

## **CHAPTER 4** **RESEARCH METHODOLOGY**

### **4.1 Statement Of The Research Problem**

The scope of the research covered the sexual knowledge, behaviour and attitudes. It was deemed important to cover these core areas as a group, as previous research (Taitz,2001) has indicated that where sexual attitudes and knowledge might be somewhat malleable, sexual behaviour is more resistant to change. In short this means that even well informed individuals do tend to indulge in high risk sexual behaviours. This research was designed to investigate whether this applied to the South African sample as well.

#### **4.1.1 Sexual Experience**

According to the Kaiser Family Foundation (2000), about 31% of South African adolescents are already sexually active. Within this vulnerable population, multiple partners and teenage pregnancy are also common. 22% of adolescents have had more than two sexual partners in their lives. Almost one in five (18%) sexually experienced adolescents report that they are currently having multiple sexual partners whilst 26% of African adolescent boys indicate that they are currently have multiple sexual partners.

#### **4.1.2 Sexual Values And Attitudes**

Kaplan (1988) states that the attitudes and values that adolescents have towards sex and sexuality are affected by several factors including how they relate to their parents, their cognitive ability, peer relationships as well as media influence. Contemporary television programs and rock videos also often portray permissive sexual attitudes and values, which influences adolescents. In a similar vein their attitude towards contraception is negative or at best neutral. Kaplan suggests that adolescents tend to be dismissive of contraception and rarely take heed of the possibility of falling pregnant.

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### **4.2 Research Aims**

The main aim of this study is to evaluate the effectiveness of a sexuality programme that is designed by the "Planned Parenthood Association of South Africa". That is to examine the efficacy of a programme that is currently aimed at black adolescents. The study will also establish adolescents' perception on sexuality and identify educational needs as far as sexuality is concerned.

### **4.3 Selection Of Participants**

#### **4.3.1 The Sample**

The sample was made up of eighty learners who attended Dr Reginald Cingo Comprehensive School in Maokeng, a township that is in Kroonstad. The eighty learners were randomly divided into two groups. Twenty girls and twenty boys formed the control group and the last twenty girls and twenty boys formed the experimental group. All learners who were participants were adolescents, ranging between twelve and sixteen years of age. Table 4.1 shows the random selection and distribution of the sample.

<b>Table 4.1 – Gender and age of participants</b>											
Male						Female					
Ages	12	13	14	15	16	Ages	12	13	14	15	16
Total	0	3	18	15	4	Total	3	3	10	15	9

### **4.3.2 Characteristics Of The Sample**

All subjects had Southern Sotho as a first and home language. They also take Southern Sotho as a first language subject at school. In casual conversation most of the time the learners also prefer to communicate in Southern Sotho, as their English is not as developed, and often relatively weak. In general the learners approach to education is less than optimal and many routinely fail several subjects. Seventy seven learners are in grade 9 and three are in grade 11.

### **4.4 Procedure**

Students from the appropriate age groups at Dr Reginald Cingo Comprehensive School and were randomly selected for the research project. During an initial meeting all potential participants were called to a meeting, and the research agenda was discussed, including the notion that learners would be required to remain in the project for its entire duration. No students were forced to participate, and those students who wished to withdraw were given the opportunity to do so. In the end, forty boys and forty girls were selected for the project.

During the first week of February 2001, all eighty subjects were asked to complete the Mathtech adolescent sexuality questionnaires. Although the questionnaires were completed individually, supervisors were on hand to assist those students who struggled with the language. Although it might have been more ideal to have the questionnaires available in the vernacular of the students, the logistics of such an exercise were beyond the scope of the project.

During the second week of February 2001, the subjects were randomly assigned to two groups A and B. Each subject was given a piece of paper on which either the letter A or B was written. Those who had papers with the letter A on them became the experimental group, and those with the letter B on their papers formed the control group. In order to keep the questionnaires confidential, but still be able to administer the pre- and post-testing, each subject was assigned a unique identification number.

In the third week of February 2001, the intervention programme commenced. It was reinforced to the experimental group that the content of the programme was not being discussed with anyone outside of the group until the programme was over. This all participants agreed to. The programme is based on Lifeskills and HIV/AIDS education and was designed by the Planned Parenthood Association of South African (PPASA) and a summarised schedule is presented in table 4.2.

<b>DATE</b>	<b>WEEK</b>	<b>TOPIC</b>
12 – 16.02.2001	1	Human sexuality
19 – 23.02.2001	2	Sexual biology
26 – 02.03.2001	3	Human Growth
05 – 09.03.2001	4	Contraception/Teenage Pregnancy
12 – 16.03.2001	5	Relationships
19 – 23.03.2001	6	Reproductive health
26 – 30.03.2001	7	Sexual abuse
23 – 28.04.2001	8	Drugs and Alcohol

In order to make the programme as interesting and interactive as possible, the following teaching methodologies were utilised:

1. Facilitation
2. Demonstration
3. Small group discussions
4. Brainstorming
5. Role play
6. Feedback and evaluation

At the end of the programme, during the first week of May 2001, post-testing was conducted. Both the control and experimental group once again concurrently completed the Mathtech adolescent sexuality questionnaires.

