

1989

Attitudes of year 10 boys and girls towards coeducational physical education in a metropolitan senior high school

Teryl Heys
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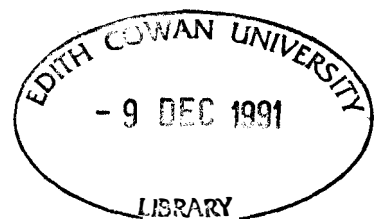
WESTERN AUSTRALIAN COLLEGE OF ADVANCED EDUCATION

**ATTITUDES OF YEAR 10 BOYS AND GIRLS
TOWARDS COEDUCATIONAL PHYSICAL EDUCATION
IN A METROPOLITAN SENIOR HIGH SCHOOL**

**A THESIS SUBMITTED IN
PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
BACHELOR OF EDUCATION (WITH HONOURS)**


**BY
TERYL HEYS**

NOVEMBER 1989



Candidate's Declaration

I certify that this thesis does not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any institution of higher education and that, to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in the text.

Signature ... 

Date ... *November 1989*

ACKNOWLEDGEMENTS

I wish to express my thanks to the following persons for their assistance and support during this study.

Ms Jennifer Browne - My Supervisor and the Departmental Co-ordinator of Postgraduate Studies in Physical Education, Western Australian College of Advanced Education (Mount Lawley Campus).

Dr. Sybe Jongeling - Senior Lecturer in Education Studies, Western Australian College of Advanced Education (Churchlands Campus).

Mr Stephen Simpson - Research Advisor, Western Australian College of Advanced Education.

Physical Education Staff at Lockridge Senior High School.

Physical Education Staff at Lesmurdie Senior High School.

Ralph Gurr - Youth Education Officer, Woodvale Senior High School.

Renay Mork - My typists.

Trisha Woodford

Juanita Heys - My Mother.

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ABSTRACT

The purpose of this study was to examine and compare student attitudes towards coeducational physical education at a selected metropolitan government secondary school. The study examined differences in attitudes between 66 Year 10 girls and 51 Year 10 boys and ascertained whether this difference was significant. A sub-purpose of the study was to determine physical education teachers' perceptions of student attitudes toward coeducational physical education. This enabled a comparison to be made between the attitudes students expressed and the attitudes teachers perceived students to have. The investigation utilised a 16 item attitudinal questionnaire to establish whether students' attitudes were positive or negative, and to determine whether the attitudes were correlated to the sex of the individual. Following the questionnaire an interview with students was conducted, which enabled determination of student attitudes and revealed possible reasons why these attitudes were held. Teachers' perceptions of student attitudes toward coeducational physical education were evaluated through interviews conducted with staff members. As hypothesised the students were found to have positive attitudes towards coeducational physical education. The male students had more favourable attitudes than the female students, however, the difference was not statistically significant at the 0.05 level. The physical education teachers believed the students had positive attitudes towards coeducational physical education.

Dedication

To my Mother for all her help and support, and in loving memory of my Father, who passed away during the course of my study programme at the College.

CHAPTER 1

INTRODUCTION

Background of Problem

In Western Australia, physical education in government secondary schools has been traditionally organised into single sex classes. Schools typically designed two separate and different programmes for boys and girls including "different activities for each sex and different expectation and performance levels for each sex." (Geadelmann, 1981, p.91) "These differences were based on the long history of differential expectations for girls and women which, in turn, were supported by traditional sex-role definitions." (Arrighi, Young & O'Neil, 1985, p.118) The sports offered were limited and students participated in more traditional activities. "Previously, each sex had been denied instruction in some activities, particularly those considered non-traditional for that sex." (Geadelmann, 1981, p.91) Some sports, such as tennis and swimming, were performed by both sexes but not usually together.

In recent years however, coeducational physical education programmes have been adopted as a result of circumstances and design. In the former situation, coeducational classes were conducted due to timetabling restrictions, student numbers, lack of equipment and facilities, and financial or staffing constraints. The second reason for introducing coeducational

programmes was one of choice, where "staff collectively believe this approach yields benefit for their students." (Gurr, 1980, P.1)

Equal opportunity legislation has resulted in the development of policy guidelines for secondary schools with respect to physical education and sport (Ministry of Education, 1987) Section 18(2) of the Equal Opportunity Act (1984) stated:

It is unlawful for an education authority to discriminate against a student on the ground of the student's sex, marital status or pregnancy -

(a) by denying the student access, or limiting the student's access to any benefit provided by the educational authority.

It is a requirement of the Act that all students have equal access to all aspects of education. The legislation was introduced so "that no student may be denied access to any sporting or physical education activity solely on the grounds of gender." (Ministry of Education, 1987, p.2) However, Section 35 of the Act allows the exclusion of: "persons of one sex from participation in any competitive sporting activity in which the strength, stamina or physique of competitors is relevant." Equal opportunity is not necessarily provided by coeducation. However, teachers' perceptions of equal opportunity is a further reason why coeducational classes have been introduced. The number of schools in Western Australia that have initiated coeducational physical education programmes has increased, and the

coeducational approach has provided a challenging initiative.

There is no doubt that coeducation may benefit students by providing increased opportunities to learn and develop social skills necessary to society. "Qualities of co-operation, respect, understanding and consideration that normally develop through sporting involvement can be extended to include relationships between males and females." (Garnaut & Doyle, 1979, p.3) However, problems have arisen for both teachers and students as a result of coeducational classes. Coeducation has caused concern for the issue of equal opportunity, particularly with respect to male dominance in sports and traditional stereotyping of female roles. Student attitudes towards coeducation may influence the way they think about themselves and others. Examination of these attitudes can "help challenge the way in which boys and girls think about each other." (Evans, 1988, p.8)

The process of socialisation and social conditioning reinforces the sex role stereotypes which are socially acceptable. When both sexes are brought together under the same physical education setting, the constant conditioning influences the development of attitudes.

Participation in mixed activities which have been previously "gendered" and "differentiated" may cause inhibitions in students. This is particularly true for girls, where the concept of femininity does not encourage participation in sport,

especially in those activities considered more appropriate for boys. This was summarised in a study conducted by Monagan (1983) who stated "one reason girls keep shying away from coed sports may be that the opportunities are not really that equal." (p.61) The attitudes students express toward coeducational physical education may be negative or positive, but will be influenced by experiences in this setting.

To date, coeducational classes and the benefits to be gained from participation in these, have been restricted to the opinions of physical educators and what they believe students want and need. It seems that the students have had very little input in the decisions that affect them.

The purpose of this study is to ascertain what students think about coeducational physical education and to compare the attitudes between girls and boys. This will provide students with the opportunity to express their feelings about the education they receive. Determination of teachers' perceptions of student attitudes will enable a comparison to be made.

The results of this study may provide educators with information which could lead to a review of current physical education programmes and an assessment as to whether they operate in the best interests of all students. As indicated by Evans (1988, p.1), there are no easy solutions to the many questions generated in respect to gender and inequality issues in coeducational classes. However, the presentation of student opinions may provide greater insight into the problems associated with this issue.

Statement of the Problem

This study will determine whether students have positive or negative attitudes towards coeducational physical education, and whether a relationship exists between these attitudes and the sex of the students. The attitudes students have towards physical activity in a mixed setting may affect student involvement and participation, which in turn, may influence physical performance and individual self-esteem. This can be a cyclical process, because self-esteem may influence student attitudes. Hence, there is a need to determine what students think about coeducational physical education, in order to determine if and how it reflects student involvement in physical activities.

An evaluation of teachers' perceptions of student attitudes towards coeducational physical education will enable a comparison to be made between these perceptions and the attitudes students express. Teachers design physical education programmes giving consideration to the students' interests and needs. The results of this study will provide educators with information regarding the effectiveness of coeducational programmes in terms of their compatibility with students' attitudes.

To date, there has been little evaluation of student attitudes towards coeducational physical education in Western Australia. This study may provide some initial answers to a complex problem.

Definition of Terms

Attitude - "the latent or non-observable complex but relatively stable behavioural disposition reflecting both direction and intensity of feeling toward a particular object or situation, whether it be concrete or abstract." (Kenyon cited in Utting, 1980, p.4)

Coeducational Physical Education - that form of grouping where males and females are integrated into the same physical education class.

Single Sex or Nonintegrated Physical Education - that form of grouping where students are separated into single sex classes for physical education.

Physical Education - that education through physical experiences where individuals learn and develop physical, mental and social skills and abilities.

Physical Education Teachers - those male and female teachers of physical education employed at the selected Senior High School.

Semi-Integrated Physical Education - that form of coeducational physical education where males and females are grouped together

for skill development, but segregated into single sex groups for the game situation.

Sex Role Stereotyping - "is a social process whereby particular behaviours, attitudes, beliefs and values are perceived to be more appropriate to one sex than the other - they more accurately might be thought of as 'gender attributes' and they are qualities which are reinforced through experiences with major social institutions." (Dyer, 1986, p. 24)

The term coeducational physical education is used to describe physical education of this type in Australia. In other countries such as the United States of America this form of grouping is described as sex-integrated, while in Great Britain the term used is mixed sex grouping. These terms are synonymous and are used interchangeably, referring to the same type of physical education grouping.

Hypotheses

1. Year 10 students at Lockridge Senior High School have positive attitudes toward coeducational physical education.

2. Year 10 female students at Lockridge Senior High School have a more favourable attitude towards coeducational physical education than do males of the same year.

3. Physical education teachers at Lockridge Senior High School believe that Year 10 students have positive attitudes towards coeducational physical education.

Limitations

The following limitations may be inherent in the use of the questionnaire and interview and could possibly affect the results of this study.

- As there is no personal link to the questionnaire, students may not respond to the items truthfully. This may be overcome by stressing the importance of the research and the relevance it has to the students.
- In the interview, students and staff may provide answers they think the researcher wishes to hear. As stated by Murphy (1980, p.77) "Interviewing can produce biased data because the subject(s) may be responding to your presence rather than presenting an accurate account." This may be avoided by assuring anonymity and stressing the need for honesty.
- The results of the study cannot be generalised beyond Lockridge Senior High School.

Certain assumptions associated with the study have been made which may have a limiting effect on the results. Such assumptions include:

1. That attitudes can be accurately measured.
2. That respondents will be honest in their responses to questions.

CHAPTER 2

REVIEW OF LITERATURE

The following literature review will examine the issue of student attitudes toward coeducational physical education. Much of the literature is gender-related, involving a comparison between male and female attitudes towards coeducational physical education. This review firstly discusses the general aspects of attitudes. This is followed by an outline of the origins of coeducational physical education, and its perceived advantages and disadvantages. Finally the specific factors related to determination of attitudes and factors influencing attitude development towards coeducational physical education are examined, with gender differences between these attitudes being highlighted. Since there has been an absence of research relating to coeducation in Australia, it is necessary to illustrate points by reference to foreign literature.

Attitudes

As stated by Fox and Biddle (1988) attitudes can be inferred from behaviour. (p.107) Attitudes can form the basis in deciding participation styles in activity, since "exercise eventually becomes a choice behaviour... improved participation will result from 'developing', 'creating', 'establishing', or 'promoting' positive attitudes ..." (p.107) This illustrates the

link between attitude and behaviour with respect to how attitude development will influence the decision to be physically active. Further, it highlights the need to determine student attitudes toward coeducation, as this will influence how students perform in physical activities provided in this educational environment. As reported by Ajzen and Fishbein cited in Fox and Biddle (1988) there is a "link between attitude and behaviour as part of a decision-making process which is susceptible to personal beliefs and social values." (p.109) This supports the view that there are a number of components influencing attitude development, which in turn affect physical activity involvement.

An examination of the literature on the factors of attitudes and coeducation is necessary in order to provide an understanding of possible relationships that exist. According to Ajzen and Fishbein cited in Fox and Biddle (1988, p.109):

There are two independent sources which influence intentions to be physically active. Firstly there is the personal attitude component... attitudes are seen to be a function of the beliefs about the outcomes or consequences of taking part in physical activity, and also the personal value of those outcomes. The second component... is the subjective norm and is represented by social influences on the decision to be active... arising from the pressures exerted by friends, family, school and community.

In reference to coeducation, these influences exerted on individuals will therefore play a role in determining student

attitudes toward mixed activities. This has been depicted in Figure 1, which represents a model by Fox and Biddle (1988, p.108, 109) modified from Fishbein's Attitude Model and Sonstroem's Psychological Model of Physical Activity Participation.

This model provides a framework which illustrates the relationship between attitudes and societal influences on participation in physical activities in coeducational physical education.

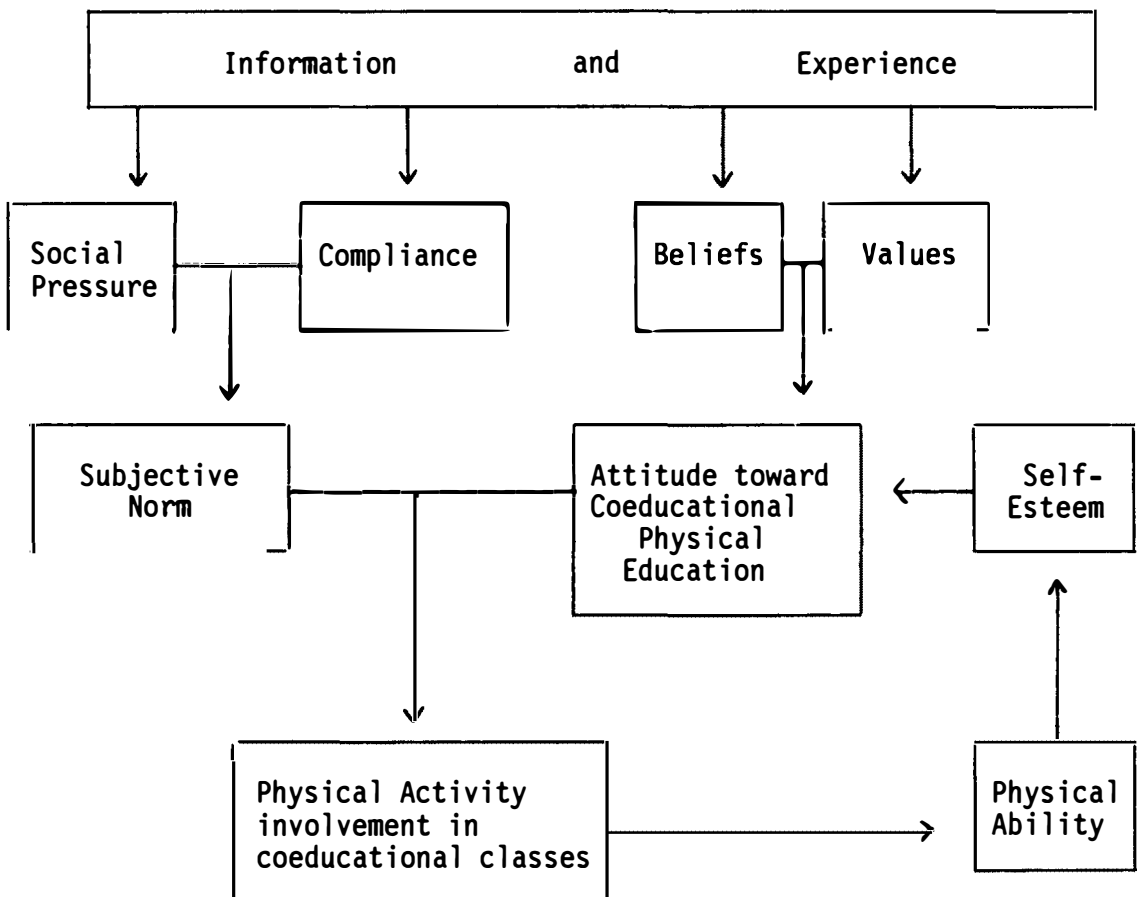


Figure 1. Modified Model of the Relationship between Attitude, Participation and Coeducation. (Fox and Biddle, 1988)

As can be seen in the model, the subjective norm component affects the decision to be physically active, because the societal pressures and influences are weighted by "how much the individual is motivated to comply with these pressures." (Fox & Biddle, 1988, p.109)

The beliefs and values which students develop through experience will affect their attitude towards coeducational physical education. The attitudes developed, together with the subjective norm component, will affect physical activity involvement in coeducational classes. This, in turn, influences physical ability which affects individual self-esteem. Self-esteem further influences student attitudes toward coeducational physical education, which is a cyclical process, as attitude affects the decision to be involved and physically active in coeducational classes.

Origins of Coeducational Physical Education

A review of the related literature has revealed a number of conflicting views with respect to coeducational physical education. The consideration of gender issues in physical education has aroused emotions, provoked debates and has resulted in divided opinion. Evans (1988, p.1) suggested that this was not surprising. He stated:

any serious treatment of gender issues is likely to touch upon values that we cherish and protect and challenge the way in which we think and feel both about ourselves, our

abilities and each other and what 'the individual' and society is and ought to be.

Thus, gender issues are capable of challenging traditional and conventional ways of thinking.

In the absence of historical documentation, the following points are advanced to explain why coeducational physical education was introduced into Western Australian schools.

The innovation of coeducational physical education in schools has produced many problems and concerns for teachers and students. The last two decades have seen a change in physical education programmes, where an increasing number of schools have adopted the coeducational approach.

The few Australian schools that initially introduced coeducational physical education were encouraged to do so as a result of the Title IX Regulation which became effective in the United States of America as of July 21, 1975. The regulation stated that:

No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance... (Selby, 1977, p.188)

Educators, who were exposed to the idea of coeducational classes as a result of exchange programmes in Canada, adopted this mixed approach well in advance of others. The decision to introduce coeducational programmes was one of choice, where staff considered the advantages of the approach would benefit students.

This trend further increased as a result of organisational changes within schools. "Professional appeals for new forms of curricula and pupil grouping, and better curriculum planning," (Evans, Lopez, Duncan & Evans, 1987, p.60) saw the change from clearly differentiated programmes for boys and girls, to the innovation of mixed sex groupings and programmes. This change in the grouping policy was based upon the underlying philosophy of the Physical Education Department in a school, where teachers believed that the coeducational approach would be advantageous to both boys and girls. Physical educators developed "programmes that were based on the socialising role of physical education, placing greater emphasis on the social aims of physical education." (Doyle, 1980, p.27)

The more substantial and significant changes to physical education programmes in Western Australian schools were initiated by the Equal Opportunity Act (1984). This has been summarised by Browne (1988) as being "unlawful for a school to discriminate against a student on the grounds of the student's sex, by denying the student access, or limiting the student's access, to any benefit provided by the school." (p.19)

The Ministry of Education developed policy guidelines for secondary schools to ensure that physical education programmes complied with the intent of the Act. In a Ministry of Education policy document (1987, p.2) it was stated "in essence, the law holds that no student be denied access to any sporting or physical education activity solely on the grounds of gender." Many schools opted for coeducation as the easy solution, in the hope that this would reflect sex equitable practices in physical education.

Prior to the legislation, "sex segregation in physical education was regarded as 'appropriate and desirable' by communities and society in general." (Arrighi et al., 1985, p.168) However, concerns for the opportunities provided for, or rather denied to, females in physical education prompted the development of the Equal Opportunity Act (1984). The apparent discrimination against females demanded the development of an equal opportunity policy giving right of access to all physical education activities for all students. As Browne (1986) stated "when one attempts to understand the letter of the law, the problem of interpretation arises." (p.82) As a result of teachers' perceptions of 'equal opportunity' many schools introduced coeducational classes in the belief that they were complying with the requirements of the Act. Equal opportunity does not necessitate coeducation, but many schools believed this to be so. Provision was made in the Act for students over the age of 12 years to participate in single sex groups if strength, stamina and physique were relevant factors.

Other schools still operating single sex programmes elected to introduce coeducation when teachers were transferred from schools employing this mixed approach. These teachers, who had experienced success with such programmes, were keen to implement the approach in their new schools. Furthermore, many teachers, who perceived advantages to be gained from coeducational classes, decided the initiative was a challenging prospect.

In some instances, coeducational physical education was introduced without choice. Since the introduction of the Unit Curriculum in 1988, mixed classes have been conducted as a result of timetabling constraints, which have made it necessary for many schools to organise students into sex-integrated classes.

Coeducation provides students with an equal access to educational opportunities. However, the provision of coeducational physical education does not ensure equity in the delivery of education. Other factors will determine whether compliance with the law is achieved. For example:

1. Selection of activities. Consideration must be made based on boys' and girls' sporting backgrounds.
2. Evaluation of student performance. As proposed by Browne (1986, p.84) "evaluation in sex-integrated classes will require the utilisation or integration of separate grading systems, where innate physical capacities form the basis of performance levels."

3. Planning of programmes and equal use of equipment and facilities.

4. Equal acknowledgement of students' efforts and achievements.

5. Equal distribution of teachers' attention and time.

Advantages of Coeducational Physical Education

With the introduction of coeducational physical education, various reports and articles have been published outlining both positive and negative aspects regarding this controversial issue. However, in the absence of such research in Australia, much of the literature has come from the United States of America and the United Kingdom. Clearly, there is a need to examine this literature before one can understand the complexity of this initiative in relation to the development of attitudes.

Many schools and teachers in favour of coeducational classes realise the problems that are evident. However, they feel the advantages far outweigh the disadvantages and that many of the problems can be overcome.

The major advantage of coeducational physical education advocated by Brennan (1979, p.5); Dyer (1986, p.85); Garnaut and Doyle (1979, p.3); Geadelmann (1981); Gurr (1980); and Selby (1977) is that it provides increased opportunity for social

development. In a mixed setting, the opportunity for social interaction between the sexes may improve student relationships. This interaction may encourage and extend the development of peer and self awareness. Students are provided with an increased opportunity to learn and enhance social skills such as consideration, respect, co-operation and sharing. These values improve communication skills and understanding between members of the same and opposite sex. The socialising nature of coeducation encourages social development by providing situations where students learn how to play and work together.

A further advantage stated by Garnaut and Doyle (1979, p.3), Knox (1985, p.33), and Selby (1977, p.191) is that coeducation places sports in a more natural life setting that reflects society. It provides a realistic situation that allows effective 'integration' into society. The argument is based on the premise that single sex classes are artificial in relation to the life situation. In mixed classes, students learn to cope with, and overcome, the problems related to relationships that exist in society. Coeducational physical education in secondary schools is a "natural progression from primary years to adulthood and should not be the only subject that is segregated." (Knox, 1985, p.33)

Another benefit which may result from coeducational classes includes the reduction of sex discrimination. When students participate in activities together and interaction is on equal terms, it is "beneficial in breaking down the sexist barriers."

(Selby, 1977, p.191) Students can learn to appreciate each other's skill and physical differences. In support of this, Knox (1985) stated that it "can stimulate the opposite sex to improve standards not only of skill but of behaviour and attitude. Work in harmony - breaks down sex barriers." (p.33) The emphasis has been on dissolving the traditional stereotyping of female roles, or at the very least, challenging these stereotypical attitudes. When students are encouraged to help and motivate each other, as Knox (1985) reported "transference of skills between boys and girls is possible." (p.35)

Blaufarb (1978) felt that coeducational programmes "provide for greater flexibility in scheduling facilities and staff and that it is only natural that the sexes be treated equally." (p.54) With the integration of facilities, the range of activities available to both sexes may be extended.

Coeducational physical education classes can provide a more competitive and challenging environment where the traditional limits imposed on girls are reduced. In such a setting, "girls who are capable at physical education enjoy the challenge of coeducational classes." (Dyer, 1986, p.85) Even in situations where girls are willing to perform to the best of their ability, "coed classes could teach boys to judge females as individuals in athletics, rather than categorically inferior because they are girls." (Selby, 1977, p.191)

Included in the advantages of coeducation is the influence

peer and sex pressures have on student behaviour. As suggested by Garnaut and Doyle (1979, p.4) discipline problems are reduced as the sexes tend to have a governing effect on each other's behaviour. Jeffries cited by Gurr (1980, p.4) stated "physical educationalists, through providing activities in which both sexes can meet, interact and learn to appreciate physical differences, should be able to contribute to more desirable and harmonious patterns of development." This relates to the positive social development possible in coeducational classes.

Disadvantages of Coeducational Physical Education

As with any problematic issue, there are many educators who disagree with the implementation of coeducational physical education. Those who view coeducation less favourably highlight the disadvantages associated with mixed gender programmes.

One of the disadvantages of coeducational physical education most frequently reported (Dyer, 1986, p.85; Evans, 1988; Griffin, 1984; Selby, 1977, p.190) is in the area of motor skills, where difficulties arise from sex differences in skill levels and physical strength. The view expressed is that girls lack the physical capacities and skill competencies to compete on equal terms with boys. The differences in abilities make it difficult to cater for the varying skill levels, especially when one sex has had far more experience than the other in particular activities.

