

FEMALE PARTICIPATION IN PHYSICAL EDUCATION  
CLASSES IN A SELECTED NUMBER OF  
NEWFOUNDLAND AND LABRADOR HIGH SCHOOLS

CENTRE FOR NEWFOUNDLAND STUDIES

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FEMALE PARTICIPATION IN PHYSICAL EDUCATION  
CLASSES IN A SELECTED NUMBER OF  
NEWFOUNDLAND AND LABRADOR HIGH SCHOOLS

by

JOSEPH DEVEREAUX, B.A., B.Ed.

A Thesis presented to  
the Department of Educational Administration  
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## ABSTRACT

The purpose of this study was to examine the phenomenon of why so few females, compared to males, enrolled in Physical Education 2100 and/or 3100 in the schools of Newfoundland and Labrador. Six co-educational high schools with a population of at least 400 during the 1989-1990 school year were randomly selected to take part in this study. From each school, sixty students from Levels II and/or III were chosen according to the following criteria: fifty percent males, fifty percent females, 30 participants, and 30 non-participants. This total sample of 339 was administered a questionnaire to ascertain their attitudes, problems, and opinions regarding physical education in their schools. Fourteen individual and small group interviews were also conducted to broaden the perspective offered by the questionnaire.

Ten research questions were designed to investigate whether any of the themes gleaned from a review of current literature on the topic had a significant bearing on why fewer females than males took physical education. The ten research areas were: social factors, teaching methodology, curriculum content, awareness of benefits, lack of role models, hygiene factors, previous physical education experience, conflicting timetables, and facilities-equipment.

Analysis of variance for each area showed that social factors, embarrassment, few role models, and hygiene factors were the most significant reasons why females did not take

physical education as compared to males. When a multiple regression was applied to the variables of the study, it was illustrated that females perceived that social factors, embarrassment, and lack of role models were the major reasons why they did not take physical education.

The recommendations derived from the study were: that there be more specialized teacher training to ensure that teachers are taught about the problems pertinent to females i.e. sex stereotyping; that in-service programs be instituted to improve teaching methodology and curriculum content be changed to reflect a recognition of the problems faced by females; that an affirmative action program be developed to attract more female teachers to the field of physical education; that extra money be put into providing more equipment and better facilities; that schools be informed of the difficulty that scheduling causes females who wish to take physical education; and that the problems being experienced by females be given a higher profile, and more credence. It is further suggested that more time and effort be put into finding a solution to reverse the trend of low female participation in physical education at the high school level.

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CHAPTER I  
INTRODUCTION

Over the past quarter of a century, Canadians have become more cognizant of the fact that physical fitness is vitally important to the attainment and maintenance of good health. In ever increasing numbers men and women are walking, jogging, swimming, skating, and performing other activities designed to improve their levels of physical fitness. Both federal and provincial governments have devised programs that encourage citizens to improve their levels of physical fitness (Bailey et al, 1982). These programs have given needed impetus to physical educators to expand their programs and make them attractive to greater numbers of students.

For decades, men have promoted sports as a male domain in which females have not been welcomed. Physical activity has been depicted as sweaty, dirty, unhygienic and all those things that girls and women are supposed to think are abhorrent. These arguments were reinforced by male doctors and physical education specialists who were guided by beliefs that women needed to save all the energy they could for their reproductive processes to which sports activities could be harmful (Kidd, 1983). This adheres to the traditionally-held, institutionalized tenets that women should only concern themselves with taking care of their homes, their children and their husbands (Clausen, 1968).

Even today the social and cultural expectations for females and males vary tremendously, and the reasons they participate in physical activity are fashioned by diverse factors (Hale, 1983). Sex stereotyping is a major culprit in discouraging females from getting involved in physical activity to the same degree as males. Physical activity is the accepted norm for the healthy young male, but perceptions of females depict them as inactive, weak, quiet, and helpless (Dahlgren 1988). Society does not consciously stereotype, and many of its members, if accused, would deny this. Stereotyping is more insidious than that; it is part of the whole system in which we live. It is passed on by family, peers, teachers, media, and social institutions. Until the early seventies, the study of women and sport had been ignored by sociologists and, therefore, it has only been in the last two decades that females and their involvement in sports have been the subject of research (Creendorfer, 1978). Such research has looked at the general factors influencing female participation in sports and factors influencing their non-participation.

Factors that may influence participation in physical activity are: economic status, location, ethnic origin, religious and cultural beliefs. There are many individuals who cannot afford the travel expense nor the clothing and footwear costs for structured physical activity programs. There are others who do not live within commuting distance of

appropriate facilities. Then again, there are some whose ethnic origin, religious and cultural background predispose them to non-participation. These aside, there are additional external factors which influence females' awareness of the benefits of physical activity by convincing them that they are incapable of achieving success in physical endeavors; that many of its forms are unfeminine and because this is so, they should not become involved in such efforts (Dahlgren, 1988).

The real problem may not lie in physical activity itself, but in the variety offered. Females should be exposed to many different possibilities so they can choose something suited to them, to the effort they are willing to expend, and the achievements of goals they set for themselves. Putting this in the Newfoundland perspective, it is noteworthy that there are more varied inter-school competitions in high schools for males than for females.

Winter (1983) noted that when females enter school they lack the basic skills needed to feel comfortable taking part in physical activities with their male counterparts. As a result, they do not participate fully and do not develop skills. They often fall farther behind, have no success in this area, and thus are less likely to participate when they get older. Lenskyj (1986) contended that social restrictions imposed on female physical activities were a major factor in keeping their performance below that of males.

Physical education specialists in Newfoundland and Labrador have been expressing great concern about declining enrolments, especially females in the physical education programs of Newfoundland and Labrador High Schools, according to discussions with S. Anderson, Department of Education (personal communications, May 12, 1989). Newfoundland's 1986 participation statistics show a drop in enrolment in physical education from 81% in Level I to 41% in Level II, and 37% in Level III (Higgs et al 1987). There were very few organized physical education programs in Newfoundland and Labrador schools prior to 1960. However, during the 1960's, tremendous advances were made in the development of physical education. In 1963, Memorial University of Newfoundland introduced its first degree program in physical education to help fill the need for specialists in that area. It was at this time that new schools being built had gymnasias included as an integral part of their structures, and physical education programs became a recognized part of the curriculum. During the 1960's, a provincial curriculum guide was introduced by the Department of Education to outline the basic requirements for physical education. By the 1970's, there was almost total participation in the physical education programs in all grades throughout the province

In 1981, the Department of Education implemented the Reorganized High School Program. However, physical education was not made a compulsory subject in the revised program.

Under the new regulations, physical education is included in the elective section with religious education, music, art and/or performing arts, family studies, and French. This means there is a wide range of courses with physical education being only one among many choices.

Since the implementation of the elective system, fewer females have chosen to take physical education. This is the case despite the fact that more is being done to attract females into physical education classes. In the last two decades, females have become more physically active. This is due to an increasing awareness of the benefits to good health derived from a good physical fitness program. Sport Canada has provided leadership and direction to Canadians in an attempt to help women attain equality in sports. For example, the first National Conference on Women and Sports was sponsored in 1974. A second conference was held in 1980 and a set of guidelines and recommendations came directly from these meetings. These meetings were instrumental in the formation of the Canadian Association for the Advancement of Women and Sport and for the establishment of the Women's Program of Fitness and Amateur Sport. Fitness Canada recently completed a task force report on Young Females and Physical Activity which could be the foundation for greater endeavors in this area (Dahlgren, 1988). Also, the March 1989 issue of the Canadian Association of Physical Health Education and Recreation Journal focused on women in sports in Canada. The

organization that publishes this journal has a wide-spread membership and its journal is only beginning its efforts to enlarge the perspective and dispel the myths about women in sports and physical education.

A research project which addressed itself to a further examination of issues affecting females in physical education was timely considering the increasing interest in this area. It was especially necessary in the Newfoundland setting where the discrepancies between male and female participation in physical education have become alarmingly apparent in schools throughout the Province.

#### Statement of the Problem

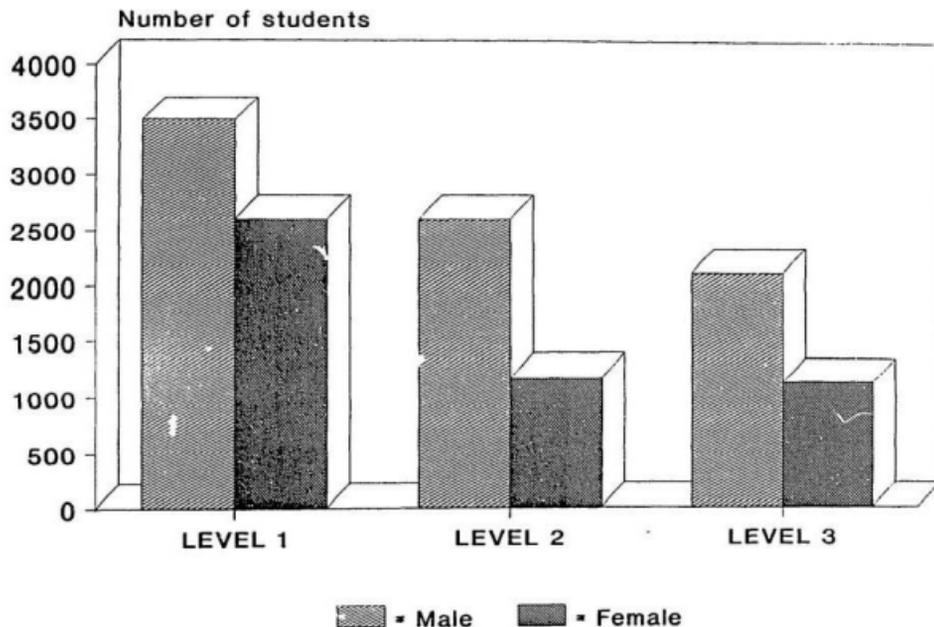
Since the introduction of the revised high school program into the education system of Newfoundland and Labrador, the number of females enrolling in physical education classes has been approximately half the number of males enrolling in the same classes. The main problem that this study investigated was concerned with identifying the conditions existing in high schools which perpetuated this discrepancy and seemed to deter females from taking physical education classes.

### Rationale for the Study

Much of the research on female involvement in physical education has concentrated on athletes and their reasons for participation. Furthermore, minimal research has been conducted on the reasons females choose not to take physical education classes in high school. Of particular interest in Newfoundland and Labrador was the fact that there are almost twice as many males as females taking each of the three physical education courses in the prescribed high school curriculum (Figure 1). It was considered important to examine reasons for this phenomenon and hopefully be able to suggest some means by which the situation can be improved.

Parsons (1988) looked at the problems in St. John's and found that personal hygiene facilities and insufficient time for personal grooming and hygiene after the completion of physical education classes were the most significant factors for females' non-participation. This was a good start, but more extensive research was needed to determine the causes of the discrepancy between the number of females and males registered for physical education courses on a provincial basis. For example, were there deeper, more societal based reasons for females' decisions against participation? Were females made aware of the benefits of physical education courses to good physical well being? Were they made cognizant of the manner in which it will affect their lives? For example, do they spend their leisure time, actively and not

**Figure 1**  
**Physical Education Statistics-Student Registered in 1988**



passively; and how does physical activity help them deal with the stress in their lives. A Canadian study by Dahlgren (1988) verified that many young females do not realize the value of physical activity.

Another reason for fewer female participants than male would appear to be that most of the activities are directed at encouraging male participation (Sopinka 1984). Young males are flocking to sports facilities where they are met by male instructors and coaches to play games devised by males for male participation. There are many instances of this in Newfoundland. At the high school level, there are more programs offered to males than to females. Females have fewer opportunities to participate, to develop and hone skills, and to reach the point at which success comes. Other influences include the low number of female physical education teachers in Newfoundland. In 1986, females comprised 25% of the total physical education teacher population (Higgs et al, 1987).

