variables, locale and SES have been found to be not significant.
3. The follow up study of the significant main effect of sex on attitude by means of the 't' test has revealed that there exists significant difference between female and male students with respect to their attitude. Moreover, it has been proved that the mean attitude score of male students exceeds that of their female counterparts.

4. The follow up study of the significant main effect of religion on attitude has revealed that there exists significant difference between Hindu and Muslim student, Hindu and Christian students and Muslim and Christian student in respect of their attitude. Moreover, it has been revealed that the mean attitude score of Hindu students is greater than that of Christian and Muslim Students.
5. The follow up study of the significant main effect of subject of study on attitude has revealed that there exists significant difference between science and arts students and science and commerce students in respect of their attitude. On the other hand, the difference in attitude between arts and commerce students is found not significant. Moreover, it has been proved that the mean attitude score of science students exceeds that of arts and commerce students.
6. The results of the Two-way ANOVA have also proved that the interaction effects of the variables, (a) sex and locale, (b) sex and religion, (c) sex and subject of study, (d) sex and SES, (e) locale and religion, (f) locale and subject of study, (g) locale and SES and (h) religion and SES on attitude are not significant. On the other hand, there exists significant interaction effect of religion and subject of study on attitude.
7. The follow up study of the significant interaction effect of religion and subject of study on attitude has proved that there exists significant difference between (a) Hindu - science and Hindu - arts students, (b) Muslim - science and Muslim - arts students, (c) Muslim - arts and Muslim - commerce students, (d) Christian - arts and

Christian - commerce students, (d) Hindu - science and Muslim - science students, (f) Hindu - science and Christian - science students, (g) Hindu - arts and Muslim - arts students, (h) Muslim - arts and Christian - arts students, (i) Hindu - commerce and Muslim - commerce, (i) Hindu - commerce and Christian - commerce students and (k) Muslim - commerce and Christian - commerce students in respect of their attitude. Moreover, Hindu - science students has the highest mean attitude score as compared to the other groups classified on the basis of religion and subject of study.

8. The result of the one-way ANOVA has proved that knowledge about population related problems has significant effect on attitude towards population related problems.
9. The follow-up study of the effect of knowledge on attitude has proved that there exists significant difference between the low knowledge group and the average knowledge group, the low knowledge group and the high knowledge group, and the average knowledge group and the high knowledge group in respect of their attitude. Moreover, it has been revealed that the mean attitude score of the high knowledge group is greater than that of the average and low groups.
10. The correlation analysis has proved that there exists significant and positive relationship between knowledge and attitude for the total sample, though the magnitude of relationship is low. Though the magnitude of relationship is low, there exists significant and positive relationship between knowledge and attitude in the case of female

students, male students, rural students, Hindus, Muslims, Christians, science students, arts students and commerce students when the total sample was classified into the sub-samples based on sex, locale, religion and subject of study. The relationship between knowledge and attitude in the case of urban students is not significant.

C. Major findings of the Assessment of Perspectives

1. *Perspective on Age at Marriage*

- i. The analysis of the data collected about perspective on age at marriage has revealed that 82.2 percent (N = 789) of the students have clear idea about their age at marriage and 17.8 percent (N = 171) have no idea about it. Besides, it has been found that the majority of the students belongs to the different strata have a clear idea about their age at marriage when the total sample was classified into sub-samples on the basis of sex, locale, religion and subject of study and groups on the basis of the three (i.e., low, average and high) levels of SES, knowledge and attitude. The mode of the specific responses on age at marriage preferred by those students who reported that they have a clear idea about their age at marriage is 25 years for the total sample. When the total sample is classified into the sub-samples based on sex, the mode of the responses is 23 years for female students and 25 years for male students. When the total sample is classified on the basis of locale, the mode of the responses of urban students is 23 years and that of rural students is 25 years. The mode is 25 years for Hindu, Christian and Muslim students alike. For science, arts and commerce students also the mode is found to be 25

years. The mode is 30 years for the low knowledge group and 25 for the average and the high knowledge groups when the students are classified on the basis of the level of knowledge. The mode of the responses of the low, average and high groups is 25 years when the students are classified on the basis of SES and attitude.

- ii. The results of the chi-square test and the post-hoc analysis of chi-square have revealed that there exists association between sex and perspectives on age at marriage and the degree of uncertainty about age at marriage is greater among males as compared to their female counterparts.
- iii. The results of the chi-square test and post-hoc analysis have revealed that there exists association between religion and perspectives on age at marriage and students the degree of uncertainty about age at marriage is greater among Muslims as compared to Hindus.
- iv. The chi-square test and post-hoc analysis have revealed that there exists association between SES and perspectives on age at marriage and the prevalence of uncertainty about age at marriage is significant among the low SES group.
- v. The chi-square test and pot-hoc analysis have revealed that there exists association between attitude towards population related problems and perspectives on age at marriage and the extent of uncertainty about age at marriage is greater among the low attitude group as compared to the high group.

- vi. The results of the chi-square tests have revealed that perspectives on age at marriage is not associated with locale, subject of study and knowledge about population related problems.

2. Perspectives on Number of Children

- i. The analysis of the data collected about perspectives on number of children has revealed that 95 percent (N=912) of the students wish to limit the number of children in their future family life and five percent (N = 48) don't wish to limit the number. It has also been found that the majority of the students from the different strata wish to limit the number of children when the total sample is classified into the relevant sub-samples, and groups based on the levels of SES, knowledge and attitude. The mode of the specific responses on number of children preferred by those students, who wish to limit the number is two for the total sample. The mode is two for the sub-samples classified on the basis of sex, locale, religion, subject of study and the groups of students classified on the basis of the three (low, average and high) levels of SES, knowledge and attitude.
- ii. The chi-square test and post-hoc analysis have revealed that there exists association between locale and perspectives on number of children and urban students are more willing to limit the number of children than their rural counterparts.
- iii. The chi-square test and post-hoc analysis have revealed that there exists association between religion and perspectives on number of children and the extent of willingness to limit the number of children is greater among Hindus as compared to Muslims.

- iv. The chi-square test and post-hoc analysis have revealed that there exists association between SES and perspectives on number of children and the prevalence of unwillingness to limit the number of children is apparent among the low SES group.
- v. The chi-square test and post-hoc analysis have revealed that there exists association between attitude towards population related problems and perspectives on number of children and the average attitude group and the high attitude group are more prone to limit the number of children than the low group.
- vi. The results of the chi-square test have revealed that perspectives on number of children is not associated with sex, subject of study and knowledge about population related problems.

3. Perspectives on Spacing

- i. The analysis of the data collected about perspectives on spacing has proved that 89.9 percent (N = 863) of the students wish to adopt spacing and 4.1 percent (N = 39) of the students don't wish to adopt spacing. Moreover, six percent (N = 58) of the students had not responded to the question regarding perspectives on spacing because they wish to have only one child in their family. It has been found that the majority of the students from the different strata wish to adopt spacing when the total sample is classified into the relevant sub-samples, and groups on the basis of the levels of SES, knowledge and attitude. The mode of the specific responses on period of spacing of those students who wish to adopt spacing is three years for the total sample. The mode of the specific responses is three years for

female, male, urban and rural students, when the total sample is classified on the basis of sex and locale. When the total sample is classified on the basis of religion, the mode of the responses is three years for Hindus and Christians and two years for Muslims. The mode of the responses of science students is two years and that of arts and commerce students is three years, when the total sample is classified on the basis of subject of study. The mode becomes three years for the low and high SES groups and two years for the average SES group. The mode is two years for the low knowledge group and three for the average and the high knowledge group. The mode of the response of the low attitude group is two years and that of the average and the high attitude groups is three years.

- ii. The chi-square test and post-hoc analysis have revealed that there exists association between religion and perspectives on spacing and the reluctance to adopt spacing is apparent among Muslim students.
- iii. The chi-square test and post-hoc analysis have revealed that there exists association between attitude towards population related problems and perspectives on spacing and the unwillingness to adopt spacing is clear among the low attitude group.
- iv. The results of the chi-square test have revealed that perspectives on spacing is not associated with sex, locale, subject of study, SES and knowledge about population related problems.

4. **Perspectives on Delay for the Birth of First Offspring after the Marriage**
 - i. The analysis of the data of perspectives on delay for the birth of first offspring after the marriage has shown that 69.4 percent (N = 666) of the students wish to delay the birth of first offspring and 30.6 percent (N = 294) don't wish to delay the birth of first offspring after the marriage. Moreover, it has been reported by the majority of the students from the different strata that they wish to delay the birth of first offspring when the total sample is classified into the sub-samples, and groups based on the levels of SES knowledge and attitude. The mode of the specific responses on period of delay for the birth of first offspring of those students who wish to delay the first offspring after the marriage is two years for the total sample. Moreover, the mode is two years for the different strata when the total sample is classified into sub-samples based on sex, locale, religion and subject of study and the three groups of students on the basis of the levels of SES, knowledge and attitude.
 - ii. The chi-square test and post-hoc analysis have revealed that there exists association between locale and perspectives on delay for the birth of first offspring and the degree of willingness to delay the birth of first offspring is greater among urban students as compared to their rural counterparts.
 - iii. The chi-square test and post-hoc analysis have revealed that there exists association between religion and perspectives on delay for the

- birth of first offspring and the degree of willingness to delay the birth of first offspring is greater among Hindus as compared to Christians.
- iv. The chi-square test and post-hoc analysis have revealed that there exists association between SES and perspectives on delay for the birth of first offspring and the high SES group is more willing to delay the birth of first offspring than the low group.
 - v. The chi-square test and post-hoc analysis have revealed that there exists association between knowledge about population related problems and perspectives on delay for the birth of first offspring and the unwillingness to delay the birth of first offspring is ostensible among the low knowledge group.
 - vi. The chi-square test and post-hoc analysis have revealed that there exists association between attitude towards population related problems and the extent of willingness to delay the birth of first offspring is greater among the high attitude group as compared to the low group.
 - vi. The result of the chi-square have revealed that perspectives on delay for the birth of first offspring after the marriage is not associated with sex and subject of study.

5. Perspectives on Limiting the Reproductive Period

- i. The analysis of the data of perspectives on limiting the reproductive period has revealed that 75.8 percent (N = 728) of the students wish to limit the reproductive period within a particular age limit and 24.2 percent (N = 232) don't wish to limit the reproductive period.

Moreover, it has also been revealed that the majority of the students from the different strata wish to limit the reproductive period, when the total sample was classified into the sub-samples, and the groups based on the levels of SES, knowledge and attitude. The data of specific responses on limiting the reproductive period has revealed that most of the students are undecided about the specific age limit within which they wish to limit the reproductive period. Hence the response category 'Undecided' is considered as the mode of the specific responses on limiting the reproductive period for the total sample and the different strata when the total sample is classified into sub-samples and the groups of students on the basis of the three levels of SES, knowledge and attitude.

- ii. The chi-square test and post-hoc analysis have revealed that there exists association between locale and perspectives on limiting the reproductive period and the degree of willingness to limit the reproductive period is greater among urban students than rural students.
- iii. The chi-square test and post-hoc analysis have revealed that there exists association between religion and perspectives on limiting the reproductive period and Hindu students are more willing to limit the reproductive period as compared to Muslim students.
- iv. The chi-square test and post-hoc analysis have revealed that there exists association between knowledge about population related problems and perspectives on limiting the reproductive period and

the prevalence of willingness to limit the reproductive period is significant among the high knowledge group.

- v. The chi-square test and post-hoc analysis have revealed that there exists association between attitude towards population related problems and perspectives on limiting the reproductive period and the degree of willingness to limit the reproductive period is greater among the high attitude group than the low group.
- vi. The result of the chi-square test have revealed that perspectives on limiting the reproductive period is not associated with sex, subject of study and SES

6. Perspectives on Sex Preference

- i. The analysis of the data on perspectives on sex preference has shown that 1.4 percent (N=13) of the students wish to have only boy or boys, one percent (N = 10) wish to have only girl or girls in their family, 2.3 percent (N = 22) prefer greater number of boys and 0.7 percent (N = 7) prefer greater number of girls. Equal number of boys and girls are preferred by 20.5 percent (N = 197) of the students. The majority (7.41 percent, N = 71) are indifferent towards the sex or they have no special preference about the sex of children they wish to beget. Moreover, the majority responded that they have no special preference about the sex of the children they wish to beget, when the total sample is subdivided into different sub-samples based on sex, locale religion and subject of study and the three levels of SES knowledge and attitude.

- ii. The chi-square test and post-hoc analysis have revealed that there exists association between religion and perspectives on sex preference and son preference is weaker among Hindus as compared to Muslims and Christians.
- iii. The chi-square test and post-hoc analysis have revealed that there exists association between SES and perspectives on sex preference and the indifference towards the sex of the children is stronger among the high SES group than the low and average groups.
- iv. The result of the chi-square test have revealed that perspectives on sex preference is not associated with sex, locale, subject of study, knowledge and attitude.

7. Perspectives on Birth Control

- i. The analysis of the data of perspectives on birth control has revealed that 80.5 percent (N = 773) of the students wish to accept any type of birth control in the future and the remaining 19.5 percent (N = 187) don't wish to accept birth control. When the total sample is classified into the sub-samples, and groups based on the three levels of SES, knowledge and attitude it has been found that the majority wish to accept birth control. Majority of the students who wish to adopt any type of birth control prefer temporary methods of birth control, when their preferences are analysed for the total sample. Majority of female students wish to adopt permanent method and that of the male students wish to accept temporary method when the preferences are analysed for the sub-sample based on sex. The analysis of preferences for the sub-samples based on locale, religion

and subject of study shows that the majority prefer temporary methods. The preferences of the students classified on the basis of the levels of SES, knowledge and attitude also show that the majority prefer temporary methods except in the case of the low knowledge and the high attitude groups. Majority of the students include in the low knowledge and the high attitude group prefer permanent methods of birth control.

- ii. The chi-square test and post-hoc analysis have revealed that there exists association between sex and perspectives on birth control and the extent of willingness to accept birth control is greater among males as compared to females.
- iii. The chi-square test and post-hoc analysis have revealed that there exists association between religion and perspectives on birth control and Hindus are more willing to accept birth control than Muslims.
- iv. The chi-square test and post-hoc analysis have revealed that there exists association between SES and perspectives on birth control and the unwillingness to accept birth control is significant among the low SES group.
- v. The chi-square test and post-hoc analysis have revealed that there exists association between knowledge about population related problems and the extent of willingness to accept birth control is greater among the high knowledge group as compared to the low knowledge group.

- vi. The chi-square test and post-hoc analysis have revealed that there exists association between attitude towards population related problems and the average and high attitude groups are more in favour of birth control than the low group.
- vii. The result of the chi-square test have revealed that perspectives on birth control is not associated with locale and subject of study.

8. Perspectives on Status of Women in the Family

- i. Analysis of the data of perspectives on status of women in the family has revealed that 0.3 percent of (N = 3) of the students wish to give higher status for women than man in their family, 13.1 percent (N = 126) wish to give lower status for women than man and the majority (ie., 86.6 percent, N = 831) wish to give equal status for women in the family. Moreover, the majority is found to agree with giving equal status for women in the family, when to total sample is subdivided into sub-samples based on sex, locale, religion and subject of study and the three levels of SES knowledge and attitude.
- ii. The chi-square test and post-hoc analysis have revealed that there exists association between sex and perspectives on status of women and the desire for equality of sexes in family life is stronger among females as compared to males.
- iii. The chi-square test and post-hoc analysis have revealed that there exists association between religion and perspectives on status of women and the desire for equality of sexes in family life is stronger among Hindus as compared to Muslims.

- iv. The chi-square test and post-hoc analysis have revealed that there exists association between attitude towards population related problems and perspectives on status of women and the desire for equality of sexes in family life is stronger among the high attitude group as compared to the low and average groups.
- v. The results of the chi-square have revealed that perspectives on status of women in the family is not associated with locale, subject of study, SES and knowledge.

Tenability of the Hypotheses

1. Since it was found that the main effects of the variables sex, subject of study and SES on knowledge are significant and the main effects of locale and religion are not significant, the first hypothesis is partially substantiated.
2. The second hypothesis is rejected because the interaction effects of the variables (a) sex and locale, (b) sex and religion, (c) sex and subject of study, (d) sex and SES, (e) locale and religion, (f) locale and subject of study, (g) locale and SES, (h) religion and subject of study and (i) religion and SES on knowledge are not significant.
3. The third hypothesis is partially substantiated because the main effects of the variables sex, religion and subject of study on attitude are significant and the main effects of locale and SES on attitude are not significant.
4. Since the interaction effects of the variables (a) sex and locale, (b) sex and religion, (c) sex and subject of study (d) sex and SES (e) locale

and religion, (f) locale and subject of study (g) locale and SES and (h) religion and SES on attitude are not significant and the interaction effect of religion and subject of study on attitude is significant, the fourth hypothesis also is partially substantiated.