A complaint relating to mixed physical education is that boys' performance standards are lowered if they compete with girls. When the rules and games are modified to allow for differences in sex, the boys may be inhibited and the girls may also be restricted or feel inferior. This is supported by Grunwald, cited in Monagan (1983, p.61), who explained that "kids tend to develop and learn the skills of the game more quickly playing with their own sex."

Another problem of coeducational physical education (Brennan, 1979, p.16; Dyer, 1986, p.85) is related to sexuality problems. Girls are often embarrassed when participating if their uniform exposes body parts during activity, especially if boys ridicule them about their size or shape. During the period of adolescence, many girls are self-conscious about their developing bodies and are sensitive to the comments made by boys. Students of both sexes naturally feel self-conscious in front of the opposite sex if they lack the ability to perform at an expected level.

A further disadvantage concerning coeducational physical education is the possibility of promoting male dominance in sports. As a result, it can confirm rather than challenge existing stereotypical views. When placed in competitive situations against boys, girls may become discouraged and withdraw, especially if the boys are more skilful. This is emphasised where the different expectation levels affect participation and performance. In situations where girls lack

confidence or do not possess the skills required to compete successfully, "forced integration would mean that only the few outstanding girls would have a chance to play, leaving the vast majority of girls unable to participate." (Monagan, 1983, p.61) This is summarised by Evans (1988) who observed two beginning teachers in Western Australia taking coeducational physical education classes. He reported a pattern of interaction which left the majority of the girls on the margins of the class. Also, the game situation was dominated by the boys, and the girls for the most part were left out. "They had neither the skill nor the confidence to compete on equal terms." (Evans, 1988, p.4)

In mixed sex classes where the treatment of sexes is not equal, "girls will cease to exert influence and become successfully socialised." (Spender, 1982, p.122) For example, if girls are harassed by boys and treated as the inferior sex, they will avoid confrontation by not competing against boys and became passive members of the group. Under such circumstances, girls continue to provide the 'negative reference group' that further reinforces male dominance.

Coeducational physical education classes also pose a problem in relation to the type of teacher attention students receive. "Girls are more likely to be praised for being neat, quiet and compliant than for questioning and assertiveness, while boys are encouraged to achieve the motto 'Higher, swifter, farther'." (Knoppers, 1988, p.55) This is further reinforced by the domineering nature of boys, who tend to demand the teacher's

attention. This is substantiated by Leaman (1984) who reported "teachers have been observed to pay far more attention to boys in mixed classes, thus providing them with more stimulation and assurance of their importance, in contrast to the generally quieter and less aggressive girls." (p.28)

Another problem associated with coeducation, is that some contact games are played coeducationally. In contact sports, where strength, stamina and physique are relevant factors students should participate in single sex groups. However, some contact games are modified to allow both sexes to participate. Many educators believe that programmes should relate to community activities and when games are modified to be played coeducationally they lose their community relevance. Activities in the community are performed in separate sex groups, which relate to the adult form of the sport. When the sexes are grouped together and games are modified some believe they no longer reflect the community sports. Furthermore, in mixed classes student concentration is reduced due to the added distraction of the opposite sex.

Although a detailed description of both the advantages and disadvantages of coeducational physical education has been provided, it is the individual schools that will decide whether the initiative is worthwhile. The decision should involve the evaluation of student attitudes so that programmes will be relevant to the students' interests and needs. An important consideration is that equality and 'equal opportunity' as

intended by the law, can be achieved through provisions other than coeducational physical education. A description of the positive and negative aspects of coeducation is necessary as it provides insight into the factors that contribute to the development of student attitudes.

Determination of Attitudes Towards Coeducational Physical Education

Attitudes will vary depending on personal preference for a particular activity or sport. However, "self perception of physical ability appears to be a strong contributor to attitude." (Fox & Biddle, 1988, p.111) Students like or dislike of a sport or their perceived ability may affect their attitude towards mixed classes. Furthermore, students who do not possess the skills feel they are physically unable to compete successfully, and so lack the confidence to participate. They therefore tend to have negative attitudes. Many girls, for example, who have not had adequate practice in activities, become embarrassed and dislike competing against boys, who have had previous experience. This is especially true if the boys ridicule the girls about their lower skill level. In coeducational classes the experience and physical differences are often highlighted to a point where one sex (usually the females) feels inadequate and self-conscious, which contributes further to negative attitudes toward coeducation.

This difference in skill level is also the result of many boys having negative attitudes toward coeducation. Boys feel

their skills are far better than those of girls and when made to compete against girls, they feel their higher physical ability is not extended. As reported by Mikkelson (1979, p.63) boys feel their athletic superiority would only be enhanced if competing against boys, and so coeducational classes would be downgraded to accommodate the weaker sex, thus contributing to their negative attitudes towards coeducation. In contrast, boys who are less successful in sporting activities and lack the ability to perform at an expected level become stressed and self-conscious when competing against girls, often believing that losing to a girl will bring shame. In this situation, the boys also prefer single sex classes.

On the other hand, according to many girls who feel they are capable in a variety of activities, and possess a certain physical ability, the experience of coeducation is enjoyable. These girls prefer mixed classes as they feel competing against boys is a challenge, which can further improve their performance. As stated by Fishbein (1977) "coed classes have made the girls more competitive and self-reliant." (p.25) Also, boys who do not feel threatened when placed in competition against girls will respond favourably to coeducation. The possibility of performing against girls in mixed activities does not pose any problems, in fact, many enjoy the mixed company. Students that experience success and enjoyment from participating in mixed activities will develop positive attitudes toward coeducational physical education.

Although sporting ability and success in physical education are linked to student attitudes toward coeducation, other influences, such as the socialising aspect also relate to how students feel about mixed classes. As suggested by Ikulayo (1983, p.24) the desire to socialise and enjoy sport is a strong determinant of attitudes. Students who feel comfortable engaging in sporting activities with the opposite sex, like coeducational physical education, as this means more 'fun' and a chance to mix with the opposite sex. This is supported by Mikkelsen (1979, p.63) who stated that boys and girls who are sure of themselves in mixed company, enjoy the novelty of coeducational classes. This approach gives them the opportunity to increase their awareness and appreciation of the opposite sex.

Many girls, who have positive attitudes toward coeducation, have them because they see it as an opportunity to participate with boys on equal terms. Often coeducation results in girls receiving a greater range of activities, and so they have an increased opportunity to participate in sports previously not offered. The rationale behind some girls preferring coeducation is "why shouldn't the girls have exactly the same opportunities as those enjoyed by boys?" (Mikkelsen, 1979, p.63) Many boys however, see coeducation as the introduction of a number of activities traditionally designed for girls, for example, dance. The social pressures exerted on boys in such activities is the reason many dislike coeducation.

The reason for some girls preferring single sex classes is the result of male dominance. Boys who think girls are no match for their higher ability ridicule and patronise them. When they continually downgrade girls with comments relating to their inadequacies, the girls shy away from competing against them. This contributes to boys further asserting their 'male dominance' by insulting girls and their 'femininity'. Under such circumstances many girls remain passive and dislike coeducation. As summarised by Monagan (1983) "one reason that girls keep shying away from coed sport may be that the opportunities are not really all that equal." (p.61)

Figure 2 illustrates the possible factors which may determine whether students have positive or negative attitudes towards coeducational physical education.

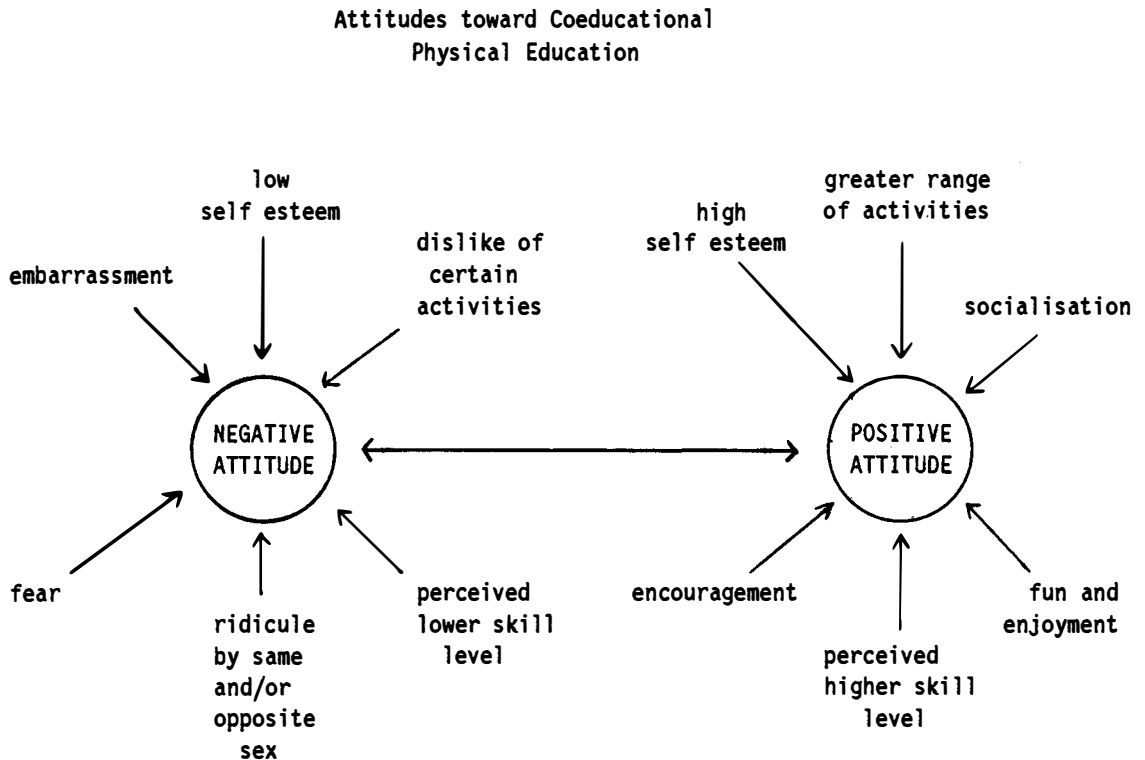


Figure 2. Attitude Continuum

Factors Influencing Attitude Development Toward Coeducational Physical Education

In order to understand student attitudes toward coeducational physical education, consideration must be given to the factors that will influence these attitudes. Student attitudes toward coeducation to a large extent are determined by their experiences in this setting. As stated by Godin and Shephard cited in Fox and Biddle (1988) "attitudes and current

exercise habits interact strongly with prior experiences in determining exercise intentions." (p.109) Often attitudes are developed as a consequence of physical ability, however there are many other intervening variables which affect attitudes. As stated by Evans et al. (1987) "children come to Physical Education deeply socialised into particular ways of seeing and doing physical activities, with images already worked out about what is appropriate for their respective 'gender'." (p.64) Social traditions and the "different social agencies, apply pressure to each individual regarding activity involvement." (Fox & Biddle, 1988, p.110) These pressures and social influences may promote positive or negative attitudes toward coeducation. Parental and social influences, peer pressures and media coverage of societal trends all interact together to exert influence and shape the attitudes of students.

Social conditioning and the process of socialisation commences at birth. Parents and the family unit expose children to different sets of values and expected patterns of behaviour, which influence the development of identity and attitudes. The differential treatment of boys and girls leads to the development of specific sex roles. During childhood, children play with different toys and dress differently, all of which reinforces the "appropriate" behaviour for their sex. This treatment of the sexes has implications for the type of activity involvement of children. This is supported by Coles (1980) who stated that "generally, girls are not encouraged to participate in physically active sports at an early age, and are provided with toys which

suggest that their future role is not one which will involve primary participation in sport." (p.23) For boys the opposite is true, and they are encouraged to participate in vigorous activities. Parental and family pressures during childhood will influence attitudes toward sport involvement and reinforce the concepts of masculinity and femininity.

During adolescence the power of the informal peer culture exerts pressures on student behaviour which affect attitudes. This is supported by Lopez (1987) who suggested that the peer group can channel students into stereotypical attitudes and behaviours which can influence students' feelings toward coeducation.

Most boys are keen to prove their masculinity and improve their status by being good at P.E. and sport - a traditional arena for male dominance. Girls on the other hand are trying to preserve their femininity so may not want to be seen as successful at some P.E. activities. (p. 21)

In coeducational classes girls are actively, as well as subtly, discouraged by both males and females from taking part in many sporting activities. These are seen to foster values associated with masculinity which are incompatible with the feminine image. In contrast the boys' masculinity is challenged if they do not conform to the expected standards of performance and behaviour. Coles (1980) stated "for most girls, becoming involved in sport is not compatible with the acquisition of a

personally and socially acceptable sex role, whereas for boys just the opposite is true." (p. 23) This constant social conditioning can channel students into thinking that they must comply with the acceptable self-image, or suffer the consequences of ridicule and embarrassment.

A relationship exists between self-esteem and attitudes toward coeducation. As stated by Fox and Biddle (1988) "the power of self perception is a predictor of both attitude and physical activity involvement..." (p.109), and "attitudes can be inferred from behaviour." (p.107) The beliefs that students possess about their own participation in activity will influence attitude development and further activity involvement.

If students perform outside the expectations of their peers, the result may be acceptance by one sex and rejection by the other. Such treatment and role conflict will affect student attitudes towards coeducation since this is the environment that surrounds them.

Other factors that influence attitudes toward coeducation include confidence in one's own physical ability and skills, skill learning experiences, opportunities to participate, treatment by teachers and peers, interest in activities and motivation to participate. All these variables may directly result in the development of positive or negative attitudes toward mixed classes.

"Children routinely confront attitudes which announce the differences between them rather than those which encourage co-operation, collaboration and recognition of similarity."

(Lopez, 1987, p.20) The development of attitudes is dependent on the pressures and influences students experience. When placed in certain situations, such as coeducational physical education, attitudes, whether positive or negative, are expressed in terms of behaviour.

Gender Differences - Attitudes Toward Coeducational Physical Education

Since attitudes are personal, they are difficult to measure, however, the way in which students behave is an indication of their attitudes. As proposed by Fox and Biddle (1988, p.107) attitudes can be inferred from behaviour.

Research conducted by Fishbein (1977) and Mikkelsen (1979) supports the development of the stated hypothesis. Students appear to enjoy coeducational physical education because it offers different and new experiences for them. Deeper examination into the issues relating to coeducation may reveal specific aspects about which students are concerned. However, overriding those problems is the feeling that these may be overcome. As supported by Mikkelsen (1979) "a growing awareness that mixed classes mean more team spirit and fun soon made the majority of students appreciate and approve the change... overall, both boys and girls adapt well and respond enthusiastically to coed gym." (p.63)

It is also believed that the majority of girls will have more favourable attitudes towards coeducational physical education than boys. As stated by Arrighi et al. (1985) "physical education is a male orientated environment except for certain specialised activities such as dance." (p.171) The inclusion of females in many activities results in changes that challenge the many 'privileges' boys have previously experienced. Many boys tend to believe that including girls in mixed activities is an intrusion into their male domain. This is possibly a cause of some boys possessing less favourable attitudes toward mixed activities. In a study by Monagan (1983) he found that for "girls the prospect of mixing with the opposite sex is clearly less innately threatening to them than it is to boys." (p.62) On the basis of this statement it seems reasonable to conclude that girls will have more favourable attitudes than boys, since for girls the inclusion of mixed activities provides advantages not previously encountered.

Therefore, as a result of the reported research conducted in North American schools, and a search of the literature relating to coeducation, it is hypothesised that Year 10 students will possess positive attitudes towards coeducational physical education. It is also hypothesised that girls' attitudes will be more favourable than boys' attitudes toward coeducation.

In Western Australia, little research has been conducted to determine student attitudes towards coeducational physical education. There is a need to evaluate student attitudes and

determine why these attitudes are held. Such an assessment of attitudes may encourage teachers to examine their physical education programmes and evaluate their grouping policies to determine if they are appropriate. This is supported by Lopez (1987) who said "...P.E. teachers will need to carefully consider if their form of grouping, curriculum and teaching are providing the best and equal leisure and educational opportunities for boys and girls." (p.21)

A questionnaire and interviews will be used in this study to identify student attitudes about coeducational physical education. Results may enable physical educators to design programmes consistent with the attitudes and developmental needs of students. In interpreting Kelly's study, Gurr (1980) wrote of "the definite benefits to be gained from surveys of students' interests and attitudes toward coeducational programmes as a tool of evaluating effectiveness." (p.3)

CHAPTER 3

METHODOLOGY

This chapter has been organised under the following headings:

Procedures

Study Group

Instrumentation

Pilot Study

Data Collection

Each section describes the methods employed and reasons why these methods were appropriate to the study.

Procedures

The research was conducted at Lockridge Senior High School, where the questionnaire was administered to the specified study group participating in coeducational physical education classes. Instructions regarding the purpose and procedures of the questionnaire were verbally supplied to the students. Students were instructed not to write their name on the questionnaire, thus assuring anonymity. The questionnaire was completed individually in a relaxed setting, without time restriction. Students were encouraged to consider each question carefully and to respond truthfully.

Students were selected for the group interviews from those that completed the questionnaire. Student names were randomly chosen from the class registers. Thus each group was chosen from a different physical education class, enabling a deeper examination of student attitudes toward coeducational physical education. It allowed students to discuss more specific details and concerns highlighted in the questionnaire. The group interviews were conducted in a quiet place with no restrictions on maximum interview time and each group was interviewed separately.

It was decided to employ the group interview technique because students are often reluctant to respond to questions in an individual setting. As a group, students may respond more freely prompting responses from other members in the group. This is supported by Hedges (1985) who stated:

in a group setting people can be helped and stimulated both by their own interaction with the group members, and by watching and listening to other people interacting ... groups can stimulate their members, they can also be used creatively to generate ideas. (p.73)

Comments made by individuals can stimulate others to respond, thus elaboration and enlargement on ideas, attitudes and beliefs is possible. Donovan (1977) stated:

interviewing several individuals together yields far more information than could be obtained by interviewing these same individuals separately ...combined effort of a group

produces a wider range of information, insight and ideas than combining the results from separate individuals (the whole is greater than the sum of its parts). (p.9)

Furthermore, interviews conducted in a group may yield more honest responses since students will not be compelled to answer what they think the researcher wishes to hear and because "the focus is on the group rather than the individual; he soon realises that the things he says are not necessarily being identified with him." (Hess, 1971, p.232) Also, what an individual does say may be reinforced by other students. This is substantiated by Donovan (1977) who describe the advantage of security with group interviews:

The group provides a certain comfort or even 'anonymity' that does not exist in the individual interview situation. Hence the group members are likely to be more frank in expressing their feelings about various subjects ...Part of this feeling of security stems simply from the fact that the group members realise that their feelings in many cases are shared by other group members. Hence they tend to speak more freely and frankly. (p.10)

This technique also enables a consensus of responses to be achieved, which aids in the collection and analysis of data. The group interview approach is advantageous in that it is less time consuming than a series of individual interviews. The advantages described are the reasons for choosing the group interview method.

There are however, weaknesses with group interviews, which are related to the process of group dynamics. As suggested by Hedges (1985) "in groups there is a risk that social pressures will condition responses in an artificial way. Dominant and articulate characters can influence what is said. People can feel nervous about uttering views opposed to those of the rest of the group." (p.74) The pressures exerted by peers in a group situation cannot be eliminated, although their influence and importance can be minimised by the interviewer. During the group interviews, all persons were encouraged to participate by either directing questions to the more quiet members or encouraging them to respond with non-verbal gestures such as a nod in their direction or eye contact. This enabled all persons to express their views and prevented dominant characters monopolising the conversation.

The social pressures to conform to the group's ideas and responses do not exist in the same way in individual interviews. However, the effects of the interviewer's presence is a problem for both individual and group interview methods. As stated by Murphy (1980) "interviewing can produce biased data because the subject may be responding to your presence rather than presenting an accurate account." (p.77) Therefore, the interviewer must establish a rapport with the subjects and develop a trusting atmosphere. "The interviewer must show insight and gain rapport with the interviewee and give him assurance that the information will be kept confidential." (Clarke & Clarke, 1970, p.114)

A comparable interview was then conducted with all physical education teachers to determine their perceptions of student attitudes toward coeducation. Staff were interviewed separately with no restrictions on interview time. The reason for employing the method of individual interviews with staff was due to timetabling constraints. Physical education classes are timetabled at different times, and this made group interviews with teachers difficult to arrange.

A clear explanation of the purpose and format of the interview was provided to both staff and students. It was decided to interview the teachers so that a comparison could be made between the attitudes expressed by students and what teachers believe students think about coeducation.

The role of the researcher in this study was to explain and administer the questionnaire to students, and to interview staff and students. During the interview the researcher asked questions, eliciting relevant information without being biased or contributing personal information on attitudes, beliefs or feelings. The independent status of the researcher was beneficial since respondents provided information freely, as the researcher was not identified with any particular group.

The design of the study was such that the questionnaire and interview questions would enable determination of student attitudes toward coeducational physical education. This data would permit a comparison to be made between the attitudes of the sexes.

This study involved a combination of quantitative and qualitative research methods. The problem being investigated was student attitudes toward coeducational physical education and since attitudes relate to the affective domain they are personal and may change. These facts render measurement and evaluation difficult.

The questionnaire from which an attitude score was obtained formed the primary data source. Following the questionnaire, the interviews were conducted and provided more specific information of the items comprising the questionnaire. This enabled examination into the possible reasons why students have developed their attitudes toward coeducation.

The questionnaire designed by Gurr (1980) provided a useful tool to enable evaluation of student attitudes toward coeducational physical education. It was an appropriate method for this study since information was required from a large number of students and a statistical analysis could be computed on the data collected. The questionnaire also provided respondents with the security of anonymity. The questionnaire responses were keyed into the computer programme and the information was checked with the questionnaire responses to ensure no errors had been made during the data entry process.

The nature of this study warranted an interview which was a useful adjunct to the questionnaire. The advantage of the

personal contact in an interview situation enables the interviewer to check understanding. "The investigator can make sure that the intent is clear and thereby obtain more adequate responses." (Clarke & Clarke, 1970, p.114) The interview format was structured so that specific questions were asked in the same order for each group. This permitted the interviewer to obtain information relating to student attitudes towards coeducation.

However, if informants provided responses that required further explanation, additional information was obtained by probing, without changing the order of questioning. As stated by Murphy (1980) "the strength of interviewing is its flexibility, you can adjust to evolving circumstances ...and keep probing until you get the facts." (p.77)

This technique enabled the interviewer to gather data directly from individuals. The face to face contact enabled the interviewer to develop a rapport with respondents so they felt comfortable and confident with the situation. This is crucial when dealing with attitudes. If this is successful "the response will be much better and therefore the information that is needed will be given more readily." (Clarke & Clarke, 1970, p.115) The interview situation also allows the nonverbal responses to be observed. Nonverbal data provides additional insight for the investigator to form some judgement on the adequacy and honesty of replies. This valuable information obtained from nonverbal cues provides the interviewer with the opportunity to identify discrepancies which can be pursued with further questions.

By combining the techniques it is evident the 'methodological triangulation' is employed. Methodological triangulation is further divided into two categories, of which this study involves the 'between-method triangulation' approach. This is defined as "the use of two or more methods of data collection in the study of the same aspect of human behaviour." (Cohen & Manion, 1980, p.208) As explained by Cohen and Manion (1980):

triangulation techniques in the social sciences attempt to map out, or explain more fully, the richness and complexity of human behaviour by studying it from more than one standpoint and, in so doing, by making use of both quantitative and qualitative data. (p.208)

In this study the combination of dissimilar methods, that of the questionnaire and interviews, was used to measure the same unit, student attitudes. The advantage of employing this multiple perspective approach is that data missed with one method of data collection may be picked up with the other. There is no exclusive reliance on one particular method.

The diagram on the following page illustrates the triangulation process employed in this study.