#### **4.5 Research Design**

The research design incorporated two groups viz.: experimental and control. For both groups pre and post testing was done. The experimental group received an intervention program whilst the control group did not. The independent variable was the PPASA programme, and the dependent variables were the outcomes of the Mathtech questionnaires. In this way the efficacy of the PPASA programme could be assessed. Mitchell & Jolly explain that this design was considered effective as the participants were randomly assigned to either of the groups, and thus the impact of the intervention was apparent by changes in the pretest – posttest questionnaire scores. The research also had key aspects of realism built in. The research was conducted on a group of essentially rural Black adolescents – a key target population of the PPASA programme.

It is often assumed that intervention is mainly responsible for the difference between a pretest score and a posttest score. However, it is possible for subjects to change over time even if treatment had not been administered, for example, a subject's mood changes from time to time. Evaluation instruments, skills required for evaluation and the number of subjects for a particular study may change over time. Thus changes in measurement can affect pretest and posttest scores. A subject can also change between pretest and posttest if his or her environment changes. Events that occur in a subject's life between the pretesting and posttesting periods can have a strong effect on a subject's score (Mitchell & Jolley, 1992).

According to Robson (1993), when the pretest-posttest design is employed, treatment must be administered. The treatment becomes the independent variable and is manipulated by the experimenter. The manipulation of the independent variable leads to possible effects, which are outcomes. These are regarded as dependent variables.

#### **4.6 Measuring Instrument**

The Mathtech sexuality questionnaires for adolescents will be used to evaluate the effectiveness of the Planned Parenthood Association of South Africa programme. An initial pilot run attempted to use a homegrown South African questionnaire, however the instrument proved to be both outdated and unreliable. For this reason the Mathtech battery was sourced as its efficacy had been well established in several studies though it had unfortunately not been standardized for a local population (Kirby et al., 1999). The Mathtech suite was selected as the language was appropriate for adolescent level, and the content of the questions deemed appropriate in independently assessing the effectiveness of the PPASA programme.

#### **4.6.1 Background Information**

Mathtech adolescent sexuality questionnaires were design by Douglas Kirby of Center of Population Options, Washington DC. The questionnaires were designed for two reasons:-

1. To evaluate the most important knowledge areas, attitudes, values, skills and behaviour that will either bring about a positive and fulfilling sexuality or reduce unplanned pregnancy among adolescents.
2. To evaluate the effectiveness of sexuality education programs (Kirby, 1984).

According to Kirby (1984), Mathtech, a private research firm was given funds by the Centers for Disease Control so that methods of measuring the effectiveness of sexuality education could be developed. Mathtech reviewed existing questionnaires for adolescents to design new questionnaires. Twenty people who were professionals in the field of adolescent sexuality and pregnancy worked together with Mathtech to identify more than 100 possible outcomes of sexuality education programs. One hundred anonymous professionals were invited to rate the outcomes according to their importance in reducing unintended pregnancy and facilitating a positive and fulfilling sexuality. Mathtech subsequently calculated the average ratings of the outcomes and developed questionnaires that would measure many of the most important outcomes. The Mathtech battery consists of three separate tests, viz.: a) knowledge, b) attitudes and values and c) behaviour. The suite of questionnaires is preceded by a biographical questionnaire. Except for the biographical questionnaire, students are simply required to circle their responses directly onto the questionnaires, mostly by utilizing Likert-type options. The knowledge test differs by incorporating multiple choice questions. A copy of the tests and scoring procedures are attached as [Appendix C](#). Given the sensitive nature of the instruments, it was deemed appropriate that students' participation was voluntary and that responses remained highly confidential.

#### **4.6.2 The Knowledge Test**

This part of the test was developed using an initial sample of 729 adolescents. Several refinements were made to the test, and following item-bias procedures, the instrument was narrowed down to 34 key multiple choice items. The questions cover the following areas:-

- a) Adolescent physical development
- b) Adolescent pregnancy
- c) Adolescent marriage.
- d) Adolescent relationships
- e) Adolescent sexual activity
- f) The probability of pregnancy
- g) Birth control
- h) Sexually transmitted diseases (Kirby, 1984)

Reliability of the test, including test-retest reliability has been calculated as .89. The validity of the test was established by correlating the inventory score both with age and scholastic performance. Mature students and those whose school performance was better than their peers, also did better on the knowledge inventory (Kirby, 1984).

To simplify administration, subjects are required to indicate the best answer to a particular question directly onto the questionnaire inventory. On average, bright learners took 15 to 20 minutes to answer the questions while slower learners took up to 45 minutes (Kirby, 1984).