5. The fifth hypothesis is fully substantiated because it is found that there is significant effect of knowledge on attitude.
6. Since there is significant and positive relationship between knowledge and attitude for the total sample and the subsamples except in the case of urban students, the sixth hypothesis also is partially substantiated.
7. Since there exists significant association of perspectives on age at marriage with sex, religion, SES and attitude and no significant association of perspectives with locale subject of study and knowledge, the seventh hypothesis is partially substantiated.
8. The eighth hypothesis is also partially substantiated for there exists significant association of perspectives on number of children with locale, religion, SES and attitude and no significant association with sex, subject of study and knowledge.
9. The ninth hypothesis is partially substantiated for there exists significant association of perspectives on spacing with religion and attitude and no significant association with sex, locale, subject of study, SES and knowledge.
10. Since there exists significant association of perspectives on delay for the birth of first offspring with locale, religion, SES, knowledge and

attitude and no significant association with sex and subject of study, the tenth hypothesis is partially substantiated.

11. The eleventh hypothesis also is partially substantiated because there exists significant association of perspectives on limiting the reproductive period with locale, religion, knowledge and attitude. On the other hand there exists no significant association of perspectives with sex, subject of study and SES
12. Since there exists significant association of perspectives on sex preference with religion and SES and no significant association with sex, locale, subject of study, knowledge and attitude the twelfth hypothesis also is partially substantiated.
13. The thirteenth hypothesis is partially substantiated because there exists significant association of perspectives on birth control with sex, religion, SES knowledge and attitude and no significant association with locale and subject of study.
14. The fourteenth hypothesis also is partially substantiated because there exists significant association of perspectives on status of women with sex, religion and attitude and no significant association of perspectives with locale, subject of study, SES and knowledge.

SUGGESTIONS

A. Practical suggestions

The findings of the present study facilitate to put forward some practical suggestions to develop scientific knowledge and attitude towards

population related problems and healthy perspectives regarding the future family life among college students.

1. The scientific knowledge and attitude towards population related problems have a positive impact up on students' perspectives regarding their future family life. Hence appropriate programmes designed to inculcate knowledge about population and to develop favourable attitude towards population related problems should be implemented by the universities among college students with the help of agencies such as the U.G.C., U.N. F.P.A and public health department of the state governments.
2. The Higher Education Project, that is being implemented by the Universities is confined to certain colleges at present. The benefit of this scheme should be extended to all colleges affiliated to the universities.
3. A notable feature of the findings of the present study is that religion is the largest single factor which affects the attitude and perspectives of college students. The implied sense of the findings indicates that Muslim students are pro-natalists as far as their attitude and perspectives are concerned. Hence the programmes implemented by the universities should be given emphasis to the eradication of pro-natalist attitude and perspectives among Muslim students without hurting any religious sentiments.
4. Population Education programmes in the colleges should ensure the participation of all students in its various activities.

5. The students who involve in Population Education programmes should be given proper incentives.

B. Suggestions for further Research

The findings of the present study and the experience of the investigator in this field made him to suggest the following studies for further research.

1. A study geared specially to enquire whether religious traditionalism* has any impact on attitude and perspectives towards population related problems.
2. A study to find out whether the Population Education Clubs can make any desirable change in knowledge, attitude and perspectives among its members towards population related problems.
3. An investigation meant to explore the consistency between perspectives on family life and fertility behaviour of the students.
4. A survey to identify the regional differences with regard to the knowledge, attitude and perspectives on population related problems.

* Religious traditionalism is a tendency of the individual to follow the rules and customs followed by the religion traditionally in his daily life.

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BIBLIOGRAPHY

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- Agarwala, S.N. (1973). *India's population problems*. New Delhi: Mc Graw-Hill.
- Agarwal, A.N. (1989). *Indian economy*. Delhi: Wiseley easter.
- Anastasi, A. (1962). *Psychological testing*. New York: Mc Millan Company.
- Best, J.W. & Khan, J.V. (1995). *Research in education*. New Delhi: Prentice-Hall of India.
- Bose, A. (1997). *Population profile of religion in India*. New Delhi: B.R. Publications.
- Brown, F.G. (1976). *Principles of educational and psychological testing*. New York: Holt Rinhart & Winston.
- Buch, M.B. (Ed.) (1986). *Third Survey of research in education*. New Delhi: N.C.E.R.T.
- Buch, M.B. (Ed.) (1991). *Fourth survey of research in education*. New Delhi: N.C.E.R.T.
- Buch, M.B. (Ed.) (1998). *Fifth survey of research in education, Vol.I*. New Delhi: N.C.E.R.T.
- Deouskar, M. (1997). *Population education as perceives by teachers and students*. New Delhi: Reliance Publishing House.
- Edwards, A.L. (1969). *Techniques of attitude scale construction*. Bombay: Vakils, Feffer and Simons P. Ltd.
- Ferguson, G.A. (1981). *Statistical analysis in psychology and education*. New Delhi: Mc Graw Hill.
- French, J.H. (1975). *A survey of family planning attitude among the islamic leadership of Thailand*. New York: U.N.D.P.
- Ghosh, B.N. (1993). *Population economics*. New Delhi: Deep and Deep.
- Govt. of India, Ministry of Human Resource and Development (1986). *National policy on education - 1986*. New Delhi: Ministry of Human Resource and Development.
- Goyal, R.P. (1988). *Age at marriage in India*. Delhi: B.R. Publishing Corporation.
- Haberman (1973). In Runyon, P.R., Haber, A. Pettinger, D.J. & Coleman, K.A. (1995). *Fundamentals of behavioural statistics*. New York: Mc Graw-Hill Companies Inc, p.595.
- Heer, D.M. (1987). *Society and population*. New Delhi: Prentice Hall of India.
- Kuppuswami, B. (1962). *Manual of socio-economic status scale*. New Delhi: Mahasayan.

- Lakshmy Reddy, M.V. (1993). *Population education programmes in India*. New Delhi: Uppal Publishing House.
- Manuel, V.N. (Ed.) (1973). *Studies in education*. Thiruvananthapuram: The University of Kerala.
- Matras, J. (1977). *Introduction to population: a sociological approach*. New Jersey: Prentice Hall.
- Muley, D.S. Yadav, S.B. & Jain, D.P. (Ed.) (1993). *Population education research in India*. New Delhi: N.C.E.R.T.
- Oxford University (1933). *The oxford dictionary Vol.VII*. London: Oxford University press.
- Page, T.G. & Thomas, J.B. (1977). *International dictionary of education*. London: Kegan page.
- Premi, M.K. (1991). *India's population heading towards a billion*. Delhi: B.R. Publishing Corporation.
- Rao, D.G. (Ed.) (1981). *A decade of population education research*. New Delhi: N.C.E.R.T.
- Sharma, A.K. (1989). *Issues in social demography*. Delhi: Mittal Publications.
- Thurston, L.L. & Chave, E. (1946). *The measurement of attitude*. Chicago: Chicago University.
- Tripathy, K.K. (1993). *Population and development: an economic perspective*. New Delhi; Manak Publications.
- Journals and Research Abstracts**
- Akinn, G.W. Clarkbey, E.M. & Thornton, A.C. (1994). Family influence on family size preferences. *Demography*, Vol.31, No.1, pp.76-7.
- Asari, G.K. (1994). Determinants of contraceptive use in Kerala: The case of son daughter preference. *The journal of family welfare*. Vol.40, No.3, p.19-25.
- Bat-Haee, M.A. (1977). Knowledge and attitude of Kurdhishman in Iran with respect to vasectomy and other means of male fertility control. *The Journal of family welfare*, Vol.33, No.4, pp.3-23.
- Bharathi Devi,(1972). Knowledge and attitude to family planning among kuvi-kandha. *The Journal of family welfare*, Vol.19, No.2, pp.3-8.
- Bhatia, J.C. (1970). Knowledge and attitude of males towards family planning in a Punjabi village. *The Journal of family welfare*, Vol.16, No.3, pp.3-14.
- Centre for Research Planning and Action (CERPA). (1988). Knowledge attitude and practice of ISM practiationers in the context of delivery of family welfare services. *Population Research Abstracts*, Vol.2, No.2, p.51.

- Family Planning Association of India (F.P.A.I). (1989). Attitudes and perception of urban youth to marriage and sex. *Population research abstracts*, Vol.4, No.2, pp.45-6.
- Hitesh, J. (1994). Traditional birth attendants: family planning awareness, attitude and advocacy. *The journal of family welfare*, Vol.40, No.3, pp.32-6.
- Kamal, A.A. Sayed, M.G. Mosalami, E. & Shaer, R.A. (1987). Opinion and practice of family planing among female industrial workers and housewives. *Population studies*, Vol.13, No.74, pp.33-9.
- Katz, K.R., West, C.G., Dombia, F. & Kane, F. (1998). Increasing access to family planning service in rural Mali through community based distribution. *International family planning perspectives*, Vol.24, No.3, pp.104-10.
- Kumar, R. (1972). Attitude of panchayath members towards family planning: an exploratory study in rural Punjab. *The journal of family welfare*, Vol.19, No.2, pp.3-8.
- Kumari, R. (1985). Attitude of girls towards marriage and planned family. *The Journal of family welfare*. Vol.31, No.3, pp.52-61.
- Mohapatra, S.C., Mohapatra, P., Singh, I.J. & Reddy, D.C.S. (1998). Knowledge, opinion and practice of family planning in a rural community. *Indian journal of preventive and social medicine*, Vol.19, No.3, pp.97-101.
- Patel, H.G. (1982). Attitude of urban student youth to age at marriage and family size. *The journal of family welfare*, Vol.28, No.3, pp.58-62.
- Ranganekar, G., Spare, S. & Singh, H. (1987). K.A.P survey of contraception in Bhopal and sorrounding villages. *Indian journal of medical sciences*, Vol.41, No.6, pp.19-23.
- Rao, G.R., Moulasna, K. & Sureender, S. (1993). Knowledge attitude and practice of family planning among fishermen in Tamil Nadu. *The journal of family welfare*. Vol.39, No.3, pp.51-4.
- Rao, P.S.S. & Imbaraj, S.G. (1970). Knowledge and attitude of urban and rural population in North Arcot district towards family planning *The Journal of family welfare*, Vol.16, No.4, pp.18-25.
- Singh, A. & Kaur, A.C. (1993). Perception of traditional birth attendants regarding contraceptive methods. *The Journal of family welfare*, Vol.39, No.1. pp.36-9.
- Sinha, R.B.N. (1991). Attitudes of Hindus and Muslims to family planning. *The journal of family welfare*. Vol.37, No.2, pp.47-9.
- Verma, K.L., Mohapatra, S.C., Mohapatra, P., Goel, C.P. & Gauer, S.D. (1989). Psycho-social responses regarding fulfilment of procreative functions

among women of varanasi. *Journal of preventive and social medicine*, Vol.1, No.20, pp.66-7.

Vijayalakshmi. (1997). Effects of education and religion on women's attitude towards family planning. *The Asian Journal of Psychology and Education*. Vol. 30, No.1-2, pp.23-6.

Zuanna, D.G. Gavini, S. & Spinneli, A. (1998). The effect of changing sexual, marital and contraceptive behaviour on conceptions, abortions and births. *The european journal of population*, Vol.14, No.1, pp.61-88.

Theses, Dissertations, Research Reports and Seminar Papers

Abraham, U.P. (1991). *A study of awareness attitude and skills of secondary school students of Hyderabad and Ranga Reddy Districts on population issues*. Unpublished Ph.D. Thesis, Osmania University.

Akhtar, S.C. (1988). *A study of the knowledge and attitude of secondary school teachers in Karnataka in respect of population education*. Unpublished Ph.D. Thesis, University of Mysore.

Ammal, S.C. (1976). *A study on the adolescents' awareness of population crisis and their opinion towards introducing population education in schools*. Unpublished M.Sc. (Home Science) dissertation, Madras University.

Amrithagowri, R. (1983). *A study on the effective methods to impart population education to higher secondary school students*. Unpublished M.Phil dissertation, Avinasilingam Institute for Home Science and Higher Education for Women. In Buch, M.B. (Ed.) (1988). *Fifth survey of research in education, Vol.I*. New Delhi: N.C.E.R.T., p.645.

Amrithpal Kaur. (1984). *A study of population awareness among post-graduate students in relation to family size and family structure*. Unpublished M.Phil dissertation, State Institute Science Education, Chandigarh.

Audinarayana, N. (1985). *A study on socio-economic determinants of ideal age at marriage*. Unpublished research report, Ministry of Health and Family Welfare, New Delhi.

Balasubramanian, K., Das, N. and Others (1970). *A study of the reactions of high school teachers to population education as integral part of the curriculum*. In Rao, D.G. (Ed.) (1981). *A decade of population education research*. New Delhi: N.C.E.R.T., pp.13-4.

Barapanda, M.C. (1988). *A study of awareness of secondary school teachers towards population problems and their reaction to the introduction of population education in secondary schools*. Unpublished research report, S.C.E.R.T. Bhubaneswar.

Bhandarkar, K.M. (1983). *A study of population education knowledge and attitude of secondary school students and teachers*. Unpublished Ph.D. Thesis, Bhopal University.

- Chaiwat, P. (1974). *Knowledge attitude and beliefs about population education of teachers in Thailand, a comparison of secondary school teachers and teachers in teacher training institutes*. Ph.D. Thesis, University of North Carolina, Chapel Hill, U.S.A.
- Chaudhary, D.C. & Saikaia, R.C. (1986). *A study on fertility, mortality and age at marriage in Assam*. Unpublished research report, Ministry of Health and Family Welfare, New Delhi.
- Curriculum development centre, Thribuvan University (1982). *Knowledge and attitude survey on population education*. Unpublished research report, Thribuvan University.
- Das, K.M. (1991). *A study of population awareness among the students of Kerala University*. Unpublished research report, C.A.C.E.E., University of Kerala.
- Dash, N.C. (1988). *A study of population structure and the educational attainment of dock labourers of Paradeep Port*. Unpublished research report, Population Education Cell, S.C.E.R.T., Bhubaneswar.
- Deshmukh, D.M. (1979). *A study of pre-university students' awareness of population problem from selected colleges of Bangalore*. Unpublished M.Ed. dissertation, Bangalore University.
- Ganesh, R.S., Sethumathavan, P.M. & Ochathevan, R. (1996). *Participatory rural appraisal of the rural women towards family planning*. Unpublished B.A. dissertation, Gandigram Rural Institute, Dindigul.
- Ganiger, S.B. & Rajarathnam, T. (1987). *Knowledge and attitude of male non-acceptors about family planning in northern Karnataka*. Unpublished research report, Population Research Centre, J.S.S. Institute of Economic Research, Dharwad.
- Goyal, R.P. (1986). *A study on a socio-economic explanation for district level variations in mean age at marriage. An analysis of western India*. Unpublished research report, Ministry of Health and Family Welfare, New Delhi.
- Goyal, S. (1987). *A comparative study of attitudes towards population awareness of professional and non-professional students*. Unpublished research report, Department of Education, Rothak University.
- Hanumanulu, V. (1976). *To find out the knowledge and attitude of parents of out of school youths towards population education*. Unpublished research report, F.P.A.I., New Delhi.
- International Institute for Population Sciences. (1995). *National Family Health Survey, India, 1992-93*. Bombay: I.I.P.S.
- Iqbal Kaur (1985). *Population awareness among post-graduate students of Punjabi University in relation to certain socio-economic variables*. Unpublished M.Phil. dissertation, P.E.C., State Institute of Science Education, Chandigarh.