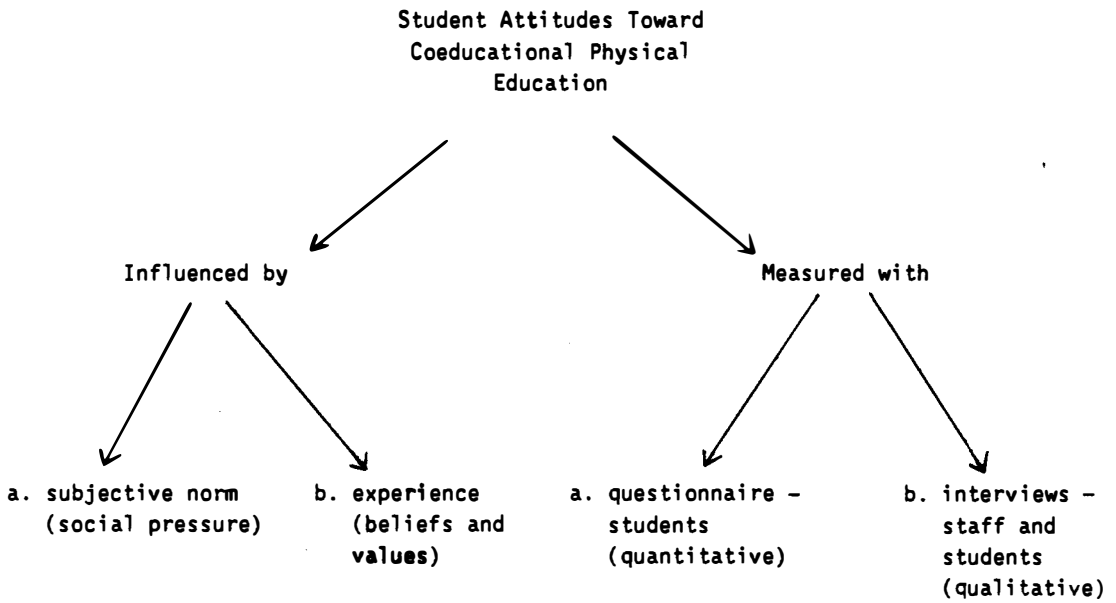


Figure 3. Between-Method Triangulation

Study Group

For this study two secondary schools were required; one for the pilot study, and the second for the actual research. Following permission from the Ministry of Education and the school Principals, the pilot study was carried out at Lesmurdie Senior High School and the research was conducted at Lockridge Senior High School. Copies of the letters requesting permission to use the schools for the study are attached as Appendices A and B.

Lockridge Senior High School was chosen as the research school because it was one of the first schools to introduce coeducational physical education in Western Australia, and therefore the programmes have been in operation for a number of years. Certainly, for the period of time that the present Year 10 students have been enrolled in the school, the physical education programme has been mainly coeducational. Some traditional sports have been conducted in single sex groups. Appendix C provides full details of the physical education programme. Since the purpose of this study was to determine student attitudes toward coeducational physical education this characteristic was important.

The target group to which the questionnaire was administered was Year 10 students participating in coeducational physical education. Thus the ages of the students ranged between fourteen and fifteen years. The target group consisted of 66 girls and 51 boys.

Year 10 students were chosen for the study because the majority were in their third year of a coeducational programme at the secondary level, and had experienced a variety of activities in a mixed setting. It was reasonable to assume that the students had had time to formulate a general attitude towards coeducational physical education. All Year 10 students present at the school on the day the questionnaire was administered were tested. Individuals in each class may participate in general physical education, outdoor education, physical recreation and/or special physical education, where the classes are mixed and taught by teachers of different sexes. This aspect, plus the fact that students have had different teachers for different sports over the three years will limit the effect the sex of the teacher will have on student attitudes toward coeducational physical education at the time they were tested.

From the six Year 10 physical education classes, students were selected for group interviews. Random sampling was used, taking students' names from the roll. Two groups comprising three girls and two groups comprising three boys were chosen. "Random sampling... attempts to ensure external validity through representative sampling of the population of persons to which the findings are to be generalised." (Hammersley, 1983, p.187)

The results of the study are only representative of the Year 10 students at Lockridge Senior High School, and cannot be generalised beyond this group. The sampling process used for the group interview assured that data adequately represented the population being investigated.

Of the five physical education teachers at Lockridge Senior High School, four taught Year 10 general physical education at the time of the research. However, since at some time, all had taught Year 10 physical education classes, every staff member was interviewed. This consisted of:

- Male Acting Senior Master of twelve years teaching experience, three at Lockridge Senior High School.
- Female Eight years teaching experience, seven at Lockridge Senior High School.
- Male Four years teaching experience, two at Lockridge Senior High School.
- Female Two years teaching experience, both at Lockridge Senior High School.
- Male Two years teaching experience, both at Lockridge Senior High School.

Instrumentation

The measuring instrument used to determine student attitudes towards coeducational physical education takes the form of a 16 item attitudinal questionnaire designed by Gurr (1980). Respondents were required to indicate their degree of agreement or disagreement with each statement by marking the response that best described their feeling toward the statement. A copy of the letter requesting permission to use the instrument developed by Gurr is attached as Appendix D.

The questionnaire scale was structured so that students who

have positive attitudes toward coeducational physical education would score highly, using a five point Likert Scale of agreement, regardless of whether the item was written in the positive or negative mode. The five point Likert Scale comprised the following responses:

Strongly Agree

Agree

No Strong Opinion

Disagree

Strongly Disagree

For items written in the positive mode, the 'strongly agree' response would yield a score of five, the 'strongly disagree' response would yield a score of one. For items written in the negative mode, the scoring structure of responses was reversed so that a 'strongly agree' response would yield a score of one, and the 'strongly disagree' response, a score of five.

The draft questionnaire developed by Gurr included what is described as a 'free answer question', asking students their preference for physical education classes. This 'free answer question' was not included in Gurr's final questionnaire. However, for this study it was decided to include the 'free answer question', as it would provide a means of determining validity and was related to the first hypothesis. This was not a totally 'free answer question' as three choices were provided. Therefore, it was decided to change the term to the 'class grouping question'. Since the students were assured of anonymity

for the questionnaire, and the students who were interviewed wished to remain anonymous, the process used to determine the validity of the questionnaire in the pilot study could not be used for the research group. However, a comparison of the total scores received from the questionnaire with the responses made to the class grouping question provided a means of establishing validity.

A further addition was made to the questionnaire, where students were asked to add any more information about coeducational physical education in an open ended question. The inclusion of this question provided all students with the opportunity to elaborate. In addition to the questions asked, it also gave the students who were interviewed the opportunity to explain and discuss the comments they made. The questionnaire developed by Gurr and modified by Heys is included as Appendix E.

The draft questionnaire developed by Gurr consisted of 20 items and was administered to students during a physical education period. The completed questionnaires were grouped according to the responses to the class grouping question. (Group A, B and C). Groups A and B were the positive and negative attitude groups, from which ten questionnaires were randomly selected. Group C questionnaires were not included for the analysis because they were not considered a part of either criterion group. The responses of each student in the two groups were "tabulated for an item analysis in order to evaluate the validity of the 20 items as an instrument to discriminate between the attitudes of the two groups." (Gurr, 1980, p.6)

In order to evaluate the validity of the questionnaire and the individual items, Gurr (1980, p.7) applied the following procedures:

1. The mean student response of each item was calculated. This indicated a degree of item discrimination and hence the validity of each of the 20 items.
2. The mean response to each item of each study group was calculated. This identified the items which did not discriminate between the two study groups sufficiently. These items were deleted from the questionnaire.

The decision to delete particular items was subjectively based upon the mean response calculated for each item. Of the 20 item draft questionnaire, the mean response for four items of the two groups was not considered sufficiently variant and indicated poor ability to discriminate, so these items were deleted. As a result of these procedures a 16 item questionnaire was constructed, and the same procedures were used to re-examine the validity of the individual items.

The questionnaire developed by Gurr was designed to determine student attitudes toward coeducational physical education. The initial questionnaire Gurr developed was administered to students to establish the reliability of the instrument's ability to "test and retest attitude discrimination with other study groups". (Gurr, 1980, p.8) The

Kuder-Richardson and Hoyt reliability co-efficient was employed to establish the reliability of the instrument. "This statistic is based upon the number of items each subject answers correctly. However, being an instrument of attitude evaluation, answers cannot be regarded as correct or incorrect." (Gurr, 1980, p.8)

An adaptation was thus made, whereby a student who was in favour of coeducation "was considered as having responded correctly if his/her response was a four or a five on the Likert Scale." (Gurr, 1980, p.8) Conversely a subject who disliked coeducation was considered as having "responded correctly if his/her response was a one or two on the Likert Scale." (Gurr, 1980, p.8)

Using the Kuder-Richardson and Hoyt reliability co-efficient the questionnaire was calculated as having a reliability of 0.67. This reliability score

indicates that the questionnaire measured the attitudes of the study group and was reasonably reliable in its ability to do so for further student groups. It also indicates that each item succeeded in producing similar patterns of responses from different subjects within each study group. (Gurr, 1980, p.12)

A group interview was performed with students after the questionnaire had been completed. The interview enabled additional information to be collected in which areas of concern

and interest highlighted in the questionnaire, could be pursued in more depth. The purpose of this was to substantiate the validity and reliability of the results obtained from the questionnaire. Twenty questions were formulated which aimed to elicit further information regarding student attitudes towards coeducational physical education. A list of these questions is included as Appendix F.

A comparable interview, comprising 20 questions was developed to determine teacher perceptions of student attitudes towards coeducational physical education. The questions were similar to those asked of the students, however, they were stated in terms of the perceptions teachers have of student attitudes. A list of these questions is included as Appendix G.

In using both the questionnaire and interview methods, the validity of the study was enhanced. The use of multiple methods, as evident in this 'between method' triangulation approach, to examine the same dimension of the research problem, should enhance the quality of the data.

If the outcomes of the questionnaire correspond with those of the interview, confidence is improved with regard to the validity of results. As supported by Jick (1979) "between-method triangulation... is largely a vehicle for cross validation when two or more distinct methods are found to be congruent and yield comparable data." (p.602)

Jick (1979) stated that "the 'between-methods' approach is designed for convergent validation." (p.603) He also suggested the use of complementary methods was generally thought to enhance the validity of results. "Triangulation can be something other than scaling, reliability, and convergent validation. It can also capture a more complete, holistic, and contextual portrayal of the unit(s) under study." (Jick, 1979, p.603)

This study involved the use of a questionnaire and interviews, conducted with students and physical education teachers to determine student attitudes towards coeducation. The examination of teachers' perceptions of student attitudes contributes to a more complete picture of student attitudes towards coeducational physical education. As stated by Cohen and Manion (1980) "multiple methods are suitable where a controversial aspect of education needs to be evaluated more fully." (p.215) The issue of coeducational physical education has been debated since its inception, yet little research has been conducted on student attitudes. The questionnaire and interview methods utilised in this study should provide a clearer picture of student attitudes towards coeducational physical education.

The Pilot Study

The questionnaire and interview questions were piloted at Lesmurdie Senior High School. This school was chosen because coeducational physical education programmes were in operation. A

Year 10 coeducational physical education class was selected to complete the questionnaire. There were 31 students in the class of which 19 were girls and 12 were boys. Students from this class were then randomly selected from the roll for the group interview. Three girls and three boys were chosen, and the two groups were interviewed separately. Two of the physical education teachers at the school were also interviewed.

The questionnaire administered to the students in the pilot group was modified from the final questionnaire developed by Gurr. The option of No Strong Opinion was deleted from the questionnaire, thus altering it to a four point Likert Scale of agreement. This modification was made so that students were forced to make a decision on their attitude towards coeducation, and also prevented students from just circling no strong opinion for every statement.

The completed questionnaires were reviewed and it was found that some items had not been answered. The students were asked if the no strong opinion option was needed, and if this was given as a choice, would it have assisted them in making a response. The consensus was that this option should be included in the questionnaire to be used in the research. The questionnaire administered to the pilot group also differed from the final questionnaire developed by Gurr in that it included a class grouping question asking for preference and a final question asking students for any more information.

The questionnaire was initially administered to the pilot group at the beginning of August. One week later the questionnaire was again given to the same group of students. This test-retest enabled determination of the reliability of the questionnaire. A Pearson Correlation Coefficient was computed on the results obtained from the first and second tests. The questionnaire was calculated as having a reliability of 0.92 for the selected students. This was a high reliability and indicated that the questionnaire was reliable in the measurement of the attitudes of the pilot group.

The graph below shows the plotted observations of the test/retest scores.

Legend A represents an individual student
 B represents 2 students
 C represents 3 students
 D represents 4 students

(Note: 5 observations had missing values - these were items that had not been answered).

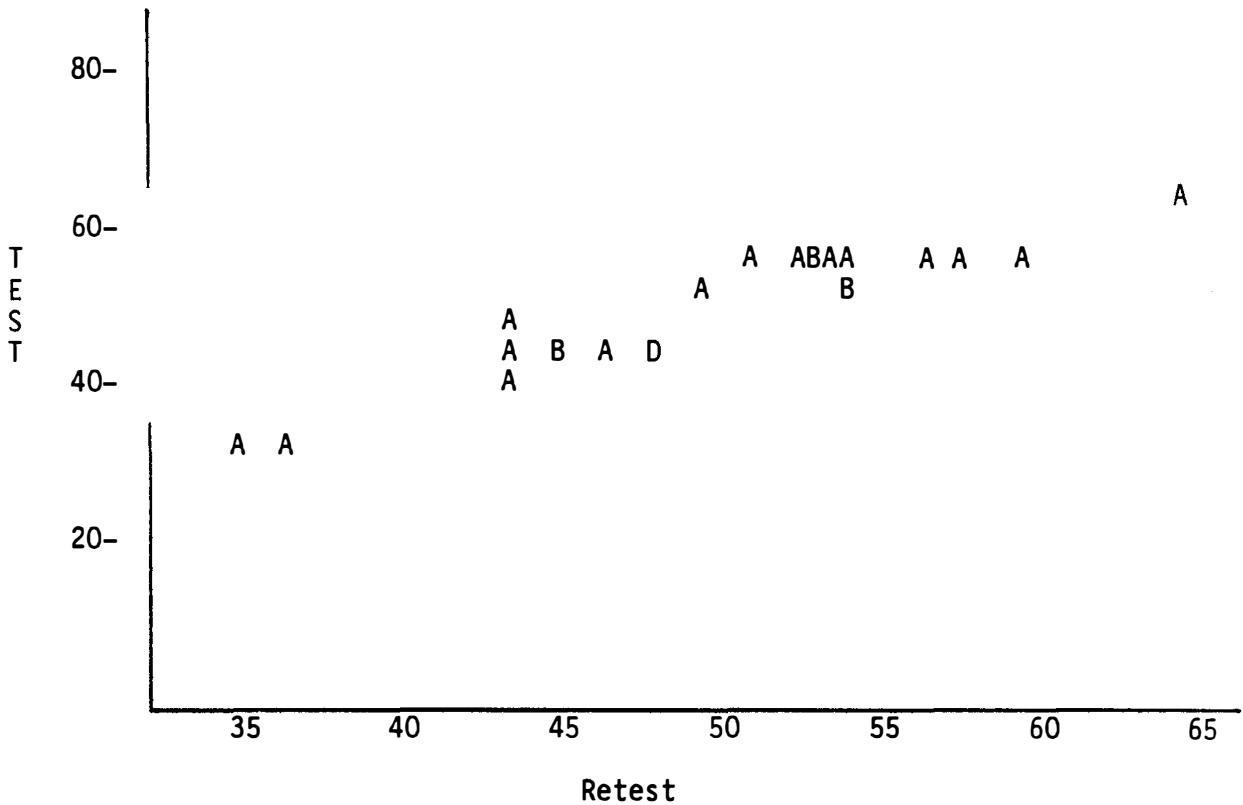


Figure 4. Correlation between Test/Retest

The graph illustrates the relationship between the test/retest results. The points form a relatively straight line sloping upwards from left to right. This indicates a high positive correlation between the two tests.

In order to establish validity of results, the questionnaire scores were compared with the interview comments. The six students who were interviewed were listed according to the attitude they expressed. It was difficult to quantify the degree of positiveness in the interview, and therefore the students were not ranked but only listed according to whether they were perceived to have a positive or negative attitude. The total scores received from the questionnaire (test and retest) were then ranked from highest to lowest indicating the range of attitude.

TABLE 1
INTERVIEW AND QUESTIONNAIRE RESULTS

	Interview	Questionnaire			
	Student	Test	Retest	Mean	
Positive Attitude	A	E = 47	52	49.5	Positive Attitude
	B	B = 45	45	45	
	C	D = 45	45	45	
	D	C = 41	48	44.5	
	E	A = 44	44	44	
Negative Attitude	F	F = 35	35	35	Negative Attitude

As can be seen on table 1 those students who scored highly on the questionnaire, indicating a positive attitude, also expressed positive attitudes towards coeducation when interviewed. The one student who received a low total score for

the questionnaire also expressed a negative attitude towards coeducational physical education in the interview.

These results indicated a degree of validity in the results obtained from the questionnaire in that it measured what it purported to measure, that is student attitudes towards coeducational physical education.

Following the interview the staff and students were asked to point out any difficulties in understanding, errors or omissions that needed to be considered. Amendments and additions or deletions were then made where necessary, and the final questions for the interview were determined.

Data Collection

The questionnaire was administered to all Year 10 students during physical education classes on either the 6th, 7th or 8th of September, 1989. The interviews were conducted immediately after the administration of the questionnaire, to enable students to respond to any statements in the questionnaire.

During the interviews with staff and students written notes were taken in conjunction with audio-tape recordings of each interview session. Taping the interviews enabled careful and concise evaluation of informant comments to be made, since this technique ensured that all verbal information was recorded. Tape recording also provided a formal record enabling researcher

checking of information. Furthermore, it reduced the possibility of inaccuracies or omissions which may occur if the researcher relied on memory. Validity of results was established by the recording of the responses for later checking. This enabled the truthfulness and accuracy of results and conclusions to be verified.

Written notes were also taken during the interviews, providing more detail and a greater chance of drawing meaningful conclusions. The use of audio-recording freed the interviewer to watch for nonverbal cues during the interview. Reactions to verbal responses were noted, and a record kept if there was a discrepancy or reinforcement between verbal and nonverbal behaviour.

Immediately following the interviews the material was reviewed, notes were organised and details on comments recorded, while the information was still clear in the mind of the interviewer. The tapes for each interview were transcribed verbatim, and the information obtained has been summarised and reported in the analysis of results section.

CHAPTER 4

ANALYSIS OF RESULTS

The following chapter provides the analysis of results for the questionnaire, student interviews and teacher interviews. Each method of data collection has been analysed separately, providing both the results and a discussion of the results.

Questionnaire Results and Discussion

The results obtained from the questionnaire administered to students, will be discussed under the following headings:

1. Determination of questionnaire validity.
2. Frequency of the group's responses to questionnaire items.
3. Questionnaire item responses according to class grouping preference.
4. Questionnaire item responses according to sex.
5. Questionnaire scores by sex.

The results from the questionnaire were analysed using the LERTAP programme, which is a statistical package especially designed for questionnaire analysis.

Appendices H and I show the questionnaire scores received by girls and boys, with the percentage of possible total and z score included.

Determination of Questionnaire Validity

In order to determine the validity of the questionnaire, the total scores students obtained were compared with their selected preference for physical education classes, as indicated by the class grouping question. Table 126 included as Appendix J lists the total scores according to the class grouping preference selected by students.

The score of 48 for the questionnaire was used to discriminate between students with positive and negative attitudes toward coeducational physical education, as this was the middle score for the questionnaire. Examination of the scores from students stating their preference for coeducation classes, reveals that, of the 43 students with this choice, there were only two who obtained relatively low total scores for the questionnaire.

One student received a total score of 47 which is below the middle score of 48 for the questionnaire and thus indicates a slightly negative attitude towards coeducational physical education. The total score obtained by this student does not therefore correspond with the student's preference for coeducational classes. A second student from within the group

stating their preference for coeducational classes, received a total score of 48. This score is the same as the middle score for the questionnaire. Although the student stated his/her preference for coeducational classes, the score obtained by the student indicated he/she is unsure of his/her attitude towards coeducational physical education. This student did not receive a total score, which indicated a positive attitude towards coeducation and therefore does not correspond with the stated preference for coeducational classes. All other students who stated their preference for coeducational classes obtained scores which indicated positive attitudes towards coeducational physical education. Thus, the total scores correspond with the stated preference for coeducational classes.

The five students, who stated they preferred single sex classes, all obtained relatively low total scores for the questionnaire. One student received a score of 48 which is the same as the middle score for the questionnaire, thus indicating he/she is unsure of his/her attitude towards coeducational physical education. However, the other four students in this group all received total scores below the middle score for the questionnaire, thus indicating negative attitudes toward coeducational physical education. Therefore, the total scores obtained by four students correspond with the selected preference for single sex classes.

The students who stated they did not mind how classes were grouped for physical education obtained a range of total scores

which indicated both positive and negative attitudes toward coeducational physical education. Regardless of the total scores received by students in this group, all did not mind how classes were grouped for physical education. Therefore, the validity of the questionnaire can be determined by examining the total scores obtained by the students stating their preference for coeducational or single sex classes.

The low scores received by the two students stating their preference for coeducational classes may indicate the questionnaire was not valid, or that the students were not honest when responding to items on the questionnaire, or unsure of their preference for physical education classes.

However, the majority of students obtained total scores which coincided with their stated preference for physical education classes. This indicated that the questionnaire was relatively accurate in its ability to determine student attitudes towards coeducational physical education.

Frequency of the group's responses to questionnaire items

The following tables, which show the total group's responses to each item on the questionnaire, will be discussed in order to determine how the group responded.

TABLE 2
STUDENTS' PHYSICAL EDUCATION CLASS PREFERENCE
(RESPONSE TO CLASS GROUPING QUESTION)

Response	Frequency	%
1. Coeducation	43	36.8
2. Single Sex	5	4.3
3. Don't Mind	57	48.7
4. No Response	12	10.2
Total	117	100

Table 2 shows the group's preference for the way physical education classes are grouped. A total of 43 students responded with a 1 to the class grouping question, thus indicating their preference for coeducational classes. There were only 5 students who stated they preferred physical education classes to be single sex and a total of 57 students stated they did not mind how classes were grouped for physical education. The total number of respondents was 117, and therefore 12 students did not respond to the class grouping question, which is indicated on the table as no response.

In relation to the hypothesis that Year 10 students at Lockridge Senior High School have positive attitudes toward coeducational physical education, the following observations can be made:

1. Almost 60% (58.9%) of the sample did not have a strong preference for either coeducational or single sex classes.
2. Of the remaining students indicating a preference, the majority (43 versus 5) indicated a preference for coeducational classes.

These findings in part support the hypothesis that students have a positive attitude towards coeducation, although the large proportion of non-committal responses prevent the hypothesis being accepted.

The 16 items comprising the questionnaire were analysed to determine how the study group responded.

TABLE 3
RESPONSES TO QUESTIONNAIRE ITEM 1.

Item 1 : Physical education classes are more enjoyable when they are mixed.

Response Score		Frequency	%
SD	1	1	0.9
D	2	6	5.1
NO	3	17	14.5
A	4	46	39.3
SA	5	44	37.6
		Total 114	

The frequency of responses to item 1 highlights that the majority of students agreed with the statement, that physical education classes are more enjoyable when they are mixed. Of the group 76.9% received a score of 4 or 5 for item 1, which is agreement with the statement and indicates a positive attitude towards coeducational physical education. There were three students who did not respond to this item.

TABLE 4
RESPONSES TO QUESTIONNAIRE ITEM 2.

Item 2 : Physical education teachers aren't capable of teaching classes of both sexes.

Response Score		Frequency	%
SA	1	3	2.6
A	2	8	6.8
NO	3	18	15.4
D	4	42	35.9
SD	5	46	39.3
		Total 117	

The pattern of responses to item 2 was similar to item 1. The majority of students (75.2%) received a score of 4 or 5 for this item. Since item 2 was written in the negative mode, a high score indicates disagreement with the statement. Therefore, the results reveal that the majority of students disagree that physical education teachers aren't capable of teaching mixed classes.

TABLE 5
RESPONSES TO QUESTIONNAIRE ITEM 3.

Item 3 : I can get to know students of the opposite sex in mixed physical education classes.

Response Score		Frequency	%
SD	1	5	4.3
D	2	4	3.4
NO	3	10	8.5
A	4	61	52.1
SA	5	37	31.6
		Total 117	

The frequency of responses to item 3 follows a similar pattern to the responses for item numbers 1 and 2. The majority of students (a total of 61) obtained a score of 4, which is agreement with the statement. 83.7% received a score of 4 or 5, thus agreeing that students can get to know the opposite sex in mixed physical education classes.

TABLE 6
RESPONSES TO QUESTIONNAIRE ITEM 4.

Item 4 : Males and females do not co-operate in mixed physical education classes.