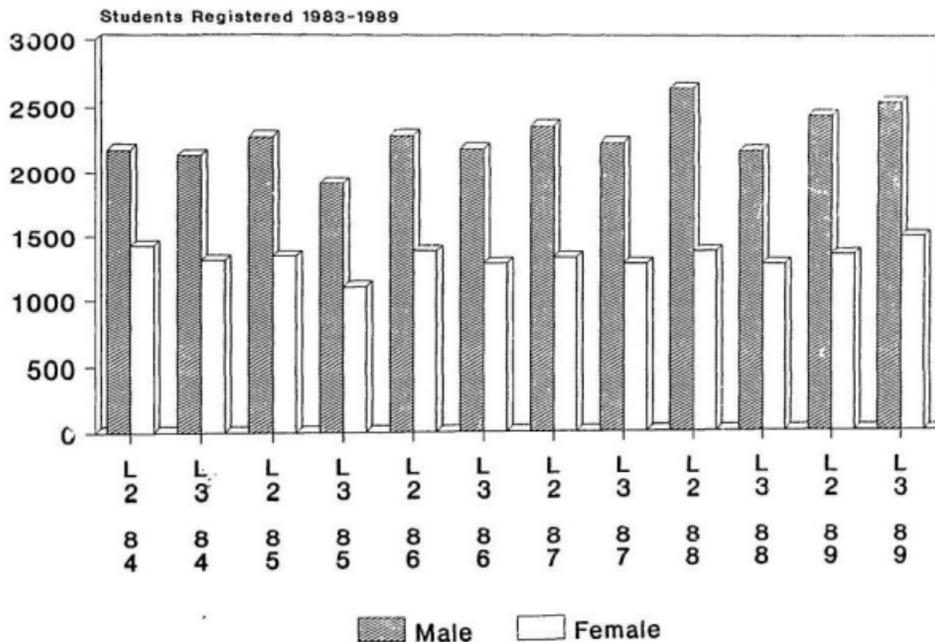
Much more research with different perspectives on the topic of females and sports was needed, and is still needed today. The imbalance between males and females extends into the area of research. There has been a wealth of research conducted on male participants but much less study on female participation in physical education. To address the problems of encouraging more female participation, it was necessary to examine the underlying causes of non-participation. The primary sources of this information had to be the participants

and non-participants in the education system at the present time. Therefore, research was necessary to gather data, analyze it, and use the results to help improve the situation with respect to female participation in physical education.

#### Purpose of the Study

The major purpose of this study was to determine the reasons for the relatively low number of female students, in comparison with the number of male students, registered in physical education programs in the high schools of Newfoundland and Labrador (Department of Education Statistics, 1989). Department of Education Statistics show that from 1983 to 1989 there were approximately twice as many males as females registered in each of the Level II and Level III physical education courses offered in the Province (Fig. 2). High school physical education teachers, administrators, school boards, and Department of Education personnel need to know why this discrepancy exists in order to remedy the situation. In addition, this study examined the major factors identified in the relevant literature to determine which of them, if any, contributed to the problem being investigated.

**Figure 2**  
**Physical Education Statistics Levels 2 & 3 Male/Female**



Department of Education Statistics, 1989

### Research Questions

The major focus of this study was to address the issue of why there are there only half as many females as males enrolled in high school physical education courses in Newfoundland and Labrador. To elicit this information on the extent of female and male participation, the following questions were utilized:

1. Are social factors more relevant to females' participation than to males' participation?
2. Is the teaching methodology inappropriate for females?
3. Is the curriculum/content more suited to the needs and interests of males?
4. To what extent does a lack of awareness of the benefits of physical education affect females' decision to participate?
5. To what extent does embarrassment, due to their physical condition or lack of basic skills, affect females' participation?
6. Do females have fewer role models?
7. Are hygiene factors an important consideration for females?
8. Does previous physical education experience act as a major deterrent for females?
9. To what extent does class scheduling conflicts between physical education and other academic

subjects have a bearing on females' decision to take physical education?

10. To what extent does lack of facilities and/or equipment available affect females' decision to take physical education?

#### Delimitations of the Study

The following constitute the delimitations for this study:

1. This study was delimited to an investigation of 1989-90 Levels II and III students to ascertain why there are so few females registered in Physical Education 2100 and/or 3100.
2. The study was conducted in six co-educational high schools in Newfoundland and Labrador whose population was at least five hundred students from grades 7 to Level III.
3. The schools were randomly sampled, but students were selected so that there were thirty students from Levels II or III who were registered in Physical Education 2100 and/or 3100 and 30 who were not registered in the courses.

4. Half of the group sampled from each school were males and half were females.

#### Limitations

Any conclusions or recommendations arising from the results of this study must be considered with regard to the following limitations:

1. In order to conduct this study, cooperation of school boards, schools, teachers, and students was required.
2. This study was dependent on the return of completed questionnaires from six schools, as well as the interview data.

#### Definition of Terms

The following is a list of terms employed throughout the study:

**Participant** - a student who was registered in Physical Education 2100 or 3100.

**Non-participant** - a student who was not registered in Physical Education 2100 or 3100.

**Curriculum** - the course content of Physical Education 2100 and 3100.

**Methodology** - the special form of procedures or techniques that the physical education teacher used in teaching physical education.

**Hygiene** - the preserving of health. Hygiene embraces the factors that affect the physical and mental well-being of people. The personal aspects of hygiene involved considerations of food and water; clothing; work, exercise, and sleep; personal cleanliness; and mental health.

#### Organization of the Study

The first chapter contains an introduction to the study, a statement of its purpose, and the rationale. It also outlines the ten major research questions emphasized in the review of literature.

Chapter Two presents a review of literature related to this research. The literature review generates the major topics from which the research questions are drawn.

The methodology of the study is discussed in Chapter Three and it gives detailed information on the instrument used and how the sample of students was chosen. The third chapter also explains how the pilot study was conducted and presents a description of the procedure for administering questionnaires and conducting interviews. As well, it explains how the data from the questionnaires were analyzed,

and provides an overview relating the research questions to major areas identified in the literature.

In Chapter Four, the results of the questionnaires and the interviews are explained in detail. A frequency distribution table was used to analyze the demographic section, and an analysis of variance and multiple regression were utilized to examine section B. The comments in the last section are presented in tabular format in order to make comparisons easier.

The summary, conclusions, and recommendations are presented in the final chapter.

CHAPTER II  
REVIEW OF RELATED LITERATURE AND RESEARCH

Introduction

The focus of this study is concerned with the fact that, generally, females are not participating in the high school physical education programs in Newfoundland and Labrador. There is a plethora of material on peripheral topics, many of which have bearing on the direction of this study. A major limitation of the work already done in this field is that it centres on athletes who participate outside the classroom rather than on high school students who choose to participate in physical education programs. The topics which form the basis of this research were generated from a variety of sources, such as questionnaires, surveys, journal articles, research papers, and texts - all of which were directed in some way to the question of female non-participation in physical activity.

The literature review which follows presents an overview of findings pertinent to the topics mentioned earlier, as they relate to the research questions to be explored in the data collection and analysis.

### Socialization

Much of the research deals with the way females are socialized in our society. In the early 1900's, women were restricted to those areas considered relevant to family life: the education of children, care of the home, and volunteer activities. There was a clear distinction between what females and males did. Females led private lives centred in the home, while men led public lives outside the home. Often the affiliated church set out the rules of conduct by which males and females lived (Cairns and Williams, 1986). This way of life solidified existing institutions and pre-determined behaviour, and it was hard for women to change these tenets. Over the past several decades, education programs have helped raise women's consciousness of their right to be vital, strong, confident people. They also have the right to equality with men in sports - equal access, opportunities, money, and facilities (Jones, 1984).

The process of change has started but it moves very slowly. It has not yet reached the roots of the patriarchal hierarchy in society's socialization process. According to Hall and Richardson (1982), young females are still subjected to age-old expectations, attitudes, and inequalities. Their research conclusions were that sex differences in sports can be linked to cultural factors, rather than the physiological factors such as size and strength. Females' socialization teaches them to be neat,

tidy, quiet and inactive, and not to take part in athletic pursuits that leave them sweaty and dirty.

Del Rey and Sheppard (1987) reported that, although increasing numbers of women are becoming active in sports, traditional attitudes towards women's participation in sports appear to remain intact. Since sports have been traditionally viewed as a masculine activity, women who participated tend to be viewed either as masculine in the physical sense (Rohrrough, 1979) or as homosexual (Del Rey, 1977). In contrast, sports participation by boys and young men has been viewed as extremely desirable and socially acceptable (Rohrrough, 1979).

Kane (1973) summarized some of the recent research by stating that athletic ability correlates positively with such traits as aggression, dominance, drive, tough-mindedness, confidence, lack of anxiety, and emotional stability. Athletes are in control. However, these attributes are direct contradictions to what society expects of females. It is threatening to their sense of identity. Often the conflict is resolved by adherence to the traditional paradigm of how females should behave. Dahlgren (1988) summed up the situation when she stated:

The important fact is that many outside influences can profoundly affect the awareness of the female by instilling a pre-conceived notion that she is not very capable of succeeding at physical activity; that many

forms of physical activity are inappropriate for her; and that competence in physical activity is not as important for her as it is for her male peers. Thus, from an early age, females often fail to develop their physical potential because they conform to the gender-specific sex-role standards, they are not even aware of their own potential. (p. 7)

These studies all show the socialization of young females within existing institutions. These processes spread throughout their lives and through the influences of family, peers and significant others, are ever-present.

In an attempt to counteract the conditioning of early years, Shaver (1974) examined male-female role perceptions of junior high school students to see if the conditioning could be nullified by participation in a non-discriminatory, co-educational physical education program in the area of athletics. Shaver (1974) found that there were social perception changes in the males as they no longer saw females as helpless, weak, and inactive. Females saw males in a different light, because males did not appear to be as aggressive and dominant as the females first expected. Another conclusion from Shaver (1974) was that home and family environment is the strongest conditioning factor in the early years and the most difficult to alter. To verify this conclusion, Hale (1983) showed that parental experience

in athletics affected their children. If the parents valued athletics, then their children tended to participate.

Greendorfer and Lewko (1978) studied female college students using a questionnaire. Results indicated that during childhood (ages 5-12) family and peers were the most significant indicator of active participation. Family influence did lessen, however, as the children got older.

Other views on socialization came from Rheingold and Cook (1975), who found that society's traditional attitudes caused the assignment of appropriate role behaviours based on gender, rather than on interest or ability. As a result, males at an early age are encouraged to play with toys which develop vigorous, active responses, while females are encouraged to play with dolls which promote passive, inactive social skills. Birns (1976) pointed out that through appropriate role models and reinforcement, males are socialized into sports. Conversely, frequent unavailability of appropriate role models and reinforcements led to exclusion of most females from sports. The learning of appropriate and inappropriate behaviour based on sex is primarily the result of parental and environmental child rearing practices and is not innate.

### Perceived Competence and Personal Attributes

A five year longitudinal study was conducted by Butcher and Hall (1983) for the Alberta Department of Education. The purpose was twofold: to determine if the extent and type of adolescent females' participation in physical activity changed with age, and to determine what variables were most related to physical activity participation.

The main results of this study were that satisfaction with physical education classes declined in junior high school, and release of tension became more important with age. Competition also became less important. The image of the female athlete declined over the five years. Yearly decline was also seen for three of the socialization variables: father's and mother's socialization influence and significant others' participation; less encouragement, support and examples from significant others as they grew older; and socialization variables and socio-economic status separated participants and non-participants in community-organized activities.