- Jot, N. (1984). *A comparative study of attitude of primary and secondary school teachers towards marriage and family size*. Unpublished M.Phil, dissertation, P.E.C., State Institute of Science Education, Chandigarh.
- Kathuria, R.P. (1988). The effect of teacher led, self-learning, peer groups discussion, mass media approaches of teacher on population education knowledge, attitude and beliefs of the students of class IX and X about population explosion in India. Unpublished research report, Bhopal: Field Office (N.C.E.R.T). In Buch, M.B. *Op.cit.*, p.645.
- Khan, M. & Patel, B.C. (1997). *Male involvement in family planning: KABP study of Agra district*. Unpublished research report, Population Council, Asia and Near East Operations Research and Technical Assistance Project, New Delhi.
- Korean Educational Development Institute, (1977). *A survey of population consciousness of students and teachers in the elementary and secondary schools*. Unpublished research report, Korean Educational Development Institute.
- Koteswar, R.K. (1984). *Small family norm among industrial workers*. Unpublished research report, Population Research Centre, J.S.S. Institute of Economic Research, Dharwad.
- Krishnamoorthi, S. (1984). *A study of acceptors and non acceptors of family planning in the religious communities*. Unpublished research report, Population Research Centre, J.S.S. Institute of Economic Research, Dharwad.
- Kumari, S. (1991). *A comparative study of the attitudes towards population education by three referents - demographers, teachers and parents*. Unpublished Ph.D. Thesis, Maharshi Dayanand University, In Buch, M.B. *Op.cit.*, p.644.
- Lavania, B.K. (1982). *Demographic aspects of a Rajasthan village: A study of village Dheeki in Udaipur District*. Unpublished research report, Ministry of Health and Family Welfare, New Delhi.
- Maheswari, J.R. (1972). *A study of the receptiveness of school teachers to population education*. Unpublished M.Ed. dissertation, Jamia Millia Islamia University.
- Marimuthu, V.M. (1990). *A study on knowledge attitude and practice of family planning*. Unpublished B.A. dissertation, Gandigram Rural Institute, Dindigul.
- Ministry of Education, Bangladesh. (1979). *A study of knowledge and attitude towards population education and practice of family planning of teachers*. Unpublished research report, Ministry of Education Bangladesh, Dacca.
- Misra, B.S. (1988). *A study of the improvement of population awareness among the secondary school students through exposure to population education materials*. Unpublished research report, S.C.E.R.T., Bhubaneswar.

- Misra, R. (1985). *A study into the population policy and social attitude of students studying a undergraduate level in various disciplines*. Unpublished M.Ed. dissertation, Dr. H.S.Gaur University.
- Murthy, R.K. & Rao, L. (1996). *Cultural factors leading to the preparation of the practice of child marriage*. Unpublished research report, Population Research Centre, Andra University.
- Nagarajan, N. Kapal, N.V.R. & Shirur, R.R. (1996). *A study of awareness of population education among college students*. Unpublished research report, Population Education Resource Centre, Madras University.
- Nagda, S.L. & others. (1974). *Study of the opinion of teachers towards population education*. Unpublished research report, P.E.S.C., S.V. University, In Rao, D.G. *Op.cit.*, pp.22-3.
- Nagda, S.L. & Others. (1975). *A survey of the perception of students of womens colleges towards population education*. Unpublished research report, P.E.S.C., S.V. University. In Rao, D.G. *Ibid.*, pp.26-7.
- Nair, M.R. (1990). *Attitude of college teachers towards population education*. Unpublished P.G. Diploma dissertation, C.A.C.E.E., University of Kerala.
- Paramjith Kaur. (1984). *A study of boys and girls studying in professional and non-professional college towards age at marriage and family size*. Unpublished M.Phil. dissertation, P.E.C., State Institute of Science Education, Chandigarh.
- Pareek, R. (1989). *A study of knowledge and attitude towards population education among the teachers of Bhilwara district*. Unpublished research report, S.I.E.R.T., Rajasthan.
- Pathak, M.J. (1974). *A study of population awareness among fathers of standard X of Varnama village*. Unpublished M.Ed. dissertation, Gujarat University.
- Patil, R.L. (1983). *A study of the impact of modernity on fertility*. Unpublished research report, Ministry of Health and Family Welfare, New Delhi.
- Patnaik, R. (1989). *Measurement of attitude towards population education*. Unpublished M.Phil dissertation, Utkal University, In Buch, M.B. *Op.cit.*, p.645.
- Pillai, K.S. (1987). *Awareness of population education among college students of Trivandrum district*. Unpublished research report, C.A.C.E.E., University of Kerala.
- Pillai, K.S. (1987). *Awareness of parallel college students in Trivandrum district on population education*. Unpublished research report, C.A.C.E.E., University of Kerala.

- Pillai, K.S., Kumar, B.V., Supriya, A.E., & Das, K.M. (1995). *A study on the knowledge, attitude and practice of degree students in Kerala on population scenario and allied areas*. Unpublished research report, Population Education Resource Centre, University of Kerala.
- Poffenberger, T. (1970). *A study of the knowledge and attitude of Indian college students towards population related problems*. Unpublished research report, University of Baroda.
- Poffenberger, T. (1971). *Population learning among secondary school students in an Indian village*. Unpublished research report, University of Baroda.
- Pohlman, E. & Rao, K.S. (1970). *A study of the views of teachers on birth planning*. Unpublished research report, Central Family Planning Institute, New Delhi.
- Population Education Cell, Allahabad. (1985). *A study of the achievement test of classes seventh and eighth*. Unpublished research report, State Institute of Education, Allahabad.
- Population Education Cell, Bihar (1987). *Achievement of secondary level students in population education*. Unpublished research report, S.C.E.R.T., Bihar.
- Population Education Cell, Tamilnadu. (1986). *A study of the impact of population education on teachers and students*. Unpublished research report, S.C.E.R.T., Tamilnadu.
- Population Research Centre, Andrapradesh. (1986). *A study for identifying socio-cultural factors leading to the perpetuation of the practice of child marriage*. Unpublished research report, Ministry of Health and Family Welfare, New Delhi.
- Pushpa. (1984). *A study of Attitude of teachers and educational administrators towards the introduction of population education in schools of Punjab*. Unpublished M.Phil. dissertation, P.E.C., State Institute of Science Education, Chandigarh.
- Pushpabai, S. (1992). *A study of awareness about population problem and opinion towards sex preference among unmarried female students of Kerala University*. Unpublished P.G. Diploma dissertation, C.A.C.E.E., University of Kerala.
- Radhadevi, D. (1984). *A study on age at marriage of working and non-working women in Trivandrum district*. Unpublished research report, Ministry of Health and Family Welfare, New Delhi.
- Rajeswari, N.V. & Koteswar, R.K. (1988). *Knowledge and attitude of youngsters towards family formation*. Unpublished research report, Population Research Centre, J.S.S. Institute of Economic Research, Dharwad.

- Ram, R.B. & Metha, R.B. (1983). *A study of some aspects of fertility in rural sector of Bihar*. Unpublished research report, Ministry of Health and Family Welfare, New Delhi.
- Ranjithlal, P.K. (1997). *Awareness on population education IXth standard students of Kerla state*. Unpublished M.Ed. dissertation, S.S. University of Sanskrit, Kaladi.
- Rao, D.G. (1976). *A study of the awareness of teachers on population problems and their reaction to the introduction of population education in schools*. Unpublished research report, N.C.E.R.T., New Delhi.
- Rao, S.V. & Baig, M.A. (1995). *Regional study on awareness and attitude towards population education among teacher educators at secondary level in B.Ed. colleges of the southern region*. Unpublished research report, R.C.E., Mysore.
- Rath, N.P. (1985). *A comparative study of awareness about population dynamics among illiterate and neo-literate adults*. Unpublished M.Phil. dissertation, P.E.C., State Institute of Science Educatio, Chandigarh.
- Rathakrishnan, P.C. (1992). *A study on the perception of small family norm by agricultural labourers in Kunnamvaram Kottai village, Batlagundu Block in Dindigul - Anna District*. Unpublished P.G. Diploma dissertation, Gandhigram Rural Institute, Dindigul.
- Rout, P. (1988). *A study of awareness of undergraduate youths of the problem of population explosion*. Unpublished research report, S.C.E.R.T., Orissa.
- Sahoo, S.C. (1988). *A study of educational level of teachers in relation to the size of their families and acceptance of population education in school curriculum*. Unpublished research report, S.C.E.R.T., Bhubaneswar.
- Saksena, D.N. (1985). *Youth population and family building: empirical lessons for population education*. Unpublished research report, Ministry of Health and Family Welfare, New Delhi.
- Salkar, K.R. (1974). *A study of population awareness among school students in Goa (Std. VIII to XI) as well as teachers and parents and their reaction to the inclusion of population education in the school curriculum*. Unpublished Ph.D. Thesis, Bombay University.
- Sani, A.S. (1993). *Practice and determinents of family planning among urban poor: a case study of four cities*. Paper presented at the 17th annual conference of Indian Association for the study of population, Annamalai Nagar, Chidambaram.
- Sarkar, B.N. (1985). *A study on differentials of age at first marriage in India*. Unpublished research report, Ministry of Health and Family Welfar, New Delhi.

- Sarkar, B.N. (1985). *A study on differentials of fertility change*. Unpublished research report, Ministry of Health and Family Welfare, New Delhi.
- Senthil Kumar, M. (1992). *A study of knowledge, attitude and practice of family welfare programme among SC-Neoliterates in Lakshmipuram and Paraya Perumal Kovilpatty villages in Nilakatai Block, Dindigul-Anna District*. Unpublished P.G. Diploma dissertation, Gandigram Rural Institute, Dindigul.
- Sharma, A.L.N. & Chatterjee, T. (1990). *A case study on the impact of population education concepts in biology lessons on achievements of the students in formal school system*. Unpublished research report, N.C.E.R.T., New Delhi.
- Sharma, G.D. (1983). *A study of the relationship between educational level, social status and family size of middle aged parents*. Unpublished Ph.D. Thesis, Himachal University.
- Sharma, P. (1987). *A study of the development of a population awareness programme for the students of secondary classes of Udaipur Region*. Unpublished research report, P.E.C., S.I.E.R.T., Rajasthan.
- Sik, L.K. (1975). *Relationships between specialisation and attitude towards population related issues among professional students in Korea*. Unpublished research report, Institute of Family Planning, Seoul.
- Singh, G. (1984). *Construction and standardisation of an achievement test measuring population education concepts for eighth class students*. Unpublished M.Phil. dissertation, P.E.C., State institute of Science Education, Chandigarh.
- Singh, K.P. (1984). *A study of correlates of fertility*. Unpublished research report, Ministry of Health and Family Welfare, New Delhi.
- Singh, K.P. & Singh, R. (1991). *A study of psychosocial aspects of medical termination of pregnancy*. Unpublished research report, Population Research Centre, Punjab University.
- Singh, R.K. & Misra, H. (1990). *Attitude of population towards small family norm-impact of mass media and educational approach*. Unpublished research report, R.C.E, Ajmer.
- Sivan, P.R. (1990). *An opinion survey on population education among the school teachers of Chinnalpatti*. Unpublished B.A. dissertation, Gandigram Rural Institute, Dindigul.
- Sivaraju, S. (1982). *Factors influencing religion-wise differential performance in family planning achievements*. Unpublished Ph.D. thesis, S.V. University.
- Srivastava, M.N. (1973). *A study of the knowledge and attitude of teachers towards the introduction of population education in school curriculum*. Unpublished M.Ed. dissertation, Bhopal University.

- Sukhpreet Kaur. (1985). *Population awareness among post-graduate students in relation to the number of siblings and their ordinal position*. Unpublished research report, P.E.C. State Institute of Science Education, Chandigarh.
- Sumanjith Kaur. (1985). *Population awareness among teachers under training in relation to family size and family structure*. Unpublished M.Phil dissertation, Punjabi University.
- Swain, G.M. (1988). *A study of the awareness of secondary school teachers towards population education*. Unpublished M.A. dissertation, S.C.E.R.T., Bhubaneswar.
- Thambidurai, K. (1989). *A study of population awareness and attitudes towards population education and control among adult education programme functionaries in Tamil Nadu*. Unpublished Ph.D. Thesis, University of Mysore.
- Thamilarasan, K. (1995). *A study of knowledge and attitude of youths towards small family norm in Hanyamantharayam kottai-village Reddiar Chathrem Block, Dindigul - Anna District*. Unpublished P.G. Diploma dissertation, Gandigram Rural Institute, Dindigul.
- Trocki, O. (1977). *Attitude towards family planning and population education among teachers and students*. Unpublished research report, South Asia Population Research Award Programme.
- University of Assumptions (1979). *Knowledge and attitude towards population education possessed by seniors and teachers in selected secondary schools in Papanga*. Unpublished research report, University of Assumptions, Philipines.
- Varghese, P.V. (1970). *A study of attitude of teachers towards different aspects of population problems*. Unpublished M.Ed. dissertation, Bangalore University.
- Vincent, A. (1994). *Knowledge attitude and practice of family planning among agriculturists*. Unpublished P.G. Diploma dissertation, Gandigram Rural Institute, Dindigul.
- POPLINE Internet (<http://igm.nim.nin.gov>).**
- Cesar, J.A. Games, G. Hotra, B.L. Oliveria, A.K. Saraiva, A.K. Pando, D.O. Silva, L.M. Rodgiero, C.L. & Gross, M.R. (1997). *Women's opinions on abortion legalisation in a country in Southern Brazil*.
- Gorishti, E. & Haffey, J. (1998). *Albanian women speak about family planning*.
- Katkova, I.P. Garvilova, L.V., Krasnekov, V.L., Zubkova, N.Z. & Mikhalskaia, E.V. (1995). *Features of present - day contraceptive behaviour (according to the data of the Tver district)*.
- Mohamed, E.F. (1991). *Knowledge, attitude, and practice of male contraception in Upper Egypt and Cairo*.

Technical Report

Registrar General and Census Commissioner, India (1991). *Census of India 1991, Series I, India, Provisional Population Totals, Paper I of 1991*. New Delhi: Govt. of India.

Unpublished Official Record

Bureau of Economics and Statistics, (1996). *Cost of living index for April 1996*. Unpublished official record Kozhikode: Bureau of Economics and Statistics District Office.

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APPENDICES

APPENDIX I

KNOWLEDGE TEST (PRELIMINARY)

ജനസംഖ്യാസംബന്ധമായ ചില ചോദ്യങ്ങളാണ് താഴെ കൊടുത്തിരിക്കുന്നത്. ഓരോ ചോദ്യത്തിനും 4 ഉത്തരം വീതം നൽകിയിട്ടുണ്ട്. അതിൽ ഏറ്റവും ശരിയായ ഉത്തരം കണ്ടെത്തി സ്കോർഷീറ്റിലെ അനുയോജ്യമായ കോളത്തിൽ 'X' അടയാളമിട്ടു രേഖപ്പെടുത്തുക.

1. 1991-ലെ സെൻസസ് പ്രകാരം ഇന്ത്യയിലെ ജനസംഖ്യ എത്ര?

A. 68 കോടി B. 80 കോടി C. 84 കോടി D. 93 കോടി
2. 1991 ലെ സെൻസസ് നടക്കാത്ത സംസ്ഥാനമേത്

A. മേഘാലയ B. ജമ്മു-കാശ്മീർ C. ആസ്സാം D. മിസോറാം.
3. 1991 ലെ സെൻസസ് അനുസരിച്ച് ഇന്ത്യയിലെ ജനസാന്ദ്രത എത്ര?

A. 260. B. 270. C. 267 D. 250
4. 1991 ലെ സെൻസസ് പ്രകാരം ഇന്ത്യയിലെ ഏറ്റവും കൂടുതൽ ജനസാന്ദ്രതയുള്ള സംസ്ഥാനമേത്?

A. കേരളം. B. ബീഹാർ C. പശ്ചിമബംഗാൾ D. ആന്ധ്ര.
5. താഴെ പറയുന്നവയിൽ ഏത് സംസ്ഥാനത്തിലാണ് പുരുഷൻമാരേക്കാൾ കൂടുതൽ സ്ത്രീകളുള്ളത്?