Response Score		Frequency	%
SA	1	4	3.4
A	2	8	6.8
NO	3	14	12.0
D	4	53	45.3
SD	5	37	31.6
		Total 116	

The responses made to item 4 also had the greatest number of students obtaining a score of 4. A high score for this item indicates disagreement with the statement. Of the group 76.9% responded negatively to the statement, thus the majority of students received a score of 4 or 5. Since the majority disagreed that males and females do not co-operate in mixed physical education classes, the responses indicate that students have positive attitudes toward this aspect of coeducation. There was one student who did not make a response to this item.

TABLE 7
RESPONSES TO QUESTIONNAIRE ITEM 5.

Item 5 : I behave better in mixed physical education classes than I do in single sex classes.

Response Score		Frequency	%
SD	1	8	6.8
D	2	20	17.1
NO	3	42	35.9
A	4	28	23.9
SA	5	19	16.2
		Total 117	

The responses to item 5 show the highest frequency as being a score of 3, which is no strong opinion. This response indicates that the majority of students neither agreed nor disagreed with the statement regarding their behaviour in physical education classes. However, the second highest frequency was a score of 4, which indicates agreement with the statement. Therefore, the results reveal that the group tends to favour an opinion of improved behaviour in coeducational classes, compared to single sex classes.

TABLE 8
RESPONSES TO QUESTIONNAIRE ITEM 6.

Item 6 : Mixed classes prevent boys from trying advanced skills.

Response Score		Frequency	%
SA	1	4	3.4
A	2	16	13.7
NO	3	31	26.5
D	4	41	35.0
SD	5	25	21.4
		Total 117	

A total of 41 students obtained a score of 4 for item number 6. This was the highest frequency of responses, and indicates disagreement with the statement that mixed classes prevent boys from trying advanced skills. However, the second highest frequency was a score of 3, which is no strong opinion. Although, the majority of students (56.4%) obtained a score of 4 or 5 which indicates disagreement, a notable percentage neither agreed nor disagreed with the statement.

TABLE 9
RESPONSES TO QUESTIONNAIRE ITEM 7.

Item 7 : Girls and boys learn to respect each other in mixed physical education classes.

Response Score		Frequency	%
SD	1	3	2.6
D	2	5	4.3
NO	3	17	14.5
A	4	65	55.6
SA	5	27	23.1
		Total	117

The responses to item 7 show that the highest frequency was for a score of 4. This indicates that the majority of students (55.6%) agreed with the statement, thus having a positive attitude toward this aspect of coeducational classes.

TABLE 10
RESPONSES TO QUESTIONNAIRE ITEM 8.

Item 8 : Girls who are good at physical education can improve more when working with boys.

Response Score		Frequency	%
SD	1	4	3.4
D	2	16	13.7
NO	3	30	25.6
A	4	44	37.6
SA	5	23	19.7
		Total 117	

The highest frequency of responses to item 8 was a score of 4, which is agreement. The second highest number of responses for this item was a score of 3 (ie. no strong opinion). So although the majority of students believe girls who are good at physical education can improve more when working with boys, approximately one quarter (25.6%) had no strong opinion.

TABLE 11
RESPONSES TO QUESTIONNAIRE ITEM 9.

Item 9 : Mixed classes prepare students for working with people later in life.

Response Score		Frequency	%
SD	1	1	0.9
D	2	3	2.6
NO	3	20	17.1
A	4	58	49.6
SA	5	35	29.9
		Total 117	

Item 9 obtained the highest frequency of responses for a score of 4, with the second highest frequency for a score of 5. This indicates that the majority of students agreed with the statement that "mixed classes prepare students for working with people later in life".

TABLE 12
RESPONSES TO QUESTIONNAIRE ITEM 10.

Item 10: Both males and females can try more new activities in mixed physical education classes.

Response Score		Frequency	%
SD	1	0	0.0
D	2	5	4.3
NO	3	17	14.5
A	4	62	53.0
SA	5	33	28.2
		Total 117	

The responses to item 10 reveal the highest frequency was for a score of 4 which indicates agreement with the statements. A score of 5 was the next highest frequency for this item. Therefore, the majority of students believe they can try more new activities in mixed physical education classes.

TABLE 13
RESPONSES TO QUESTIONNAIRE ITEM 11.

Item 11: I don't like playing games with members of the opposite sex in physical education classes.

Response Score		Frequency	%
SA	1	1	0.9
A	2	9	7.7
NO	3	11	9.4
D	4	46	39.3
SD	5	50	42.7
		Total 117	

The responses made to item 11 show that 50 students received a score of 5, or strongly disagree with the statement. Of the group 82.0% obtained scores which indicate disagreement with the statement, thus the majority of students do like playing games with members of the opposite sex in physical education classes.

TABLE 14
RESPONSES TO QUESTIONNAIRE ITEM 12.

Item 12: I stay with friends of the same sex in mixed physical education classes.

Response Score		Frequency	%
SA	1	5	4.3
A	2	30	25.6
NO	3	23	19.7
D	4	44	37.6
SD	5	14	12.0
		Total	116

The highest frequency of responses to item 12 was a score of 4, in which 44 students disagreed with the statement. However, the second highest frequency was a score of 2, which indicates agreement with the statement. So, although the majority of students (49.6%) received a score of 4 or 5 thus stating they do not stay with friends of the same sex in mixed classes, 25.6% stated they do stay with friends of the same sex. There was one student that did not respond to this item.

TABLE 15
RESPONSES TO QUESTIONNAIRE ITEM 13.

Item 13: Female students aren't good enough to mix with males in mixed physical education.

Response Score		Frequency	%
SA	1	1	0.9
A	2	6	5.1
NO	3	11	9.4
D	4	32	27.4
SD	5	67	57.3
		Total 117	

The results to item 13 reveal that the highest frequency of responses was for a score of 5. Since this item was written in the negative mode, the majority of students strongly disagreed with the statement, therefore indicating that they thought female students are good enough to mix with males in mixed physical education classes.

TABLE 16
RESPONSES TO QUESTIONNAIRE ITEM 14.

Item 14: Boys are too strong to mix with girls in physical education classes.

Response Score		Frequency	%
SA	1	2	1.7
A	2	12	10.3
NO	3	11	9.4
D	4	39	33.3
SD	5	52	44.4
		Total 116	

The responses to item 14 show the highest frequency was also for a score of 5, which is strongly disagree. Therefore the majority of students do not believe boys are too strong to mix with girls in physical education classes. There was one student who did not respond to this item.

TABLE 17
RESPONSES TO QUESTIONNAIRE ITEM 15.

Item 15: I like students of the opposite sex to help me in mixed physical education classes.

Response Score		Frequency	%
SD	1	2	1.7
D	2	15	12.8
NO	3	51	43.6
A	4	33	28.2
SA	5	15	12.8
		Total 116	

The responses to this item show that a total of 51 students received a score of 3 which is no strong opinion. This was the highest frequency of responses for item 15. The second highest frequency was a score of 4. Therefore, although the majority of students had no strong opinion the tendency was for the group to agree that they like students of the opposite sex to help them. This is shown by 41.0% of students agreeing with the statement compared with 14.5% disagreeing with the statement.

TABLE 18
RESPONSES TO QUESTIONNAIRE ITEM 16.

Item 16: I don't like playing games involving physical contact in mixed physical education classes.

Response Score		Frequency	%
SA	1	3	2.6
A	2	10	8.5
NO	3	28	23.9
D	4	48	41.0
SD	5	28	23.9
		Total 117	

The results for item 16 reveal the greatest number of respondents received a score of 4, thus disagreeing with the statement. The majority of students (64.9%) indicate they do like playing physical contact games in mixed classes.

Table 19 shows the percentage of scores for each item, which indicate agreement or disagreement. As described in the instrumentation section, items written in the negative mode had the responses reversed, so that a high score indicated a positive attitude towards coeducational physical education. Conversely, a low score indicated a negative attitude towards coeducational physical education.

Table 19 identifies those items where the whole group received scores indicating a positive attitude towards coeducation. Excluding 5, 8, 12 and 15 all others received percentage scores that are high, thus indicating favourable attitudes toward coeducational physical education. The stated hypothesis that Year 10 students at Lockridge Senior High School have positive attitudes toward coeducation is therefore supported. Examination of the percentages for items 5, 8, 12 and 15 shows that although the group did not receive scores that indicate favourable attitudes, neither did the responses indicate negative attitudes. A comparison between the two columns indicates that percentages are always higher for the agreement column, therefore showing that the group have favourable attitudes toward coeducational physical education.

TABLE 19
AGREEMENT/DISAGREEMENT PERCENTAGES FOR EACH
ITEM ON THE QUESTIONNAIRE.

Item Number	Percentage of agreement responses (ie. a score of four for five for each item) %	Percentage of disagreement responses (ie. a score of one or two for each item) %
1	76.9	6.0
2	75.2	9.4
3	83.7	7.7
4	76.9	10.2
5	40.1	23.9
6	56.4	17.1
7	78.7	6.9
8	47.3	17.1
9	79.5	3.5
10	81.2	4.3
11	82.0	8.6
12	49.6	29.9
13	84.7	6.0
14	77.7	12.0
15	41.0	14.5
16	64.9	11.1

Since data from the questionnaire were attitudinal and therefore nonparametric (ie. not distributed normally), the chi-square was selected as the most appropriate method of analysis.

Chi-squares compare 'actual' sub-group distributions with 'expected' distributions, based on the total group's distribution of scores. A limitation of this procedure is that no more than 20% of cells can contain frequencies less than five. Since this was the case with the data from this study, the Yates correction

factor was applied. The Yates formula takes into account unusual distributions and is a more stringent test of statistical significance.

Cross tabulations on each item were based upon two sets of responses. These were students' preference for physical education class grouping, and sex. As well, cross tabulations were performed on class preference for physical education by sex.

Results are reported below on the basis of these cross tabulations. Chi-square values, calculated using the Yates correction factor, and levels of significance are reported below each table.

Questionnaire item responses according to
class grouping preference.

The following discussion examines the responses made by students to questionnaire items, according to class grouping preference. Tables 20-53 show the results of the cross tabulations which were performed on the responses to the class grouping question (ie. class preference), by item responses.

TABLE 20
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY SEX.

Preference	Female	Male	Total
1. Coeducation	18	25	43
2. Single Sex	4	1	5
3. Don't Mind	37	20	57
4. No Response	7	5	12
Column Total	66	51	117

TABLE 21
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY SEX.

Preference	Female %	Male %
1. Coeducation (n= 43)	42	58
2. Single Sex (n=5)	80	20
3. Don't Mind (n=57)	65	35
4. No Response (n=12)	58	42

Yates corrected $F = 4.88$

Not statistically significant at the 0.05 level.

Table 20 shows the frequency of responses by males and females to the class grouping question (ie. physical education class preference). Examination of the responses show that 25 males compared to 18 females selected coeducation as their preferred grouping for physical education classes. Conversely, 4 females compared with only one male stated their preference for single sex physical education classes. Of those students stating they did not mind how classes were grouped for physical education, there were more females (37) than males (20). A total of 12 students did not respond to the class grouping question, which is indicated on the tables as no response.

Table 21 shows, of the total number selecting coeducational classes, the majority, (58%) of the respondents were male, whereas 42% were female. Of those that selected single sex classes, 80% of the total respondents were female, compared to only 20% of the total being male.

This illustrates that for the total group, a higher percentage of those preferring coeducational physical education classes were male, whereas a higher percentage of those stating their preference for single sex classes were female.

The results do not support the stated hypothesis that Year 10 females at Lockridge Senior High School have more favourable attitudes towards coeducational physical education than do males. However, the Yates corrected chi-square value of 4.88, illustrates the results were not statistically significant at the 0.05 level, and therefore the hypothesis cannot be refuted.

Table 22-53 give the results of the groups' responses to the 16 items on the questionnaire, by their selected preference for physical education class groupings.

TABLE 22
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 1 RESPONSES.

Item 1: Physical education classes are more enjoyable when they are mixed.

Preference	Response Score						Total
	1	2	3	4	5	Nil	
1. Coeducation	0	0	0	14	28	1	43
2. Single Sex	0	4	1	0	0	0	5
3. Don't Mind	1	2	14	29	9	2	57
4. No Response	0	0	2	3	7	0	12
Column Total	1	6	17	46	44	3	117

TABLE 23
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 1 RESPONSES.

Preference	Response Score					
	1 %	2 %	3 %	4 %	5 %	Nil %
1. Coeducation (n=43)	0	0	0	33	67	2*
2. Single Sex (n=5)	0	80	20	0	0	0
3. Don't Mind (n=57)	2	4	25	53	16	4*
4. No Response (n=12)	0	0	17	25	58	0

Yates corrected F = 76.2

Statistically significant at the 0.001 level.

The no response point indicates those students who did not make a response to the class grouping question. The nil column shows the number of students who did not respond to the item, thus they did not obtain a score. Where a number is asterisked this indicates students that were not included in the calculation of percentages. Therefore, the percentages are based on the affected sample size. This applies where appropriate in the tables that follow.

The results for item 1 show that of those students preferring coeducational classes, the majority received a score

of 5, followed by a score of 4. There were no students in this group who obtained a score of 1, 2 or 3. A score of 4 or 5 indicates agreement with the statement and since these students stated they prefer coeducational classes, it is expected they would score highly. Thus they believe coeducational classes are more enjoyable when they are mixed.

Of the students stating they prefer single sex classes, the majority (4) received a score of 2. There was one student in this group who obtained a score of 3 (ie. no strong opinion). A score of 2 for item 1 indicates disagreement with the statement that physical education classes are more enjoyable when they are mixed. Since this group prefer single sex classes and the majority of students in the group disagreed with the statement, the results correspond with the stated preference.

The students who indicated they did not mind how classes were grouped for physical education, received the greatest frequency for a score of 4. This score indicates agreement with the statement, therefore the students believe physical education classes are more enjoyable when they are mixed. However, the group may still enjoy single sex classes, as indicated by their preference of not minding how classes are grouped. Of this group, one quarter (25%) obtained a score of 3 which corresponds with the choice of not minding how physical education classes are grouped.

The Yates corrected chi-square value of 76.2 indicates the results for item 1 are statistically significant at the 0.001 level.

TABLE 24
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 2 RESPONSES

Item 2: Physical education teachers aren't capable of teaching classes of both sexes.

Preference	Response Score					Total
	1	2	3	4	5	
1. Coeducation	2	1	7	12	21	43
2. Single Sex	1	1	1	2	0	5
3. Don't Mind	0	4	9	24	20	57
4. No Response	0	2	1	4	5	12
Column Total	3	8	18	42	46	117

TABLE 25
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 2 RESPONSES.

Preference	Response Score				
	1 %	2 %	3 %	4 %	5 %
1. Coeducation (n=43)	5	2	16	28	49
2. Single Sex (n=5)	20	20	20	40	0
3. Don't Mind (n=57)	0	7	16	42	35
4. No Response (n=12)	0	17	8	33	42

Yates corrected $F = 6.62$

Not statistically significant at the 0.05 level.

The results for item 2 show that for those students preferring coeducation the highest frequency of responses was a score of 5. Therefore, the majority of students in this group strongly disagreed with the statement that physical education teachers aren't capable of teaching mixed classes.

The students who did not mind how classes were grouped for physical education showed the highest frequency with a score of 4. This also indicates disagreement with the statement. However, of the group indicating they prefer single sex classes, the results are different from the other two groups. Of the total of 5, two students obtained a score of 4, which, as stated, is disagreeing with the statement. There were no students in this group who received a score of 5, or strongly disagree. There were, however, two students who obtained low scores (ie. a score of 1 and 2). This indicates agreement with the statement that physical education teachers aren't capable of teaching mixed classes, and is perhaps one reason why the group prefer single sex classes. In this group one student obtained a score of 3 (ie. no strong opinion).

The results for item 2 were not statistically significant at the 0.05 level, as determined by the Yates corrected chi-square test.

TABLE 26
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 3 RESPONSES

Item 3: I can get to know students of the opposite sex in mixed physical education classes.

Preference	Response Score					Total
	1	2	3	4	5	
1. Coeducation	2	1	2	19	19	43
2. Single Sex	1	0	1	2	1	5
3. Don't Mind	2	2	6	38	9	57
4. No Response	0	1	1	2	8	12
Column Total	5	4	10	61	37	117

TABLE 27
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 3 RESPONSES.

Preference	Response Score				
	1 %	2 %	3 %	4 %	5 %
1. Coeducation (n=43)	5	2	5	44	44
2. Single Sex (n=5)	20	0	20	40	20
3. Don't Mind (n=57)	4	4	11	67	16
4. No Response (n=12)	0	8	8	17	67

Yates corrected $F = 15.99$

Statistically significant at the 0.05 level.

Item 3 results illustrate that all sub-groups obtained the highest frequency of responses for a score of 4 or 5 (ie. agreement with the statement). Thus, regardless of physical education class grouping preference, the students in each group believe that mixed classes do enable them to get to know students of the opposite sex. The Yates corrected chi-square test indicates the results are statistically significant at the 0.05 level.

TABLE 28
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 4 RESPONSES

Item 4: Males and females do not co-operate in mixed physical education classes.

Preference	Response Score						Total
	1	2	3	4	5	Nil	
1. Coeducation	2	0	3	24	14	0	43
2. Single Sex	0	4	1	0	0	0	5
3. Don't Mind	1	3	6	27	20	0	57
4. No Response	1	1	4	2	3	1	12
Column Total	4	8	14	53	37	1	117

TABLE 29
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 4 RESPONSES.

Preference	Response Score					
	1 %	2 %	3 %	4 %	5 %	Nil %
1. Coeducation (n=43)	5	0	7	56	33	0
2. Single Sex (n=5)	0	80	20	0	0	0
3. Don't Mind (n=57)	2	5	11	47	35	0
4. No Response (n=12)	9	9	36	18	27	8*

Yates corrected $F = 40.2$

Statistically significant at the 0.001 level.

The frequency of responses made to item 4 indicate that the group of students preferring coeducational classes and the group who don't mind, each obtained a high number of responses for the disagree category. Both sub-groups had the majority of students disagreeing with the statement that males and females do not co-operate in mixed physical education classes. For the group preferring coeducation, the results correspond with their stated preference for coeducational classes.

The group that preferred single sex classes obtained the highest frequency of responses for a score of 2. This indicates

agreement with the statement and since these students believe males and females do not co-operate in mixed classes, is perhaps another reason for their stated preference of single sex classes.

The results for item 4 on the questionnaire were calculated by the Yates corrected chi-square test as being statistically significant at the 0.001 level.

TABLE 30
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 5 RESPONSES

Item 5: I behave better in mixed physical education classes than I do in single-sex classes.

Preference	Response Score					Total
	1	2	3	4	5	
1. Coeducation	3	4	9	14	13	43
2. Single Sex	0	3	1	1	0	5
3. Don't Mind	4	11	29	11	2	57
4. No Response	1	2	3	2	4	12
Column Total	8	20	42	28	19	117

TABLE 31
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 5 RESPONSES.

Preference	Response Score				
	1 %	2 %	3 %	4 %	5 %
1. Coeducation (n=43)	7	9	21	33	30
2. Single Sex (n=5)	0	60	20	20	0
3. Don't Mind (n=57)	7	19	51	19	4
4. No Response (n=12)	8	17	25	17	33

Yates corrected $F = 22.5$

Statistically significant at the 0.01 level.

The frequency of responses to item 5 corresponded with each group's selected preference for physical education classes. The group stating they prefer coeducational classes obtained the greatest number of responses on the score of 4. Fourteen and 13 students in this group, obtained a score of 4 and 5 respectively, thus agreeing with the statement of improved student behaviour in mixed classes.

The group which indicated they prefer single sex classes had the majority of students obtaining a score of two, thus disagreeing with the statement and believing they behave better in single sex classes than mixed classes.

This is perhaps a further reason why the group stated they prefer single sex classes.

The students who stated they did not mind how classes were grouped for physical education, obtained the highest frequency of responses for a score of 3. Therefore the majority of students, in this group (51%) had no strong opinion. The results indicate that the majority of students do not have an opinion regarding their behaviour in coeducational classes, or perhaps feel their behaviour does not change in coeducational or single sex classes.

The results for this item for each sub-group, therefore coincide with the students' selected preference for groupings in physical education classes. As indicated by the Yates corrected chi-square value, the results are statistically significant at the 0.01 level.

TABLE 32
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 6 RESPONSES.

Item 6: Mixed classes prevent boys from trying advanced skills.

Preference	Response Score					Total
	1	2	3	4	5	
1. Coeducation	3	3	12	15	10	43
2. Single Sex	0	2	1	0	2	5
3. Don't Mind	1	8	14	23	11	57
4. No Response	0	3	4	3	2	12
Column Total	4	16	31	41	25	117

TABLE 33
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 6 RESPONSES.

Preference	Response Score				
	1 %	2 %	3 %	4 %	5 %
1. Coeducation (n=43)	7	7	28	35	23
2. Single Sex (n=5)	0	40	20	0	40
3. Don't Mind (n=57)	2	14	25	40	19
4. No Response (n=12)	0	25	33	25	17

Yates corrected $F = 5.53$

Not statistically significant at the 0.05 level.

The frequency of responses to item 6 show that the group preferring coeducational classes and the group that did not mind both had the greatest number of responses for a score of 4. This indicates the students disagree with the statement. Therefore, the majority of students in both groups do not believe mixed classes prevent boys from trying advanced skills.

The subgroup, which stated they prefer single sex classes, had two students who received a score of 2 and two who obtained a score of 5. Thus the same number of students that 'agreed' also 'strongly disagreed' with the statement. This apparent contradiction suggests the students in this group held different

opinions regarding the ability of boys to attempt advanced skills in mixed classes.

The Yates corrected chi-square value computed for item 6 indicates the results were not statistically significant at the 0.05 level.

TABLE 34
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 7 RESPONSES.

Item 7: Girls and boys learn to respect each other in mixed physical education classes.

Preference	Response Score					Total
	1	2	3	4	5	
1. Coeducation	2	0	5	24	12	43
2. Single Sex	1	1	3	0	0	5
3. Don't Mind	0	4	8	33	12	57
4. No Response	0	0	1	8	3	12
Column Total	3	5	17	65	27	117

TABLE 35
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 7 RESPONSES.

Preference	Response Score				
	1 %	2 %	3 %	4 %	5 %
1. Coeducation (n=43)	5	0	12	55	28
2. Single Sex (n=5)	20	20	60	0	0
3. Don't Mind (n=57)	0	7	14	58	21
4. No Response (n=12)	0	0	8	67	25

Yates corrected $F = 10.9$

Not statistically significant at the 0.05 level.

The results for item 7 illustrate the group preferring coeducational classes obtained the highest frequency of responses for a score of 4. This was also true for the group that indicated they did not mind how classes were organised for physical education. Therefore, the majority of students in both groups agreed with the statement that "boys and girls learn to respect each other in mixed classes".

Conversely, the group which stated they prefer single sex classes, had the majority of students receiving a score of 3 (ie. no strong opinion). There were no students in this group who agreed with the statement. The other two students obtained

scores that indicate they disagreed. Therefore, although the majority of students had no strong opinion, the tendency was for the group to believe that students of the opposite sex do not learn to respect each other in mixed classes. This perhaps explains the group's preference for single sex classes and not coeducational classes.

The results to item 7 were not statistically significant at the 0.05 level.

TABLE 36
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 8 RESPONSES.

Item 8: Girls who are good at physical education can improve more when working with boys.

Preference	Response Score					Total
	1	2	3	4	5	
1. Coeducation	0	5	11	14	13	43
2. Single Sex	0	3	1	0	1	5
3. Don't Mind	3	8	13	27	6	57
4. No Response	1	0	5	3	3	12
Column Total	4	16	30	44	23	117

TABLE 37
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 8 RESPONSES.

Preference	Response Score				
	1 %	2 %	3 %	4 %	5 %
1. Coeducation (n=43)	0	12	26	33	30
2. Single Sex (n=5)	0	60	20	0	20
3. Don't Mind (n=57)	5	14	23	47	11
4. No Response (n=12)	8	0	42	25	25

Yates corrected $F = 14.7$

Not statistically significant at the 0.05 level.

Responses to item 8 show that the group which prefer coeducational classes, and the group which indicated they did not mind, both obtained the highest frequency for a score of 4. Therefore, students in both groups agree that girls who are good at physical education can improve more when working with boys.

In contrast, the students who stated they prefer single sex classes obtained the highest frequency for a score of 2. Of this group 60% of the students obtained a score which indicates they disagreed with the statement, and this corresponds with their preference for single sex classes.