The recommendations that came from the study were that females have to be encouraged to remain active in physical activities through adolescence and adulthood; and every effort should be made to ensure that intramural and inter-school programs are available to all females who desire them.

A survey was completed by Earl and Stennett (1983) of students' attitudes towards Physical and Health Education in

London secondary schools. It was undertaken because of the decline in enrolment in Physical and Health Education classes and as an effort to improve the quality of programs offered. The results of the survey showed that the number of females and males taking Physical Education and Health Education decreased dramatically with grade. A number of females indicated they might take Physical and Health Education if teachers made them feel good about it, and they were more likely than males to describe themselves as overweight. Students perceived that teachers enjoy teaching either all of the time or during some activities. Males were more likely than females to describe their sports ability as better than average and their fitness as good or excellent. The influence on the research themes of this survey appeared in the preconceived competence in physical abilities and personal attributes.

Females are often socialized to believe that they are physically weak, inactive, helpless and not capable of being competitive. This has effects on all aspects of life and especially on their decisions about physical activity. Females think they are not very capable of succeeding in physical activities and that sports are not for them. There is a perceived conflict between sport and femininity (Dahlgren, 1988). In a great majority of cases, females choose not to participate rather than be considered unfeminine. Many females tend to grow out of sports at

puberty as they mature physically and body fat increases. They also tend to be concerned about the details of menstruation. These are not considerations for males, because as their physical growth continues, everything is adapted to meet their needs (Lenskyj, 1986).

Lenskyj (1986) also addressed the concept of helping females develop confidence in their bodies, thus enabling them to take responsibility for defending themselves from attacks, especially sexual ones. She claims that such confidence and abilities could be developed by females' participation in contact sports like soccer, football and hockey. This could be followed by instruction in self-defence techniques such as those given in martial arts.

Kenyon and McPherson (1973), found that regardless of how great the innate ability, unfavourable socialization factors would deter participation by females. There were intrinsic enjoyment, extrinsic rewards, stigma, loss of status, and sentiment associated with sports. Any woman who wishes to acquire a sport role must understand that there is conflict that she will encounter in her attempt to become an athlete. Female athletes tend to be more assertive, dominant, self-sufficient, intelligent, reserved, achievement-oriented, and in greater control of their emotions (Greendorfer, 1978).

Nicholson and Snider (1979) also looked at young female participants and their self-perceptions. Their findings

indicated that self-perceived characteristics of ambition, competition, strength, and speed were more evident among participants than non-participants. However, there was no significant difference between participants and non-participants concerning characteristics such as happiness, affection, femininity, sensitivity, gentleness, and attractiveness.

Snider and Kivlin (1975) compared collegiate female athletes and non-athletes on measures of self-reported psychological well-being and body image. They reported that athletes have more positive self-perceptions than non-athletes. Webb (1969) added another insight, with the finding that with increased age both female and male athletes emphasized the importance of winning over fair play.

Snider and Spreitzer (1978) compared female high school athletes, musicians and non-participants in athletics and found that athletes generally had higher attitudes toward self. For example, they generally feel in good spirits and are more satisfied with life and happiness, than either the musicians or the non-participants.

Webb (1969) and Mantel and Veldon (1974) concluded that athletes emphasized skills and victory as their primary objectives, while fairness and fun were the primary objectives of non-participants. Zion (1965) conducted studies that indicated a significant positive relationship between self-concept and body image. Other researchers,

Robinson (cited in Snider, 1970) and Shaver (1974) reported that attitudes towards one's body are important indicators of personality.

Klerber and Duda (cited in Butcher, 1980) surveyed students for five consecutive years. They found some differences among the participation variables. For interschool teams it was personal attributes that correlated most highly. Interschool participants in grade 10 were very satisfied with their sports' skills. Over five years, only 33% failed to participate once on school teams. Only 2% participated every single year, suggesting that there must be a tremendous turnover in school teams each year.

These researchers also concluded that the average primary physical activity of adolescent females declined from grades 6-10, while secondary involvement increased. There was considerable fluctuation from year to year. The most influential personal attributes were movement satisfaction, especially satisfaction with sport ability, preference for activity over sedentary activity and independent, assertive, self-descriptions.

A study by MacIntosh, King and Greenham (1978) of Eastern Ontario schools concluded that young people who elected not to take physical education in grade 9 did so because they did not want to put themselves in an environment where their perceived physical incompetence was exposed and compared to those of more skillful peers. This decision was

taken despite the fact that these young people generally expressed positive attitudes toward physical activity and physical education and that sports were an important aspect of their school and community life.

Research by Butcher (1983) has shown that perceived athletic ability is closely related to participation. It would appear that satisfaction and confidence in movement activities are prime prerequisites for female participation in physical activity. Puberty is also a traumatic time of physical, emotional, and social changes; young females may not be willing to subjugate themselves to activities in which they feel incompetent (Butcher, 1983).

Anderson (1934) investigated the attitudes and interests of high school females with relation to certain physical education activities. Some of the results showed that most females were motivated and wanted to participate after they had seen a good performance. They also liked to participate in vigorous activities and preferred to train to get into, and keep in good condition. Anderson concluded that females' attitudes towards physical education influenced their success in it. Three factors that contributed to success were: motor ability, attitudes and intelligence. Carr (1945) also concluded that students' attitudes should be made known to teachers so that obstacles to learning can be removed.

Carty (1968) found that there was a positive relationship between the type of previous experience and

attitudes, a significant difference towards physical education in the highest and lowest intelligence groups.

#### Awareness of Benefits and Importance of Physical Education

In 1987, the Carleton Board of Education became alarmed at the drastic drop in the enrolment of females in physical education programs between grades 7 and 10. It was also noted that the number of females was far fewer than the number of males. Analysis of the survey results seemed to show no great differences between female and male preferences except that males showed a greater preference for "ball" sports than did females. Secondly, female and male preferences seemed to differ along social/traditional lines, i.e., males preferred football and hockey while females preferred jazz and aerobic dance. Both female and male students indicated that "no room in the timetable" was a primary reason for not taking physical education. The majority of comments indicated students liked physical education and saw its value in keeping fit. The results have been included in research themes of awareness of the benefits of physical education and its importance compared to other subjects.

Program Content/Methodology and Scheduling

During 1985-86, the Ottawa Board of Education conducted a survey of grade 9 and 10 female preferences and attitudes for selected activities in physical education programs. There was concern about the decline in enrolment of females in physical education and the school board also wanted to determine the interests and attitudes of adolescent females. Results revealed that the majority of females (55%) who were planning on continuing Physical and Health Education were relatively satisfied with existing programs. However, they indicated that they would like more dance activities, slim and trim programs, weight training, and racquet sports like badminton and tennis. For those not taking Physical and Health Education in grade 10, the most common reasons for not continuing the courses were: no room in their timetable; did not enjoy Physical and Health Education; and did not like running. Many indicated they would like more dance-oriented programs.

The report concluded that there is a definite need for schools to examine their core programs and make revisions. The core program should reflect the needs of the females and be based on sound physical and health education principles. Courses need to be established that will satisfy both traditional and non-traditional needs. New programs like weight training, dancing, and aerobics should be introduced. Flexibility in school timetabling will also be required in

order that programs can follow either a recreational focus or a traditional program focus. Evaluation should be on participation, effort, and fitness, with less emphasis on skill testing. The themes concerning dislike of certain aspects of the program and importance of physical education compared to other courses were drawn from this survey.

The Ottawa Board in 1986 surveyed "Students Attitudes Toward Physical Education" and found that students took physical education because they liked it and it provided variety in the daily schedule. Other students felt that academic courses were more important, that they did not learn enough skills and that lack of privacy was a problem in physical education classes. In addition, students believed that they received enough physical education activity outside of classes. The survey also indicated that there was a high percentage of females who were not participating in physical education because they disliked competitive sports, practising skills, or exciting and challenging sports. Most of the students felt that all activities, except for dance and wrestling, should be available to all students. The main reasons given by both males and females for not planning to take physical education included: lack of importance, lack of interest, and dislike of courses.

The reasons given why more males than females took part in physical education were that males were more suited to and more interested in activities offered. Females indicated

that they did not like to get messy, that they were more interested in being pretty and popular, and that they considered the activities to be unfeminine. The older students mentioned time-honoured roles, greater sports orientation of males, competition and pressure, as the important factors for more male participation in physical education.

The females claimed that improvements needed included: better equipment, better teachers, more personal help and encouragement, more choices, less rough sports, longer classes, balance between games and sports. Fitness should be made the most important aspect of a physical education course. There should be more sports suitable for females, more after school activities should be held during the day, physical education should be compulsory, facilities for handicapped students should be increased, and competition should be reduced. All the major themes were influenced by the information contained in the study by the Ottawa Board.

#### Facilities and Equipment

The study carried out by Higgs et al. (1987) clearly demonstrated that with advancement through the grades in Newfoundland schools, there was a corresponding decrease in the amount of facilities and equipment available, especially for the non traditional activities. At Levels II and III,

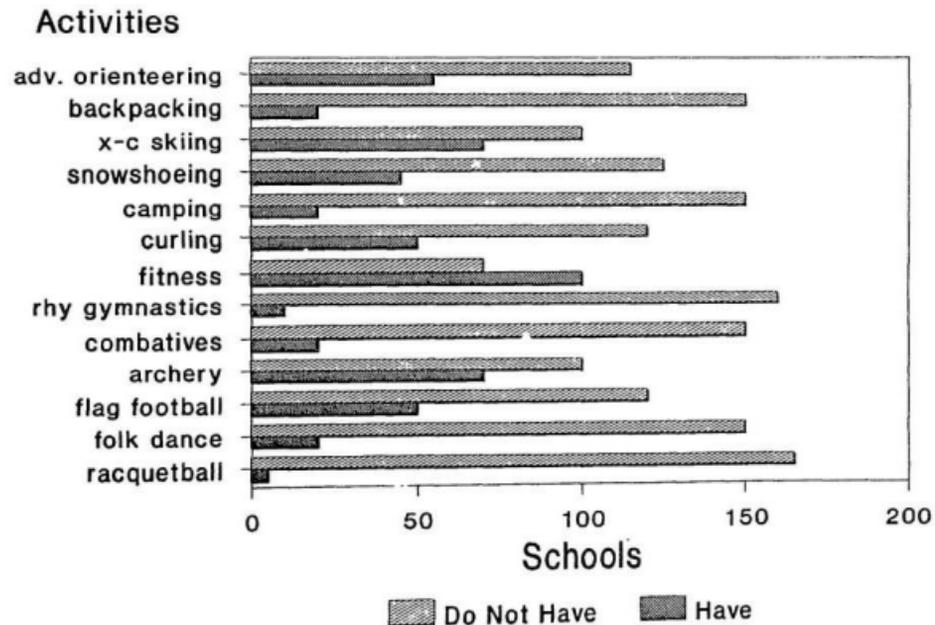
the situation was at its worst. For Level II, of the 13 sports investigated, only four sports were seen to have the necessary equipment. There were questions asked in Level III concerning 25 different sports and it was determined that there was only adequate equipment for three of the sports mentioned. Figure 3 (A and B ) illustrates that most schools did not have adequate equipment to carry out a proper instructional program in the majority of the activities prescribed by the Department of Education for Level III.