A. ബീഹാർ B. തമിഴ്നാട് C. കേരളം. D. ഒറീസ്സ
6. 1991 ലെ സെൻസസ് പ്രകാരം ഇന്ത്യയിൽ ഏറ്റവും കൂടുതൽ ജനസംഖ്യയുള്ള നഗരമേത്?

A. ബോംബെ B. കൽക്കത്ത C. ഡൽഹി D. മദ്രാസ്.
7. കേരളത്തിലെ ഏറ്റവും കൂടുതൽ ജനസാന്ദ്രതയുള്ള ജില്ലയേത്?

A. എറണാകുളം B. വയനാട് C. ആലപ്പുഴ D. കണ്ണൂർ
8. കേരളത്തിൽ ജനസംഖ്യവർദ്ധനവിന്റെ നിരക്ക് ഏറ്റവും കൂടുതലുള്ള ജില്ലയേത്?

A. പാലക്കാട് B. കോഴിക്കോട് C. മലപ്പുറം D. കൊല്ലം
9. 1991 ലെ സെൻസസ് പ്രകാരം കേരളത്തിലെ ജനസാന്ദ്രത എത്ര?

A. 740 B. 742 C. 747 D. 670
10. 1991 ലെ സെൻസസിൽ ഏറ്റവും കൂടുതൽ ജനസംഖ്യാവർദ്ധനവ് രേഖപ്പെടുത്തിയ സംസ്ഥാനമേത്?

A. മിസോറാം B. ത്രിപുര C. നാഗലാൻഡ് D. സിക്കിം
11. 1991 ലെ സെൻസസിൽ ഏറ്റവും കുറഞ്ഞ ജനസംഖ്യാവർദ്ധനവ് ഏത് സംസ്ഥാനത്തിലാണ് ?

A. രാജസ്ഥാൻ B. പഞ്ചാബ് C. കേരളം D. ഹരിയാന
12. ഇന്ത്യയിലെ സ്ത്രീ-പുരുഷ അനുപാതം എത്ര?

A. 940 : 1000 B. 929 : 1000 C. 972 : 1000 D. 941 : 1000
13. ഇന്ത്യയിൽ ആദ്യത്തെ സെൻസസ് ഏതുവർഷം നടന്നു?

A. 1757 B. 1947 C. 1872 D. 1900
14. ഇന്ത്യയിൽ സ്ത്രീസാക്ഷരതയിൽ ഏറ്റവും പിന്നോക്കം നിൽക്കുന്ന സംസ്ഥാനമേത്?

A. ബീഹാർ B. ഉത്തർ പ്രദേശ് C. മധ്യപ്രദേശ് D. രാജസ്ഥാൻ.

15. കേരളത്തിൽ ഏറ്റവും കൂടുതൽ ജനസംഖ്യയുള്ള ജില്ലയേത്?
 - A. കോഴിക്കോട്
 - B. മലപ്പുറം
 - C. കണ്ണൂർ
 - D. കാസർഗോഡ്
16. 1991 ലെ സെൻസസ് പ്രകാരം ഇന്ത്യയിൽ 10 ലക്ഷത്തിലേറെ ജനസംഖ്യയുള്ള ഏത്ര നഗരങ്ങളുണ്ട്?
 - A. 20
 - B. 21
 - C. 22
 - D. 23
17. 1991ലെ സെൻസസ് അനുസരിച്ച് കേരളത്തിലെ സ്ത്രീകളുടെ ശരാശരി ആയുർദൈർഘ്യം എത്ര?
 - A. 70
 - B. 69
 - C. 65
 - D. 72
18. ഇന്ത്യയിൽ ശിശുമരണനിരക്ക് ഏറ്റവും കുറഞ്ഞ സംസ്ഥാനമേത്?
 - A. ആന്ധ്ര
 - B. തമിഴ്നാട്
 - C. കേരളം
 - D. കർണ്ണാടക.
19. ജനസംഖ്യാ വിദഗ്ദരുടെ അഭിപ്രായ പ്രകാരം 2000- മാണ്ടാവുമ്പോഴേക്കും ഇന്ത്യയുടെ ജനസംഖ്യ എത്രയായിത്തീരും.
 - A. 95 കോടി.
 - B. 98. കോടി.
 - C. 100 കോടി.
 - D. 150 കോടി.
20. ഏറ്റവും കുറഞ്ഞ ജനസംഖ്യയും സമ്പൂർണ്ണ സാക്ഷരതയുമുള്ള രാജ്യമേത്?
 - A. ഇറ്റലി.
 - B. വത്തിക്കാൻ.
 - C. ജർമ്മനി.
 - D. ഫ്രാൻസ്.
21. വിസ്തീർണ്ണത്തിൽ ഏറ്റവും വലിയ രാജ്യമായ റഷ്യയിലെ ജനസംഖ്യ എത്ര?
 - A. 25 കോടി
 - B. 15 കോടി
 - C. 20 കോടി
 - D. 10 കോടി
22. വിസ്തീർണ്ണവും ജനസംഖ്യയുമായി താരതമ്യപ്പെടുത്തിയാൽ ഏറ്റവും കുറഞ്ഞ ജനസംഖ്യയുള്ള രാജ്യമേത്?
 - A. ആസ്ട്രേലിയ
 - B. ഈജിപ്ത്
 - C. പോളണ്ട്
 - D. ഹംഗറി
23. ലോകജനസംഖ്യാദിനമായി ആചരിക്കുന്ന ദിവസം ഏത്?
 - A. ആഗസ്റ്റ് 8
 - B. ജൂലൈ 10
 - C. ജൂലൈ 11
 - D. ജൂൺ 5
24. ഏറ്റവും കൂടുതൽ ജനസംഖ്യയുള്ള രാജ്യമേത്?
 - A. ചൈന
 - B. ഇന്ത്യ
 - C. റഷ്യ
 - D. U.S.A.
25. U.N.F.P.A. യുടെ പൂർണ്ണരൂപം എന്താണ്?
 - A. United Nations Federation of Population Agencies.
 - B. United Nations Food and Population Association.
 - C. United Nations Family Planning Association.
 - D. United Nations Fund for population Activities.
26. ലോകജനസംഖ്യയിൽ ഏറ്റവും കൂടുതൽ ഏത് മതസ്ഥരാണ്?
 - A. ഇസ്ലാം മതക്കാർ
 - B. ക്രിസ്തുമതക്കാർ
 - C. ഹിന്ദുമതക്കാർ
 - D. ബുദ്ധമതക്കാർ
27. താഴെ പറയുന്നവയിൽ ഇന്ത്യൻ ജനസംഖ്യയുടെ പ്രത്യേകത ഏത്?
 - A. ഉയർന്ന ജനനമരണനിരക്കുകൾ.
 - B. ഉയർന്ന ജനനനിരക്കും താഴ്ന്ന മരണനിരക്കും.
 - C. താഴ്ന്ന ജനനമരണനിരക്കുകൾ.
 - D. ഉയർന്ന മരണനിരക്കും താഴ്ന്ന ജനനനിരക്കും.

28. വികസിത രാജ്യത്തിന്റെ ജനസംഖ്യാപരമായ പ്രത്യേകത എന്ത് ?
- A. ഉയർന്ന കർഷക ജനസംഖ്യ
 - B. ദേശാന്തരഗമനം
 - C. ഉയർന്ന ശരാശരി ആയുർദൈർഘ്യം
 - D. ഉയർന്ന ഗ്രാമീണ ജനസംഖ്യ.
29. ജനസംഖ്യയെ നേരിട്ട് സ്വാധീനിക്കുന്ന ഘടകങ്ങൾ ഏതെല്ലാം?
- A. ജനനനിരക്ക്, മരണനിരക്ക്, ദേശാന്തരഗമനം.
 - B. ജനനനിരക്ക്, തൊഴിലില്ലായ്മ, ദാരിദ്ര്യം.
 - C. മരണനിരക്ക്, ജനനനിരക്ക്, ദാരിദ്ര്യം.
 - D. ദാരിദ്ര്യം, ദേശാന്തരഗമനം, ജനനനിരക്ക്.
30. ഒരു രാജ്യത്തെ ജനസംഖ്യാവർദ്ധനവ് ക്രമാതീതമായാൽ ആരുടെ എണ്ണമാണ് വർദ്ധിക്കുക?
- A. പ്രായം കുറഞ്ഞവരുടെ
 - B. പ്രായപൂർത്തിയായവരുടെ
 - C. തൊഴിലാളികളുടെ
 - D. ബുദ്ധിമാന്മാരുടെ
31. ക്രമാതീതമായ ജനസംഖ്യാവർദ്ധനവ്
- A. വ്യവസായ വളർച്ചയെ സഹായിക്കുന്നു.
 - B. ജീവിതനിലവാരം മെച്ചപ്പെടുത്തുന്നു
 - C. ദക്ഷേത്രാൽപാദനം വർദ്ധിപ്പിക്കുന്നു.
 - D. ആരോഗ്യ വരുമാനം കുറയുന്നു.
32. പതിനഞ്ചു വയസ്സുവരെ പ്രായമുള്ളവരുടെ എണ്ണം ക്രമാതീതമായി വർദ്ധിച്ചാൽ അത് സമ്പദ് വ്യവസ്ഥയിലുണ്ടാകുന്ന പ്രത്യാഘാതമെന്തായിരിക്കും?
- A. ദേശീയസമ്പാദ്യത്തിൽ വർദ്ധനവുണ്ടാകുന്നു.
 - B. തൊഴിലവസരങ്ങൾ വർദ്ധിക്കുന്നു
 - C. ആരോഗ്യത്തിനും വിദ്യാഭ്യാസത്തിനും വേണ്ട ചെലവ് വർദ്ധിക്കുന്നു.
 - D. വരുമാനത്തിൽ വർദ്ധനവുണ്ടാകുന്നു.
33. വിദ്യാഭ്യാസത്തിന്റെ വികസനത്തിന് വേണ്ടി നീക്കിവെക്കപ്പെട്ട തുകയെ ജനസംഖ്യാവർദ്ധനവ് എങ്ങനെ സ്വാധീനിക്കും?
- A. ജനസംഖ്യാ വിദ്യാഭ്യാസത്തിന് കൂടുതൽ തുക ചെലവഴിക്കപ്പെടും.
 - B. തൊഴിലധിഷ്ഠിത വിദ്യാഭ്യാസത്തിനുള്ള ചെലവ് വർദ്ധിക്കും.
 - C. പ്രൈമറി വിദ്യാഭ്യാസം കൂടുതൽ തുക അപഹരിക്കും.
 - D. ഉന്നത വിദ്യാഭ്യാസവികസനത്തിന് ചെലവഴിക്കപ്പെടുന്ന തുക വർദ്ധിക്കും
34. താഴെ പറയുന്നവയിൽ ഏതാണ് ജനസംഖ്യാവർദ്ധനവിന് കാരണമാകുന്നത്?
- A. വ്യവസായവൽക്കരണം
 - B. നഗരവൽക്കരണം.
 - C. ദാരിദ്ര്യം
 - D. ഉയർന്ന ജനസാന്ദ്രത.

35. നിരക്ഷരത ജനസംഖ്യാവർദ്ധനവിന് കാരണമാകുന്നതെങ്ങിനെ?
- A. നിരക്ഷരർ നഗരപദേശങ്ങളിലാണ് ജീവിക്കുന്നത്
 - B. നിരക്ഷരർ ഗ്രാമപദേശങ്ങളിലാണ് ജീവിക്കുന്നത്.
 - C. നിരക്ഷരർക്ക് ലൈംഗിക വിദ്യാഭ്യാസം ലഭിച്ചിട്ടില്ല.
 - D. നിരക്ഷരർക്ക് കുടുംബക്ഷേമ പരിപാടിയെക്കുറിച്ച് വ്യക്തമായ ബോധമില്ല.
36. ജനസംഖ്യാവർദ്ധനവിന്റെ മൂന്ന് ഫലങ്ങൾ ഏതെല്ലാം?
- A. ജനസാന്ദ്രതയിലുള്ള വർദ്ധനവ്, വ്യവസായവൽക്കരണം. തൊഴിലില്ലായ്മ
 - B. ജനസാന്ദ്രതയിലുള്ള വർദ്ധനവ്, പരിസ്ഥിതി മലിനീകരണം, തൊഴിലില്ലായ്മ.
 - C. ജനസാന്ദ്രതയിലുള്ള വർദ്ധനവ് വ്യവസായവൽക്കരണം, പരിസ്ഥിതി. മലിനീകരണം
 - D. വ്യവസായവൽക്കരണം, പരിസ്ഥിതി മലിനീകരണം, തൊഴിലില്ലായ്മ
37. രാജ്യത്തിന്റെ പ്രതിശീർഷ വരുമാനം വർദ്ധിപ്പിക്കുവാൻ എന്തുചെയ്യണം?
- A. ജനസംഖ്യാവർദ്ധനവ് തടയണം
 - B. സാമ്പത്തിക വികസനം ഊർജ്ജിതപ്പെടുത്തണം.
 - C. ജനങ്ങളുടെ വിദ്യാഭ്യാസ നിലവാരം ഉയർത്തണം.
 - D. മുകളിൽ പറഞ്ഞ എല്ലാ കാര്യങ്ങളും വേണം.
38. ജനസംഖ്യാവർദ്ധനവ് സാമ്പത്തിക അസമത്വം വർദ്ധിപ്പിക്കുന്നതെങ്ങിനെ?
- A. ജനസംഖ്യാവർദ്ധനവ് മൂലം സമ്പന്നർ കൂടുതൽ സമ്പന്നരാകുന്നു.
 - B. ദരിദ്രർ കൂടുതൽ ദരിദ്രരാവുന്നു.
 - C. മരണനിരക്ക് വർദ്ധിക്കുന്നു.
 - D. കാർഷിക ഉൽപാദനം കുറയുന്നു.
39. ഒരു രാജ്യത്ത് ജനസംഖ്യാപ്രശ്നം ഉണ്ടാകുന്നത് എപ്പോൾ ?
- A. ജനസംഖ്യയുടെ വാർഷിക വർദ്ധനാനിരക്ക് കൂടുമ്പോൾ ?
 - B. രാജ്യത്തിന്റെ വിഭവശേഷിയെക്കാൾ കവിഞ്ഞ ജനസംഖ്യ ഉണ്ടാവുമ്പോൾ.
 - C. ജീവിതച്ചിലവ് വർദ്ധിക്കുമ്പോൾ.
 - D. നഗര ജനസംഖ്യ വർദ്ധിക്കുമ്പോൾ.
40. ലോകത്ത് ആദ്യമായി ഔദ്യോഗിക ജനസംഖ്യാനയം രൂപപ്പെടുത്തിയ രാജ്യം ഏത്?
- A. ഇംഗ്ലണ്ട് B. ഇന്ത്യ C. ശ്രീലങ്ക D. പാക്കിസ്ഥാൻ
41. ഇന്ത്യയിൽ കുടുംബാസൂത്രണ പരിപാടി ആരംഭിച്ച വർഷം ഏത്?
- A. 1947 B. 1950 C. 1965 D. 1952.
42. ചെറിയ കുടുംബം എന്ന ആശയം പാഠ്യപദ്ധതിയുടെ ഭാഗമാക്കി മാറ്റിയ നയരേഖ ഏത്?
- A. മെക്കാളയുടെ മിനിട്സ്. B. വുഡ്സ് ഡെസ് പാച്ച്.
 - C. കോത്താരി കമ്മീഷൻ റിപ്പോർട്ട്. D. 1966 ലെ ദേശീയ വിദ്യാഭ്യാസ നയം.
43. താഴെ പറയുന്നവയിൽ ഇന്ത്യയുടെ ജനസംഖ്യാനയത്തിന്റെ ഭാഗമല്ലാത്തത് ഏത്?
- A. ബോധവൽക്കരണം.
 - B. കുടുംബക്ഷേമ പദ്ധതിയുടെ പ്രചരണം.

- C. നിർബന്ധിത വന്ധികരണം.
- D. ജനനനിയന്ത്രണമാർഗ്ഗങ്ങളുടെ പ്രചരണം.

44. 'സിംഗിൾ ചൈൽഡ് നോ' നടപ്പാക്കുന്ന രാജ്യം ഏത്?
- A. ഇന്ത്യ
 - B. ചൈന
 - C. പാക്കിസ്ഥാൻ
 - D. ശ്രീലങ്ക
45. താഴെ പറയുന്നവയിൽ ജനപ്പെരുപ്പം തടയാൻ സഹായകമല്ലാത്ത ഘടകം ഏത് ?
- A. ഉയർന്ന സാക്ഷരതാനിരക്ക്.
 - B. ദാരിദ്ര്യനിർമ്മാർജ്ജനം.
 - C. ജനനനിയന്ത്രണമാർഗ്ഗങ്ങളെക്കുറിച്ചുള്ള അറിവും ലഭ്യതയും.
 - D. കാർഷികരംഗത്തെ യന്ത്രവൽക്കരണം.
46. ഇന്ത്യയുടെ ജനസംഖ്യാനയത്തിന്റെ സവിശേഷത എന്ത്?
- A. കൂടുതൽ അംഗങ്ങളുള്ള കുടുംബങ്ങൾക്ക് സാമ്പത്തിക സഹായം നിഷേധിക്കുക.
 - B. കൂടുതൽ അംഗങ്ങളുള്ള കുടുംബങ്ങൾക്ക് സാമ്പത്തികസഹായം വർദ്ധിപ്പിക്കുക
 - C. സമേധയാ ജനനനിയന്ത്രണ മാർഗ്ഗങ്ങൾ സ്വീകരിക്കാൻ ജനങ്ങളെ ബോധവൽക്കരിക്കുക.
 - D. ദയാവധം പ്രോത്സാഹിപ്പിക്കുക.
47. 1978 ലെ വിവാഹപ്രായ നിയമപ്രകാരം പെൺകുട്ടികളുടെ കുറഞ്ഞ വിവാഹപ്രായമെത്രെ?
- A. 21.
 - B. 19.
 - C. 18.
 - D. 20.
48. മാലാ-ഡി എന്നറിയപ്പെടുന്നത്?
- A. ഗർഭനിരോധന ഉറ,
 - B. ഗർഭനിരോധനശസ്ത്രക്രിയ.
 - C. ഗർഭനിരോധനഗുളിക.
 - D. സ്വാഭാവിക ഗർഭനിരോധന മാർഗ്ഗം.
49. വാസക്ടമി എന്നറിയപ്പെടുന്നത്.
- A. പുരുഷൻമാരുടെ വന്ധികരണ ശസ്ത്രക്രിയ.
 - B. പ്രസവാനന്തരം നടത്തുന്ന ശസ്ത്രക്രിയ.
 - C. സുഖപ്രസവത്തിന് വേണ്ടി നടത്തപ്പെടുന്ന ശസ്ത്രക്രിയ.
 - D. ഗർഭിണികൾക്ക് നടത്തുന്ന കുത്തിവെപ്പ്.
50. താഴെ പറയുന്നവയിൽ ജനസംഖ്യാ വർദ്ധനവിന് കാരണമാവാത്ത ഘടകം ഏത് ?
- A. സ്ത്രീകളോടുള്ള വിവേചനം
 - B. അന്ധമായ മതവിശ്വാസം
 - C. സാക്ഷരതാനിരക്കിലെ വർദ്ധനവ്
 - D. ആൺകുട്ടികൾ ജനിക്കുവാനുള്ള ആഗ്രഹം

APPENDIX II
KNOWLEDGE TEST (PRELIMINARY)

The following questions are related to the population problems. Each question is followed by four distractors. You are requested to choose the correct answer and put a 'X' mark in the corresponding column of the score sheet.