The Yates corrected chi-square value of 14.7 indicates the results for item 8 were not statistically significant at the 0.05 level.

TABLE 38
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 9 RESPONSES.

Item 9: Mixed classes prepare students for working with people later in life.

Preference	Response Score					Total
	1	2	3	4	5	
1. Coeducation	0	0	6	23	14	43
2. Single Sex	1	0	3	1	0	5
3. Don't Mind	0	2	10	28	17	57
4. No Response	0	1	1	6	4	12
Column Total	1	3	20	58	35	117

TABLE 39
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 9 RESPONSES.

Preference	Response Score				
	1 %	2 %	3 %	4 %	5 %
1. Coeducation (n=43)	0	0	14	53	33
2. Single Sex (n=5)	20	0	60	20	0
3. Don't Mind (n=57)	0	4	18	49	30
4. No Response (n=12)	0	8	8	50	33

Yates corrected $F = 12.6$

Not statistically significant at the 0.05 level.

The frequency of responses to item 9 for the two groups - 'coeducation' and 'do not mind', were the same. Both groups obtained the greatest number of responses for a score of 4. The results indicate that students in both groups believe mixed classes prepare students for working with people later in life.

There were three respondents for the group preferring single sex classes who received a score of 3. Therefore the majority of students in this group had no strong opinion. The results for this item were not statistically significant at the 0.05 level.

TABLE 40
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 10 RESPONSES.

Item 10: Both males and females can try more new activities in mixed physical education classes.

Preference	Response Score					Total
	1	2	3	4	5	
1. Coeducation	0	2	5	20	16	43
2. Single Sex	0	3	1	1	0	5
3. Don't Mind	0	0	7	36	14	57
4. No Response	0	0	4	5	3	12
Column Total	0	5	17	62	33	117

TABLE 41
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 10 RESPONSES.

Preference	Response Score				
	1 %	2 %	3 %	4 %	5 %
1. Coeducation (n=43)	0	5	12	47	37
2. Single Sex (n=5)	0	60	20	20	0
3. Don't Mind (n=57)	0	0	12	63	25
4. No Response (n=12)	0	0	33	42	25

Yates corrected $F = 31.5$

Statistically significant at the 0.001 level.

The frequency of responses to item 10 show that the group preferring single sex classes obtained the greatest number of responses for a score of 2. This low score indicates students disagree that males and females can try more new activities in mixed classes. The group responses to this item corresponds with the stated preference and therefore may be a possible reason why the group prefer single sex classes.

The two groups which stated they prefer coeducational classes, or do not mind, obtained the highest frequency for a score of 4. Therefore, the majority of students in both groups agree that males and females can try more new activities in mixed

classes. The responses made by the group preferring coeducational classes corresponds with their stated preference.

The Yates corrected chi-square value for this item indicates the results were statistically significant at the 0.001 level.

TABLE 42
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 11 RESPONSES.

Item 11: I don't like playing games with members of the opposite sex in physical education classes.

Preference	Response Score					Total
	1	2	3	4	5	
1. Coeducation	0	2	2	17	22	43
2. Single Sex	1	4	0	0	0	5
3. Don't Mind	0	2	7	25	23	57
4. No Response	0	1	2	4	5	12
Column Total	1	9	11	46	50	117

TABLE 43
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 11 RESPONSES.

Preference	Response Score				
	1 %	2 %	3 %	4 %	5 %
1. Coeducation (n=43)	0	5	5	40	51
2. Single Sex (n=5)	20	80	0	0	0
3. Don't Mind (n=57)	0	4	12	44	40
4. No Response (n=12)	0	8	17	33	42

Yates corrected F = 37.02

Statistically significant at the 0.001 level.

The responses to item 11 indicate that the group preferring single sex classes obtained the highest frequency (ie. 4 students) for a score of 2, which is agreement with the statement. The group consists of 5 students, and the other student obtained a score of 1, which is strongly agree. Therefore all students in this subgroup do not like playing games with members of the opposite sex in physical education classes. This is perhaps a reason why the group prefer single sex classes.

The group which stated they prefer coeducational classes obtained the highest frequency for a score of 5. This indicates that the majority of students in this group strongly disagree

with the statement. Therefore, the responses for this group correspond with their stated preference.

The group which did not mind how classes were grouped obtained the highest frequency for a score of 4, which is disagree. Therefore, the majority of students in this group do like playing games with members of the opposite sex.

The Yates corrected chi-square value for item 11 was calculated as being statistically significant at the 0.001 level.

TABLE 44
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 12 RESPONSES.

Item 12: I stay with friends of the same sex in mixed physical education classes.

Preference	Response Score						Total
	1	2	3	4	5	Nil	
1. Coeducation	2	5	7	22	7	0	43
2. Single Sex	0	5	0	0	0	0	5
3. Don't Mind	3	16	15	16	6	1	57
4. No Response	0	4	1	6	1	0	12
Column Total	5	30	23	44	14	1	117

TABLE 45
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 12 RESPONSES.

Preference	Response Score					
	1 %	2 %	3 %	4 %	5 %	Nil %
1. Coeducation (n=43)	5	12	16	51	16	0
2. Single Sex (n=5)	0	100	0	0	0	0
3. Don't Mind (n=57)	5	29	27	29	11	2*
4. No Response (n=12)	0	33	8	50	8	0

Yates corrected $F = 17.4$

Statistically significant at the 0.05 level.

Item 12 which states "I stay with friends of the same sex in mixed physical education classes" shows that 22 students from the group preferring coeducational classes received a score of 4, and thus disagreed with the statement. Over half of the group responded negatively to this item, with 67% receiving a score of 4 or 5, which indicates disagreement.

All students stating their preference for single sex classes received a score of 2. This indicates that students do stay with friends of the same sex in mixed classes, and thus corresponds with their selected preference. This could further be verified by actually observing students in class activities, to determine

whether the relationship between attitude and behaviour exists. Students may say they stay with friends of the same sex, but how they behave may or may not differ. However, in this study, it was not possible to observe student behaviour and make a comparison to the attitudes expressed, because these students would need to be identified and as mentioned anonymity of individuals was assured.

The students who stated they did not mind how classes are grouped for physical education received scores which corresponded with their preference. The same number of students (16) received a score of 2 and 4. Therefore, almost one third (29%) either agreed or disagreed with this statement. Fifteen (27%) received a score of three or no strong opinion. The pattern of responses for this group therefore coincides with the stated preference of not minding how classes are organised for physical education.

The results to item 12 were calculated as being statistically significant at the 0.05 level.

TABLE 46
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 13 RESPONSES.

Item 13: Female students aren't good enough to mix with males in mixed physical education.

Preference	Response Score					Total
	1	2	3	4	5	
1. Coeducation	1	1	3	14	24	43
2. Single Sex	0	0	2	1	2	5
3. Don't Mind	0	4	4	11	38	57
4. No Response	0	1	2	6	3	12
Column Total	1	6	11	32	67	117

TABLE 47
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 13 RESPONSES.

Preference	Response Score				
	1 %	2 %	3 %	4 %	5 %
1. Coeducation (n=43)	2	2	7	33	56
2. Single Sex (n=5)	0	0	40	20	40
3. Don't Mind (n=57)	0	7	7	19	67
4. No Response (n=12)	0	8	17	50	25

Yates corrected $F = 14.92$

Not statistically significant at the 0.05 level.

For item 13 all subgroups had the greatest number of respondents receiving a score of 4 or 5. This indicates the majority of students in each group disagree with the statement "that female students aren't good enough to mix with males in mixed physical education classes". However, the results were not statistically significant at the 0.05 level.

TABLE 48
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 14 RESPONSES.

Item 14: Boys are too strong to mix with girls in physical education classes.

Preference	Response Score						Total
	1	2	3	4	5	Nil	
1. Coeducation	1	3	3	13	22	1	43
2. Single Sex	0	3	0	1	1	0	5
3. Don't Mind	0	4	5	22	26	0	57
4. No Response	1	2	3	3	3	0	12
Column Total	2	12	11	39	52	1	117

TABLE 49
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 14 RESPONSES.

Preference	Response Score					
	1 %	2 %	3 %	4 %	5 %	Nil %
1. Coeducation (n=47)	2	7	7	31	52	2*
2. Single Sex (n=5)	0	60	0	20	20	0
3. Don't Mind (n=57)	0	7	9	39	46	0
4. No Response (n=12)	8	17	25	25	25	0

Yates corrected F = 14.2

Not statistically significant at the 0.05 level.

For item 14, both the group preferring coeducational classes and the group stating they did not mind how students were grouped for physical education, received the greatest number of responses for a score of 5. The majority of students in both groups obtained scores which indicate they disagree with the statement that "boys are too strong to mix with the girls in physical education classes."

On the other hand, the group preferring single sex classes, had 60% of the students receiving a score of 2. Therefore, the majority in this group, agreed with the statement, that boys are

too strong to mix with girls. The results correspond with the groups' preference for single sex classes and is perhaps a reason why the students did not prefer coeducational classes. The results to this item were not statistically significant at the 0.05 level.

TABLE 50
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 15 RESPONSES.

Item 15: I like students of the opposite sex to help me in mixed physical education classes.

Preference	Response Score						Total
	1	2	3	4	5	Nil	
1. Coeducation	2	1	18	13	9	0	43
2. Single Sex	0	4	1	0	0	0	5
3. Don't Mind	0	9	26	18	3	1	57
4. No Response	0	1	6	2	3	0	12
Column Total	2	15	51	33	15	1	117

TABLE 51
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 15 RESPONSES.

Preference	Response Score					
	1 %	2 %	3 %	4 %	5 %	Nil %
1. Coeducation (n=47)	5	2	42	30	21	0
2. Single Sex (n=5)	0	80	20	0	0	0
3. Don't Mind (n=57)	0	16	46	32	5	2*
4. No Response (n=12)	0	8	50	17	25	0

Yates corrected F = 24.6

Statistically significant at the 0.01 level.

Item 15 illustrates that for the group preferring coeducational classes the highest frequency was a score of 3 (ie. no strong opinion). However, if the number of respondents receiving a score of 4 or 5 are summed, the results show that the majority of students agree with the statement. Therefore, 51% of the group indicated they do like students of the opposite sex to help them in mixed classes.

The group preferring single sex classes had 80% (or 4 respondents), receiving a score of 2 (ie. disagree). Since the majority of students in this group do not like students of the

opposite sex to help them, this explains their preference for single sex classes. The third group who do not mind how classes are grouped, obtained the highest frequency for a score of 3, which corresponds to their stated preference.

The Yates correct chi-square value for this item was 24.6 which indicates the results were statistically significant at the 0.01 level.

TABLE 52
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 16 RESPONSES.

Item 16: I don't like playing games involving physical contact in mixed physical education classes.

Preference	Response Score					Total
	1	2	3	4	5	
1. Coeducation	3	2	5	17	16	43
2. Single Sex	0	1	3	1	0	5
3. Don't Mind	0	6	16	26	9	57
4. No Response	0	1	4	4	3	12
Column Total	3	10	28	48	28	117

TABLE 53
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY ITEM 16 RESPONSES.

Preference	Response Score				
	1 %	2 %	3 %	4 %	5 %
1. Coeducation (n=43)	7	5	12	40	37
2. Single Sex (n=5)	0	20	60	20	0
3. Don't Mind (n=57)	0	11	28	46	16
4. No Response (n=12)	0	8	33	33	25

Yates corrected $F = 13.1$

Not statistically significant at the 0.05 level.

The pattern of responses to item 16 show that for the group preferring coeducational classes, and the group which did not mind how classes are organised, the majority of students obtained a score of 4. Thus the students in each group indicated they disagreed with the statement - 'I don't like playing games involving physical contact in mixed physical education classes'. The results for the group preferring coeducational classes therefore correspond with their stated preference.

Conversely, the group preferring single sex classes obtained the highest frequency for a score of 3. Therefore, the majority

of students in this group had no strong opinion in relation to playing physical contact games in mixed classes.

The results to item 16 were calculated by the Yates corrected chi-square test as not statistically significant at the 0.05 level.

In general the responses made by the subgroups to each item, correspond to the preference of the groups. The results indicate that for each item the group preferring coeducational classes received scores that indicated a positive attitude towards coeducational physical education. In contrast, the group which stated their preference for single sex classes obtained a pattern of responses which indicated negative attitudes towards coeducation. Although, this is the expected pattern of responses, the results to each item verify the preference for the class grouping question.

Questionnaire item responses according to sex

The following discussion highlights the pattern of responses made by males and females to each item on the questionnaire. Tables 54-87 show the cross tabulations for item responses by sex. Below each table the chi-square values using the Yates correction formula, and levels of significance are reported.

TABLE 54
FREQUENCY OF RESPONSES FOR CLASS GROUPING
PREFERENCE, BY SEX.

Sex	Preference				Total
	(1) Coeducation	(2) Single sex	(3) Don't mind	No response	
Female	18	4	37	7	66
Male	25	1	20	5	51
Column Total	43	5	57	12	117

Table 54 shows the frequency of responses made by males and females to the class grouping question. The results have been reported in Table 20, and were discussed previously.

Table 55 however, presents the percentage of responses for class grouping within the sex. This differs from table 21 which gives the percentage of responses for class grouping preference, by sex.

TABLE 55
PERCENTAGE OF RESPONSES FOR CLASS GROUPING
PREFERENCE WITHIN SEX.

Sex	Preference			
	(1) Coeducation %	(2) Single sex %	(3) Don't mind %	No response %
Female (n=66)	31	7	63	11*
Male (n=51)	54	2	43	10*

Yates corrected $F = 4.84$.

Not statistically significant at the 0.05 level.

As has been illustrated by Table 55 more than half the males (54%) indicated they prefer coeducational classes, compared to only one third (31%) of the females making this choice. Also, a higher percentage of females (7%) stated they prefer single sex classes, compared to only 2% of the males. Although the results do not support the stated hypothesis that Year 10 females at Lockridge Senior High School have more favourable attitudes toward coeducational classes than do males of the same year, the hypothesis cannot be refuted since the results were not statistically significant at the 0.05 level.

TABLE 56
FREQUENCY OF ITEM 1 RESPONSES, BY SEX

Item 1: Physical education classes are more enjoyable when they are mixed.

Sex	Response Score						Total
	1	2	3	4	5	Nil	
Female	1	6	11	30	15	3	66
Male	0	0	6	16	29	0	51
Column total	1	6	17	46	44	3	117

TABLE 57
PERCENTAGE OF ITEM 1 RESPONSES, BY SEX.

Sex	Response Score					
	1 %	2 %	3 %	4 %	5 %	Nil %
Female (n=66)	2	10	17	48	24	5*
Male (n=51)	0	0	12	31	57	0

Yates corrected $F = 12.1$

Statistically significant at the 0.05 level.

Examination of the responses made to item 1 show that both males and females received scores indicating they agreed with the statement. However, the male students obtained the highest frequency for a score of 5 which is strongly agree, whereas the female students had the highest frequency for a score of 4, or agree. Also, 72% of females compared to 88% of males obtained scores that indicate agreement (ie. 4 plus 5). Therefore, although both believe physical education classes are more enjoyable when they are mixed, as a group, males find mixed classes even more enjoyable than females. The responses made to item 1, refute the hypothesis that Year 10 female students at Lockridge Senior High School have a more favourable attitude towards coeducational physical education, than do males. However, it does support the hypothesis that students at Lockridge Senior High School have positive attitudes towards coeducational physical education.

Using the Yates corrected chi-square test the results for this item were found to be statistically significant at the 0.05 level.

TABLE 58

FREQUENCY OF ITEM 2 RESPONSE, BY SEX.

Item 2: Physical education teachers aren't capable of teaching classes of both sexes.

Sex	Response Score					
	1	2	3	4	5	Total
Female	0	6	6	25	29	66
Male	3	2	12	17	17	51
Column total	3	8	18	42	46	117

TABLE 59

PERCENTAGE OF ITEM 2 RESPONSES, BY SEX.

Sex	Response Score				
	1 %	2 %	3 %	4 %	5 %
Female (n=66)	0	9	9	38	44
Male (n=51)	6	4	24	33	33

Yates corrected $F = 6.08$.

Not statistically significant at the 0.05 level.

The frequency of responses for item 2 show that both males and females received scores that indicate they disagree with the

statement, that physical education teachers aren't capable of teaching classes of both sexes. The majority of females (29) received a score of 5, which indicates strong disagreement. On the other hand, 17 males received scores of 4 and 5. This indicates that a greater percentage of females (82%) than males (66%) disagreed with the statement.

The results for item 2 were calculated, using the Yates corrected chi-square test, as being not statistically significant at the 0.05 level.

TABLE 60
FREQUENCY OF ITEM 3 RESPONSES, BY SEX.

Item 3: I can get to know students of the opposite sex in mixed physical education classes.

Sex	Response Score					
	1	2	3	4	5	Total
Female	3	3	5	39	16	66
Male	2	1	5	22	21	51
Column total	5	4	10	61	37	117

TABLE 61
PERCENTAGE OF ITEM 3 RESPONSES, BY SEX.

Sex	Response Score				
	1 %	2 %	3 %	4 %	5 %
Female (n=66)	5	5	8	59	24
Male (n=51)	4	2	10	43	41

Yates corrected F = 3.37.
Not statistically significant at the 0.05 level.

Item 3 results show that both males and females had the greatest number of respondents receiving a score of 4. Therefore, both groups agree "you can get to know students of the opposite sex in mixed physical education classes". However, a higher percentage of males (41%) compared with females (24%) received a score of 5. Thus males have stronger attitudes toward this statement than females.

The results for item 3 were not statistically significant at the 0.05 level.

TABLE 62
FREQUENCY OF ITEM 4 RESPONSES, BY SEX

Item 4: Males and females do not co-operate in mixed physical education classes.

Sex	Response Score						Total
	1	2	3	4	5	Nil	
Female	1	6	9	36	14	0	66
Male	3	2	5	17	23	1	51
Column total	4	8	14	53	37	1	117

TABLE 63
PERCENTAGE OF ITEM 4 RESPONSES, BY SEX.

Sex	Response Score					
	1 %	2 %	3 %	4 %	5 %	Nil %
Female (n=66)	2	9	14	55	21	0
Male (n=51)	6	4	10	34	46	2*

Yates corrected $F = 8.083$.

Not statistically significant at the 0.05 level.

Once again the majority of both males and females received high scores for item 4, which indicates they disagreed with the statement. The percentage table shows that the majority of females received a score of 4, whereas the majority of males received a score of 5. Therefore, both disagree that males and females do not co-operate in mixed classes, but as a group the males expressed a stronger disagreement than the females.

The Yates corrected chi-square value of 8.083 was not statistically significant at the 0.05 level.

TABLE 64
FREQUENCY OF ITEM 5 RESPONSES, BY SEX.

Item 5: I behave better in mixed physical education classes than I do in single sex classes.

Sex	Response Score					
	1	2	3	4	5	Total
Female	5	16	26	15	4	66
Male	3	4	16	13	15	51
Column total	8	20	42	28	19	117

TABLE 65
PERCENTAGE OF ITEM 5 RESPONSES, BY SEX.

Sex	Response Score				
	1 %	2 %	3 %	4 %	5 %
Female (n=66)	8	24	39	23	6
Male (n=51)	6	8	31	25	29

Yates corrected F = 12.222.

Statistically significant at the 0.05 level.

Examination of the responses made to item 5, show that for females, the highest frequency was for a score of 3. This is also true for males. For the females there was a notable number who received a score of 2 and 4. Therefore, although the majority had no strong opinion, there were a number of girls who agreed and disagreed with the statement. On the other hand, although 31% of the males indicated no strong opinion, 25% and 29% received a score of 4 and 5 respectively. The tendency for the male group was to agree with the statement, thus indicating they do believe that students behave better in mixed classes than in single sex classes. The girls responses showed that they believed their behaviour in physical education would not be affected by class grouping.

The analysis of results using the Yates corrected chi-square test, show the results were statistically significant at the 0.05 level.

TABLE 66
FREQUENCY OF ITEM 6 RESPONSES, BY SEX.

Item 6: Mixed classes prevent boys from trying advanced skills.

Sex	Response Score					
	1	2	3	4	5	Total
Female	1	4	17	27	17	66
Male	3	12	14	14	8	51
Column total	4	16	31	41	25	117

TABLE 67
PERCENTAGE OF ITEM 6 RESPONSES, BY SEX.

Sex	Response Score				
	1 %	2 %	3 %	4 %	5 %
Female (n=66)	2	6	26	41	26
Male (n=51)	6	24	27	27	16

Yates corrected F = 7.8504.

Not statistically significant at the 0.05 level.

For item 6 the majority of females received a score which indicated they disagreed that mixed classes prevent boys from trying advanced skills. Twenty seven girls obtained a score of

4, which was the most frequent response made by this group. The group of males obtained a frequency of responses that differed from those made by the females. Fourteen boys received a score of 3 (ie. no strong opinion) and the same number received a score of 4. The pattern of responses for the males indicate they tended to disagree with the statement. Although, 24% of the group received a score of 2 which means they agree that mixed classes do prevent boys from trying advanced skills.

The different responses made to this item by the two groups, may be due to the fact that girls do not know the types or levels of activities performed by boys in single sex classes, and therefore disagree that mixed classes prevent them from trying more advanced skills. On the other hand, some boys do believe this is the case.

The results to this item were calculated as being not statistically significant at the 0.05 level.

TABLE 68
FREQUENCY OF ITEM 7 RESPONSES, BY SEX.

Item 7: Girls and boys learn to respect each other in mixed physical education classes.

Sex	Response Score					
	1	2	3	4	5	Total
Female	1	3	11	38	13	66
Male	2	2	6	27	14	51
Column total	3	5	17	65	27	117

TABLE 69
PERCENTAGE OF ITEM 7 RESPONSES, BY SEX.

Sex	Response Score				
	1 %	2 %	3 %	4 %	5 %
Female (n=66)	2	5	17	58	20
Male (n=51)	4	4	12	53	27

Yates corrected $F = 0.8265$.

Not statistically significant at the 0.05 level.

The responses made to item 7 indicate that both males and females agree that girls and boys learn to respect each other in

mixed physical education classes. Both groups received the highest frequency for a score of 4 which is agreement with the statement.

However, the results were not statistically significant at the 0.05 level.

TABLE 70
FREQUENCY OF ITEM 8 RESPONSES, BY SEX.

Item 8: Girls who are good at physical education can improve more when working with boys.

Sex	Response Score					
	1	2	3	4	5	Total
Female	3	11	17	29	6	66
Male	1	5	13	15	17	51
Column total	4	16	30	44	23	117

TABLE 71
PERCENTAGE OF ITEM 8 RESPONSES, BY SEX.

Sex	Response Score				
	1 %	2 %	3 %	4 %	5 %
Female (n=66)	5	17	26	44	9
Male (n=51)	2	10	25	29	33

Yates corrected $F = 9.3003$.

Not statistically significant at the 0.05 level.

Examination of the responses to item 8 illustrate that both sexes agree that girls who are good at physical education can improve more when working with boys. The frequency of responses show that for males and females a score of 4 and 5 had the most number of respondents. Females had the highest frequency for a score of 4, while a score of 5 was most frequently responded to by males. Therefore the males had a stronger agreement than the females to the statement. The results to this item were not statistically significant at the 0.05 level.

TABLE 72
FREQUENCY OF ITEM 9 RESPONSES, BY SEX.

Item 9: Mixed classes prepare students for working with people later in life.

Sex	Response Score					
	1	2	3	4	5	Total
Female	0	3	13	33	17	66
Male	1	0	7	25	18	51
Column total	1	3	20	58	35	117

TABLE 73
PERCENTAGE OF ITEM 9 RESPONSES, BY SEX.

Sex	Response Score				
	1 %	2 %	3 %	4 %	5 %
Female (n=66)	0	5	20	50	26
Male (n=51)	2	0	14	49	35

Yates corrected F = 1.7909.
Not statistically significant at the 0.05 level.

Item 9 which states "mixed classes prepare students for working with people later in life" indicates there was no notable difference between responses by sex. Both males and females obtained the highest frequency for a score of 4 thus agreeing with the statement. The Yates corrected chi-square value shows the results were not statistically significant at the 0.05 level.

TABLE 74
FREQUENCY OF ITEM 10 RESPONSES, BY SEX.

Item 10: Both males and females can try more new activities in mixed physical education classes.

Sex	Response Score					
	1	2	3	4	5	Total
Female	0	4	9	43	10	66
Male	0	1	8	19	23	51
Column total	0	5	17	62	33	117

TABLE 75
PERCENTAGE OF ITEM 10 RESPONSES, BY SEX.