#### The Influence of Family, Peers and Significant Others

Snider and Spreitzer (1973) examined family influences as a predictor of sports involvement among 510 subjects. Their findings indicated that active involvement of parents in their children's activities decreased as the children matured in age. For both sexes, parents' interest in sports showed a consistent positive relationship to sport involvement. They also examined the influences of familial factors, peers, teachers, and coaches' encouragement upon adolescent females' participation in high school sports. The results showed that parents of childhood athletes were somewhat more interested in sports than parents of non-athletic children. Snider and Spreitzer found that same-sex parents had greater influence on students' behavioural involvement than did opposite-sex parents. That is, fathers

Figure 3 (A)

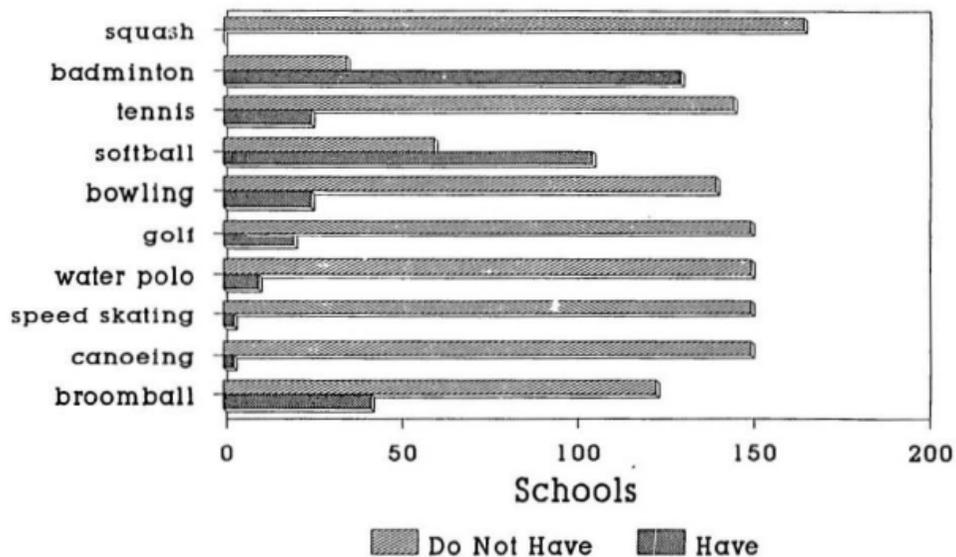
Schools with Adequate Equipment



LEVEL III Activities, Higgs et.al (1987)

Figure 3 (B)  
Schools With Adequate Equipment

Activities



Level III activities, Higgs et. al(1987)

influenced sons rather than daughters and mothers influenced daughters rather than sons. This theory was also one of McEvoy's (1983) conclusions. Same sex and cross-sex parent child relationships were examined with regard to whether they affected the children's sports involvement. Parents passed on their own sex-role socialization attitudes to their same-sex children. This study also found that parents offer economic and emotional support, are seen as role models, and provide opportunities to interact within a social environment.

Snider and Spreitzer (1976) again studied females' involvement in sports by investigating the correlation of participants with familial factors, peers, teachers, and coaches' encouragement to participate in sports and the social-psychological variables of perceived femininity, self-report of athletic ability and body image. Findings indicated that socialization into sports begins in childhood and continues into high school with considerable encouragement from significant others. Basketball players reported less encouragement and tended to see themselves as less feminine than other athletes. Athletes had higher self-perceptions of athletic ability. Their perceptions of their body image were generally more positive than for non-athletes.

Hall and Richardson (1982) drew attention to the lack of female coaches and physical education teachers. This is a

big drawback to the success of females' athletic attempts. A female coach is able to understand the physiological, psychological, and social make-up of the females she coaches and, as a result, students are more likely to confide their problems, interests, aspirations and failures in her. Hall and Richardson (1982) pointed out that parents and other authority figures stress academic achievement for females and so they dropped physical education in favour of academic classes.

Brooks, Chansonneuve, and Cooper (1986) earmarked the reasons for the dearth of female coaches. A major reason was that there were multitudes of male coaches because they had training facilities while women had no such facilities. Also women, because of their multiple roles, found that the time demanded for training purposes exceeded the time they had available. There was a conflict in philosophy between physical educators and coaches. Many women saw fitness and recreation as important goals, in addition to prowess in sports. Men were coaching female teams even when women were available, because they had more experience and were perceived as better for the job.

Franklin (1975) further noted that support given to physical educators by administrators may well depend upon individual philosophies, knowledge, and attitudes towards physical education. The same holds true of family and friends. Hale (1983) found that athletes' peers were more

likely to be athletic participants and were likely to value her athletic participation. Weiss and Knopper (1982) suggested that three social systems - parents, peers, teachers and coaches - exerted a collective influence on sport participation in childhood, which diminished during adolescent years. Coleman (1960) found that changes were brought about by the influence of significant others, amount of freedom, personal decision-making, motivation, new experiences, and work outside the home. Greendorfer (1976) noted that at the start of high school, most females are more attracted to activities with peers than with family. At this time, peer socialization pressures are probably strongest in asserting that the adolescent should be freed from parental restrictions. The peer-group then enforced conformity of its members to its definition of age-appropriate activities. The changes in parent-child interaction in the course of socialization reflected both the child's maturation and the nature of her role involvement outside the family. Children may feel that their parents have less time available for them than they did while, at the same time, their parents are feeling that their children are rejecting them. (Clausen, 1968)

Clevett and Brunner (cited in Underwood, 1987) argued that physical educators consider it their job, not only to provide wholesome activities during the school year through a good school program, but to assist the individual in

acquiring satisfying skills in a variety of recreational activities which can be enjoyed throughout life in one's leisure time.

Underwood (1987), in a survey of English schools, found the physical education teacher to be the key figure in facilitating learning. Underwood argued that the teacher should decide on objectives, organize the most efficient methods to ensure optimal learning, and observe students. Underwood also found great differences in the way male and female coaches' approached their teams. Macintosh (1979) reported shortages of teacher-coaches in Ontario. He also reported that female coaches were more likely to be coaches for several sports, while male coaches were not. Furthermore, co-ed teams were coached by males. These trends and the possibility that more males than females will be hired if and when vacancies occur, contribute to female non-participation.

Bain (1978) studied the difference in values shown in teaching and coaching behaviour of 10 female and 10 male physical educators. Female subjects scored higher on privacy and instructional achievement. The sex difference seemed to reflect the sex role expectations of the larger society and differences in the socialization of men and women into the teaching role. Female coaches and teachers protected the privacy of students to a greater extent than did male coaches and teachers.

Vertinsky (1984) also examined differences in female and male teachers. Vertinsky quoted Cheffurs (1975) who maintained that teaching behaviour in physical education varied little as a function of sex. Vertinsky's study concluded that male physical education teachers exerted discipline and focused upon well-specified goals and those of female teachers avoided use of forceful discipline and endorsed broader, more diffuse goals.

Throughout the studies reviewed in the literature, peers were shown to be the major influence throughout life-cycle stages. Teachers and coaches served as significant socializing agents during only one period - adolescence. These findings have particular relevance to physical education, since they demonstrate that social systems, other than the school, are primarily responsible for socializing women into sports. Moreover, the school appears to play a role in the sport socialization process after females have been initiated into sports, thereby reinforcing a process which was started elsewhere.

#### Sex-Role Stereotyping

Sex-role stereotyping is a very real part of life and has to be taken into account in any study that differentiates between the sexes. It is the way in which society attempts to keep women and men within parameters that have been

traditionally defined. It is one of the factors that affects female access to and participation in sports.

Hall and Richardson (1982) posed such questions as: Are all curriculum offerings open to females? Are the classes separated by sex and females discriminated against? Are females more likely to be exempted from having to participate? Are the budgets for sports shared equally? These questions have to be answered to determine if females are being discriminated against.

The media treats females in sports differently from males. There are fewer media articles on female sports; and those done are short and are printed in back pages of newspapers. Females receive only 10% of sports coverage. Media also have an effect on female participation in that they stress what activities are appropriate for females and which are not. Films also contribute to this problem. (Dahlgren, 1988)

There are obstacles to female participation on many levels. Men developed and promoted sports, so it was done from a male perspective for a closed clientele (men). Therefore, sports were sold to the male population as their domain and to females as something of no interest or importance to them. As a result, females lacked access, facilities, instruction and encouragement. But the patriarchal system did more than this, it accused women of

endangering their reproductive system and consequently the survival of the human race. (Kidd, 1983)

Shaver (1974) contends that stereotypical behaviour is learned through home role models and home expectations, training in social graces, textbooks and counselling in schools, and career opportunities that are restricted according to the sex of the individual. It is also claimed that there is a biased message in the school curriculum that humanity is masculine. Shaver (1974) noted that other educators hold the belief that the educational process is guilty of the feminization of males, especially in the elementary schools where there are so many female teachers.

Several studies have examined the image of the female athlete and reveal some unfavourable or at least ambivalent feelings. There is a limited number of prestigious and influential role models for young females, especially in the mass media. One of North America's largest sports magazine, SPORTS ILLUSTRATED, only devotes 5.2% to the coverage of women's sports. Young females must see other girls and women being active (Butcher, 1980).

Physical education professionals have recently begun to address the issue of sex-role stereotyping and some research has been done in this area. The evidence gathered so far indicates that socialization for sex roles occurs throughout physical activities (Birns, 1976). Rosenthal and Jacobson (1968) maintained that educators give unintentional self-

fulfilling prophecy vibes that influence the performance of their students. Another related study indicated that attaching a sex-typed label to a game can influence both performance in and attraction to the game (Montemayor, 1974). Certain sports have been more acceptable for women than other sports (Snider and Spreitzer, 1975).

Duquin (1975) has suggested that traditional attitudes toward the role of women in society may be linked to lower expectations for performance in non-traditional activities and the resultant negative attitudes of females toward activity and their reduced self-confidence in an activity situation. Duquin also suggested that co-ed classes may cause more stereotype attitudes. While investigators are not suggesting single-sex physical education classes, the data indicated that additional efforts towards non-sexist education may be needed to reduce stereotyping in co-ed situations.

The stereotype of the female athlete as aggressive, frustrated and unfeminine was well-described by Malumphy (1971). Thus, consciously or unconsciously, athletic achievement has been equated with loss of femininity. But the rapidly increasing opportunities for females in sports may make the problem of role conflict among female athletes, one of merely historical interest. One might speculate that it will exist only as long as society supports the stereotype

of female role-appropriate behaviour which is in conflict with the requirements of sports participation.

Basow and Spinner (1984) found female and male athletes were not differentially evaluated as a function of the sex stereotyping of their sport nor were female athletes valued more negatively than males overall. College students appear to have a generally favourable attitude towards college athletes of both sexes irrespective of the sex-appropriateness of sports. Their most frequently expressed opinion is that society itself still has a long way to go to eliminate sex stereotyping from sports; but more media attention to women's events, more money and equipment for women athletes, and more support and encouragement to overcome existing stereotyping will benefit everyone.

#### Summary

In this review of literature, the major findings made concerning female non-participation in physical education were revealed as being the effects of the socialization process on females, sex stereotyping, program content and methodology. Other factors identified were parental and peer influence, perception of ability, personal attributes and hygiene. All these factors were ascertained from research as being the major causes of female non-participation. In turn,

they formed the basis for the formulation of the ten research questions pursued in the study.

CHAPTER III  
METHODOLOGY

Introduction

The primary purpose of this study was to ascertain which factors influenced females in their decision to register for Physical Education 2100 and 3100 courses in selected Newfoundland schools. A secondary objective was to investigate whether there are various factors or combinations of factors affecting female participation in physical education that are unique to Newfoundland and Labrador high schools.

Data necessary to address the above concerns were obtained from a selected number of students in the province's high schools. In this regard, the sample was chosen from students who were taking Physical Education 2100 and 3100 and those not taking these courses during the 1989-90 school year. A questionnaire, designed to gather the data, was developed based upon research literature relevant to the topic. The second method of gathering data was by the use of personal interviews.