1. What is the population of India as per the 1991 census?
A. 68 crores B. 80 crores C. 84 crores D. 93 crores
2. In which state the 1991 census has not been conducted?
A. Mekhalaya B. Jammu-Kashmir C. Assam D. Misoram
3. What is the density of population of India according to the 1991 census?
A. 260 B. 270 C. 267 D. 250
4. Which state in India has the highest density of population as per the 1991 census?
A. Kerala B. Bihar C. West Bengal D. Andhra
5. Which state in India has more female population than the males?
A. Bihar B. Tamilnadu C. Kerala D. Orissa
6. Which is the most populous city according to the 1991 census?
A. Bombay B. Calcutta C. Delhi D. Madras
7. Which is the most densely populated district in Kerala?
A. Palakkad B. Vayanad C. Alappuzha D. Kannur
8. Which district has recorded the highest growth rate of population in Kerala?
A. Palakkad B. Kozhikode C. Malappuram D. Kollam
9. What is the density of population in Kerala according to the 1991 census?
A. 740 B. 742 C. 747 D. 670
10. Which state has recorded the highest population growth rate as per the 1991 census?
A. Mizoram B. Tripura C. Nagaland D. Sikkim
11. Which of the following states has recorded the lowest population growth rate as per the 1991 census?
A. Rajasthan B. Punjab C. Kerala D. Haryana
12. India's sex ratio is
A. 940:1000 B. 929:1000 C. 972:1000 D. 941:1000
13. When the first census in India was conducted?
A. 1757 B. 1947 C. 1872 D. 1900
14. Which among the following states has the lowest female literacy in India?
A. Bihar B. Uttar Pradesh C. Madhya Pradesh
D. Rajasthan
15. Which is the most populous district in Kerala?
A. Kozhikode B. Malappuram C. Kannur D. Kasaragod

16. How many million-plus cities do exist in India as per the 1991 census?
A. 20 B. 21 C. 22 D. 23
17. What is the average expectancy of life of women in Kerala as per the 1991 census?
A. 70 B. 9 C. 65 D. 72
18. Which among the following states has the lowest infant mortality rate in India?
A. Andhra B. Tamilnadu C. Kerala D. Karnataka
19. In the opinion of demographers, what will be India's population by 2000 AD?
20. Which nation has the smallest population and complete literacy?
A. Ittali B. Vatican C. Germany D. France
21. What is the population of Russia which has the largest land area in the world?
A. 25 crores B. 15 crores C. 20 crores D. 10 crores
22. Which is the least populous country in the world when the population and land area are compared?
A. Australia B. Egypt C. Paland D. Hungary
23. The world population day is
A. 8th August B. 10th July C. 11th July D. 5th June
24. Which is the most poplous country in the world?
A. China B. India C. Russia D. U.S.A
25. U.N.F.P.A. stands for
A. United Nations Federation of Population Agencies
B. United Nations Food and Population Association
C. United nations Family Planning Association
D. United Nations Fund for Population Activities
26. Which among the following religions comprises the majority of the world population?
A. Islam B. Christianity C. Hinduism D. Buddhism
27. Which among the following is the characteristic feature of India's population?
A. High Birth Rate and Death Rate
B. High Birth Rate and Low Death Rate
C. Low Birth Rate and Death Rate
D. High Death Rate and Low Birth Rate
28. Which among the following can be considered as the most appropriate demogrphic characteristic of a developed country?
A. Large peasant population
B. Migration
C. High Average Expectancy of Life
D. Large rural population

29. Which among the following factors directly influences the population growth rate of a nation?
- A. Birth Rate, Death Rate and Migration
 - B. Birth Rate, Unemployment and Poverty
 - C. Death Rate, Birth Rate and Poverty
 - D. Poverty, Migration and Birth Rate
30. Which among the following groups will increase as a result of the rapid population growth?
- A. Children
 - B. Adults
 - C. Labourers
 - D. Intelligent
31. Rapid population growth:
- A. Augments industrial growth
 - B. Accelerates the standard of living
 - C. Augments food production
 - D. Lessens the percapita income
32. What will be the result of the increase in the number of people up to the age of fifteen?
- A. Increase in the amount of saving
 - B. Increase in the employment opportunities
 - C. Increase in the expenditure for education and health
 - D. Increase in the national income
33. What will be the impact of population growth on the fund which is allocated for the development of education?
- A. Increase in the expenditure for population education
 - B. Increase in the expenditure for vocational education
 - C. Increase in the expenditure for primary education
 - D. Increase in the expenditure for higher education
34. Which among the following causes population growth?
- A. Industrialisation
 - B. Urbanisation
 - C. Poverty
 - D. High population density
35. How does illiteracy cause population growth?
- A. Illiterates live in the cities
 - B. Illiterates live in the villages
 - C. Illiterates are not exposed to sex education
 - D. Illiterates have not clear awareness about family welfare programmes
36. Three consequences of population growth are
- A. The increase in population density, industrialisation and unemployment.
 - B. The increase in population density, pollution and unemployment.
 - C. The increase in population density, industrialisation and pollution.
 - D. Industrialisation, pollution and unemployment.

37. What measures can be adopted for increasing the Per Capita Income?
- Prevention of population growth
 - Acceleration of economic development
 - Improvement of the educational status of the people
 - All the above
38. How does the population growth accelerate/economic inequality?
- Rich become richer as a result of the population growth
 - Poor becomes poorer
 - Death rate increases
 - Agricultural production decreases
39. When does population problem occur in a country?
- When there is increase in the annual growth rate of population
 - When the population outstrips the availability of the resources of a country.
 - When there is increase in the day-to-day expenditure of the people
 - When there is increase in the urban population
40. Which among the following was the first nation to formulate an official population policy?
- England
 - India
 - Sri Lanka
 - Pakistan
41. When did India start the family planning programme?
- 1947
 - 1950
 - 1965
 - 1952
42. Which among the following was incorporated the observance of small family norm to the national curriculum?
- Mecauelay's minutes
 - Wood's Despatch
 - Kothari commission
 - National Educational Policy of 1986
43. Which among the following is not included in India's population policy?
- Awareness campaigns
 - Propagation of family welfare programmes
 - Compulsory sterilisation
 - Propagation of contraception
44. Who does observe the "Single child norm"?
- India
 - China
 - Pakistan
 - Sri Lanka
45. Which among the following is not helpful to prevent population growth?
- high literacy rate
 - Eradication of poverty
 - Awareness and availability of contraceptives
 - Mechanisation of agriculture
46. What is the peculiarity of India's population policy?
- To deny financial assistance to the large families
 - To augment financial assistance to the small families
 - To make the people aware of the need of voluntary acceptance of contraception.
 - To encourage mercy killing

47. What is the legal minimum age at marriage for girls according to the act of 1978?
A. 21 B. 19 C. 18 D. 20
48. 'Mala-D' is known for
A. Condom B. Sterilisation surgery
C. Contraceptive pills D. Natural method of contraception
49. Vasectomy is known for
A. Sterilisation surgery for men
B. Post-parton surgery
C. Survey for smooth labour
D. Vaccination for the pregnant women
50. Which among the following doesn't cause population growth?
A. Discrimination towards women
B. Blind belief in religion
C. Increase in the literacy rate
D. Preference for male offspring

APPENDIX III

KNOWLEDGE TEST - FINAL

ജനസംഖ്യാസംബന്ധമായ ചില ചോദ്യങ്ങളാണ് താഴെ കൊടുത്തിരിക്കുന്നത്. ഓരോ ചോദ്യത്തിനും 4 ഉത്തരം വീതം നൽകിയിട്ടുണ്ട്. അതിൽ ഏറ്റവും ശരിയായ ഉത്തരം കണ്ടെത്തി സ്കോർഷീറ്റിലെ അനുയോജ്യമായ കോളത്തിൽ 'X' അടയാളമിട്ടു രേഖപ്പെടുത്തുക.

1. താഴെ പറയുന്നവയിൽ ഏതാണ് ജനസംഖ്യാവർദ്ധനവിന് കാരണമാകുന്നത്?

A. വ്യവസായവൽക്കരണം	B. നഗരവൽക്കരണം.
C. ദാരിദ്ര്യം	D. ഉയർന്ന ജനസാന്ദ്രത.
2. ഒരു രാജ്യത്ത് ജനസംഖ്യാപ്രശ്നം ഉണ്ടാകുന്നത് എപ്പോൾ ?
 - A. ജനസംഖ്യയുടെ വാർഷിക വർദ്ധനാനിരക്ക് കൂടുമ്പോൾ ?
 - B. രാജ്യത്തിന്റെ വിഭവശേഷിയെക്കാൾ കവിഞ്ഞ ജനസംഖ്യ ഉണ്ടാവുമ്പോൾ.
 - C. ജീവിതച്ചിലവ് വർദ്ധിക്കുമ്പോൾ.
 - D. നഗര ജനസംഖ്യ വർദ്ധിക്കുമ്പോൾ.
3. ജനസംഖ്യയെ നേരിട്ട് സ്വാധീനിക്കുന്ന ഘടകങ്ങൾ ഏതെല്ലാം?
 - A. ജനനനിരക്ക്, മരണനിരക്ക്, ദേശാന്തരഗമനം.
 - B. ജനനനിരക്ക്, തൊഴിലില്ലായ്മ, ദാരിദ്ര്യം.
 - C. മരണനിരക്ക്, ജനനനിരക്ക്, ദാരിദ്ര്യം.
 - D. ദാരിദ്ര്യം, ദേശാന്തരഗമനം, ജനനനിരക്ക്.
4. താഴെ പറയുന്നവയിൽ ജനപ്പെരുപ്പം തടയാൻ സഹായകമല്ലാത്ത ഘടകം ഏത് ?
 - A. ഉയർന്ന സാക്ഷരതാനിരക്ക്.
 - B. ദാരിദ്ര്യനിർമ്മാർജ്ജനം.
 - C. ജനനനിയന്ത്രണമാർഗ്ഗങ്ങളെക്കുറിച്ചുള്ള അറിവും ലഭ്യതയും.
 - D. കാർഷികരംഗത്തെ യന്ത്രവൽക്കരണം.
5. രാജ്യത്തിന്റെ പ്രതിശീർഷ വരുമാനം വർദ്ധിപ്പിക്കുവാൻ എന്തുചെയ്യണം?
 - A. ജനസംഖ്യാവർദ്ധനവ് തടയണം
 - B. സാമ്പത്തിക വികസനം ഉൾക്കൊള്ളിക്കേണ്ടതുമാണ്.
 - C. ജനങ്ങളുടെ വിദ്യാഭ്യാസ നിലവാരം ഉയർത്തണം.
 - D. മുകളിൽ പറഞ്ഞ എല്ലാ കാര്യങ്ങളും വേണം.
6. ഇന്ത്യയുടെ ജനസംഖ്യാനയത്തിന്റെ സവിശേഷത എന്ത്?
 - A. കൂടുതൽ അംഗങ്ങളുള്ള കുടുംബങ്ങൾക്ക് സാമ്പത്തിക സഹായം നിഷേധിക്കുക.
 - B. കൂടുതൽ അംഗങ്ങളുള്ള കുടുംബങ്ങൾക്ക് സാമ്പത്തികസഹായം വർദ്ധിപ്പിക്കുക
 - C. സമയോപയോഗ ജനനനിയന്ത്രണ മാർഗ്ഗങ്ങൾ സ്വീകരിക്കാൻ ജനങ്ങളെ ബോധവൽക്കരിക്കുക.
 - D. ദയാവധം പ്രോത്സാഹിപ്പിക്കുക.

7. 1991 ലെ സെൻസസ് നടക്കാത്ത സംസ്ഥാനമേത്
 - A. മേഘാലയ
 - B. ജമ്മു-കാശ്മീർ
 - C. ആന്ധ്രം
 - D. മിസോറാം.
8. 1991 ലെ സെൻസസ് പ്രകാരം ഇന്ത്യയിൽ ഏറ്റവും കൂടുതൽ ജനസംഖ്യയുള്ള നഗരമേത്?
 - A. ബോംബെ
 - B. കൽക്കത്ത
 - C. ഡൽഹി
 - D. ചുദാസ്.
9. റീകസിത രാജ്യത്തിന്റെ ജനസംഖ്യാപരമായ പ്രത്യേകത എന്ത് ?
 - A. ഉയർന്ന കർഷക ജനസംഖ്യ
 - B. ദേശാന്തരഗമനം
 - C. ഉയർന്ന ശരാശരി ആയുർദൈർഘ്യം
 - D. ഉയർന്ന ഗ്രാമീണ ജനസംഖ്യ.
10. മാലാ-ഡി എന്നറിയപ്പെടുന്നത്?
 - A. ഗർഭനിരോധന ഉറ,
 - B. ഗർഭനിരോധനശസ്ത്രക്രിയ.
 - C. ഗർഭനിരോധനഗുളിക.
 - D. സ്വാഭാവിക ഗർഭനിരോധന മാർഗ്ഗം.
11. 1991-ലെ സെൻസസ് പ്രകാരം ഇന്ത്യയിലെ ജനസംഖ്യ എത്ര?
 - A. 68 കോടി
 - B. 80 കോടി
 - C. 84 കോടി
 - D. 93 കോടി
12. വിദ്യാഭ്യാസത്തിന്റെ വികസനത്തിന് വേണ്ടി നീക്കിവെക്കപ്പെട്ട തുകയെ ജനസംഖ്യാവർദ്ധനവ് എങ്ങിനെ സ്വാധീനിക്കും?
 - A. ജനസംഖ്യാ വിദ്യാഭ്യാസത്തിന് കൂടുതൽ തുക ചെലവഴിക്കപ്പെടും.
 - B. തൊഴിലധിഷ്ഠിത വിദ്യാഭ്യാസത്തിനുള്ള ചെലവ് വർദ്ധിക്കും.
 - C. പ്രൈമറി വിദ്യാഭ്യാസം കൂടുതൽ തുക അപഹരിക്കും.
 - D. ഉന്നത വിദ്യാഭ്യാസവികസനത്തിന് ചെലവഴിക്കപ്പെടുന്ന തുക വർദ്ധിക്കും
13. താഴെ പറയുന്നവയിൽ ഇന്ത്യയുടെ ജനസംഖ്യാനയത്തിന്റെ ഭാഗമല്ലാത്തത് ഏത്?
 - A. ബോധവൽക്കരണം.
 - B. കുടുംബക്ഷേമ പദ്ധതിയുടെ പ്രചരണം.
 - C. നിർബന്ധിത വന്ധീകരണം.
 - D. ജനനനിയന്ത്രണമാർഗ്ഗങ്ങളുടെ പ്രചരണം.
14. ജനസംഖ്യാവർദ്ധനവിന്റെ മൂന്ന് ഘലങ്ങൾ ഏതെല്ലാം?
 - A. ജനസാന്ദ്രതയിലുള്ള വർദ്ധനവ്, വ്യവസായവൽക്കരണം, തൊഴിലില്ലായ്മ
 - B. ജനസാന്ദ്രതയിലുള്ള വർദ്ധനവ്, പരിസ്ഥിതി മലിനീകരണം, തൊഴിലില്ലായ്മ.
 - C. ജനസാന്ദ്രതയിലുള്ള വർദ്ധനവ് വ്യവസായവൽക്കരണം, പരിസ്ഥിതി. മലിനീകരണം
 - D. വ്യവസായവൽക്കരണം, പരിസ്ഥിതി മലിനീകരണം, തൊഴിലില്ലായ്മ
15. ലോകത്ത് ആദ്യമായി ഔദ്യോഗിക ജനസംഖ്യാനയം രൂപപ്പെടുത്തിയ രാജ്യം ഏത്?
 - A. ഇംഗ്ലണ്ട്
 - B. ഇന്ത്യ
 - C. ശ്രീലങ്ക
 - D. പാക്കിസ്ഥാൻ
15. ലോകജനസംഖ്യയിൽ ഏറ്റവും കൂടുതൽ ഏത് മതസ്ഥരാണ്?
 - A. ഇസ്ലാം മതക്കാർ
 - B. ക്രിസ്തുമതക്കാർ
 - C. ഹിന്ദുമതക്കാർ
 - D. ബുദ്ധമതക്കാർ