Sex	Response Score				
	1 %	2 %	3 %	4 %	5 %
Female (n=66)	0	6	14	65	15
Male (n=51)	0	2	16	37	45

Yates corrected $F = 12.20$.

Statistically significant at the 0.05 level.

Females obtained the greatest number of responses with a score of 4 for item 10. This indicates agreement with the statement that "mixed classes enable a greater range of activities". The boys also indicated agreement with the statement, with the majority receiving a score of 5 (ie. strongly agree). Thus boys indicated a more positive attitude than the girls.

The Yates corrected chi-square value indicates the results were statistically significant at the 0.05 level.

TABLE 76
FREQUENCY OF ITEM 11 RESPONSES, BY SEX.

Item 11: I don't like playing games with members of the opposite sex in physical education classes.

Sex	Response Score					
	1	2	3	4	5	Total
Female	0	6	8	31	21	66
Male	1	3	3	15	29	51
Column total	1	9	11	46	50	117

TABLE 77
PERCENTAGE OF ITEM 11 RESPONSES, BY SEX.

Sex	Response Score				
	1 %	2 %	3 %	4 %	5 %
Female (n=66)	0	9	12	47	32
Male (n=51)	2	6	6	29	57

Yates corrected F = 6.2056.

Not statistically significant at the 0.05 level.

The results to item 11 show a similar pattern to item 10, with the majority of girls receiving a score of 4 and the majority of boys a score of 5. Since this item was written in

the negative mode, both groups disagreed with the statement, thus indicating they do like playing games with members of the opposite sex. More than half the boys (57%) strongly disagreed with the statement revealing that boys, more so than girls, like playing games with the opposite sex. The results were calculated using the Yates corrected chi-square test and were not statistically significant at the 0.05 level.

TABLE 78
FREQUENCY OF ITEM 12 RESPONSES, BY SEX

Item 12: I stay with friends of the same sex in mixed physical education classes.

Sex	Response Score						Total
	1	2	3	4	5	Nil	
Female	2	21	11	25	6	1	66
Male	3	9	12	19	8	0	51
Column total	5	30	23	44	14	1	117

TABLE 79
PERCENTAGE OF ITEM 12 RESPONSES, BY SEX.

Sex	Response Score					
	1 %	2 %	3 %	4 %	5 %	Nil %
Female (n=66)	3	32	17	38	9	2*
Male (n=51)	6	18	24	37	16	0

Yates corrected $F = 2.7824$.

Not statistically significant at the 0.05 level.

Item 12 which states "I stay with friends of the same sex in mixed physical education classes", shows a pattern of responses that differs between the two groups. Although both groups obtained the highest frequency for a score of 4 indicating disagreement over one third (32%) of the girls received a score of 2. Therefore, as a group the majority of males and females disagreed with the statement, but 21 girls did agree. The results to this item were not statistically significant at the 0.05 level.

TABLE 80
FREQUENCY OF ITEM 13 RESPONSES, BY SEX.

Item 13: Female students aren't good enough to mix with males in mixed physical education.

Sex	Response Score					
	1	2	3	4	5	Total
Female	0	4	3	13	46	66
Male	1	2	8	19	21	51
Column total	1	6	11	32	67	117

TABLE 81
PERCENTAGE OF ITEM 13 RESPONSES, BY SEX.

Sex	Response Score				
	1 %	2 %	3 %	4 %	5 %
Female (n=66)	0	6	5	20	70
Male (n=51)	2	4	16	37	41

Yates corrected $F = 8.9674$.

Not statistically significant at the 0.05 level.

Both male and female groups had the greatest number of respondents receiving a score of 5, which indicated strong disagreement with item 13. However, 70% of the females compared

to 41% of the males obtained this score. Therefore, more girls than boys disagreed that female students aren't good enough to mix with males and mixed physical education classes. The results to item 13 were not statistically significant at the 0.05 level.

TABLE 82
FREQUENCY OF ITEM 14 RESPONSES, BY SEX

Item 14: Boys are too strong to mix with girls in physical education classes.

Sex	Response Score						Total
	1	2	3	4	5	Nil	
Female	0	5	3	22	36	0	66
Male	2	7	8	17	16	1	51
Column total	2	12	11	39	52	1	117

TABLE 83
PERCENTAGE OF ITEM 14 RESPONSES, BY SEX.

Sex	Response Score					
	1 %	2 %	3 %	4 %	5 %	Nil %
Female (n=66)	0	8	5	33	55	0
Male (n=51)	4	14	16	34	32	2*

Yates corrected F = 7.002.

Not statistically significant at the 0.05 level.

The results to item 14 show that females obtained the highest frequency for a score of 5. More than half the girls (55%) strongly disagreed with the statement, compared to just under one third (32%) of the boys. The highest category response for boys was a score of 4 which indicated disagreement. Thus both groups disagreed that boys are too strong to mix with girls in physical education classes. However, girls expressed a stronger disagreement than boys. The results to this item were not statistically significant at the 0.05 level.

TABLE 84
FREQUENCY OF ITEM 15 RESPONSES, BY SEX

Item 15: I like students of the opposite sex to help me in mixed physical education classes.

Sex	Response Score						Total
	1	2	3	4	5	Nil	
Female	0	13	31	18	4	0	66
Male	2	2	20	15	11	1	51
Column total	2	15	51	33	15	1	117

TABLE 85
PERCENTAGE OF ITEM 15 RESPONSES, BY SEX.

Sex	Response Score					
	1 %	2 %	3 %	4 %	5 %	Nil %
Female (n=66)	0	20	47	27	6	0
Male (n=51)	4	4	40	30	22	2*

Yates corrected $F = 9.7144$.

Statistically significant at the 0.05 level.

Item 15 which states "I like students of the opposite sex to help me in mixed physical education classes" reveals that both groups had the highest frequency for a score of 3. Thus both

males and females had no strong opinion.

The pattern of responses shows the male group tended to agree. Females obtained a frequency that indicated some agreement with the statement, however, 13 respondents disagreed compared to only 2 respondents in the male group.

The results to this item were calculated using the Yates corrected chi-square test, as being statistically significant at the 0.05 level.

TABLE 86
FREQUENCY OF ITEM 16 RESPONSES, BY SEX.

Item 16: I don't like playing games involving physical contact in mixed physical education classes.

Sex	Response Score					Total
	1	2	3	4	5	
Female	0	9	18	29	10	66
Male	3	1	10	19	18	51
Column total	3	10	28	48	28	117

TABLE 87

PERCENTAGE OF ITEM 16 RESPONSES, BY SEX.

Sex	Response Score				
	1 %	2 %	3 %	4 %	5 %
Female (n=66)	0	14	27	44	15
Male (n=51)	6	2	20	37	35

Yates corrected $F = 9.9172$.

Statistically significant at the 0.05 level.

For item 16 both subgroups obtained the highest frequency for a score of 4. Therefore, males and females disagree with the statement "I don't like playing games involving physical contact in mixed physical education classes." However, a higher percentage of males (35%) compared to females (15%) received a score of 5. Thus boys indicated a stronger opinion, appearing to like playing physical contact games in mixed classes, more so than girls. The Yates corrected chi-square value shows the results were statistically at the 0.05 level.

Questionnaire Scores by Sex

The score received by students on each item was summed to give a total score for the questionnaire. All items related to attitudes toward coeducation, thus the total score can be used as a global measure of attitude toward coeducational physical education.

The mean score for the female and male groups was calculated by summing the responses to all items by students of each sex and dividing by the number in each group.

$$\begin{array}{lcl} \text{mean total} & = & \frac{\text{total scores for each sex}}{\text{number of students by sex}} \\ \text{for each group} & & \end{array}$$

The table below shows the results for the male and female groups.

TABLE 88
QUESTIONNAIRE SCORES BY SEX.

	Females (n = 66)	Males (n = 51)	Total Group (n = 117)
Highest Score	79	79	79
Lowest Score	38	44	38
Mean Score	60.530	62.745	61.496
Standard Deviation	8.347	8.630	8.506

The scale for each item was 1 to 5 thus the total scores for students had the potential to range from 16 to 80. Actual results ranged between 38 and 79. Since scores were relatively normally distributed around the mean, a t-test was used to determine if there was a significant difference between the two groups.

The t-test revealed that the difference between the mean scores for the male and female groups was not statistically significant. Therefore, these data do not support nor do they refute the stated hypothesis that Year 10 female students at Lockridge Senior High School have more favourable attitudes toward coeducation than do males.

Since the total score can be used as a measure of attitude towards coeducation, a score of 48 for the questionnaire can be used to discriminate between positive and negative attitudes towards coeducational physical education. A total score above this middle score will indicate a generally positive attitude towards coeducation, while a total score below the middle score for the questionnaire will indicate a generally negative attitude.

Therefore, the mean total scores for the male and female groups, although not significantly different, were both above the middle score. This indicates both groups had positive attitudes toward coeducation. The mean total for the whole group was also above the middle score for the questionnaire. Therefore, the data support the hypothesis that Year 10 students at Lockridge

Senior High School have positive attitudes towards coeducational physical education.

Very few students responded to the open-ended question on the questionnaire and these responses gave no additional information to that already provided by the forced choice questions. Therefore, they will not be discussed further.

Interviews Conducted with Students

For the purpose of discussion, the results from the interviews with the two female groups were combined, as were the interviews with the two male groups, thus enabling a comparison between the comments made by females and males. The student interviews revealed that all students knew the meaning of coeducational physical education.

TABLE 89
STUDENT RESPONSES TO QUESTION 2 BY SEX.

Question 2: What do you think about coeducational physical education? Why?

Females	Males
It's good - really good, you get to meet your friends. I like it.	It's alright - you get to do other sports - girls' and boys' sports.
It's alright in some sports but it can be difficult for the opposite sex if one sex is better at a sport.	I like it - you mix with the opposite sex and have a good time.
More opportunity to play and learn different types of games/sports. Boys and girls can help and teach each other.	More people to compete against.
It's better.	It's pretty good - some girls I don't like.
Fun.	I like it.
Learn more about a sport in mixed classes because the guys know all about them.	It's better than playing against boys all the time.

The comments made by females and males to question 2 indicate that both like coeducational physical education. The students within each group expressed different reasons for liking coeducation in different degrees, but generally had favourable attitudes towards mixed classes.

The social aspects of mixed classes were stated by both males and females as a reason for liking coeducation. For example, increased social interaction between the sexes was reported by both groups. Also males and females stated that coeducational classes increased the range of activities offered. The boys stated that as a result of coeducational classes there were more people to compete against, which is related to organisational aspects, and it was better than constantly playing against boys. The comment, 'it's pretty good, but some girls I don't like', was the only indication of an adverse attitude.

The females reported there may be problems in coeducational classes if one sex is more experienced in a sport. However, it was suggested this problem may be overcome, since students can help and teach each other.

TABLE 90
STUDENT RESPONSES TO QUESTION 3 BY SEX.

Question 3: Are there any disadvantages of being in coeducational physical education?

Females	Males
Not really, coeducation is good. Students of the same sex partner each other.	You can't play rough sports. You have to take it easier. You have to do the girls' sports that you don't like.
Depends on the sport you are doing.	Yes - when we play some sports we have to start from the basics, for the girls.
Have arguments with the guys - they think they are better than you.	
The boys make the girls do most of the work.	
The boys are sometimes sexist.	
The boys throw to each other and leave the girls out.	

The disadvantages reported by the males and females were different, with the comments made by each group relating to the opposite sex. For example, the female students stated disadvantages which were directly related to male students and the male students stated disadvantages directly related to the females.

Although one girl did not suggest any disadvantages, the other comments can be categorised into two major disadvantage areas.

1. males dominating activities; and
2. stereotypical or sexist attitudes of males.

It was also stated that the disadvantages were dependent on the type of sport.

The males' comments related to the problems associated with the lower skill level of girls and boys' need to change their playing style. It was also stated that coeducation meant the inclusion of girls' sports which were not liked.

Therefore, although both male and females enjoy coeducation, they still felt there were problems with mixed classes for physical education.

TABLE 91
STUDENT RESPONSES TO QUESTION 4 BY SEX.

Question 4: Are there any advantages of being in coeducational physical education?

Females	Males
Boys and girls can help each other in sports. Improved social interaction between the sexes. More challenging to compete with boys, you try to be better than them. Increased student numbers improves the game situation. Do not need to worry about girls not participating, there are enough in the class to have good practices. Social development - get to know the boys.	Not boring - more people to talk to. You do different sports - a greater variety.

There were only two advantages stated by the males, which included the socialising aspects of coeducation and the greater variety of sports available.

The females, like the males, stated that the major advantages related to increased social development and social interaction between the sexes. It was also suggested by the girls that it was more challenging to compete against boys and the game situation was improved as a result of increased student numbers. Furthermore, boys and girls can help each other in coeducational classes.

The female students stated more advantages than the males, which indicates they either gave more thought to the question or considered there were more advantages with coeducation than did the males.

TABLE 92
STUDENT RESPONSES TO QUESTION 5 BY SEX.

Question 5: How do you find boys and girls react in competitive situations or activities?

Females	Males
Boys compete against girls.	Both want to win.
Usually boys select boys for team games.	Some girls won't compete against us, they think we are too good.
Everyone joins in.	Most girls don't mind competing with boys.
It makes you try harder to beat the boys.	I like it because there are more people to compete against.
Some girls won't try. They give up very easily. Most guys do try very hard.	It's good because it's not as rough.
	The boys always beat the girls.
	The girls compete well.

Both female and male groups stated that in competitive situations both sexes participate and compete well. The comment made by the males that 'the boys always beat the girls' corresponds to the female comment that 'it makes you try harder to beat the boys', which indicates the girls believe the boys usually win.

Both groups stated that some girls do not try in competitive situations against boys. The males explanation for this being, that the girls think the boys are too good. Another comment by the females was that in competitive activities males chose their own sex for their team.

TABLE 93
STUDENT RESPONSES TO QUESTION 6 BY SEX.

Question 6: Do you try and do your best in coeducational physical education?

Females	Males
Yes, unless it's soccer, I dislike soccer. You get kicked in the shins.	Yes, I always do.
When you like the sport you try harder.	Yes, although sometimes I can't be bothered.
Yes - I do. Not all girls try their best if they don't like the sport.	

The responses made to question 6 indicate that girls do try to do their best in coeducational classes, unless they dislike the sport. The comments show that females' participating style in sport is not affected by the males' presence, but rather by the type of sport. This is illustrated by the comment 'when you like the sport you try harder'.

The consensus from the male group was that they did try and do their best in mixed classes. However, one student stated that

sometimes he couldn't be bothered. The reason for this attitude is unknown, but perhaps it is related to the types of activities, which may be either too difficult or too easy.

TABLE 94
STUDENT RESPONSES TO QUESTION 7 BY SEX.

Question 7: Are the sexes helpful towards each other?

Females	Males
Yes - students will help each other where needed.	Yes - both girls and boys will help each other in a sport they know well.
Depends on the individual, if they are shy.	They'll always talk to you.
No - the guys stay together and so do the girls.	Generally yes -if girls aren't that good at something we might help.
The boys don't kick as hard to a girl, or they won't partner a girl.	I'll help the girls if they want help.

The consensus of the male group was that the sexes are helpful towards each other if help is required. Some females agreed with this statement but suggested it was dependant on the individual. However, other females indicated the sexes were not helpful towards each other because the males and females partnered the same sex for activities.

The males indicated 'helpful' means providing assistance with skill and this was agreed to by some girls.

TABLE 95
STUDENT RESPONSES TO QUESTION 8 BY SEX.

Question 8: Do you think boys have changed their attitude towards physical education as a result of coeducation?

Females	Males
No - they still like it.	Probably not as rough with the girls.
Yes - they can get to know someone they like.	I like physical education more.
They like it more.	No.
	I think yes they have - some boys will try harder to show off.
	Some boys will take it lighter - because it's easier with the girls.

The comments made to question 8 showed a difference of opinion between the sexes. The girls, as a whole, felt the boys still enjoyed physical education in coeducational classes or like it more. The boys, on the other hand, were divided in their opinions. Some stated they like physical education classes more, and did try harder in mixed classes, whereas others suggested the inclusion of the girls changed the way they participated. The comments such as 'not as rough' or 'take it easier' do not directly indicate a change in attitude.

TABLE 96
STUDENT RESPONSES TO QUESTION 9 BY SEX.

Question 9: Do you think girls have changed their attitude towards physical education as a result of coeducation?

Females	Males
No - the same girls bring notes and probably would do for single sex classes. These girls do not like physical education.	Yes. Although sometimes they won't compete if they are against a boy.
Yes - I think they like it more.	Yes - they are more competitive because they are competing against stronger people.
	Yes their attitude is for the better.
	They enjoy sport more, also they might find they are good at a sport they had never tried before.

The male group stated that girls have changed their attitude for the better towards physical education as a result of coeducational classes. It is their belief they enjoy sport more and are more competitive because they are competing against stronger people. The girls did not suggest this as a reason for liking physical education more, although some did agree their attitude was more positive. It was reported by the female group that the same girls do not participate because of their dislike of physical education. The type of class grouping makes no difference to the attitudes held by these girls, since the non-participants remain the same whether the classes are coeducational or single sex.

TABLE 97
STUDENT RESPONSES TO QUESTION 10 BY SEX.

Question 10: Do you think boys have changed their attitude towards girls as a result of coeducational physical education?

Females	Males
No.	Yes - they mix with the girls more and talk to them. You get to understand them and know the girls better.
Yes - they respect girls more.	Some have, because they see the girls are quite good at sport.
	One boy - said his attitude hadn't changed.

The comments made by the female group to question 10 were conflicting, with some students stating that boys' attitudes towards girls had not changed as a result of coeducational classes, while others stated they had changed. The girls who indicated the boys' attitudes had changed, felt it was for the better and the boys respected girls more as a result of coeducational classes.

There was only one boy that stated his attitude had not changed towards girls as a result of coeducational classes. All other boys indicated their attitude had improved towards girls because of coeducational classes. They felt the opportunity to mix with the girls enabled them to understand the females more. Mixed classes demonstrated to the boys that girls are quite good at sport, thus changing their attitude for the better.

TABLE 98
STUDENT RESPONSES TO QUESTION 11 BY SEX.

Question 11: Do you think girls have changed their attitude towards boys as a result of coeducational physical education?

Females	Males
No.	Yes - interact and communicate more.
Yes - Boys and girls are much closer. Communicate more than we did before. Improve relationships.	Yes.

The consensus of the male group was that girls have changed their attitude towards boys, presumably for the better, since they interact and communicate more. This was also the reason provided by those girls with the same opinion.

Increased communication was reported by the girls as leading to improved relationships. However, there were some girls that stated that their attitude had not changed towards boys as a result of coeducational classes. This negative response could mean either that girls continue to like or dislike boys regardless of the class grouping.

TABLE 99
STUDENT RESPONSES TO QUESTION 12 BY SEX.

Question 12: Do you think in terms of boys' sports and girls' sports? What sports in particular?

Females	Males
Yes. Some sports.	Depends on how rough the sports are.
Boys' sports - football, soccer, rugby, cricket.	Boys' sports - football, rugby.
Girls' sports - netball.	Girls' sports - netball, volleyball.
	Girls have non contact games, which don't involve much sweat.
	Not really - because there are men that play <u>girls' sports like netball</u> . Netball is sort of a girls' sport but boys play it.

Both males and females indicated they do consider some sports as girls' or boys' sports. Table 99 shows which sports in particular each sex considers as gender specific. The girls include soccer and cricket as boys' sports which were not stated by the boys, whereas the boys added volleyball as a girls' sport which was not suggested by the girls. As can be seen, the sports referred to as gender specific are the sports played traditionally by each sex. Surprisingly dance, which tends to be stereotyped as a girls' sport was not included as such by either sex. The males expanded their responses by stating the type of sport designated as girls' or boys' depends on the "roughness" of the sport. For example, "girls play non-contact games which do

no involve much sweat". One boy stated he did not really think in terms of girls' and boys' sports but then proceeded to contradict himself by saying "there are men that play girls' sports like netball". So in fact he did relate the sport to the sex of the individual.

TABLE 100
STUDENT RESPONSES TO QUESTION 13 BY SEX.

Question 13: Do you think coeducation makes a difference to the types of activities you can do in physical education?

Females	Males
For mixed classes teachers select sports that are neutral. It should be mixed for all sports. Boys should do netball and girls should do football.	More variety of activities.
Yes - with coed classes you have a greater range of sports, except we did split up for some sports. I'd prefer we didn't split up so we could learn about the other sports.	Yes.
	Not much of a difference for boys - most of the sports we play are really boys' sports. We don't play netball.

Both groups stated that coeducational classes enabled a greater range of sports to be offered to students, which was also suggested as an advantage of coeducation. However, for certain sports boys and girls separate into single sex classes. Details of the sports are provided in Appendix C. The girls stated they would like to have mixed classes for all sports so they have the

opportunity to learn about other sports such as football and the boys can learn about sports such as netball. The equal opportunity legislation states that students may participate in single sex groups if strength, stamina and physique are relevant factors. However, all students should have access to all sporting activities offered by the school. Therefore, since students do separate for certain activities, but the sexes are not given the opportunity to participate in all activities offered, the school is not complying with the legislation.

The girls stated they would like to have mixed classes all the time so they could participate in the sports not currently offered, for example football. However, they do not realise that this opportunity should be offered to them even in single sex classes.

The girls state that when classes are mixed the teachers select sports that are viewed as 'neutral'. This differs from the comment made by the male group that the majority of sports played are more 'boys' sports'. This apparent contradiction is related to the different perceptions students have of the types of sports offered.

TABLE 101
STUDENT RESPONSES TO QUESTION 14 BY SEX.

Question 14: Is there a difference in ability between the sexes?

Females	Males
Depends on the sport.	Yes - depends on the sport and the person (if they are going to try or not).
Boys are stronger.	
In some sports like football.	Yes - the boys are better than the girls. The boys are taller which is an advantage in some sports.
When playing basketball the boys aren't as good as we think they are - the girls are just as good.	
The boys are only better in the sports we've always split up for.	Yes - depends on the sport. Some sports have nothing to do with muscle - it might be all skill.

The male and female groups both stated that the difference in ability between the sexes was dependent on the sport. The boys also suggested that ability was related to the individual person.

Both agreed that boys were better than girls, but for different reasons. The girls suggested that boys were only better in the sports in which they had more experience, while the boys felt it was the physical difference that gave them an advantage. This difference in sporting background and physique needs to be considered by teachers when designing activities and assessing students.

TABLE 102
STUDENT RESPONSES TO QUESTION 15 BY SEX.

Question 15: Does this difference in ability, influence your
attitude towards coeducational physical education?

Females	Males
No - in single sex classes there are still differences in ability.	No - I don't think so. We all know they aren't going to do as well and we accept it.
When there is a difference, it makes you want to be equal, so you try harder and enjoy it more.	Some girls participate and do well.
	Not really - everyone participates.

The general consensus by the male and female groups was that the difference in ability between the sexes did not influence their attitude towards coeducational physical education. Some girls indicated that when the boys were better, it made them try harder. With this attitude, coeducation can benefit the girls. It was also suggested by the females that the differences occur in single sex classes as well. The boys felt that with everyone participating, the difference in ability had no influence on their attitude. One comment was "we all know the girls are not going to do as well and we accept this without allowing it to change our attitude".

TABLE 103
STUDENT RESPONSES TO QUESTION 16 BY SEX.

Question 16: How do you treat the opposite sex when doing
 physical education activities?

Females	Males
Treat them the way they treat me.	More gentle with the girls.
Exactly the same.	Treat them virtually the same.
Treat them 'normally'.	Boys are lighter with the girls.
You just treat them equal like one of your friends.	Depends on who the person is. Some girls are not good at basketball so you don't pass to them, or tackle them.
Some guys don't treat you equally. They think they are much better - but it's not true.	You don't try as hard on the girls that can't do an activity.

The comments made in Table 103 illustrate that girls treat the boys as equals, whereas boys tend to modify their game play and are more gentle when competing against girls. Since the boys indicate they need to change their method of play due to the girls' presence, this may lead to the development of less favourable attitudes towards some coeducational activities.

TABLE 104
STUDENT RESPONSES TO QUESTION 17 BY SEX.

Question 17: What activities do you think have been successful
in coeducational physical education? Why?

Females	Males
Basketball - Learn by watching the better students. Athletics - everyone participates because we have the Five Star Mars Awards. Tennis Volleyball. Hockey. It's fun.	Volleyball. Basketball - mixed teams work well. Hockey. Tennis. The Olympics has improved girls' participation in hockey. Soccer - the girls get involved and it's not very rough.