Sample

Survey participants included 360 Level II and/or III students, selected from 6 co-educational high schools whose

individual populations were over 500 from grades 7 to Level III. The reason for choosing this number was the assumption that all schools of this size would have gymnasium facilities which would be comparable in size, equipment and sports offered. Schools were randomly selected, but students were conveniently sampled so that there would be 30 registered in Physical Education 2100 and/or 3100 and 30 who were not registered in these courses. In addition, half of each group were females and half males. Such a composition was designed to facilitate comparisons between participants and non-participants and between females and males.

#### The Instrument

The main method of data collection was by the means of a questionnaire which utilized a Likert format. Respondents were asked to reply to each question by circling the answer that best represented their reactions to the questions. The five choices for the answers were: Strongly Agree - "1", Agree - "2", Undecided - "3", Disagree - "4", and Strongly Disagree - "5".

Questionnaire topics were developed from the following areas:

1. Questions were patterned on three Canadian studies (Butcher and Hall, 1983; Campbell and Zacour, 1986; Earl and Stennett, 1983).

2. Questions were based upon areas suggested in the literature review, especially from the theses of Hale (1983), Butcher (1980), Shaver (1974), Franklin (1975).
3. Questions were derived from discussions of the problem with high school physical education teachers and physical education university professors.
4. Questions were drawn from the author's own educational background, which includes twenty years of teaching physical education in Newfoundland high schools.

The original questionnaire contained 70 items and was examined by two research specialists, two university professors and two physical education graduate students. The outcome of this investigation was that the questionnaire was reduced to 45 questions. The questions in each specific research area were distributed throughout the questionnaire to encourage respondents to think clearly about each question. In addition, some of the questions in each area were worded positively and others were worded negatively in order to add to the reliability of the instrument.

The first section of the questionnaire contained demographic questions to gather general information about the respondents, particularly specific circumstances that might affect responses, for example, injuries. Students were also asked to rank the activities they enjoyed most in physical

education and which ones they would include in the Physical Education 2100 and 3100 courses. These questions were used to determine if there were differences between participants and non-participants, and between females and males regarding their choice of desired activities.

The final section of the questionnaire was composed of five open-ended questions. These were included to give students an opportunity to explain their points of view in greater detail. The complete questionnaire can be found in Appendix A.

### Interviews

Semi-structured interviews were conducted with Levels II and III students. The interviews were structured in this manner in order that the questions would initiate conversation and dialogue, so allowing for the concerns of the interviewer and interviewees to be introduced. These interviews were designed to supplement information gathered from the questionnaires. These consisted of 10 individual and 3 small group interviews. The interviews were taped and later transcribed and analyzed for recurring themes. Appendix B contains the interview questions.

### Procedure

After completing the pilot study, the next step was to contact the superintendents of the six school boards involved

to request permission to conduct the study with the students of designated high schools. A sample questionnaire was included, as well as an explanation of the study.

Following favourable replies from all six superintendents, a letter was sent to principals of the schools selected. They were: Ascension Collegiate, Bay Roberts; Clarenville High School, Clarenville; Gander Collegiate, Gander; Beothuck Collegiate, Baie Verte; Labrador City Collegiate, Labrador City; and St. Michael's High School, Grand Falls. This letter included similar information to that which was sent to superintendents. Principals were asked to arrange for 60 Level II and/or III students to participate in the survey. These students consisted of 30 who were registered in Physical Education 2100 or 3100 and 30 who were not registered in those courses, divided as evenly as possible by sex. Arrangements were made through the principals to have the physical education teachers administer the questionnaires to both groups and collect them after they were completed. The completed questionnaires were returned in a self-addressed envelope to the researcher.

A telephone call was made to the physical education teacher in each school after the initial contact was made with the principal. The purpose of this was to clarify any questions that physical education teachers had with regard to the instrument and to emphasize the importance of the study.

Where necessary, the researcher arranged to visit the school to personally administer the questionnaires.

Initial contact concerning the student interviews was with the superintendents concerned. When permission was obtained from the superintendents, principals were approached to arrange for student interviews to be carried out in their schools.

#### Pilot Study

After the draft instrument was developed and approved by the thesis committee, a pilot study was completed. Thirty Level II and/or Level III students from St. Paul's High School and Gander Collegiate, both in Gander, completed the pilot questionnaire. The answers to the instrument were analyzed by computer to determine its reliability. An SPSS-X reliability procedure was carried out on the 45 questions, and it was determined that eight of the questions were heterogeneous to the rest of the item analysis using the Cronbach Coefficient Alpha Test of reliability. The other 37 questions used in answering the research questions were shown to be acceptable.

The questionnaire was validated with help of two physical education professors, two physical education graduate students who were experienced teachers and one computer research expert. Various suggestions on ways to

improve the validity of the instrument were made, and these were implemented into the final draft of the instrument.

### Analysis of Data

The demographic section of the questionnaire was analyzed by frequency distribution tables. The ranked data from Section A were examined to determine which activities were preferred by different segments of the sample, for example females, males, participants and non-participants. Section B of the questionnaire was analyzed by means of a multiple regression and analysis of variance of the factors involved. The Multiple Regression analysis identified which single factor, or combination of factors, was significant in terms of the research question. The analysis of variance examined differences between two or more groups in relation to a single factor. Where applicable, co-relationships were examined. The third part of the questionnaire was analyzed by completing a table which presents an overview of the differences in comments among females, males, participants and non-participants

With several kinds of questioning strategies available to them, respondents had a broad range of options by which to express their perceptions. It is believed that insights and conclusions concerning participation in physical education were generated from these expressions and opinions.

Table 1 outlines the questions in the instrument which were related to specific questions presented in the first chapter.

**Table 1**  
**Related Questions in the Survey**

Research Areas	Related Questions in Questionnaire
1. SOCIAL FACTORS	7,,24,29
2. TEACHING METHODOLOGY	2,3,6,8,18,20,28,31,34
3. CURRICULUM/CONTENT	4,12,13,14,19,27,36
4. AWARENESS OF BENEFITS	10,16
5. EMBARRASSMENT	1,26 21,30,37
6. FEW ROLE MODELS	32,15
7. HYGIENE FACTORS	5,23
8. PREVIOUS EXPERIENCE	22, 35
9. TIMETABLE CONFLICTS	11, 17, 25, 33.
10. FACILITIES/EQUIPMENT	9

#### Summary

This chapter has presented an overview of the methodology utilized in the study, and an analysis of the data follows in Chapter IV.

**CHAPTER IV**  
**ANALYSIS OF DATA**

Sixty questionnaires were mailed to six co-educational high schools and the physical education teacher of each school was asked to ensure that they were administered to Level II and/or Level III students. The schools included in the survey were: Ascension Collegiate, Bay Roberts; Clarendville High School, Clarendville; Gander Collegiate, Gander; Beothuck Collegiate, Baie Verte; Labrador City Collegiate, Labrador City; and St. Micheal's High School, Grand Falls. In this chapter the data collected, according to the procedures outlined in Chapter 3, are examined in terms of the research questions. A summary of the data accumulated in the interviews is also presented. As well, other relevant findings which were discovered in the study are delineated.

The one-way analysis of variance for each research question is presented first, and for those that showed a significant difference, a table of their means is included after each analysis to demonstrate which part of the population had the higher mean. The higher the mean the more the population disagreed with the statement because of the way the questions were coded - "1" **strongly agreed** to "5" **strongly disagreed**. The computer analysis of the data generated from the research questions yielded more information than was originally anticipated. This abundance of

information may be largely attributed to the depth and complexity of the problem (female non-participation), the soundness of the instrument (questionnaire based on research questions), and the comprehensive nature of the statistical procedures.

The definitions of the terms and abbreviations used in the Analysis of Variance and the Table of Means are explained below (Bartz, 1988) for the benefit of future readers of the thesis who may be unfamiliar with these analyses.

#### **Analysis of Variance**

This refers to a variety of statistical analysis techniques used to assess the significance of differences among means using methods which partition the total variance into several components.

#### **DF - (Degrees of Freedom)**

Generally, this indicates the number of values which are free to vary, computed by the number of values used with a certain statistic minus the number of restrictions placed on the data.

#### **F test (F)**

This consists of examining the ratio of two variances to determine if the ratio of the departure from 1.0 is

sufficiently large so that it is unlikely to be due to sampling error.

**Mean**

A measure of central tendency which usually refers to the arithmetic average computed on scores which are interval or ratio levels of measurement is known as the mean.

**Mean Squared (MS)**

These are variance estimates and consist of a sum of squares divided by the appropriate degrees of freedom.

**Multiple Comparisons**

These are procedures used following application of variance to determine which means are significantly different from which other means.

**Post Hoc**

They are comparisons used after a significant F ratio is found in the ANOVA when testing more than two variables to tell which of the means are significant.

**Probability (P)**

This is the relative frequency of an event occurring, usually reported as a percent or fraction.

**Standard Deviation (SD)**

The most stable measure of variability which takes into account each and every score in a distribution is known as standard deviation.

**Sum of Squares (SS)**

It is the result of subtracting the mean from each score to obtain the deviation, squaring each deviation and finally summing the squared deviations.

**Standard Error (SE)**

It is the standard deviation of sample means which include by how much the sample means can be expected to differ if other samples from the same population are used.

**T Score**

It is a standard score derived from a "z" score by multiplying the "z" score by 10 and adding 50.

**Demographic Data**

Tables 2 to 5 gives general information on who took part in the questionnaire and how they ranked the activities.

**Table 2**  
**Summary of Participation Returns by School**

Schools	YES	NO	MALES	FEMALES	Total
Clarenville	29	32	29	32	61
Gander Collegiate	40	24	36	28	64
Beothuck Collegiate	10	31	14	27	41
Lab.City Collegiate	23	36	29	30	59
St.Micheal's High	19	37	33	23	56
Ascension Collegiate	26	33	29	30	59
<b>Total</b>	<b>147</b>	<b>193</b>	<b>170</b>	<b>170</b>	<b>340</b>

As can be seen from Table II an equal number of females and males responded to the questionnaire. In two of the schools there were a few extra questionnaires printed by the schools themselves to accommodate the number of students in their classes.

**Table 3**  
**Students Participating in Physical Education Survey**

	Number	Percent
YES	147	43.2
NO	193	56.8
Total	340	100

Fourteen percent more non-participants took part in the survey than students who participated in physical education.

**Table 4**  
**Students Participating in the Survey in Each Level**

	LEVEL I	LEVEL II	LEVEL III	TOTAL
MALES	26	45	99	170
FEMALES	22	54	94	170
TOTAL	48	98	193	340

The majority of students who took part in the survey were female and male students in Level III.

**Table 5**

**Activities Enjoyed Most in Physical Education Classes**

<u>FEMALES CHOICE</u>			<u>MALES CHOICE</u>		
	Total	Ranking		Total	Ranking
Volleyball	913	1	Floor Hockey	664	1
Badminton	634	2	Basketball	577	2
Swimming	602	3	Volleyball	553	3
Basketball	562	4	Badminton	473	4
Floor Hockey	548	5	Softball	417	5
Skating	485	6	Baseball	372	6
Softball	478	7	Ice Hockey	371	7
Dance	420	8	Weight Training	357	8
Soccer	414	9	Archery	346	9
Bowling	411	10	Curling	316	10
Aerobics	392	11	Soccer	314	11
X-Country Skiing	336	12	Bowling	303	12
Tennis	330	13	Football	294	13
Gymnastics	312	14	Tennis	286	14
Ice Hockey	200	15	Swimming	269	15

There was a huge discrepancy shown in the activities enjoyed more by females than males. Females ranked volleyball first, whereas males ranked floor hockey as the activity they enjoyed most. Females ranked skating, dance, aerobics, cross-country skiing, and gymnastics as their favourite activities. It is noteworthy that males and females reported marked differences in their levels of enjoyment of the different activities to which they were exposed. These perceptions could have a tremendous bearing on the type of physical education program that is offered for females, and may well impact on whether they enjoy physical education and, hence, choose to take it.