17. ഏറ്റവും കുറഞ്ഞ ജനസംഖ്യയും സമ്പൂർണ്ണ സാക്ഷരതയുമുള്ള രാജ്യമേത്?
 A. ഇറ്റലി. B. വത്തിക്കാൻ. C. ജർമ്മനി. D. ഫ്രാൻസ്.
18. 'സിംഗിൾ ചൈൽഡ് നോം' നടപ്പാക്കുന്ന രാജ്യം ഏത്?
 A. ഇന്ത്യ B. ചൈന C. പാക്കിസ്ഥാൻ D. ശ്രീലങ്ക
19. കേരളത്തിൽ ഏറ്റവും കൂടുതൽ ജനസംഖ്യയുള്ള ജില്ലയേത്?
 A. കോഴിക്കോട് B. മലപ്പുറം C. കണ്ണൂർ D. കാസർഗോഡ്
20. വാസക്ടമി എന്നറിയപ്പെടുന്നത്.
 A. പുരുഷൻമാരുടെ വന്ധീകരണ ശസ്ത്രക്രിയ.
 B. പ്രസവാനന്തരം നടത്തുന്ന ശസ്ത്രക്രിയ.
 C. സുഖപ്രസവത്തിന് വേണ്ടി നടത്തപ്പെടുന്ന ശസ്ത്രക്രിയ.
 D. ഗർഭിണികൾക്ക് നടത്തുന്ന കുത്തിവെപ്പ്.
21. ജനസംഖ്യാ വിദഗ്ദ്ധരുടെ അഭിപ്രായ പ്രകാരം 2000- മാണ്ടാവുമ്പോഴേക്കും ഇന്ത്യയുടെ ജനസംഖ്യ എത്ര യായിത്തീരും.
 A. 95 കോടി. B. 98. കോടി. C. 100 കോടി. D. 150 കോടി.
22. ഇന്ത്യയിൽ കുടുംബാസൂത്രണ പരിപാടി ആരംഭിച്ച വർഷം ഏത്?
 A. 1947 B. 1950 C. 1965 D. 1952.
23. താഴെ പറയുന്നവയിൽ ജനസംഖ്യാ വർദ്ധനവിന് കാരണമാവാത്ത ഘടകം ഏത് ?
 A. സ്ത്രീകളോടുള്ള വിവേചനം
 B. അന്ധമായ മതവിശ്വാസം
 C. സാക്ഷരതാനിരക്ഷിലെ വർദ്ധനവ്
 D. ആൺകുട്ടികൾ ജനിക്കുവാനുള്ള ആഗ്രഹം
24. 1991 ലെ സെൻസസ് അനുസരിച്ച് ഇന്ത്യയിലെ ജനസാന്ദ്രത എത്ര?
 A. 260. B. 270. C. 267 D. 250
25. കേരളത്തിലെ ഏറ്റവും കൂടുതൽ ജനസാന്ദ്രതയുള്ള ജില്ലയേത്?
 A. എറണാകുളം B. വയനാട് C. ആലപ്പുഴ D. കണ്ണൂർ
26. വിസ്തീർണ്ണവും ജനസംഖ്യയുമായി താരതമ്യപ്പെടുത്തിയാൽ ഏറ്റവും കുറഞ്ഞ ജനസംഖ്യയുള്ള രാജ്യ മേത്?
 A. ആസ്ട്രേലിയ B. ഈജിപ്ത് C. പോളണ്ട് D. ഹംഗറി

APPENDIX IV
KNOWLEDGE TEST (FINAL)

The following questions are related to the population problems. Each question is followed by four distractors. You are requested to choose the correct answer and put a 'X' mark in the corresponding column of the answer sheet.

1. Which among the following causes population growth?
A. Industrialisation B. Urbanisation
C. Poverty D. High population density
2. When does population problem occur in a country?
A. When there is increase in the annual growth rate of population
B. When the population outstrips the availability of the resources of a country
C. When there is increase in the day-to-day expenditure of the people
D. When there is increase in the urban population
3. Which among the following factors directly influences the population growth of a nation?
A. Birth rate, Death rate and Migration
B. Birth rate, Unemployment and Poverty
C. Death rate, Birth rate and Poverty
D. Poverty, Migration and Birth rate
4. Which among the following is not helpful to prevent population growth?
A. High literacy rate B. Eradication of poverty
C. Awareness and availability of contraceptives
D. Mechanisation of agriculture
5. What measures can be adopted for increasing the Per Capita Income?
A. Prevention of population growth
B. Acceleration of economic development
C. Improvement of the educational status of the people
D. All the above
6. What is the peculiarity of India's population policy?
A. To deny financial assistance to the large families
B. To augment financial assistance to the small families
C. To make the people aware of the need of voluntary acceptance of contraception.
D. To encourage mercy killing
7. In which state the 1991 census has not been conducted?
A. Mekhalaya B. Jammu-Kashmir C. Assam D. Misoram
8. Which is the most populous city according to the 1991 census?
A. Bombay B. Calcutta C. Delhi D. Madras

9. Which among the following can be considered as the most appropriate demographic characteristic of a developed country?
 - A. Large peasant population
 - B. Migration
 - C. High Average Expectancy of life
 - D. Large rural population
10. 'Mala-D' is known for
 - A. Condom
 - B. Sterilisation surgery
 - C. Contraceptive pills
 - D. Natural method of contraception
11. What is the population of India as per the 1991 census?
 - A. 68 crores
 - B. 80 crores
 - C. 84 crores
 - D. 93 crores
12. What will be the impact of population growth on the fund which is allocated for the development of education?
 - A. Increase in the expenditure for population education
 - B. Increase in the expenditure for vocational education
 - C. Increase in the expenditure for primary education
 - D. Increase in the expenditure for higher education
13. Which of the following is not included in India's population policy?
 - A. Awareness campaigns
 - B. Propagation of family welfare programmes
 - C. Compulsory sterilisation
 - D. Propagation of contraception
14. Three consequences of population growth are:
 - A. The increase in population density, industrialisation and unemployment
 - B. The increase in population density, pollution and unemployment
 - C. Increase in population density, industrialisation and pollution
 - D. Industrialisation, pollution and unemployment
15. Which among the following nations is the pioneer to formulate an official population policy?
 - A. England
 - B. India
 - C. Sri Lanka
 - D. Pakistan
16. Which among the following religions comprises the majority of the world population?
 - A. Islam
 - B. Christianity
 - C. Hinduism
 - D. Buddhism
17. Which nation has the smallest population and complete literacy?
 - A. Italy
 - B. Vatican
 - C. Germany
 - D. France
18. Who observes the "single child norm"?
 - A. India
 - B. China
 - C. Pakistan
 - D. Sri Lanka
19. Which is the most populous district in Kerala?
 - A. Kozhikode
 - B. Malappuram
 - C. Kannur
 - D. Kasargod
20. Vasectomy is known for
 - A. Sterilisation surgery for men
 - B. Post-partum surgery

- C. Surgery for smooth labour
 - D. Vaccination for the pregnant women
21. In the opinion of demographers, what will be India's population by 2000 A.D?
- A. 95 crores B. 98 cores C. 100 crores D. 150 crores
22. When did India start family planning programmes?
- A. 1947 B. 1950 C. 1965 D. 1952
23. Which among the following doesn't cause population growth?
- A. Discrimination towards women
- B. Blind belief in religion
- C. Increase in the literacy rate
- D. Preference for male offspring
24. What is the density of population of India according to the 1991 census?
- A. 260 B. 270 C. 267 D. 250
25. Which is the most densely populated district in Kerala?
- A. Palakkad B. Vayanad C. Alappuzha D. Kannur
26. Which is the least populous country in the world, when the population and land area are compared?
- A. Australia B. Egypt C. Poland D. Hungary

APPENDIX V

Scoring Scheme of the Knowledge Test

<u>Item No.</u>	<u>Correct Answer</u>
1	C
2	B
3	A
4	D
5	D
6	C
7	B
8	A
9	C
10	C
11	C
12	C
13	C
14	B
15	B
16	B
17	B
18	B
19	B
20	A
21	C
22	D
23	C
24	C
25	C
26	A

APPENDIX VI

ATTITUDE SCALE (PRELIMINARY)

ജനസംഖ്യാ പ്രശ്നങ്ങളെ സംബന്ധിച്ച ചില പ്രസ്താവനകളാണ് ചുവടെ കൊടുത്തിരിക്കുന്നത്. അവ ശ്രദ്ധാപൂർവ്വം വായിച്ച് നിങ്ങളുടെ അഭിപ്രായം തന്നിരിക്കുന്ന സ്കോർഷീറ്റിലെ അനുയോജ്യമായ കോളത്തിൽ 'X' അടയാളമിട്ട് രേഖപ്പെടുത്തുക. ഒരു പ്രസ്താവനയും വിട്ടുകളയാതിരിക്കാൻ പ്രത്യേകം ശ്രദ്ധിക്കുമല്ലോ.

1. ആൺകുട്ടികൾക്ക് പ്രത്യേക പരിഗണന നൽകണം.
2. ജനസംഖ്യാവർദ്ധനവ് നമ്മുടെ രാജ്യത്തിന്റെ വികസനം മന്ദീഭവിപ്പിക്കുന്നു.
3. രാഷ്ട്രപുരോഗതിക്ക് ജനസംഖ്യാവർദ്ധനവ് ആവശ്യമാണ്.
4. ജനസംഖ്യാവർദ്ധനവ് തൊഴിലില്ലായ്മ സൃഷ്ടിക്കുന്നു.
5. കുടുംബത്തിൽ ഒരു ആൺകുട്ടിയെങ്കിലും ഉണ്ടാവേണ്ടത് മാതാപിതാക്കളുടെ സംരക്ഷണത്തിന് ആവശ്യമാണ്.
6. ഇന്ത്യയുടെ ജനസംഖ്യാനയം കാലോചിതമാണ്.
7. ഗർഭനിരോധനമാർഗ്ഗങ്ങൾ ജനങ്ങളുടെ സന്തോഷത്തിന് ഉപയുക്തമാണ്.
8. കുട്ടികളുടെ എണ്ണത്തെക്കുറിച്ച് 'തീരുമാനമെടുക്കാൻ ഭാര്യയും ഭർത്താവിനും തുല്യ അവകാശമുണ്ട്.
9. കുടുംബാംഗങ്ങളുടെ എണ്ണം കുടുന്നതനുസരിച്ച് അവർക്ക് ഉത്തരവാദിത്വബോധം കുറയുന്നു.
10. ജനസംഖ്യാപ്രശ്നത്തെക്കുറിച്ച് ചിന്തിക്കുവാൻ എനിക്ക് താൽപര്യമില്ല.
11. കുട്ടികളുടെ എണ്ണം പരിമിതപ്പെടുത്തേണ്ടതില്ല.
12. ജനപ്പെരുപ്പം നിത്യോപയോഗ സാധനങ്ങളുടെ വില വർദ്ധിപ്പിക്കുന്നു.
13. കർഷക കുടുംബങ്ങളിലെ ജനസംഖ്യാവർദ്ധനവ് ഉല്പാദനവർദ്ധനവിന് ആവശ്യമാണ്.
14. ആരോഗ്യമുള്ള തലമുറയെ വാർത്തെടുക്കുന്നതിന് ജനസംഖ്യാനിയന്ത്രണം സഹായകമാണ്.
15. ജനപ്പെരുപ്പം നിയന്ത്രിക്കുന്നത് സർക്കാരിന്റെ ചുമതലയല്ല.
16. ഗർഭനിരോധന ഉറകൾ റേഷൻഷാപ്പുകൾ വഴി സൗജന്യമായി വിതരണം ചെയ്യണം.
17. അഗസംഖ്യ കുറയുന്നതിനുസരിച്ച് കുടുംബാംഗങ്ങളുടെ ജീവിതസൗകര്യങ്ങൾ മെച്ചപ്പെടുന്നു.
18. പ്രകൃതി സമ്പത്താൽ അനുഗ്രഹിതമായ ഇന്ത്യക്ക് ജനസംഖ്യാവർദ്ധനവ് ദോഷകരമല്ല.
19. ബുദ്ധിയുള്ള രക്ഷിതാക്കൾ കുട്ടികളുടെ എണ്ണം പരിമിതപ്പെടുത്തുന്നു.
20. സാമ്പത്തിക പുരോഗതിയും ജനസംഖ്യാവളർച്ചയും തമ്മിൽ ബന്ധമില്ല.
21. ബഹുജനമാധ്യമങ്ങൾ കുടുംബക്ഷേമ പരിപാടികൾക്ക് പ്രാധാന്യം നൽകണം.

22. ദാരിദ്ര്യവും തൊഴിലില്ലായ്മയും നിർമ്മാർജ്ജനം ചെയ്യാനുള്ള മാർഗ്ഗം ജനസംഖ്യാനിയന്ത്രണമാണ്.
23. ജനപ്പെരുപ്പം വിലക്കയറ്റത്തിന് ഇടയാക്കുന്നില്ല.
24. കൂടുതൽ കുഞ്ഞുങ്ങളുള്ള അമ്മമാരെ ആദരിക്കണം.
25. നിയമപരമായ പ്രായമായിട്ടേ വിവാഹം പാടുള്ളൂ.
26. ചെറിയ കുടുംബമാണ് സന്തുഷ്ടകുടുംബം.
27. സാമൂഹ്യ പുരോഗതിക്ക് പുരുഷമേധാവിത്വം അത്യാവശ്യമാണ്.
28. ജനങ്ങളെ ഗർഭനിരോധനമാർഗങ്ങൾ സ്വീകരിക്കാൻ പ്രേരിപ്പിക്കുന്നത് അവരുടെ വ്യക്തി സ്വാതന്ത്ര്യത്തിനു മേലുള്ള കൈകടത്തലാണ്.
29. കോളേജ് തലത്തിൽ ജനസംഖ്യാവിദ്യാഭ്യാസം പഠിപ്പിക്കേണ്ടതാണ്.
30. ജനനനിയന്ത്രണം പ്രകൃതി നിയമങ്ങൾക്ക് എതിരാണ്.
31. ഇന്ത്യ നേരിടുന്ന വെല്ലുവിളി അമിതമായ ജനസംഖ്യയാണ്.
32. ചെറിയ കുടുംബത്തിലെ അംഗങ്ങൾ അലസന്മാരായിരിക്കും.
33. രാഷ്ട്രീയ പാർട്ടികൾ ജനസംഖ്യാനിയന്ത്രണത്തിന് പ്രാധാന്യം നൽകണം.
34. സ്ത്രീക്കും പുരുഷനും സമൂഹത്തിൽ തുല്യസ്ഥാനം ഉണ്ടായിരിക്കണം.
35. യുവജനങ്ങൾക്ക് ജനസംഖ്യാപ്രശ്നത്തെക്കുറിച്ച് ബോധമുണ്ടായിരിക്കണം.
36. കുടുംബത്തിൽ അംഗങ്ങളുടെ എണ്ണം വർദ്ധിക്കേണ്ടത് സാമ്പത്തിക ഭദ്രതക്ക് ആവശ്യമാണ്.
37. ഞാൻ ശൈശവ വിവാഹത്തെ എതിർക്കുന്നു.
38. സ്ത്രീകളോടുള്ള വിവേചനം അവസാനിപ്പിക്കണം.
39. കുടുംബക്ഷേമ പരിപാടിക്ക് വേണ്ടി നീക്കിവെക്കപ്പെടുന്ന പണം ഒരു പാഴ്ചെലവാണ്.
40. കുടുംബകാര്യങ്ങളെക്കുറിച്ച് തീരുമാനമെടുക്കാനുള്ള അധികാരം പുരുഷനാണ്.
41. ജനപ്പെരുപ്പമൂലം നമ്മുടെ രാജ്യത്തിന് ഭാവിയിൽ ഉണ്ടാകാവുന്ന പ്രശ്നങ്ങളെക്കുറിച്ച് ഞാൻ ഉൽകണ്ഠാകുലനാണ്.
42. കുട്ടികൾ ഈശ്വരന്റെ വരദാനമാണെന്ന് ഞാൻ വിശ്വസിക്കുന്നു.
43. കുടുംബക്ഷേമപരിപാടികൾ പ്രോത്സാഹിപ്പിക്കപ്പെടണം.
44. കുടുംബത്തിലെ അംഗങ്ങളുടെ വർദ്ധനവ് കുടുംബചരിത്രത്തിനുള്ള സാധ്യത വർദ്ധിപ്പിക്കുന്നു.
45. വന്ധികരണം ലൈംഗികശേഷിയെ പ്രതികൂലമായി ബാധിക്കുന്നു.
46. കുടുംബക്ഷേമ പരിപാടികളെക്കുറിച്ച് ടി.വി, റേഡിയോ, പത്രം മുതലായ ബഹുജനമാധ്യമങ്ങളിൽ വരുന്ന

പരസ്യം ഞാൻ ശ്രദ്ധിക്കാറില്ല.