Both groups stated nearly all the same sports as being successful coeducationally except girls included athletics and boys soccer. This indicates that males and females perception of successful sports were similar and based on the same criteria of being fun and everyone participating.

TABLE 105
STUDENT RESPONSES TO QUESTION 18 BY SEX.

Question 18: What activities do you think have been unsuccessful
in coeducational physical education? Why?

Females	Males
<p>Rugby - It's good because the girls have a chance to try the sport, but unsuccessful because the guys think 'what are they doing this for?' Also, tackling in rugby was avoided.</p> <p>Most sports have their disadvantages and advantages.</p> <p>At first tennis was unsuccessful because partners were of the same sex, nobody mixed. (I thought a guy would hit too hard or where I couldn't get it.) Then we mixed and it was alright.</p> <p>Depends on the boys you have in the class.</p>	<p>The rougher sports. For most of the rougher sports the sexes are separated.</p> <p>Cricket.</p>

The answers to this question were rather vague. The girls named rugby as being an unsuccessful sport, due to the male attitudes, even though they enjoyed the opportunity to play. Boys, on the other hand, named cricket as being unsuccessful, but provided no reasons. Cricket was not played coeducationally, therefore this response does not relate to the question.

TABLE 106
STUDENT RESPONSES TO QUESTION 19 BY SEX.

Question 19: If you had the choice would you want coeducational
or single sex physical education classes?

Females	Males
Five girls stated their preference for coeducational classes.	All stated their preference for coeducation (definitely). You get to know people better.
Everyone should do everything and keep it mixed.	Easier than competing with boys, because you don't have to work as hard.
One girl said - 'it depends on the type of sport'.	

When asked for their preference of coeducational or single sex classes for physical education all students interviewed, except one female, stated their preference for coeducational classes. The exception said it depended on the type of sport, thus indicating that coeducational classes were beneficial for some sports and single sex classes for others. The boys' reasons for preferring coeducational classes included the socialisation advantages and the reduced effort required. The girls' only reason was they felt everyone should do everything in mixed groups.

TABLE 107
STUDENT RESPONSES TO QUESTION 20 BY SEX.

Question 20: Have you anything else to add?

Females	Males
It should be mixed all the time. Football should be mixed - I haven't played football. Boys should do netball and dance. We should get to learn every sport. Students should have a wider range of sports to choose from.	

When asked for further comments at the end of the interview the boys gave no additional information, whereas the girls re-iterated their desire for mixed classes for all sports all the time. The need for a greater range of sports was also mentioned.

Interviews conducted with Physical Education Teachers

The interview questions which elicited pertinent information in relation to the stated hypothesis of teacher perceptions of student attitudes towards coeducational physical education have been included in the tables below. The results of questions 1, 17 and 18 were not included because responses did not specifically relate to the hypothesis. Question 1 was an introductory question and since it does not specifically relate to the stated hypothesis of teachers' perceptions of student attitudes, it was not included in the analysis of results. For questions 17 and 18 the teachers gave their views on what activities were successful and unsuccessful coeducationally, and again this did not relate to the stated hypothesis. Also, some comments related to other questions and so it was decided to include these responses in the relevant tables. The comments made by teachers have been summarised and in order to ensure anonymity each teacher has been given a letter.

TABLE 108

TEACHER RESPONSES TO QUESTION 2.

Question 2: What do you think Year 10 students' attitudes are towards coeducational physical education?

Teacher	Responses
A	I think they enjoy it. They enjoy the exposure to other people. If placed in single sex classes students would like it, but after a time would want coeducational classes. Depends on what activities are performed..

Teacher	Responses
B	I think they prefer it, mainly for social reasons. They probably don't give it a great deal of thought because they are used to it by now.
C	I think they like it, because it keeps them on their toes and increases social interaction. The kids really appreciate being mixed. For contact sports like football and even cricket, perhaps they prefer to be separated.
D	I think they enjoy having the other sex in the class but for the more elite sports they would probably prefer to separate or probably more of the boys would.
E	If the sports are non-contact and no difference in ability it's okay. The boys possibly like the girls in the class from an aesthetic point of view and I think girls actually like being in the blokes' classes. I don't think they get anything out of it, except perhaps a good time.

The responses made by the physical education teachers, indicate that all believe students enjoy mixed classes. The teachers feel that students prefer coeducational classes because of the social interaction, but it was suggested that for the contact sports students may prefer to be separated.

The comments made by the teachers reveal they perceive students to have positive attitudes toward coeducational physical education, which supports the stated hypothesis. These responses coincide with the students' positive attitudes towards coeducational physical education. Both the students and the teachers reported social development as a major advantage of

coeducational classes. The students also stated that coeducational physical education increased the range of activities available but this was not mentioned by the teachers. The suggestion by teachers that students may prefer to be separated for contact sports was not supported by the students. However, the female students did indicate problems may arise if one sex has more experience in a sport than the other.

TABLE 109
TEACHER RESPONSES TO QUESTION 3.

Question 3: Are there any disadvantages with coeducational physical education?

Teacher	Responses
A	Impede skill development of both sexes - through the withdrawal or shyness of the girls and through having to spend a lot of time encouraging the girls, rather than letting the boys go ahead. Some girls are good, but there's a lot that hold it down. The boys can be disruptive, which can hold back the girls. The boys show off in front of the girls. Social implications, as in the rejection of a 'grotty' child by the opposite sex. In single sex classes they tend to be left alone, but in mixed classes they are ridiculed.
B	Behaviour problems with some boys. Problems with culminating games when strength, speed and stamina are factors. When assessing students you need to be careful - mark the girls as girls, not as the whole class. Need to set up scales for both sexes, which virtually means double marking. Boys dominate activities, some girls withdraw.

Teacher	Responses
C	Initially for minor games need to keep the sexes separated, until they get confident. Some girls are self-conscious. Difficult to motivate some girls, because they are at that stage where they don't really want to do physical education - they want to sit around and read or talk. Girls don't have as much confidence as boys, they need prompting. In a major game situation the boys seem to dominate, and the girls tend to withdraw.
D	In some sports like soccer, the boys are more skilled than the girls, because they know the game.
E	Difference in physical skills, hard from the teaching point of view. Problem with changeroom supervision. The way you teach - warm-up activities are different for boys and girls, boys are more active. Boys ridicule girls about their lower skill level.

Difficulties arising from motor skill differences were reported by all teachers as a disadvantage with coeducational physical education. It was suggested that mixed classes may impede the skill development of both sexes because boys are unable to attempt more advanced skills, and girls become inhibited when they are required to perform in front of boys. The male students indicated they believe the lower skill level of girls was a problem in mixed classes. However, skill differences were not reported by the female students as a disadvantage.

The disruptive and domineering nature of boys was suggested as a disadvantage in relation to restricting the girls. The female students also stated that males dominate activities, which was a disadvantage of mixed classes. The self-consciousness of

girls was a problem in mixed classes which may be aggravated if the boys ridicule girls about their lower skill level. Also the need to motivate girls was stated as a disadvantage, since the teacher needs to spend time encouraging girls rather than concentrating on skill development.

Many of the disadvantages with coeducational classes related to social aspects, or skill development. However, organisational problems, such as changeroom supervision, were also suggested as a difficulty with mixed classes. Skill differences in culminating games were an added problem. Such problems may be overcome if games are modified to suit the skill level of students, but still allowing the more skilled students to perform well.

TABLE 110
TEACHER RESPONSES TO QUESTION 4.

Question 4: Are there any advantages with coeducational physical education?

Teacher	Responses
A	Socialising - breaking down the barriers between the sexes. Fun classes, enjoyable activities. The enjoyment element is good because you're not concentrating all that much on skill development and perfection of a skill, you're concentrating on working together and helping each other. (That's the positive part of it).
B	Helps tone the boys down so they're not as competitive and rough and win, win, win. Helps the girls be more enthusiastic and more willing to participate.
C	The boys ease up, not as rough, so the skills come out more. Better interaction. Girls have more competition, improves the more skilled girls. Improves the boys' behaviour.
D	I think the girls are better in coeducation classes, they seem to work harder.
E	Fun. The females seem to 'mellow out' the males - improve the boys' behaviour.

Social development was suggested as an advantage of coeducational classes, as the increased interaction between the sexes was beneficial in breaking down the barriers. The increased social interaction was also reported by the students as a major advantage of coeducational classes. Coeducational classes were reported as being 'fun', and students enjoy mixing and working together when doing activities.

Furthermore, coeducational classes improve the boys' behaviour, as the girls tend to have a governing effect. Also, mixed classes tend to tone the boys down so they are not as rough or competitive. In relation to safety, if the boys are not as rough this may reduce the number of injuries. However, if the competitive nature of boys declines, is this considered an advantage or disadvantage? Perhaps the answer relates to the type of competitive behaviour of boys, whether it be 'win at all costs' or competitiveness in a sportsman-like manner.

Also reported by teachers was the advantage of improving the more skilled girls, since there is more competition in mixed classes. The female students agreed with this statement, believing competition with the boys was more challenging. Teacher A stated that the "enjoyment element is good because you are not concentrating all that much on skill development and perfection of a skill, rather concentration is on working together and helping each other". Although, co-operation and consideration are positive aspects, skill development should still be an important consideration in physical education. The emphasis of a lesson should incorporate both psychomotor and affective development in accordance with the stated objectives.

An advantage not reported by the teachers, but stated by the students was the increased range of activities available.

TABLE 111
TEACHER RESPONSES TO QUESTION 5.

Question 5: How do Year 10 males and females react in competitive activities?

Teacher	Responses
A	The boys are still competing to win all the time. The girls often don't care. The boys want to prove their masculinity by being really good, whereas the girls are not all that worried about it. A percentage are, but the majority aren't. The girls don't like to fail, they like to be successful, but they don't go for being number 1.
B	The girls withdraw and make token efforts, one or two will really have a go. The boys carry on regardless, they don't compensate for the girls at all. They tend to 'hog' the ball a lot and not pass to girls. However, the girls tend to expect them to pass to them, even if they are not in a good position.
C	In contact sports the boys are very aggressive. In mixed sports the girls don't seem to want to get in and compete. There are some girls who are competitive and they get in. There are also boys who just want to sit on the sideline. It really depends on the students. Some girls react quite well against a boy, or a boy against a girl, but other times they just don't react.
D	In coeducational activities the girls tend to stand back, they don't get involved as much as the boys do. The boys don't really want the girls on their team, they do choose some of the really good girls. When selecting teams boys choose skilled members, whereas girls choose their friends and then perhaps skilled members. The 'daggy' boys come last even though they can play.

Teacher	Responses
E	Absolutely hopeless - there is no competition. If I had the opportunity I would always have single sex games. Alternatively, if there are enough students, lower and higher ability groups. If this happens, I nearly always end up with most of the males in the top group. I would like to see students grouped on ability.

The consensus from the teachers was that the boys are very competitive and always want to win, whereas the majority of girls tend to withdraw. Teacher A indicated that boys want to prove they are really good, whereas the girls are not all that concerned. The girls want to be successful but not necessarily number 1. All teachers, except teacher E, indicated there are some girls who compete well, but the majority stand back. In contrast, the students suggested most girls compete well, while only a few withdraw.

It was suggested that boys tend to dominate activities and avoid passing to girls. However, in some situations girls expect to have the ball passed to them, even if they are not in a good position. Teacher C stated that how males and females react in competitive activities is dependent on the student. Some compete well, while others do not.

One teacher stated that boys generally select boys for team games and will only sometimes choose the skilled girls. The selection of teams for boys was based on skill, whereas girls select team members according to friendship. The female students

also suggested that boys usually select boys for team games.

Teacher E felt there was no competition in coeducational activities, and would prefer students to be grouped according to ability.

TABLE 112
TEACHER RESPONSES TO QUESTION 6.

Question 6: Do you think Year 10 students try and do their best in coeducational classes?

Teacher	Responses
A	No, we don't expect them to go at 100 percent all the time, because of the variety of interest in the class. We can't expect them to be enthusiastic all the time, but we do expect them to participate. Our expectations of them are not as high and this may 'rub off' on them. They realise we don't expect them to go too hard and too fast. I don't think they work as hard in coeducational classes.
B	Girls definitely don't, the boys will do it all. A few boys will tone it down a bit for the girls, but not many.
C	Girls probably don't because they feel self-conscious. Some girls may be ridiculed if they are getting really involved. For the boys, if the competition is there, they try their hardest. If they are playing a game against the same sex, they do their best. With mixed teams I don't think girls put in their best effort, and the boys just try and compensate in some way. Even in single sex classes you still get some students not trying their hardest, so I don't think it makes that much difference.

Teacher	Responses
D	Probably not, although I've got nothing to compare with.
E	Males do, they are out to impress. Females don't because they don't want to. Boys do not like being beaten by girls, regardless of whether the girl is a top sports person.

The general consensus from the teachers was that boys do try their hardest in mixed classes, whereas the majority of girls do not try their best. The comment made by teacher C was that, even in single sex classes you still get students not trying their best.

The reasons provided for girls not trying their best in mixed classes included self-consciousness, ridicule from other students if they are involved and the fact that many simply do not want to participate.

The competitive nature of boys was the reason given by teachers who believe they do try their best. Boys do not like to be beaten by girls, even a top performer, and this attitude, which is held by boys, is related to the social conditioning of children. A boy's masculinity is threatened if he is beaten by a girl, and such stereotypical attitudes need to be challenged, so that students will be judged on their performance or ability not their sex. Students must learn to accept defeat, whether it be by a male or female and recognise the efforts of other students.

Teacher expectations of student performance was suggested by teacher A as an influence on whether students try their best in mixed classes. If students are not expected to do their best then this may be a reason for many not working hard. As mentioned in the discussion with students, one stated that sometimes he couldn't be bothered trying his best. It was suggested the reason may have related to the types of activities, however it may relate to the teacher expectations of student performance.

The belief held by teachers that male students do try their best in coeducational classes, coincides with the boys' comments. However, the teachers did not feel the girls tried their best, which is in direct contrast to the females' comments that they did try their best, unless it was a sport they didn't like.

TABLE 113
TEACHER RESPONSES TO QUESTION 7.

Question 7: Are the sexes helpful towards each other?

Teacher	Responses
A	Yes, they help and encourage each other. It depends on the activity you are doing, but most of them will.
B	Indirectly, they influence each other in ways - their social behaviour. Occasionally in skill practices, but only a bit, not usually.

Teacher	Responses
C	It depends on how they interact with each other, how they are friends-wise. If they know each other and relate to each other, then they help each other. However, if they don't really know each other and they are on the same team, then they start abusing each other. It really depends on the relationship they have before they get to physical education. Generally, they do help each other, but it's usually the girls helping the girls and the boys helping the boys.
D	I don't think I have ever seen a girl helping a boy and very rarely do you see a boy helping a girl. Girls helping girls - yes, boys helping boys - not really.
E	No. The girls are trying to look good for the blokes, and the blokes are trying to look good. If the girls are physically attractive the boys will pass to them, if not, they don't get a look in. The odd occasion yes, they are helpful but there is usually an ulterior motive.

Teacher A felt that students do help and encourage each other, however, it was dependant on the activity. The male students, and some females agreed that students are helpful towards each other, if help was required. Teacher B stated that students were indirectly helpful towards each other, in that they influenced their behaviour, and would occasionally help each other in skill practices. Teacher E agreed that students are sometimes helpful towards each other, but stated they usually had an ulterior motive.

Teacher C indicated that the relationship students had before they came to physical education determined whether they

helped each other or not. Generally, girls help girls and boys help boys. Teacher D agreed that girls will help girls, but did not really feel boys helped boys. If students did help someone of the opposite sex it was infrequent.

TABLE 114
TEACHER RESPONSES TO QUESTION 8.

Question 8: Do you think males/females like playing against each other?

Teacher	Responses
A	In some cases they like having girls versus boys, but in the majority they like it mixed. I think they perceive it as being fairer when it's mixed.
B	No I don't think they do. I think they prefer to be separated into single sex groups, because the boys can be as rough as they like and the girls can be as 'slack' as they like. The good girls can stand out more against the weaker girls, than they could with the boys.
C	There are times when the boys would prefer to play against each other, especially in very competitive sports. I think the girls enjoy the increased competition. At general play they enjoy it, but on a really competitive basis they prefer to play their associates, because the boys can be very aggressive.
D	Boys enjoy playing against each other in any game. They get involved.
E	They possibly want to be with each other but they don't want to compete against each other. They are there to socialise not to do physical education.

Teacher A suggested that students prefer to be in mixed teams for activities as this provides fairer competition, rather than females versus males. This is substantiated where teacher E suggested the sexes do not want to compete against each other, as they enjoy the socialising aspect of coeducational physical education. However, it was suggested that in some situations the students may prefer to be separated into single sex groups and compete against the same sex, so boys can be as 'rough' as they wish.

The comment that 'girls can be as 'slack' as they like' does not specifically relate to whether boys and girls like playing against each other because regardless of the class grouping, students who do not want to participate will avoid doing so.

In single sex groups it was suggested that the better skilled girls would stand out above the weaker girls, more than they would against boys. However, the opposing view to this, was stated by teacher C, where girls enjoy the increased competition provided in mixed classes.

TABLE 115
TEACHER RESPONSES TO QUESTION 9.

Question 9: Do you think Year 10 boys have changed their attitude towards physical education as a result of coeducation?

Teacher	Responses
A	Yes, I would think they would have to. I don't know whether for better or worse, just different.
B	Yes, I think they have. They are a little bit more tolerant of lower skill levels. Less boisterous. They are more willing to sit down and listen to demonstrations and explanations, and go through skill progressions, than if they were in an all-boys' class and itching to get on with it.
C	It's tough to say, because they have been brought up right through high school with coeducational physical education. Their reactions and attitudes to coeducational physical education have been generally good.
D	I wouldn't know, I didn't have them in single sex classes. Yes, I think they would. They would be disappointed as far as skill. Some boys enjoy the social contact and choose girls as partners. Some boys are not mature enough to think about social contact.
E	Yes, they have mellowed in their desire to win at all costs.

All teachers felt that boys have changed their attitude towards physical education as a result of coeducation. It was suggested that boys are more tolerant of lower skill levels, less boisterous, more willing to listen and have mellowed in their

desire to win at all costs.

Teacher D stated that boys would perhaps be disappointed in relation to skill development, but enjoy social interaction. Some boys however, are not mature enough to think about social contact with girls.

Generally, the teachers did not include whether the boys' attitudes had improved or deteriorated towards physical education as a result of coeducation. Teacher C however, stated their attitudes and reactions toward coeducational physical education had generally been good.

TABLE 116
TEACHER RESPONSES TO QUESTION 10.

Question 10: Do you think Year 10 girls have changed their attitude towards physical education as a result of coeducation?

Teacher	Responses
A	I think their attitude would have to change, as compared to single sex classes. How or why, I couldn't comment.
B	I think they would, because the boys are a better role model. They don't carry on about their hair getting messed up, or it's too cold, or too hot, or too windy, or I can't. The boys are more positive, so they lift the girls a bit.

Teacher	Responses
C	It's tough to say, once again they have had coeducational physical education throughout their years in high school. Their reactions and attitudes to coeducation have generally been good. The competition, the actual social interaction helps them. It's hard to say, because most of our students enjoy physical education and participate. You can't really tell whether their attitudes have changed because they have always been in mixed classes.
D	I suppose it has, it's hard to judge. I suppose for the girls it would have brought them up to a higher standard. Yes, I suppose their attitude has changed for the better. I think they would be more accepting of their abilities and disabilities.
E	I still think they hate it, even more so for girls who don't fit the '10' image. They don't like exposing their 'bad spots' to criticism, they need clothes that cover them up.

Teacher A felt that the girls' attitudes towards physical education had changed as a result of coeducation, but gave no comment as to how or why. Teacher C stated it was difficult to say because students have always been in mixed classes, but felt most of the students enjoyed physical education, and responded positively to coeducational classes. This teacher felt the social interaction helped the students.

Teachers B and D indicated that girls' attitudes had improved towards physical education as a result of coeducation. It was suggested that girls complain less because boys provide a good role model and have a positive attitude towards sport, which

'lifts' the girls. Also, they are more accepting of their abilities and disabilities.

Conversely, teacher E felt that girls still dislike physical education, or perhaps dislike it more, if they do not "fit the '10' image". They do not like exposing their body parts, particularly if they are criticised. In coeducational classes, if boys ridicule girls about their appearance, this may lead to the development of negative attitudes. There were some female students who agreed that a few girls do not like physical education, and indicated that these same girls who bring notes, probably would do so for single sex classes.

TABLE 117
TEACHER RESPONSES TO QUESTION 11.

Question 11: Do you think boys have changed their attitudes towards girls as a result of coeducational physical education?

Teacher	Responses
A	We hope they do. We hope they become more accepting of girls.
B	No I don't think so. Perhaps more tolerant of the difference in attitude. They might learn a little about the girls' make-up. They tend to grin and bear it - put up with it.

Teacher	Responses
C	Some are more tolerant. The girls seem to lack confidence in front of the boys when doing some activities, but they seem to cope pretty well.
D	Yes. I suppose they have, they are more accepting of girls.
E	No I think it reinforces the image that girls can't play sport and boys can.

Of the teachers interviewed, three stated that as a result of coeducational classes, boys' attitudes towards girls had changed or they hoped they had changed. These teachers felt that boys are more tolerant and accepting of girls perhaps due to the socialising nature of mixed classes. Teacher B initially stated that the boys' attitudes had not changed, but proceeded to indicate agreement with the other teachers. There was only one teacher who felt that the boys' attitudes towards girls had definitely not changed and in fact, felt that coeducational classes reinforced stereotypical attitudes that girls cannot play sport and boys can. This comment was contradicted by the male students who in fact, felt mixed classes demonstrated to boys that girls are capable at sport, thus changing their attitude for the better.

TABLE 118
TEACHER RESPONSES TO QUESTION 12.

Question 12: Do you think girls have changed their attitudes towards boys as a result of coeducational physical education?

Teacher	Responses
A	We hope their attitude changes and the girls become more accepting of guys.
B	Yes they would be more understanding that boys like to 'get in and have a go'.
C	I think their attitudes are basically the same as they've been all the time - the girls like the physically active guys.
D	Yes for better, again I think they are more accepting of their abilities and disabilities.
E	No - they still think of them as being arrogant, self-centred, boisterous and only worried about themselves and their mates. It just reinforces their attitude.

Again all but one teacher gave positive responses to this question. Three teachers indicated that girls' attitudes had changed or hopefully changed towards boys as a result of coeducational classes. The responses by these teachers were similar to the male students, who felt that girls' attitudes had improved towards boys. One teacher suggested their attitudes had remained the same, but indicated that girls like physically active boys.

Teacher E stated that mixed classes reinforce the girls' opinion of boys, which is negative. There were some girls who stated their opinion had not changed towards boys as a result of coeducational classes, but they did not indicate whether their opinion was positive or negative.

TABLE 119
TEACHER RESPONSES TO QUESTION 13.

Question 13: Do you think the Year 10 students think in terms of boys' sports and girls' sports?

Teacher	Responses
A	Yes they would consider the traditional sports as sex specific because they are not offered to both sexes. eg. football, netball, softball and cricket.
B	Yes, not as much perhaps as they would have if they had been in single sex classes. The media may have an influence, because men's sports dominate the media.
C	I have a feeling they may do. They still think of netball as a girls' sport and football and soccer as boys' sports.
D	Yes.
E	Yes, very firmly entrenched. if it's a high activity level then it's a boys' sport. If it is low activity level, then it's a girls' sport.

The consensus from the teachers was that students do think in terms of boys' sports and girls' sports. The sports designated as sex specific were the traditional sex sports such as football and netball. The reasons provided were as follows:-

- 1. Traditional sports because they are not offered to both sexes.
- 2. The media influences students' perceptions of sports.
- 3. The activity level of sports influence students' perceptions.

The students also indicated agreement with the teachers, that the more traditional sports are referred to as gender specific. With the male students stating the "roughness" of the sport indicated whether it was a girls' or boys' sport. This relates to the third reason provided by teachers.

TABLE 120
TEACHER RESPONSES TO QUESTION 14.

Question 14: Is there a difference in ability between the sexes?

Teacher	Responses
A	Yes - definitely. There are a number of girls who are very good at their sport, but you tend to get a few more boys that are better. On a scale of 1 to 100, you get 50% of the boys who are reasonably good, on the same scale, you possibly get 30% of the girls who are reasonably good. There is a big gap between the mediocre ones and the ones who aren't that interested. Boys tend to be a little bit more competitive.