#### One-way Analysis of Variance

One-way analysis of variance was used to determine if there was a significant difference between the factors being tested at the .05 probability level. Each of the research questions that the data showed a significant difference are presented in the order they appeared in Chapter 1. If the results of the tests generated a probability of less than .05, it was necessary to illustrate by a table which of the means was higher. The higher the mean, the more the group being tested **disagreed** with the research question. This was a result of the coding ("1" strongly Agree to "5" strongly Disagree).

Other important factors that were generated from the computer analysis were also explained. When a significant "P"

was found among three or more variables, it was necessary to perform a Post Hoc Analysis to ascertain which of the means was significant.

Only the tests that were significant are presented in individual tables. The Multiple Regression investigations are presented immediately following the Analysis of Variance. There is a review of all the findings immediately following the analysis of variance test and the multiple regression tests.

#### Social Factors

The first question investigated was: Are social factors more relevant to females' participation than to males' participation?

**Table 6**  
**One-way Analysis of Variance of Social Factors**  
**on Physical Education Participation by Sex**

Source	DF	SS	MS	F	P
Between	1	109.5	109.5	17.05	.0000
Within	334	2145.8	6.42		
Total	335	2255.3			

**Table 7**  
**Mean Social Scores by Sex**

Group	Mean	SD	SE	Cases
Male	14.48	2.24	.17	167
Female	13.34	2.79	.21	169
Total	13.91	2.59	.14	336

Table 6 shows that social considerations were a significant factor in why students did not participate in physical education according to sex. It demonstrated that females and males felt differently about how social factors affected participation in physical education.

Table 7 demonstrates that females agreed more strongly than males that social factors had a greater influence on reasons for student participation in physical education. Therefore, social factors were an important reason why females did not participate in physical education.

**Table 8**

**One-way Analysis of Variance of Social Factors  
on Physical Education by Participation**

Source	DF	SS	MS	F	P
Between	1	99.15	99.15	.39	.0001
Within	335	2157.35	6.43		
Total	336	2256.60			

**Table 9**

**Mean Social Factor Scores by Participation**

Group	Mean	SD	SE	Cases
Yes	14.53	2.273	.1875	147
No	13.43	2.724	.1976	190
Total	13.91	2.591	.1412	337

Table 8 demonstrates that social factors were significant in explaining students non-participation in physical education when comparing the students who participated and those who did not participate.

Table 9 reveals that participants disagreed more strongly than non-participants, that social factors were reasons why students took physical education- significant beyond .0001 level. Therefore, non-participants felt that social factors were an important influence on students' decision to participate in physical education.

#### Teaching Methodology

The second question that the Analysis of Variance was applied to was: Is teaching methodology inappropriate for females?

**Table 10**

**One-way Analysis of Variance of Teaching Methodology  
on Physical Education by Participation**

Source	DF	SS	MS	F	P
Between	1	1279.3	1279.3	38.45	.0000
Within	334	11112.58	33.27		
Total	335	12395.95			

**Table 11****Mean Teaching Methodology Scores by Participation**

Group	Mean	SD	SE	Cases
YES	34.22	5.18	.427	147
NO	30.29	6.18	.449	189
Total	32.01	6.08	.331	336

As shown in Table 10, teaching methodology was a significant factor in comparing participants and non-participants of physical education - significant beyond the .0001 level. There was a major difference in the way participants and non-participants felt about how teaching methodology affected students' decisions to participate in physical education.

Table 11 reveals that non-participants **agreed** more strongly than participants that teaching methodology was a reason why students did not take physical education. Teaching methodology affected the differences in the attitudes of students toward physical education and non-participants **agreed** that teaching methodology influenced their decision not to take physical education.

**Table 12**  
**One-way Analysis of Variance of Teaching Methodology**  
**on Physical Education Participation by Grade Level**

Source	DF	SS	MS	F	P
Between	1	421.28	210.64	5.85	.0032
Within	332	11945.47	35.98		
Total	334	12366.75			

Teaching methodology was a significant factor in physical education participation by grade level. Post hoc analysis using the Student-Newman-Keuls Procedure showed significant differences (.05 level ) between the mean teaching methodology scores as they relate to the grade level of the students. Level III students did not have as great a problem with teaching methodology as did students in Level I and Level II.

#### Curriculum Content

Research question number three was: Is the curriculum content more suited to the needs and interests of males?

**Table 13**

**One-way Analysis of Variance of Curriculum Content  
on Physical Education by Participation**

Source	DF	SS	MS	F	P
Between	1	602.54	602.54	36.33	.0000
Within	335	5555.74	16.58		
Total	336	6178.29			

**Table 14**

**Mean Curriculum Content Scores by Participation**

Group	Mean	SD	SE	Cases
YES	24.44	3.77	.311	147.0
NO	21.75	4.29	.311	190.0
Total	22.92	4.28	.233	337.0

According to Table 13, curriculum content was a significant factor in comparing participants' and non-participants' attitudes toward physical education. In other words, participants and non-participants significantly

differed in the way they felt curriculum content affected students participation in physical education.

Table 14 discloses that the non-participants agreed more strongly than participants that curriculum content was a reason why they did not take physical education courses.

**Table 15**

**One-way Analysis of Variance of Curriculum Content on Physical Education Participation by Grade Level**

Source	DF	SS	MS	F	P
Between	2	300.50	150.25	8.56	.0002
Within	333	5842.30	17.54		
Total	335	6142			

Table 15 demonstrates that curriculum content is a significant factor in physical education participation by grade level - significant beyond the .001 level.

Post hoc analysis using the Student-Newman-Keuls Procedure showed significant differences (.05 level ) between the mean curriculum content scores as they relate to the grade level of the students. Level III does not have a problem with curriculum content to the same extent as Level I and Level II students.

Awareness of the Benefits

When the analysis was completed on awareness of benefits, there was no significant differences revealed in the data.

Embarrassment

The fifth research question was: To what extent does embarrassment, due to their physical condition or lack of basic skills, affect the females' participation?

**Table 16**

**One-way Analysis of Variance of Embarrassment  
on Physical Education Participation by Sex**

Source	DF	SS	MS	F	P
Between	1	222.7	222.7	13.27	.0011
Within	334	5605.8	16.78	16.78	
Total	335	5828.5			

**Table 17**  
**Mean Embarrassment Scores by Sex**

Group	Mean	SD	SE	Cases
Male	20.60	3.72	.288	167
Female	18.97	4.43	.340	166
Total	19.78	4.17	.227	333

Table 16 shows that embarrassment was a significant factor in physical education participation by sex. It was illustrated that females differed from males in the way embarrassment affected the way they felt about physical education.

According to Table 17, a lower mean score indicates that females agreed more strongly than males, that embarrassment was a factor in why students did not take physical education. Therefore, Table 17 shows that embarrassment affects the difference between male and female participation in physical education.

**Table 18**  
**One-way Analysis of Variance of Embarrassment**  
**on Physical Education by Participation**

Source	DF	SS	MS	F	P
Between	1	80.0	98.80	24.78	.000
Within	333	1341.12	4.02		
Total	334	1440.93			

**Table 19**  
**Mean Embarrassment Scores by Participation**

Group	Mean	SD	SE	Cases
YES	20.78	3.43	.283	147
NO	19.01	4.51	.327	190
Total	19.78	4.16	.226	337

Table 18 demonstrates that embarrassment was a significant factor in comparing participants' and non-participants' attitudes towards participating in physical education. The lower mean found in Table 19 illustrates that embarrassment was a significant factor in the choice of

physical education courses by student non-participants. Therefore, it was shown that embarrassment was a major factor in why non-participants did not take physical education.

**Table 20**

**One-way Analysis of Variance of Embarrassments  
on Physical Education Participation by Type of Program**

Source	DF	SS	MS	F	P
Between	2	157.47	78.73	4.73	.0094
Within	325	5410.11	16.64		
Total	327	5567.59			

Table 20 shows that embarrassment was a significant factor in physical education participation by type of program. Post hoc analysis using the Student-Newman-Keuls Procedure displayed significant differences between the mean embarrassment scores as they relate to the type of program. General and academic students have more of a problem with embarrassment in taking physical education class as compared to honours students.

Few Role Models

The sixth research question that was investigated was:  
Do females have fewer role models and does this factor have  
an effect on why females take physical education?

**Table 21**

**One-way Analysis of Variance of Few Role Models  
on Physical Education Participation by Sex**

Source	DF	SS	MS	F	P
Between	1	36.93	36.93	10.77	.0011
Within	334	1134.7	3.42		
Total	335	1171.7			

**Table 22**

**Mean of Role Models by Sex**

Group	Mean	SD	SE	Cases
Male	5.43	1.89	.146	167
Female	4.76	1.80	.140	166
Total	5.09	1.87	.102	333

Few role models was a significant factor in physical education participation by sex - significant beyond the .01 level. Table 10 reveals that lack of role models played a part in the way females and males thought about physical education.

Females agreed more strongly than males that a lack of role models was an important factor in explaining why students did not take physical education. Table 22 demonstrates that the lack of role models had an effect on the number of girls who took physical education.

**Table 23**

**One-way Analysis of Variance of Few Role Models on Physical Education Participation by Grade Level**

Source	DF	SS	MS	F	P
Between	2	21.40	10.70	3.03	.0495
Within	330	1164.70	3.52		
Total	332	1186.10			

Table 23 shows that few role models were a significant factor in physical education participation by grade level.

Post hoc analysis using the Student-Newman-Keuls Procedure showed significant differences between the mean role

models scores as they relate to the grade level of the students. Level I and III students believed that there was a problem with few role models to a greater extent than did Level II as to the reasons why students did not participate in physical education.

#### Hygiene Factors

Analysis of Variance was conducted to investigate whether hygiene factors had a bearing on student participation in physical education. The results are shown in Tables 24 to 28.

**Table 24**

**One-way Analysis of Variance of Hygiene Factors on Physical Education Participation by Sex**

Source	DF	SS	MS	F	P
Between	1	30.47	30.47	7.20	.0076
Within	332	1403.9	4.22		
Total	333	1434.4			

**Table 25**  
**Mean of Hygiene Factors by Sex**

Group	Mean	SD	SE	Cases
Male	6.74	1.98	.1544	166
Female	6.14	2.12	.1636	168
Total	6.44	2.07	.1136	334

Table 24 shows that hygiene was a significant factor in physical education participation by sex. Hygiene factors had a major influence on the differences in the attitudes that females and males had towards physical education.

Females agreed more strongly than males that hygiene factors were important reasons in explaining why students did not participate in classes. In other words, hygiene factors were a significant reason why fewer females took physical education.

**Table 26**

**One-way Analysis of Variance of Hygiene Factors  
on Physical Education by Participation**

Source	DF	SS	M	F	P
Between	1	80.0	98.80	24.78	.000
Within	333	1341.12	4.02		
Total	334	1440.93			

**Table 27**

**Mean Hygiene Scores by Participation**

Group	Mean	SD	SE	Cases
YES	7.06	1.95	.16	147
NO	5.96	2.04	.14	188
Total	6.45	2.07	.11	335

When comparing participants' and non-participants' attitudes toward physical education, Table 26 demonstrates that hygiene factors had a significant effect on the decision of students not to take physical education.

Table 27 illustrates that the non-participants felt more strongly than the participants that hygiene factors were an important reason affecting students' decisions not to take physical education.