47. 'ചെറിയ കുടുംബം' എന്ന ആശയത്തിന് വിദ്യാഭ്യാസ പദ്ധതിയിൽ പ്രാധാന്യം നൽകണം.
48. സ്ത്രീകൾക്ക് അധികാരസ്ഥാനങ്ങൾ നൽകരുത്..
49. ഗർഭനിരോധന ഉറകളെക്കുറിച്ചുള്ള പരസ്യങ്ങൾ നിരോധിക്കണം.
50. ജനനനിയന്ത്രണത്തിന്റെ പാർശ്വഫലങ്ങളെക്കുറിച്ചുള്ള ഉത്കണ്ഠ തുടച്ചുമാറ്റപ്പെടണം.
51. ഇന്ത്യയുടെ ജനസംഖ്യാനയം പുരോഗമനപരമല്ല.
52. ഗർഭചരിദ്രം പാപമാണെന്ന് ഞാൻ വിശ്വസിക്കുന്നു.
53. രാഷ്ട്രപുരോഗതിക്ക് വേണ്ടി ഓരോ പൗരനും ജനനനിയന്ത്രണ മാർഗ്ഗങ്ങൾ സ്വീകരിക്കണം.
54. ജനപ്പെരുപ്പനിയന്ത്രണത്തെ പിൻതുണയ്ക്കുന്ന സംഘടനകളോട് എനിക്ക് താൽപര്യമില്ല.
55. ജനനനിയന്ത്രണ മാർഗ്ഗങ്ങൾ ആരോഗ്യപ്രശ്നങ്ങൾ സൃഷ്ടിക്കുമെന്ന വിശ്വാസത്തിന് കാരണം അവയെക്കുറിച്ചുള്ള അജ്ഞതയാണ്.
56. ഗർഭനിരോധനത്തിനുള്ള സാമഗ്രികൾ നിരോധിക്കപ്പെടണം.
57. ജനനനിയന്ത്രണമാർഗ്ഗങ്ങൾ സ്വീകരിക്കുന്നവർക്ക് ആനുകൂല്യങ്ങൾ നൽകണം.
58. അവിവാഹിതരെ ജനസംഖ്യാപ്രശ്നങ്ങളെക്കുറിച്ച് ബോധവൽക്കരിക്കുന്നതുകൊണ്ട് പ്രയോജനമില്ല.
59. ജനസംഖ്യാ പ്രശ്നങ്ങളെക്കുറിച്ചുള്ള ചർച്ചകളിൽ വിദ്യാർത്ഥികൾ പങ്കാളികളാകണം.
60. കുടുംബക്ഷേമ പരിപാടികളെ അനുകൂലിക്കുന്ന രാഷ്ട്രീയപാർട്ടികൾ അധികാരത്തിൽ വരരുത്.
61. വ്യക്തിയുടെയും സമൂഹത്തിന്റെയും ഉന്നമനത്തിന് കുടുംബക്ഷേമ പരിപാടികൾ അനിവാര്യമാണ്.
62. കലാലയങ്ങളിൽ ജനസംഖ്യാവിദ്യാഭ്യാസം ആരംഭിക്കുന്നത് അദ്ധ്യാപകരുടെയും വിദ്യാർത്ഥികളുടെയും അദ്ധ്യാനഭാരം വർദ്ധിപ്പിക്കും.
63. ഗർഭനിരോധനമാർഗ്ഗങ്ങളെക്കുറിച്ചുള്ള അറിവ് ജനങ്ങളിൽ സുരക്ഷിതത്വബോധം വളർത്തുന്നു.
64. വിവാഹത്തിന് പ്രായപരിധി നിർണ്ണയിക്കാൻ സർക്കാരിന് അവകാശമില്ല.
65. ജനസംഖ്യാപ്രശ്നങ്ങളെക്കുറിച്ച് വിദ്യാർത്ഥികളെ ബോധവൽക്കരിക്കേണ്ടത് ആവശ്യമാണ്.
66. കുടുംബക്ഷേമ പരിപാടികൾ അനുസ്യൂതം തുടരേണ്ടതില്ല.
67. ജനസംഖ്യാപ്രശ്നങ്ങളോട് അനുകൂലമനോഭാവം പുലർത്തുന്ന വിദ്യാർത്ഥികൾ രാഷ്ട്രത്തിന്റെ ഭാവി നാഗ്ദാനങ്ങളാണ്.
68. ഒരു ആൺകുഞ്ഞുജനിക്കുന്നതുവരെ പ്രത്യുല്പാദനം തുടരുന്നതിൽ തെറ്റില്ല.
69. ജനസംഖ്യാവിദ്യാഭ്യാസം കാലിക പ്രസക്തിയുള്ള വിഷയമല്ല.
70. ഇന്ത്യയുടെ ജനസംഖ്യ ഇനിയും വർദ്ധിക്കണം.

APPENDIX VII
ATTITUDE SCALE (PRELIMINARY)

Some statements about population problems are given below. You are requested to mark your responses to each statement in appropriate column of the score sheet by marking 'X'. Please don't avoid any statement without responding.

1. Boys should be given special consideration
2. Population growth retards the development of our country
3. Population growth is necessary for the country's progress
4. Population growth creates unemployment
5. At least one son is necessary for the protection of parents
6. India's population policy has contemporary relevance
7. Contraceptive methods slack the moral life of the people
8. Both the husband and wife have equal right to take decision regarding the number of children.
9. The increase in family size reduces the feeling of responsibility of the family members.
10. I don't have any interest to think of population problem.
11. There is no need of limiting the number of children
12. Population growth accelerates the price level of the necessities.
13. Population growth in the peasant families is necessary for the increase in agricultural production.
14. Population control is helpful to mould a healthy generation.
15. It is not the responsibility of the government to control the population growth.
16. Condoms should be distributed freely through the public distribution system.
17. Living condition of the family members improve as the family size decreases.
18. Population growth is not detrimental to India which has the abundance of natural resources.
19. Intelligent parents limit the family size.
20. There is no relationship between economic progress and population growth.
21. Mass media should give emphasis to the family welfare programmes.
22. Population control is the way to eradicate poverty and unemployment.
23. Population growth doesn't cause price hike.
24. The mothers who beget a large number of children should be respected.
25. Marriage should only be after the legal minimum age.
26. Small family is happy family.
27. The superiority of male is necessary for the social progress.

28. Encouraging the people to accept contraception is the interference in their personal liberty.
29. Population education should be incorporated in the college education.
30. Contraception is against the natural laws.
31. Over population is the challenge which is being faced by India.
32. Members of the small family are lazy.
33. Political parties should give importance to population control.
34. Both the male and female should have equal status in the society.
35. Youngsters should be aware of the population problem.
36. Increase in the family size is necessary for economic security.
37. I oppose child marriage.
38. Discrimination towards the women should be stopped.
39. The fund allocated for the family welfare programme is waste.
40. Male is the authority to take decision regarding family matters.
41. I am anxious about the problems that our country may face in the future due to the population growth.
42. I believe that children are the gift of god.
43. Family welfare programmes should be encouraged.
44. The larger the family size the greater is probability for family disorganisation.
45. Sterilisation adversely affects the virility.
46. I don't care the advertisements about family welfare programmes in the mass media like T.V. radio and newspapers.
47. The concept of small family should be emphasised in the curriculum.
48. Women shouldn't be appointed in powerful positions.
49. The advertisements of condoms should be prohibited.
50. The anxiety about the side-effects of contraception should be eradicated.
51. India's population policy is not progressive.
52. I believe that the medical termination of pregnancy is a sin.
53. Each citizen should adopt contraception for the nation's progress.
54. I don't have any interest in the organisations which support population control.
55. Ignorance is the reason for the belief that contraception creates physical problems.
56. Contraceptives should be prohibited.
57. Incentives should be given to those who accept contraception
58. It is not beneficial to make the bachelors aware of the population problems.
59. Students should participate in the discussions on population problems.
60. The political parties which support the family welfare programmes should not come in power.
61. The Family Welfare Programmes are inevitable for the elevation of the individual and society.

62. Incorporation of Population Education in the college curriculum will augment the load of work of students and teachers.
63. The people feel secured with the knowledge of contraceptives.
64. The government has no right to decide the minimum age at marriage.
65. It is necessary to make the students aware of the population problems.
66. The family welfare programmes need not continue without any break.
67. Students with favourable attitude towards the population problems are promise to the nation's future.
68. There is nothing wrong in continuing reproduction upto the birth of a male offspring.
69. Population Education has no contemporary relevance.
70. India's population should increase further.

APPENDIX VIII

ATTITUDE SCALE - FINAL

ജനസംഖ്യാ പ്രശ്നങ്ങളെ സംബന്ധിച്ച ചില പ്രസ്താവനകളാണ് ചുവടെ കൊടുത്തിരിക്കുന്നത്. അവ ശ്രദ്ധാപൂർവ്വം വായിച്ച് നിങ്ങളുടെ അഭിപ്രായം തന്നിരിക്കുന്ന സ്കോർഷീറ്റിലെ അനുയോജ്യമായ കോളത്തിൽ 'X' അടയാളമിട്ട് രേഖപ്പെടുത്തുക. ഒരു പ്രസ്താവനയും വിട്ടുകളയാതിരിക്കാൻ പ്രത്യേകം ശ്രദ്ധിക്കുമല്ലോ.

1. ഗർഭനിരോധനമാർഗ്ഗങ്ങൾ ജനങ്ങളുടെ സന്തോഷത്തിനായി ഉൾച്ചിൽ ഉണ്ടാക്കുന്നു.
2. ജനസംഖ്യാപ്രശ്നത്തെക്കുറിച്ച് ചിന്തിക്കുവാൻ എനിക്ക് താൽപര്യമില്ല.
3. കുട്ടികളുടെ എണ്ണം പരിമിതപ്പെടുത്തേണ്ടതില്ല.
4. ആരോഗ്യമുള്ള തലമുറയെ വാർത്തെടുക്കുന്നതിന് ജനസംഖ്യാനിയന്ത്രണം സഹായകമാണ്.
5. ജനപ്പെരുപ്പം നിയന്ത്രിക്കുന്നത് സർക്കാരിന്റെ ചുമതലയല്ല.
6. അംഗസംഖ്യ കുറയുന്നതിന് ന്യൂനമായി കുടുംബാംഗങ്ങളുടെ ജീവിതസൗകര്യങ്ങൾ മെച്ചപ്പെടുന്നു.
7. പ്രകൃതി സമ്പത്താൽ അനുഗ്രഹിതമായ ഇന്ത്യക്ക് ജനസംഖ്യാവർദ്ധനവ് ദോഷകരമല്ല.
8. ബുദ്ധിയുള്ള രക്ഷിതാക്കൾ കുട്ടികളുടെ എണ്ണം പരിമിതപ്പെടുത്തുന്നു.
9. സാമ്പത്തിക പുരോഗതിയും ജനസംഖ്യാവളർച്ചയും തമ്മിൽ ബന്ധമില്ല.
10. നിയമപരമായ പ്രായമായിട്ടേ വിവാഹം പാടുള്ളൂ.
11. ചെറിയ കുടുംബമാണ് സന്തുഷ്ടകുടുംബം.
12. സാമൂഹ്യ പുരോഗതിക്ക് പുരുഷമേധാവിത്വം അത്യാവശ്യമാണ്.
13. ജനങ്ങളെ ഗർഭനിരോധനമാർഗ്ഗങ്ങൾ സ്വീകരിക്കാൻ പ്രേരിപ്പിക്കുന്നത് അവരുടെ വ്യക്തി സ്വാതന്ത്ര്യത്തിന് മേലുള്ള കൈകടത്തലാണ്.
14. കോളേജ് തലത്തിൽ ജനസംഖ്യാവിദ്യാഭ്യാസം പാഠ്യവിഷയമാക്കണം.
15. ജനനനിയന്ത്രണം പ്രകൃതി നിയമങ്ങൾക്ക് എതിരാണ്.
16. ഇന്ത്യ നേരിടുന്ന വെല്ലുവിളി അമിതമായ ജനസംഖ്യയാണ്.
17. ചെറിയ കുടുംബത്തിലെ അംഗങ്ങൾ അലസന്മാരായിരിക്കും.
18. രാഷ്ട്രീയ പാർട്ടികൾ ജനസംഖ്യാനിയന്ത്രണത്തിന് പ്രാധാന്യം നൽകണം.
19. യുവജനങ്ങൾക്ക് ജനസംഖ്യാപ്രശ്നത്തെക്കുറിച്ച് ബോധമുണ്ടായിരിക്കണം.
20. കുടുംബക്ഷേമ പരിപാടിക്ക് വേണ്ടി നീക്കിവെക്കപ്പെടുന്ന പണം ഒരു പാഴ്ചെലവാണ്.
21. കുടുംബകാര്യങ്ങളെക്കുറിച്ച് തീരുമാനമെടുക്കാനുള്ള അധികാരം പുരുഷനാണ്.

22. ജനപ്പെരുപ്പംമൂലം നമ്മുടെ രാജ്യത്തിന് ഭാവിയിൽ ഉണ്ടാകാവുന്ന പ്രശ്നങ്ങളെക്കുറിച്ച് ഞാൻ ഉൽകണ്ഠാകുലനാണ്.
23. കൂട്ടികൾ ഈശ്വരന്റെ വരദാനമാണെന്ന് ഞാൻ വിശ്വസിക്കുന്നു.
24. കുടുംബക്ഷേമപരിപാടികൾ പ്രോത്സാഹിപ്പിക്കപ്പെടണം.
25. കുടുംബത്തിലെ അംഗങ്ങളുടെ വർദ്ധനവ് കുടുംബശ്രീദ്രത്തിനുള്ള സാധ്യത വർദ്ധിപ്പിക്കുന്നു.
26. കുടുംബക്ഷേമ പരിപാടികളെക്കുറിച്ച് ടി.വി, റേഡിയോ, പത്രം മുതലായ ബഹുജനമാദ്ധ്യമങ്ങളിൽ വരുന്ന പരസ്യം ഞാൻ ശ്രദ്ധിക്കാറില്ല.
27. 'ചെറിയ കുടുംബം' എന്ന ആശയത്തിന് വിദ്യാഭ്യാസ പദ്ധതിയിൽ പ്രാധാന്യം നൽകണം.
28. സ്ത്രീകൾക്ക് അധികാരസ്ഥാനങ്ങൾ നൽകരുത്..
29. ഗർഭനിരോധന ഉറകളെക്കുറിച്ചുള്ള പരസ്യങ്ങൾ നിരോധിക്കണം.
30. രാഷ്ട്രപുരോഗതിക്ക് വേണ്ടി ഓരോ പൗരനും ജനനനിയന്ത്രണ മാർഗ്ഗങ്ങൾ സ്വീകരിക്കണം.
31. ജനപ്പെരുപ്പനിയന്ത്രണത്തെ പിൻതുണയ്ക്കുന്ന സംഘടനകളോട് എനിക്ക് താല്പര്യമില്ല.
32. ജനനനിയന്ത്രണ മാർഗ്ഗങ്ങൾ ആരോഗ്യപ്രശ്നങ്ങൾ സൃഷ്ടിക്കുമെന്ന വിശ്വാസത്തിന് കാരണം അവയെക്കുറിച്ചുള്ള അജ്ഞതയാണ്.
33. ഗർഭനിരോധനത്തിനുള്ള സാമഗ്രികൾ നിരോധിക്കപ്പെടണം.
34. അവിവാഹിതരെ ജനസംഖ്യാപ്രശ്നങ്ങളെക്കുറിച്ച് ബോധവൽക്കരിക്കുന്നതുകൊണ്ട് പ്രയോജനമില്ല.
35. കുടുംബക്ഷേമ പരിപാടികളെ അനുകൂലിക്കുന്ന രാഷ്ട്രീയപാർട്ടികൾ അധികാരത്തിൽ വരരുത്.
36. വ്യക്തിയുടെയും സമൂഹത്തിന്റെയും ഉന്നമനത്തിന് കുടുംബക്ഷേമ പരിപാടികൾ അനിവാര്യമാണ്.
37. കലാലയങ്ങളിൽ ജനസംഖ്യാവിദ്യാഭ്യാസം ആരംഭിക്കുന്നത് അദ്ധ്യാപകരുടെയും വിദ്യാർത്ഥികളുടെയും അദ്ധ്യാനഭാരം വർദ്ധിപ്പിക്കും.
38. ഗർഭനിരോധനമാർഗ്ഗങ്ങളെക്കുറിച്ചുള്ള അറിവ് ജനങ്ങളിൽ സുരക്ഷിതത്വബോധം വളർത്തുന്നു.
39. വിവാഹത്തിന് പ്രായപരിധി നിർണ്ണയിക്കാൻ സർക്കാരിന് അവകാശമില്ല.
40. ജനസംഖ്യാപ്രശ്നങ്ങളെക്കുറിച്ച് വിദ്യാർത്ഥികളെ ബോധവൽക്കരിക്കേണ്ടത് ആവശ്യമാണ്.
41. കുടുംബക്ഷേമ പരിപാടികൾ അനുസ്യൂതം തുടരേണ്ടതില്ല.
42. ജനസംഖ്യാപ്രശ്നങ്ങളോട് അനുകൂലമനോഭാവം പുലർത്തുന്ന വിദ്യാർത്ഥികൾ രാഷ്ട്രത്തിന്റെ ഭാവി വാഗ്ദാനങ്ങളാണ്.
43. ഒരു ആൺകുഞ്ഞുജനിക്കുന്നതുവരെ പ്രത്യുല്പാദനം തുടരുന്നതിൽ തെറ്റില്ല.
44. ജനസംഖ്യാവിദ്യാഭ്യാസം കാലിക പ്രസക്തിയുള്ള വിഷയമല്ല.
45. ഇന്ത്യയുടെ ജനസംഖ്യ ഇനിയും വർദ്ധിക്കണം.