Teacher	Responses
B	Oh, yes. There is and always will be. There are very good girls and very good boys within their own sex, but comparatively the boys will be a lot better.
C	I think it depends on what sports they've been brought up with. General ability-wise they're fairly similar. In skill practices there is not much difference really, girls perhaps lack a little bit of strength, so it makes it a little bit more difficult to do some activities. In the actual game situation, the girls strike a few more problems.
D	Yes, basically boys are better in their own sports and girls are better in theirs. I'm sure it must be changing gradually.
E	By far yes.

The teachers indicated that there was a difference in ability between the sexes. Teachers C and D felt that the difference was dependent on the sport, which was agreed to by the students. The reason for the difference in ability related to the sports with which they had had previous experience. This was also the reason provided by the female students.

The teachers stated that there were very good students within each sex, but generally boys were better. The students also indicated the boys were better than the girls.

TABLE 121
TEACHER RESPONSES TO QUESTION 15.

Question 15: If there is a difference, would this influence student attitudes toward coeducational physical education?

Teacher	Responses
A	Yes. It's very easy for the girls who aren't that good to withdraw, to save themselves the embarrassment of being told they are terrible.
B	Yes, the girls realise what can be done if they are more enthusiastic and willing to have a go. I think it would help the girls more than anything, because they are generally of the lower ability. They would see what they could achieve with effort.
C	I think their attitude would change if they are not prepared to be involved and do some of the work. If they are 'pretty hopeless' and they are being left out then their attitude towards physical education would probably go downhill. I think the ones with low ability haven't got a very good attitude towards physical education anyway.
D	Yes, if they are playing a traditional boys' sport they only want to play with boys. Girls want to be able to do it but they can see the boys are better, so hold back. For example, in soccer, because the skill levels were different, the students had a lot better time when separated into single sex groups. Something fairly new like volleyball both sexes are really unskilled, so it's a better sport to learn. In netball the boys' skills would improve quickly, but because it's a traditional girls' sport they wouldn't want to improve.
E	It has to.

All the teachers felt that the difference in ability between the sexes would influence the students' attitudes towards coeducational physical education. This is in direct contrast to the students' comments, they felt their attitude had not changed towards coeducation. The students stated that differences in ability occur in single sex classes, but in coeducational classes everyone participates regardless of differences in ability. In fact, the female students suggested they try harder when there is a difference.

The teachers however, stated that the lower ability girls may withdraw to avoid embarrassment, and these students would probably develop negative attitudes towards physical education.

Teacher B felt the difference in ability would have a positive influence on the girls' attitudes, because they would realise what could be achieved with effort and enthusiasm.

TABLE 122

TEACHER RESPONSES TO QUESTION 16.

Question 16: Do Year 10 students treat the opposite sex in a particular way in coeducational activities?

Teacher	Responses
A	No, I don't think so. For skill development in groups, they tend to have a go and be involved. They expect as much from each other and expect everyone to do and practice the activity.

Teacher	Responses
B	I think the girls are a little bit hesitant around the boys if they are a bit rough. In skill practices the girls like to show the boys up a bit. The boys are more careful with the girls in physical activities. It makes them realise that the girls can be good skill-wise, if not physically.
C	I think the boys take it a little bit easier on the girls. They don't throw as hard to the girls. That really seems to be the only difference. Generally, they just treat them as another member of the group. I think the girls treat the boys in the same way in the activities in which the girls are better. I think basically they just treat each other as they would normally. Any difference in treatment is related more to ability than sex.
D	Not really.
E	Yes, they do. The girls don't make too many comments about the boys regarding skill level, but the blokes are continually making comments about the girls.

Teachers A, C and D did not think students treated the opposite sex in a particular way in coeducational activities. Teachers A and C stated that students treated each other 'normally' as another member of the group and expected each other to participate. This was agreed to by the students, who felt that boys and girls treated each other as equals.

It was suggested by teacher C, that any differences in treatment between the students was related more to ability than sex. This teacher further explained that perhaps the boys were easier on the girls and did not throw as hard to them. Teacher B

and the male students agreed with this statement. Furthermore, teacher B suggested that when boys are rough girls tend to be hesitant, although in skill practices the girls like to show the boys up. Conversely, teacher E felt that boys continually made comments to girls regarding their lower skill level.

TABLE 123
TEACHER RESPONSES TO QUESTION 19.

Question 19: Given a choice, do you think Year 10 students would prefer coeducational or single sex classes for physical education?

Teacher	Responses
A	I think they would possibly prefer single sex classes for a while, but would probably get bored and want to return to coeducational classes. It depends on the students in the class, if the boys are nice in the group then the girls will want to be in mixed classes, same with the guys. I think they would possibly like single sex classes.
B	I think they would prefer coeducational classes. I think it makes the boys more courteous and well mannered, helps their social graces.
C	In very competitive sports I think they would prefer single sex classes, but for some sports they enjoy the social interaction.
D	The students would prefer coeducational classes, socialising would be the main reason.
E	They would prefer coeducational classes, but what they get out of it is another thing. Need to decide whether you want to teach them physical skills or social skills.

There were three teachers who believed students would prefer coeducational classes to single sex classes. This was in fact the preference stated by the majority of students. The other two teachers indicated that the class grouping students prefer was dependent on the type of sport of the students in the class. The one student who did not state she preferred coeducational classes, indicated her preference was dependent on the type of sport, which corresponds with the teachers' comments.

Teacher A felt students may prefer single sex classes, but was of the opinion that students would wish to return to mixed classes. Teacher C indicated that for competitive sports students would prefer to be separated, but for some they would like coeducational classes. The main reason provided for students preferring coeducational classes was the enjoyment of social interaction between the sexes. This was also the reason supplied by the male students.

The analysis and discussion of the results has enabled the determination of student attitudes toward coeducational physical education and provided greater insight into the reasons for the attitudes expressed. Also the teachers have expressed how they think students feel about coeducational classes. Consideration of student attitudes is important when developing programmes, to ensure that the needs and interests of students can be met.

CHAPTER 5

CONCLUSION

Analysis of the questionnaire results reveal that the majority of students do have favourable attitudes toward coeducational physical education. This is substantiated by the student interviews where the majority indicated they enjoy coeducational classes and prefer this form of grouping to single sex classes. Therefore, the stated hypothesis that Year 10 students at Lockridge Senior High School have positive attitudes towards coeducational physical education is supported.

The second hypothesis which states Year 10 female students at Lockridge Senior High School have a more favourable attitude towards coeducational physical education, than do males of the same year was not supported by the data. The results from the questionnaire indicated that in fact the males have slightly more favourable attitudes than the females. However, the difference between the two groups was not statistically significant at the 0.05 level. Consideration of the responses by the students interviewed revealed that both males and females like coeducational classes, with neither group expressing a more positive attitude than the other.

The responses by staff indicate they do believe students enjoy coeducational classes, with the majority of teachers stating students prefer coeducational to single sex classes. This supports the stated hypothesis that at Lockridge Senior High School physical education teachers believe students have positive attitudes towards coeducational physical education.

Both staff and students stated that social development was an important benefit of coeducational physical education. The increased social interaction improved student understanding and awareness of the opposite sex and their abilities. Co-operation and tolerance were important values learned. The enjoyment element of mixed classes was also considered an advantage.

Further benefits indicated by the students were that coeducational classes enabled a greater range of activities to be offered and provided increased competition. The teachers and female students agreed that competition with boys challenged the more skilful girls. It was also suggested by teachers that there were fewer disciplinary problems in coeducational classes. In particular, the boys' behaviour was improved as the girls tended to have a governing effect.

The disadvantages offered by female students were mainly concerned with the domineering nature of boys. This was also suggested by teachers as a problem, since it restricts the skill development of girls. Furthermore, the staff considered the motor skill differences between the sexes was a problem, since it

could restrict boys from attempting more advanced skills. The boys felt the lower skill level of the girls was a restraining factor of coeducational classes.

Other disadvantages offered by teachers were concerns with the difficulty in motivating some girls and self-consciousness when required to work in front of boys. There are some girls who will withdraw to avoid embarrassment. Teachers also felt that girls were not always prepared to try their best in coeducational classes, whereas the boys did try their best. This opinion was not supported by the students. The girls who were interviewed stated they did try their best, unless they did not like the sport.

The teachers' perception was that students did think in terms of boys' sports and girls' sports, and this was confirmed by the students. The girls stated they would like coeducational classes for all sports, thus enabling them to participate in sports not previously offered. However, if the staff wish to separate students into single sex classes for the more traditional sports, as part of the requirements of the Equal Opportunity Act (1984), they must still offer these sports to both sexes.

The data obtained from this research should provide valuable information for the teachers at Lockridge Senior High School in the development of their physical education programme.

APPENDIX A

LETTER REQUESTING PERMISSION FROM THE
PRINCIPAL TO CONDUCT THE PILOT STUDY
AT LESMURDIE SENIOR HIGH SCHOOL

Miss Teryl Heys
[REDACTED]
HIGH WYCOMBE WA 6057
Ph. [REDACTED]

19 June 1989

Mr Neville Wilding
Principal
Lesmurdie Senior High School
[REDACTED]
LESMURDIE WA 6076

Dear Mr Wilding

I am currently enrolled in the Bachelor of Education (with Honours) course at the Western Australian College of Advanced Education, Mount Lawley Campus.

To satisfy the requirements of this course it is necessary to research an area of interest, which will be submitted in the form of a thesis. The topic I have chosen to research is student attitudes toward coeducational physical education. The supervisor for my study is Ms Jennifer Browne, the Department Co-ordinator of Postgraduate Studies for Physical Education, at Mount Lawley College.

The research requires collection of data from a secondary school operating coeducational physical education programmes. I would like to use Lesmurdie Senior High School as the pilot school for my research, so I am therefore seeking your permission to conduct the study at your school.

The research will include a questionnaire administered to a class of year 10 students during physical education, and will take approximately ten minutes to complete. Also, an interview is necessary with six of the year 10 students and two physical education teachers. The interview will take an estimated time of twenty minutes.

I have approached the Senior Master of Physical Education and discussed the matter with him informally and he is prepared to assist, with your approval.

If you require further details or there are any problems, do not hesitate to contact me on Ph. 454 5795.

Hoping this will meet with your approval.

Yours sincerely

(T.J. Heys)

I approve/disapprove of the stated research to be conducted in Lesmurdie Senior High School.

Signed _____

APPENDIX B

LETTER REQUESTING PERMISSION FROM THE
PRINCIPAL TO CONDUCT RESEARCH AT
LOCKRIDGE SENIOR HIGH SCHOOL

Miss Teryl Heys
d [REDACTED]

19 June 1989

Mrs Julia Leat
Principal
Lockridge Senior High School
Benara Road
MORLEY WA 6062

Dear Mrs Leat

I am currently enrolled in the Bachelor of Education (with Honours) course at the Western Australian College of Advanced Education, Mount Lawley Campus.

To satisfy the requirements of this course, it is necessary to research an area of interest, which will be submitted in the form of a thesis. The topic I have chosen to research is student attitudes toward coeducational physical education. The supervisor for my study is Ms Jennifer Browne, the Departmental Co-ordinator of Postgraduate studies for Physical Education, at Mount Lawley College.

The research requires collection of data from a secondary school operating coeducational physical education programmes. I am therefore seeking your permission to conduct the study for my research at Lockridge Senior High School.

The research will include a questionnaire administered to all year 10 students during physical education, and will take approximately ten minutes to complete. Also, an interview is required with twelve selected year 10 students and all physical education teachers. The interview will take an estimated time of twenty minutes.

I have approached the Acting Senior Teacher of Physical Education and discussed the matter with her informally and she is prepared to assist, with your approval.

If you require further details or there are any problems, do not hesitate to contact me on Ph. 454 5795.

Hoping this will meet with your approval.

Yours sincerely

(T.J. Heys)

I approve/disapprove of the stated research to be conducted in Lockridge Senior High School.

Signed _____

APPENDIX C

PHYSICAL EDUCATION PROGRAMME AT LOCKRIDGE
SENIOR HIGH SCHOOL

The sports listed below are those included in the physical education programme operating at Lockridge Senior High School. They are listed according to the year in which they are taught.

Year 8

Hockey
Basketball
Gymnastics
Swimming
Athletics
Dance

Year 9

* Netball/Football
* Jazz Dance/Baseball
Athletics
Swimming
Social Dance - Touch Rugby
Tennis

Year 10

* Softball/Cricket
Athletics
Swimming
Volleyball
Basketball
Soccer

Note - * indicates the sports that are taught in single sex classes. Boys and girls are separated to participate in the traditional sports. Students do not have the opportunity to learn the other sport. For example in Year 9 girls play Netball while boys play Football. Girls do not receive instruction in Football, nor do boys in Netball. Also, in Year 9 the programme was modified, where the time given to Social Dance was reduced to allow the inclusion of Touch Rugby.

APPENDIX D

LETTER REQUESTING PERMISSION FROM RALPH GURR
TO USE THE QUESTIONNAIRE

Miss Teryl Heys
[REDACTED] WA 6057

20 June 1989

Mr R. Gurr
YEO Woodvale S.H.S.
Woodvale Drive
WOODVALE WA 6026

Dear Sir

I am currently enrolled in the Bachelor of Education, (with Honours), course at the Mount Lawley Campus of W.A.C.A.E.

In order to satisfy the requirements for the Honours Course I have to complete a thesis. I have chosen to research and compare the attitudes of males and females toward coeducational physical education. Having read your paper "An Instrument To Evaluate Student Attitudes Towards a Coeducational Physical Education Programme in a Secondary School," I find it relevant to my topic of study.

I therefore, request your permission to use the questionnaire that you developed as a measuring instrument for my thesis.

Could you possibly advise me in writing if you agree to my request.

Yours sincerely

Teryl Heys

APPENDIX E

QUESTIONNAIRE DEVELOPED BY GURR AND MODIFIED BY HEYS

PHYSICAL EDUCATION SURVEY

The Physical Education teachers in your school and staff from the Western Australian College of Advanced Education are interested in finding out what you think about coeducational physical education.

The following questionnaire will help us to understand how you feel about coeducational physical education, and will assist in future planning of programmes.

Please answer ALL questions and answer them as honestly as you can.

Thank you for your time and assistance.

Teryl Heys

Office Use Only

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IDN

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Type

-
- | | | |
|----|---|-------------------|
| SD | = | Strongly Disagree |
| D | = | Disagree |
| NO | = | No Strong Opinion |
| A | = | Agree |
| SA | = | Strongly Agree |

Circle the answer next to the question that most accurately describes how you feel.

Do you prefer your physical education classes to be-

- A. Co-educational (males and females together)?
- B. Single-sex (males and females separate)?
- C. Doesn't worry you?

- | | | | | | |
|--|----|---|----|---|----|
| 1. Physical education classes are more enjoyable when they are mixed. | SA | A | NO | D | SD |
| 2. Physical education teachers aren't capable of teaching classes of both sexes. | SD | D | NO | A | SA |
| 3. I can get to know students of the opposite sex in mixed physical education classes. | SA | A | NO | D | SD |
| 4. Males and females do not co-operate in mixed physical education classes. | SD | D | NO | A | SA |
| 5. I behave better in mixed physical education classes than I do in single-sex classes. | SA | A | NO | D | SD |
| 6. Mixed classes prevent boys from trying advanced skills. | SD | D | NO | A | SA |
| 7. Girls and boys learn to respect each other in mixed physical education classes. | SA | A | NO | D | SD |
| 8. Girls who are good at physical education can improve more when working with boys. | SA | A | NO | D | SD |
| 9. Mixed classes prepare students for working with people later in life. | SA | A | NO | D | SD |
| 10. Both males and females can try more new activities in mixed physical education classes. | SA | A | NO | D | SD |
| 11. I don't like playing games with members of the opposite sex in physical education classes. | SD | D | NO | A | SA |
| 12. I stay with friends of the same sex in mixed physical education classes. | SD | D | NO | A | SA |

- | | | | | | | |
|-----|--|----|---|----|---|----|
| 13. | Female students aren't good enough to mix with males in mixed physical education. | SD | D | NO | A | SA |
| 14. | Boys are too strong to mix with girls in physical education classes. | SD | D | NO | A | SA |
| 15. | I like students of the opposite sex to help me in mixed physical education classes. | SA | A | NO | D | SD |
| 16. | I don't like playing games involving physical contact in mixed physical education classes. | SD | D | NO | A | SA |
| 17. | Is there anything else you would like to say about coeducational physical education? | | | | | |
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Thank you very much for your assistance.

APPENDIX F

INTERVIEW QUESTIONS FOR STUDENTS

1. Do you know what coeducation means?
2. What do you think about coeducational physical education? Why?
3. Are there disadvantages of being in coeducational physical education?
4. Are there advantages of being in coeducational physical education?
5. How do you find boys and girls react in competitive situations or activities?
6. Do you try and do your best in coeducational physical education?
7. Are the sexes helpful towards each other?
8. Do you think boys have changed their attitude towards physical education as a result of coeducation?
9. Do you think girls have changed their attitude towards physical education as a result of coeducation?
10. Do you think boys have changed their attitude towards girls as a result of coeducational physical education?
11. Do you think girls have changed their attitude towards boys as a result of coeducational physical education?
12. Do you think in terms of boys' sports and girls' sports? What sports in particular?
13. Do you think coeducation makes a difference to the types of activities you can do in physical education?
14. Is there any difference in ability between the sexes?
15. If there is a difference, has this influenced your attitude towards coeducational physical education?
16. How do you treat the opposite sex when doing physical education activities?
17. What activities do you think have been successful in coeducation physical education? Why?

18. What activities do you think have been unsuccessful in coeducational physical education? Why?
19. If you had the choice would you want coeducational or single sex physical education classes?
20. Have you anything else to add?

APPENDIX G

INTERVIEW QUESTIONS FOR TEACHERS

1. How do you feel about coeducational physical education?
2. What do you think Year 10 students' attitudes are towards coeducational physical education?
3. Are there any disadvantages with coeducational physical education?
4. Are there any advantages with coeducational physical education?
5. How do Year 10 males and females react in competitive activities?
6. Do you think Year 10 students try and do their best in coeducational classes?
7. Are the sexes helpful towards each other?
8. Do you think males/females like playing against each other?
9. Do you think Year 10 boys have changed their attitudes towards physical education as a result of coeducation?
10. Do you think Year 10 girls have changed their attitudes towards physical education as a result of coeducation?
11. Do you think boys have changed their attitudes towards girls as a result of coeducational physical education?
12. Do you think girls have changed their attitudes towards boys as a result of coeducational physical education?
13. Do you think Year 10 students think in terms of boys' sports and girls' sports?
14. Is there a difference in ability between the sexes?
15. If there were a difference, would this influence student attitudes towards coeducational physical education?
16. Do Year 10 students treat the opposite sex in a particular way in coeducational activities?
17. What activities within the programme have been highly successful coeducationally? Why?

18. What activities within the programme have been unsuccessful coeducationally? Why?
19. Given a choice do you think Year 10 students would prefer coeducational or single sex physical education classes?
20. Have you anything else to add?

APPENDIX H

TABLE 124

QUESTIONNAIRE SCORES FOR GIRLS

Student Number	Score	Percentage of Possible Total	Z Score
1	74.00	92.50%	1.61
2	68.00	85.00%	0.89
3	71.00	88.75%	1.25
4	68.00	85.00%	0.89
5	60.00	75.00%	-0.06
6	66.00	82.50%	0.66
7	65.00	81.25%	0.54
8	64.00	80.00%	0.42
9	71.00	88.75%	1.25
10	61.00	76.25%	0.06
11	56.00	70.00%	-0.54
12	71.00	88.75%	1.25
13	54.00	67.50%	-0.78
14	69.00	86.25%	1.01
15	58.00	72.50%	-0.30
16	60.00	75.00%	-0.06
17	63.00	78.75%	0.30
18	55.00	68.75%	-0.66
19	66.00	82.50%	0.66
20	67.00	83.75%	0.78
21	76.00	95.00%	1.85
22	55.00	68.75%	-0.66
23	43.00	53.75%	-2.10
24	62.00	77.50%	0.18
25	57.00	71.25%	-0.41
26	59.00	73.75%	-0.18
27	65.00	81.25%	0.54
28	79.00	98.75%	2.21
29	64.00	80.00%	0.42
30	55.00	68.75%	-0.66
31	60.00	75.00%	-0.06
32	51.00	63.75%	-1.14
33	62.00	77.50%	0.18
34	66.00	82.50%	0.66
35	64.00	80.00%	0.42

36	60.00	75.00%	-0.06
37	66.00	82.50%	0.66
38	48.00	60.00%	-1.50
39	52.00	65.00%	-1.02
40	43.00	53.75%	-2.10
41	48.00	60.00%	-1.50
42	64.00	80.00%	0.42
43	43.00	53.75%	-2.10
44	68.00	85.00%	0.89
45	68.00	85.00%	0.89
46	71.00	88.75%	1.25
47	67.00	83.75%	0.78
48	38.00	47.50%	-2.70
49	61.00	76.25%	0.06
50	58.00	72.50%	-0.30
51	43.00	53.75%	-2.10
52	56.00	70.00%	-0.54
53	59.00	73.75%	-0.18
54	59.00	73.75%	-0.18
55	60.00	75.00%	-0.06
56	61.00	76.25%	0.06
57	58.00	72.50%	-0.30
58	63.00	78.75%	0.30
59	61.00	76.25%	0.06
60	61.00	76.25%	0.06
61	53.00	66.25%	-0.90
62	52.00	65.00%	-1.02
63	71.00	88.75%	1.25
64	64.00	80.00%	0.42
65	60.00	75.00%	-0.06
66	54.00	67.50%	-0.78

APPENDIX I

TABLE 125

QUESTIONNAIRE SCORES FOR BOYS

Student Number	Score	Percentage of Possible Total	Z Score
1	52.00	65.00%	-1.25
2	55.00	68.75%	-0.90
3	63.00	78.75%	0.03
4	47.00	58.75%	-1.82
5	53.00	66.25%	-1.13
6	67.00	83.75%	0.49
7	60.00	75.00%	-0.32
8	77.00	96.25%	1.65
9	78.00	97.50%	1.77
10	57.00	71.25%	-0.67
11	61.00	76.25%	-0.20
12	65.00	81.25%	0.26
13	65.00	81.25%	0.26
14	57.00	71.25%	-0.67
15	63.00	78.75%	0.03
16	52.00	65.00%	-1.25
17	68.00	85.00%	0.61
18	74.00	92.50%	1.30
19	51.00	63.75%	-1.36
20	50.00	62.50%	-1.48
21	63.00	78.75%	0.03
22	55.00	68.75%	-0.90
23	79.00	98.75%	1.88
24	79.00	98.75%	1.88
25	54.00	67.50%	-1.01
26	74.00	92.50%	1.30
27	64.00	80.00%	0.15
28	65.00	81.25%	0.26
29	58.00	72.50%	-0.55
30	66.00	82.50%	0.38
31	67.00	83.75%	0.49
32	71.00	88.75%	0.96
33	58.00	72.50%	-0.55

34	66.00	82.50%	0.38
35	44.00	55.00%	-2.17
36	48.00	60.00%	-1.71
37	67.00	83.75%	0.49
38	75.00	93.75%	1.42
39	75.00	93.75%	1.42
40	65.00	81.25%	0.26
41	65.00	81.25%	0.26
42	58.00	72.50%	-0.55
43	59.00	73.75%	-0.43
44	67.00	83.75%	0.49
45	63.00	78.75%	0.03
46	54.00	67.50%	-1.01
47	67.00	83.75%	0.49
48	67.00	83.75%	0.49
49	67.00	83.75%	0.49
50	57.00	71.25%	-0.67
51	68.00	85.00%	0.61

APPENDIX J

TABLE 126

STUDENTS' SCORES ACCORDING TO CLASS
GROUPING PREFERENCE

Prefer Coeducational Classes (n = 43)		Prefer Single Sex Classes (n = 5)	Don't Mind (n = 57)	
71	50	48	74	61
66	63	43	68	53
65	79	38	68	52
71	79	43	60	71
69	74	44	64	60
58	66		71	54
67	48		61	57
57	67		56	65
59	75		54	57
64	65		60	63
62	65		55	51
60	63		43	55
66	54		62	54
68	67		79	58
71			60	67
67			51	71
61			66	58
64			64	66
52			48	75
55			43	58
63			64	59
47			68	67
67			61	67
60			58	67
77			56	67
78			59	57
61			59	68
68			60	
74			61	
			58	
			63	

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