**Table 28**  
**One-way Analysis of Variance of Hygiene Factors on Physical Education Participation by Grade Level**

Source	DF	SS	MS	F	P
Between	2	55.93	27.96	6.68	.0014
Within	331	1384.70	4.18		
Total	333	1440.63			

Table 28 shows that hygiene factors were significant in physical education participation by grade level-significant beyond the .01 level.

Post hoc analysis using the Student-Newman-Keuls Procedure showed significant differences between the mean hygiene factor scores as they relate to the grade level of the students. Levels I and II students considered there was a problem with hygiene factors to a greater extent than Level III students.

Previous Physical Education Experience

When the analysis of the questions concerning previous physical education experience was conducted, no significant differences were noted.

Timetable Conflicts

When the questions concerning timetable conflicts were analyzed a number of significant differences were shown. These are demonstrated in Tables 29 to 31.

**Table 29**

**One-way Analysis of Variance of Timetable Conflicts  
on Physical Education by Participation**

Source	DF	SS	MS	F	P
Between	1	68.05	68.05	13.74	.0002
Within	335	1658.95	4.95		
Total	336	1727.00			

Table 30

## Mean Timetable Conflicts Scores by Participation

Group	Mean	SD	SE	Cases
YES	10.25	2.19	.18	147
NO	11.15	2.24	.16	190
Total	10.76	2.26	.12	337

Table 29 shows that timetable conflicts were significant factors in physical education participation when comparing participants and non-participants.

Table 30 demonstrates that non-participants felt that timetable conflicts were less of a problem than those who participated in physical education. Therefore, participants did not consider timetable conflicts a reason why non-participants declined to take physical education.

**Table 31**  
**One-way Analysis of Variance of Timetable Conflicts**  
**on Physical Education Participation by Grade Level**

Source	DF	SS	MS	F	P
Between	2	36.74	18.37	3.62	.0277
Within	333	1687.15	5.03		
Total	335	1723.89			

Timetable conflicts were a significant factor in physical education participation by grade level. Post hoc analysis, using the Student-Newman-Keuls Procedure, displayed significant differences between the mean timetable conflicts scores as they relate to the grade level of the students. Levels I and III students considered that there was a problem with factors related to timetable conflicts. Level II was the only level that timetable conflicts were not a problem.

#### Facilities and Equipment

After analyzing the questions about facilities and equipment, a number of significant factors were found which are shown in Tables 32 to 35.

Table 32

One-way Analysis of Variance of Facilities-Equipment  
on Physical Education by Participation

Source	DF	SS	MS	F	P
Between	1	5.55	5.55	7.09	.0081
Within	328	256.43	.78		
Total	329	261.98			

Table 33

Mean Facilities-Equipment Scores by Participation

Group	Mean	SD	SE	Cases
YES	4.35	.87	.07	140
NO	4.09	.89	.06	190
Total	4.20	.89	.04	330

Table 32 displays that lack of facilities and equipment was a significant factor in comparing the attitudes of participants and non-participants.

Those who participated **disagreed** that facilities-equipment was a problem causing students not to take physical

education. In other words, non-participants felt that facilities and equipment affected their decision not to participate in physical education.

**Table 34**

**One-way Analysis of Variance of Facilities-Equipment  
on Physical Education Participation by Grade Level**

Source	DF	SS	MS	F	P
Between	2	11.86	5.93	7.77	.0005
Within	326	248.66	.76		
Total	328	260.52			

Table 34 displays that facilities and equipment are a significant factor in physical education participation by grade level- significant beyond the .001 level.

Post hoc analysis, using the Student-Newman-Keuls Procedure, displayed significant differences between the mean timetable conflicts scores as they relate to the grade level of the students. Levels I and II students considered that there is a problem with facilities-equipment to a greater extent than Level III students. Level III students did not believe that lack of facilities and equipment affected the reasons why students took physical education.

Table 35

One-way Analysis of Variance of Facilities-Equipment  
 o. Physical Education Participation by Type of Program

Source	DF	SS	MS	F	P
Between	2	5.35	2.67	3.58	.0289
Within	318	237.58	.74		
Total	320	242.94			

Facilities-equipment was a significant factor in physical education participation depending on the type of program offered.

Post hoc analysis, using the Student-Newman-Keuls Procedure, displayed significant differences between the mean facilities-equipment scores as they relate to the type of program. General and academic students have more of a problem with facilities-equipment as compared to honours students.

#### Multiple Regression

Step-wise regression was run on all factors explored in the thesis. These included: awareness of the benefits, previous physical education experience, timetable conflicts, social factors, teaching methodology, curriculum content,

embarrassment, lack of role models, hygiene factors, timetable conflicts, facilities-equipment, sex of the students, students who were participating in physical education, medical condition, parents who took part in physical activity, schools which required students to take one physical education course, grade level of the students, and type of program in which that the students were enrolled.

The regression results are presented in tables showing the "T" scores and the significant "T" scores. Each table is followed by a schematic diagram clarifying the results. Where there was a positive "T" score, the multiple regression figure indicates it by showing a straight up down relationship. For example, in Figure 15 the diagram illustrates that participants strongly agreed that timetable conflicts were an important reason why students did not take physical education. When there was a significant "T" and the "T" score was negative, the correlation is demonstrated in the regression figure by diagonal lines crossing each other. For example, in Figure 4, the diagram shows that social factors affect female participation in physical education. A short description will follow each figure to help further explain the results.

**Table 36**  
**Multiple Regression**  
**Social Factors**

Variable	T Score	Significant T
SEX	-3.680	.000
PARTICIPATION	-2.685	.0076

**Figure 4**  
**Social Factors by Gender**

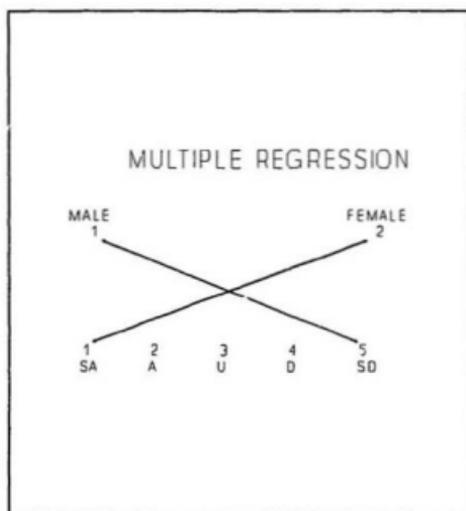
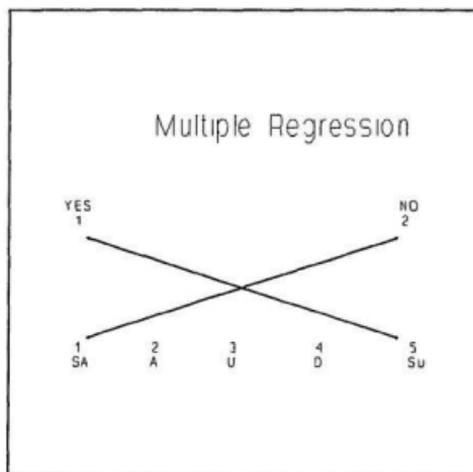


Figure 4 shows that females agreed that social factors were a significant reason why females did not take physical education.

Figure 5

Social Factors by Participation

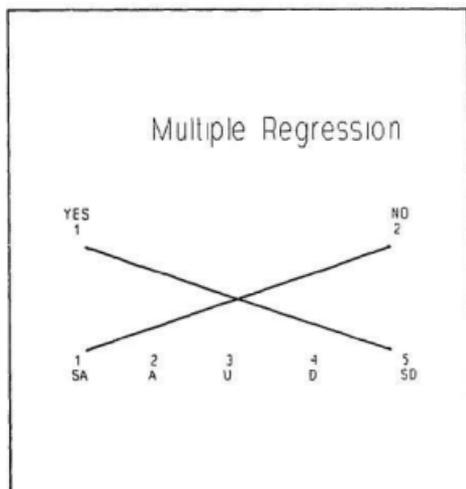


Non-participants also agreed that social factors were a significant reason why students did not take physical education.

Table 37  
Multiple Regression  
Teaching Methodology

Variable	T Score	Significant
Participation	-2.317	.0211

Figure 6  
Teaching Methodology by Participation



Non-participants felt that teaching methodology was a reason why students chose not to take physical education.

**Table 38**  
**Multiple Regression**  
**Curriculum Content**

Variable	T Score	Significant
Participants	-5.490	.0000
Compulsory	-2.947	.0034

Figure 7

## Curriculum Content by Participation

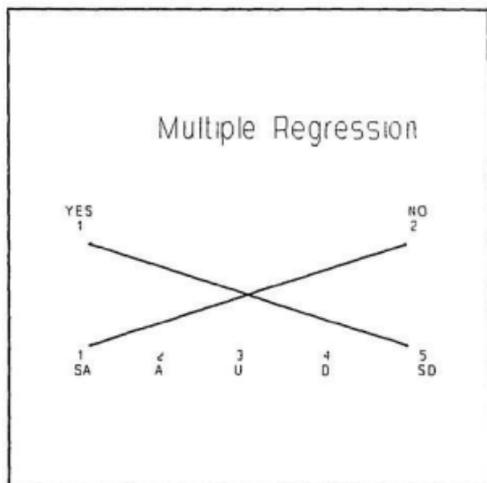
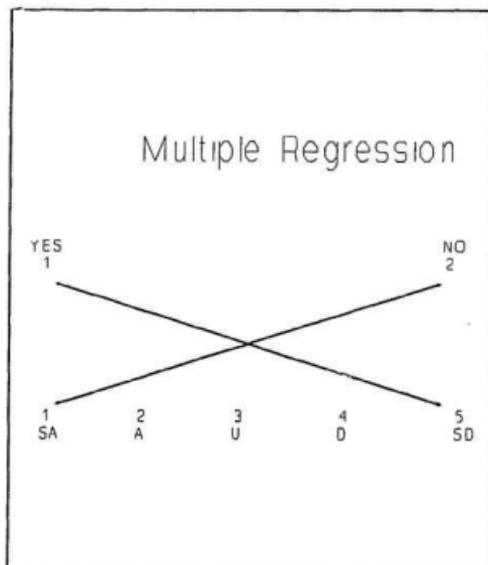


Figure 7 demonstrates that non-participants **agreed** significantly that curriculum content was a reason why students did not take physical education.

Figure 8  
Curriculum Content by Compulsory



The regression diagram above reveals that students in schools where physical education was compulsory **disagreed** that curriculum content was a problem.

**Table 39**  
**Multiple Regression**  
**Embarrassment by Participation**

Variable	T Score	Significant T
Participant	-3.039	.0026
Gender	-3.031	.0026
Compulsory	-2.174	.0304

**Figure 9**  
**Embarrassment by Participation**

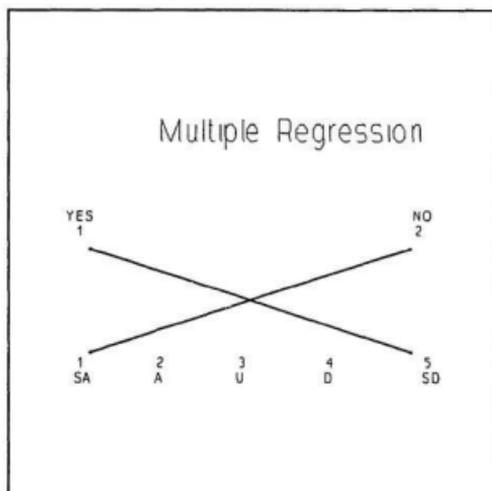
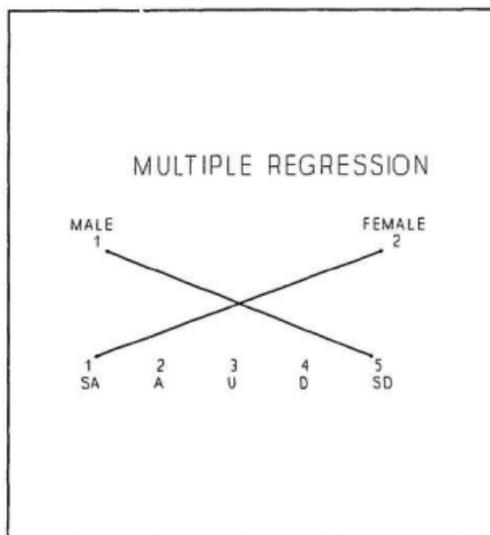


Figure 9 shows that non-participants **agreed** that embarrassment was a significant reason why students did not take physical education.