#### **4.6.3 Attitude And Value Inventory**

The attitude and value inventory has 14 different scales, each scale has 5 point Likert-type items. Subjects respond by circling around strongly disagree, disagree, neutral, agree or strongly agree. The scale covers the following dimensions:

1. Clarity of long-term goals
2. Clarity of personal sexual values
3. Understanding of emotional needs
4. Understanding of personal social behavior
5. Understanding of personal sexual response
6. Attitude toward gender roles
7. Attitude toward sexuality in life
8. Attitude toward the importance of birth control
9. Attitude towards premarital sex
10. Attitude toward the use of force and pressure in sexual activity
11. Recognition of the importance of the family
12. Self-esteem
13. Satisfaction with personal sexuality
14. Satisfaction with social relationships

Cronbach alpha's for the instrument range from .66 to .94. The instrument takes about 30 minutes to complete. Some reverse scoring is required before computing the averages for each scale, with higher scores being indicative of favourable attitudes (Kirby, 1984).

#### **4.6.4 Behavior Inventory**

Many behaviors are characterized by at least 3 aspects, namely, the skill that is required to complete the behavior, the comfort experienced whilst displaying the behavior and the frequency of that particular behavior. The behavior inventory evaluates these characteristics for some associated sexual behaviors. In general a range of behaviors are canvassed, including frequency of sexual activities, numbers of partners and contraceptive behaviors. The reliability coefficients for the various sections of the behavior inventory range from .38 (comfort getting and using birth control) to .88 (birth control assertiveness skills). The key dimensions of the inventory are listed as:

1. Social decision-making skills
2. Sexual decision-making skills
3. Communication skills
4. Assertiveness skills
5. Birth control assertiveness skills
6. Comfort engaging in social activities
7. Comfort talking with friends, girl/boyfriend, and parents about sex.
8. Comfort talking with friends, girl/boyfriend, about birth control
9. Comfort taking with parents about sex and birth control
10. Comfort expressing concern and caring
11. Comfort being sexually assertive (saying "No")
12. Comfort having current sex life, whatever it may be (Kirby, 1984).

In general a period of 20 – 45 was the average time spent in completing the questionnaire, with learners who were not sexually active take a shorter period to complete the questionnaire (Kirby, 1984).

#### **4.7 Other Researches In Which The Mathtech Instrument Was Used**

Scheinberg (1999) conducted a study to evaluate the effectiveness of a sex education curriculum for male and female adolescents between the ages of 13 to 15. Subjects were randomly assigned to parent-present and parent-absent groups. Sixty subjects completed the Nowicki Locus of control Inventory for Adolescents as well as the Mathtech Sexuality Questionnaires for Adolescents. Fifty eight parents completed a questionnaire that was specifically designed for them by the researcher. A sex education program called SHAPE II – Sharing Healthy Adolescent and Parent Experiences was then presented. That program is designed by the Coalition for Children, Adolescents and Parents in Orange County, California.

The study demonstrated the importance of parents in pregnancy-prevention education. The clarity of personal sexual values improved in all adolescents. Adolescents who were in the parent-present group improved their sexual knowledge internal locus of control and satisfaction with social relationships. Assertiveness skills in females increased significantly. In the non-parent group, the males scores went up in internal locus of control, assertiveness skills and comfort with current sex life, whatever it might be. The females scores decreased in all of those items. Both parents and adolescents indicated that their relationships with each other had improved. Parent and child communication improved, parents were quite happy with that but adolescents were dissatisfied about that change (Scheinberg, 1999).

Another study was conducted in Hong Kong and its objective was to evaluate the knowledge of and attitude towards sex of 178 Chinese secondary school learners. A Chinese version of the Mathtech Knowledge Test, Attitude and value scale as well as a demographic sheet that seeks sociodemographic information was used to gather data. Learners showed a low level of sexual knowledge particularly in relation to adolescent marriage, probability of pregnancy and adolescent sexual activity. A positive attitude towards the importance of the family as well as birth control were demonstrated. Male learners in comparison to female learners indicated that they have a positive attitude towards premarital intercourse and the use of pressure and force in sexual activity (Wan-Yim, Chau, Chang & Lui, 2001).

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#### **4.8 Hypotheses**

The following hypotheses will be tested: -

##### **4.8.1 Hypothesis 1 (H1)**

At pretest there is no difference between the experimental and control group on three variables, namely the behavior, knowledge and attitudes towards sex, sexuality and pregnancy.

##### **4.8.2 Hypothesis 2 (H2)**

At posttest the experimental group's behavior, knowledge and attitudes towards sex, sexuality and pregnancy must be statistically significant. The difference is brought about by the fact that the experimental group had received intervention with regard to the dependent variables.

#### **4.9 Statistical Procedures**

Analyses of variance were the primary statistical tool. Analyses were done to compare the mean scores of the pre- and post-tests for all inventories. These were done for both experimental and control groups.