APPENDIX IX
ATTITUDE SCALE (FINAL)

1. Contraceptive methods slack the moral life of the people.
2. I don't have any interest to think of population problem.
3. There is no need of limiting the number of children.
4. Population control is helpful to mould a healthy generation.
5. It is not the responsibility of the government that to control the population growth.
6. Living conditions of the family members improve as the family size decreases.
7. Population growth is not detrimental to India which has the abundance of natural resources.
8. Intelligent parents limit the family size.
9. There is no relationship between economic progress and population growth.
10. Marriage should only be after the legal minimum age.
11. Small family is happy family.
12. The superiority of male is necessary for the social progress.
13. Encouraging the people to accept contraception is the interference in their personal liberty.
14. Population Education should be incorporated to the college education.
15. Contraception is against the natural laws.
16. Overpopulation is the challenge which is being faced by India.
17. Members of the small family are lazy.
18. Political parties should give importance to population control.
19. Youngsters should be aware of the population problems.
20. The fund allocated for the family welfare programmes is waste.
21. Male is the authority to take decisions regarding family matters.
22. I am anxious about the problems that our country may face in the future due to the population growth.
23. I believe that the children are the gift of god.
24. Family welfare programmes should be encouraged.
25. The larger the family size the greater is the probability for family disorganisation.
26. I don't care the advertisements about family welfare programmes in the mass media like T.V. radio and newspapers.
27. The concept of small family should be emphasized in the curriculum.
28. Women should not be appointed in powerful positions.
29. The advertisements of condoms should be prohibited.
30. Each citizen should adopt contraception for the nation's progress.
31. I am not interested in the organisations which support population control.

- 02
32. Ignorance is the reason for the belief that contraception will create physical problems.
 33. Contraceptives should be prohibited.
 34. It is not beneficial to make the bachelors aware of the population problems.
 35. The political parties which support the family welfare programmes should not come into power.
 36. The family welfare programmes are inevitable for the elevation of the individual and society.
 37. Incorporation of Population Education to the college curriculum will augment the load of work of teachers and students.
 38. The people feel secured with the knowledge of contraceptives.
 39. The government has no right to decide the minimum age at marriage.
 40. It is necessary to make the students aware of the population problems.
 41. The family welfare programmes need not continue without any break.
 42. Students with favourable attitude towards the population problems are a promise to the nation's future.
 43. There is nothing wrong in continuing the reproduction upto the birth of a male offspring.
 44. Population Education has no contemporary relevance.
 45. India's population should increase further.
- X

APPENDIX X
Scoring Scheme of the Attitude Scale

Item No.	Strongly Agree	Agree	Un-decided	Dis-agree	Strongly Disagree
1	1	2	3	4	5
2	1	2	3	4	5
3	1	2	3	4	5
4	5	4	3	4	5
5	1	2	3	2	1
6	5	4	3	4	5
7	1	2	3	2	1
8	5	4	3	4	5
9	1	2	3	2	1
10	5	4	3	4	5
11	5	4	3	2	1
12	1	2	3	2	1
13	1	2	3	4	5
14	5	4	3	4	5
15	1	2	3	2	1
16	5	4	3	4	5
17	1	2	3	2	1
18	5	4	3	4	5
19	5	4	3	2	1
20	1	2	3	2	1
21	1	2	3	4	5
22	5	4	3	4	5
23	1	2	3	2	1
24	5	4	3	4	5
25	5	4	3	2	1
26	1	2	3	2	1
27	5	4	3	4	5
28	1	2	3	2	1
29	1	2	3	4	5
30	5	4	3	4	5
31	1	2	3	2	1
32	5	4	3	4	5
33	1	2	3	2	1
34	1	2	3	4	5
35	1	2	3	4	5
36	5	4	3	4	5
37	1	2	3	2	1
38	5	4	3	4	5
39	1	2	3	2	1
40	5	4	3	4	5
41	1	2	3	2	1
42	5	4	3	4	5
43	1	2	3	2	1
44	1	2	3	4	5
45	1	2	3	4	5

APPENDIX XI

Questionnaire

താഴെ കൊടുത്തിരിക്കുന്ന ചോദ്യങ്ങൾക്കുള്ള പ്രതികരണം അനുയോജ്യമായ കോളത്തിൽ രേഖപ്പെടുത്തുക.

- 1 (a) ഏതും പ്രായത്തിൽ വിവാഹം കഴിക്കണമെന്നതിനെക്കുറിച്ച് നിങ്ങൾക്ക് വ്യക്തമായ ധാരണയുണ്ടോ?

ഉണ്ട്
ഇല്ല
- (b) ഉണ്ട് എങ്കിൽ ഏതും പ്രായത്തിൽ വിവാഹം കഴിക്കാനാണ് നിങ്ങൾ ഉദ്ദേശിക്കുന്നത്?

വയസ്സിൽ
- 2 (a) ഭാവി കടംബ ജീവിതത്തിൽ കുട്ടികളുടെ എണ്ണം പരിമിതപ്പെടുത്താൻ നിങ്ങൾ ആഗ്രഹിക്കുന്നുണ്ടോ?

ഉണ്ട്
ഇല്ല
- (b) ഉണ്ട് എങ്കിൽ കുട്ടികൾ എത്രയായിരിക്കണമെന്നാണ് നിങ്ങളുടെ ആഗ്രഹം?

കുട്ടികൾ

തീരുമാനിച്ചിട്ടില്ല
- 3 (a) കുട്ടികൾക്ക് തമ്മിൽ അവിരുടെ വളർച്ചക്ക് അനുയോജ്യമായ പ്രായവ്യത്യാസം വേണമെന്ന് നിങ്ങൾ ആഗ്രഹിക്കുന്നുണ്ടോ?

ഉണ്ട്
ഇല്ല
- (b) ഉണ്ടെങ്കിൽ ചുരുങ്ങിയത് എത്ര വയസ്സിന്റെ വ്യത്യാസമുണ്ടാവണമെന്നാണ് നിങ്ങൾ ആഗ്രഹിക്കുന്നത്?

വയസ്സിന്റെ

തീരുമാനിച്ചിട്ടില്ല
- 4 (a) വിവാഹാനന്തരം ഉടനെ കുട്ടികൾ വേണ്ടെന്ന് നിങ്ങൾ ആഗ്രഹിക്കുന്നുണ്ടോ?

ഉണ്ട്
ഇല്ല
- (b) ഉണ്ടെങ്കിൽ എത്ര വർഷത്തിന് ശേഷം കുട്ടികൾ ഉണ്ടായാൽ മതി എന്നാണ് നിങ്ങൾ ആഗ്രഹിക്കുന്നത്?

വർഷത്തിന് ശേഷം

തീരുമാനിച്ചിട്ടില്ല
- 5 (a) സന്താനോൽപാദനം ഒരു നിശ്ചിത പ്രായപരിധിക്കുള്ളിൽ തെക്കി നിർത്തണം എന്ന് നിങ്ങൾ ആഗ്രഹിക്കുന്നുണ്ടോ?

ഉണ്ട്
ഇല്ല
- (b) ഉണ്ട് എങ്കിൽ ഏതും പ്രായപരിധിക്കുള്ളിൽ?

വയസ്സുവരെ

തീരുമാനിച്ചിട്ടില്ല
- 6 നിങ്ങൾക്ക് ജനിക്കാനിരിക്കുന്ന കുട്ടികളെ സംബന്ധിച്ച് നിങ്ങൾക്കുള്ള വീക്ഷണം എന്താണ്?

A. ആൺകുട്ടി / ആൺകുട്ടികൾ മാത്രം ജനിക്കണമെന്ന് ആഗ്രഹിക്കുന്നു.

B. പെൺകുട്ടി / പെൺകുട്ടികൾ മാത്രം ജനിക്കണമെന്ന് ആഗ്രഹിക്കുന്നു.

C. കൂടുതൽ ആൺകുട്ടികൾ വേണമെന്നാണ് എന്റെ ആഗ്രഹം.

D. കൂടുതൽ പെൺകുട്ടികൾ വേണമെന്നാണ് എന്റെ ആഗ്രഹം.

E. കുട്ടികളിൽ ആണിന്റെയും പെണ്ണിന്റെയും എണ്ണം തുല്യമായിരിക്കണം.

F. കുട്ടി ആണായിരിക്കണമെന്നോ പെണ്ണായിരിക്കണമെന്നോ പ്രത്യേക പരിഗണനയില്ല.

7

(a) ഏതെങ്കിലും തരത്തിലുള്ള ജനന നിയന്ത്രണ മാർഗ്ഗം ഭാവിയിൽ സ്വീകരിക്കാൻ നിങ്ങൾ ഉദ്ദേശിക്കുന്നുണ്ടോ ?

 ഉണ്ട് ഇല്ല

(b) ഉണ്ട് എങ്കിൽ താഴെ പറയുന്നവയിൽ ഏതിനായിരിക്കും കൂടുതൽ പ്രാധാന്യം നൽകുക.

A. സ്ഥിരമായ ജനന നിയന്ത്രണ മാർഗ്ഗങ്ങൾക്ക്

B. താൽക്കാലികമായ ജനന നിയന്ത്രണ മാർഗ്ഗങ്ങൾക്ക്

8

നിങ്ങളുടെ കുടുംബത്തിൽ സ്ത്രീകൾക്കുള്ള പദവി എന്തായിരിക്കും ?

A. സ്ത്രീക്ക് പുരുഷനെക്കാൾ ഉയർന്ന പദവി

B. സ്ത്രീക്ക് പുരുഷനെക്കാൾ താഴ്ന്ന പദവി.

C. സ്ത്രീക്കും പുരുഷനും തുല്യപദവി.

APPENDIX XII
QUESTIONNAIRE

Mark your responses to the following questions in the appropriate columns.

1. (a) Do you have a clear idea about your age at marriage?

Yes	No
-----	----
- (b) If Yes, at which age you would like to be married?

At the age of
Undecided
2. (a) Do you wish to limit the number of children in your future family life?

Yes	No
-----	----
- (b) If 'yes' how many children do you wish to have?

..... Children
Undecided
3. (a) Do you wish to have age difference between the children appropriate for their growth?

Yes	No
-----	----
- (b) If 'Yes', what will be the minimum age difference between the children you wish to have?

..... Years
Undecided
4. (a) Do you wish to not to have children immediately after the marriage?

Yes	No
-----	----

(b) If 'Yes', after how many years of your marriage do you wish to have children?

After years

Undecided

5. (a) Do you wish to limit the reproduction within a particular age limit?

Yes

No

(b) If 'Yes', within which age limit do you wish to limit the reproduction?

Within years

Undecided

6. What is your choice regarding the sex of the children you wish to be get?

- A. Boy or Boys only
- B. Girl or Girls only
- C. Greater number of boys
- D. Greater number of girls
- E. Equal number of boys and girls
- F. No special preference

7. (a) Do you wish to accept any type of birth control in the future?

Yes

No

(b) If 'Yes', which among the following methods do you prefer?

Permanent methods

Temporary methods

8. What will be the status of women in your family?

- A. Higher status for women than men
- B. Lower status for women than men
- C. Equal status for women

APPENDIX XIII

DEPARTMENT OF ADULT EDUCATION
AND EXTENSION SERVICES
UNIVERSITY OF CALICUT

സുഹൃത്തേ,

കോഴിക്കോട് സർവ്വകലാശാലയിൽ വയോജന വിദ്യാഭ്യാസ വ്യാപന വിഭാഗത്തിലെ പ്രോജക്ട് ആഫീസർ ഡോ. **കെ. ശിവരാജൻ** മേൽനോട്ടത്തിൽ ജനസംഖ്യാ പ്രശ്നങ്ങളെക്കുറിച്ച് ഞാൻ ഗവേഷണ പഠനം നടത്തുകയാണ്. ഈ ആവശ്യത്തിലേക്കായി ചില വിവരങ്ങൾ നിങ്ങളിൽനിന്നും ശേഖരിക്കുന്നതിനുള്ള ചോദ്യാവലികളാണ് ഇതോടൊപ്പം. നിങ്ങളുടെ വിലപ്പെട്ട സമയത്തിൽ അല്പം ചിലവഴിച്ചു യഥാ യോജ്യമായ പ്രതികരണങ്ങൾ രേഖപ്പെടുത്തി ഈ സംരംഭം വിജയിപ്പിക്കണമെന്ന് അപേക്ഷിക്കുന്നു. നിങ്ങളിൽ നിന്നും ശേഖരിക്കുന്ന വിവരങ്ങൾ ഏതെങ്കിലും ഗവേഷണ പഠനത്തിന് മാത്രം ഉപയോഗിക്കുന്നതും രഹസ്യമായി സൂക്ഷിക്കുന്നതുമാണ്.

എന്നും,

വിശ്വസ്തയോടെ,

പി. വി. സുബ്രഹ്മണ്യദാസ്

വ്യക്തിപരമായ വിവരങ്ങൾ

1. പേര്
2. കോളേജ്
3. വിഷയം : സയൻസ്/ആർട്സ്/കോമേഴ്സ്
4. സ്ത്രീ / പുരുഷൻ
5. വിവാഹിതൻ / വിവാഹിത ആണോ? അതെ / അല്ല
6. മതം
7. താമസസ്ഥലം : കോർപ്പറേഷൻ/മുനിസിപ്പാലിറ്റി/പഞ്ചായത്ത്.

APPENDIX XIV
DEPARTMENT OF ADULT EDUCATION
AND EXTENSION SERVICES
UNIVERSITY OF CALICUT

Dear friend,

I am a research scholar working on population problems under the guidance of Dr. K. SIVARAJAN, Project Officer, Department of Adult Education and Extension Services, University of Calicut. The questionnaires to collect informations for this purpose are enclosed with it. You are requested to write your responses by spending a bit of your valuable time. I hereby ensure you that the informations collected will only be used for the research purpose and will be kept confidential.

Yours faithfully,

Subrahmania Das P.V.

PERSONAL DATA SHEET

1. Name :
2. College :
3. Subject : Arts/Science/Commerce
4. Male / Female :
5. Marital Status : Married/Unmarried
6. Religion :
7. Place of residence : Corporation/Municipality/
Panchayath

APPENDIX XV

സാമൂഹിക - സാമ്പത്തിക നിലവാര സൂചിക

ക്രമ നമ്പർ	കുടുംബാംഗത്തിന്റെ പേര്	കുടുംബനാഥനായുള്ള ബന്ധം	വിദ്യാഭ്യാസ യോഗ്യത	തൊഴിൽ	പ്രതിമാസ വരുമാനം
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

170

APPENDIX XVI

SOCIO-ECONOMIC STATUS SCALE

Sl. No.	Name of the family member	Nature of relationship to the head of the family	Educational Qualification	Occupation	Monthly Income
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

MBHH05