**Figure 10**

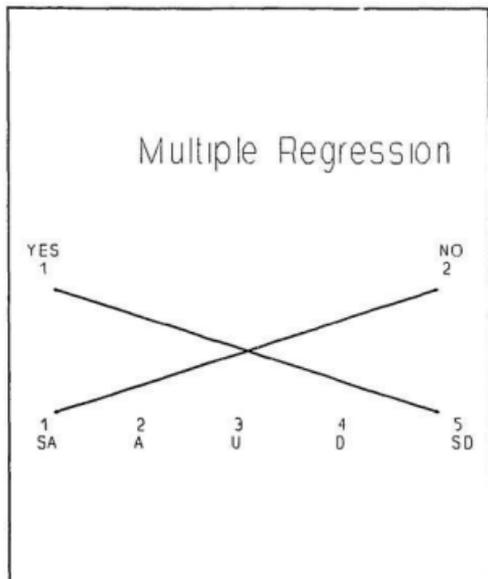
**EMBARRASSMENT BY GENDER**



The figure above demonstrates that females **agreed** significantly more than males that embarrassment was a reason why students do not take physical education.

Figure 11

## Embarrassment by Compulsory

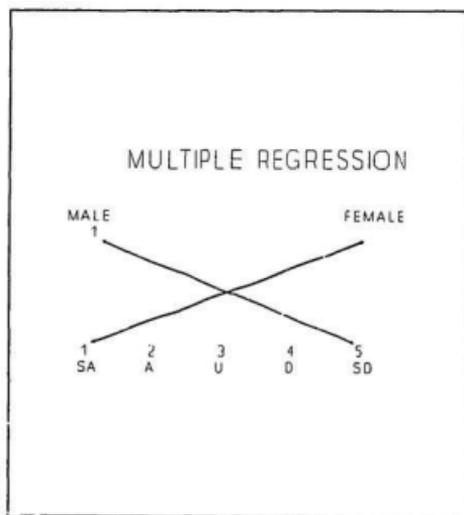


Students who were required to take physical education experienced no significant problem with embarrassment in physical education situations.

Table 40  
Multiple Regression  
Few Role Models

Variable	T Score	Significant T
Gender	-3.264	.0012

Figure 12  
Few Role Models by Gender

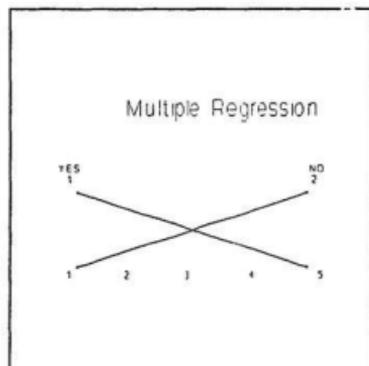


Females **agreed** significantly more than males that lack of role models was a reason why females did not take physical education.

**Table 41**  
**Multiple Regression**  
**Hygiene Factors**

Variable	Score	Significant
Participation	-4.560	.0000
Compulsory	-2.135	.0334

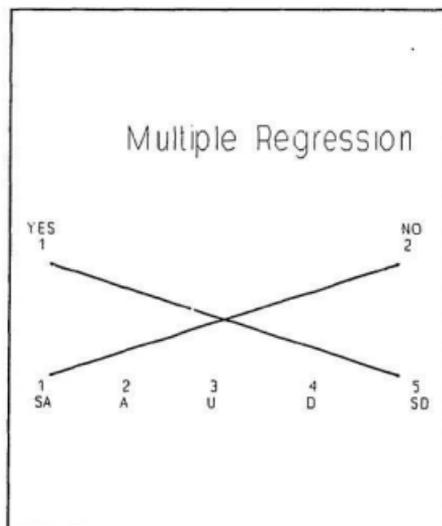
**Figure 13**  
**Hygiene Factors by Participation**



Non-participants **agreed** more significantly than participants that hygiene factors were deterring students from taking physical education.

**Figure 14**

**HYGIENE FACTORS BY COMPULSORY**

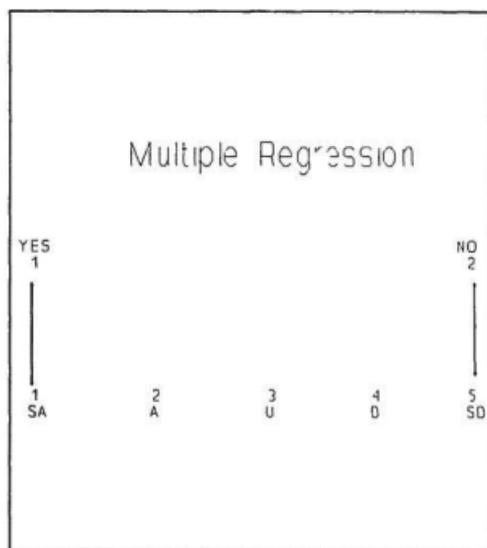


Students who were required by their school to take physical education **agreed** more significantly than other students that hygiene factors were reasons why students did not take physical education.

**Table 42**  
**Multiple Regression**  
**Timetable Conflicts**

Variable	T Score	Significant
Participation	3.711	.0002

**Figure 15**  
**Timetable Conflicts by Participation**



Participants felt that timetable conflicts were a significant reason why students did not take physical education.

**Table 43**  
**Multiple Regression**  
**Facilities-Equipment**

Variable	T Score	Significant T
Grade Level	4.222	.0000
Type of Program	2.037	.0425

Figure 16

## Facilities and Equipment by Grade Level

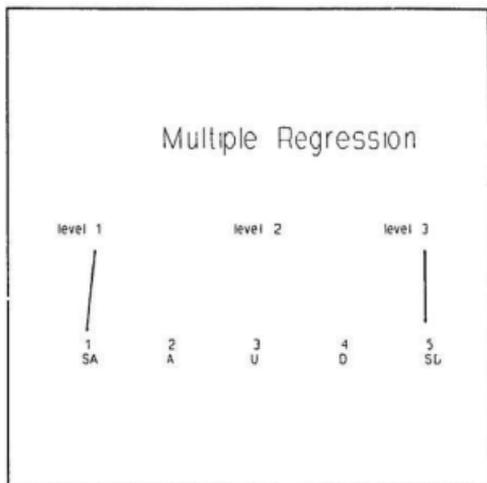
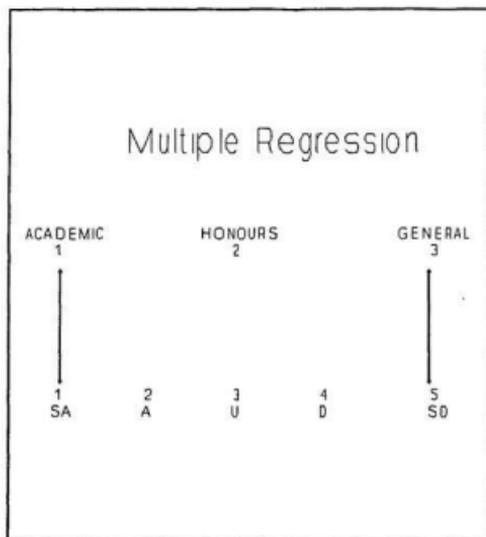


Figure 16 demonstrates that students in Level I **agreed** that facilities-equipment was a problem, whereas Level III students **disagreed** that facilities-equipment was a problem.

Figure 17

## FACILITIES-EQUIPMENT BY PROGRAM



Students in the academic program strongly agreed that facilities-equipment was a reason why they did not take physical education and students in the general program strongly disagreed that facilities-equipment was a reason.

The results of the analysis of variance and the multiple regression show that social factors, embarrassment, few role models, and hygiene factors were more relevant to females' non-participation than they were to males' non-participation. Therefore, the research questions pertaining to social factors, embarrassment, role models, and hygiene (questions number one, five, six, and seven) were supported by the data. There were no significant differences between females' and males' attitudes towards non-participation as a result of teaching methodology, curriculum content, awareness of benefits, previous experience, timetable conflicts, facilities-equipment. Therefore, the research questions pertaining to teaching methodology, curriculum content, awareness of benefits, previous experience, timetable conflicts, and facilities-equipment (questions number two, three, four, eight, nine and ten) were not supported by the data.

Other important findings from the study were: that non-participants **strongly agreed** that social factors, teaching methodology, curriculum content, embarrassment, hygiene factors, timetable conflicts, and facilities-equipment were major reasons why they did not take physical education courses. Participants **strongly agreed** that timetable conflicts were a major factor why students did not take physical education. There were significant differences among the three grade levels on the research questions. These were:

Levels I and II **strongly agreed** that teaching methodology, curriculum content, hygiene factors and facilities-equipment were important factors in why they did not take physical education. Levels I and II **strongly agreed** that few role models and timetable conflicts were the main reasons. General and academic students **strongly agreed** that embarrassment and facilities-equipment kept them from doing physical education. When multiple regression was run on all the questions, three other significant factors were brought forth. These were that curriculum content, embarrassment, and hygiene factors were problematic for students in schools where physical education was not a compulsory subject.

#### In-depth Comments

The last section of the questionnaire was directed to in-depth, additional comments from students. The questions were:

1. What do you like most about the physical education program in your school?
2. What do you like least about the physical education program in your school?
3. If you are not taking Physical Education 2100 or 3100 what factors, if any, would have to be changed before you would take physical education?

4. If you are taking Physical Education 2100 or 3100, how do you think the physical education program could be improved?
5. Please give any other comments that are important to physical education in your school.
6. Please list a professional sports personality that you admire.
  - b. What do you admire about that person?
7. Please list a sports personality in your school or community whom you admire?
  - b. What do you admire about that person?

The students' in-depth comments have been divided into a nine by four matrix to demonstrate more graphically the "whole picture", as shown in Table 44.

Table 44

Students In-depth Comments

Questions	Female Participants	Female Non-part.	Male Participants	Male Non-participants
1. Liked most	1.Activities 2.Enjoyable 3.Fitness 4.Outdoor Activities	1.Activities 2.Enjoyable 3.Fitness	1.Activities 2.Break 3.Enjoyable	1.Activities 2.Enjoyable 3.Break
2. Liked least	1.Activities 2.Competition 3.Fitness 4.Lectures	1.Written test 2.Activities 3.Ridiculed 4.Changing	1.Written test 2.Too short 3.Activities 4.Boring	1.Activities 2.Exams and lectures 3.Competitive 4.Timetable
3.Factors that need to be changed before P.E.	This question did not apply to this group	1.Nothing 2.Timetable 3.More time for showers 4.no lectures	This question did not apply to this group	1.Timetable 2.More Activities 3.more time for showers 4.no tests or lectures
4.Factors that need to be changed you are taking physical ed.	1.Better Equipment 2.Longer Classes 3.No co-ed Classes 4.Better Activities 5.Less notes	This question did not apply to this group	1.Longer classes 2.More choice in activities 3.Less Testing 4.Fewer Lectures	This question did not apply to this group

Table 44 (cont'd)

Questions	Female Participants	Female Non-part.	Male Participants	Male Non-participants
5. Important comments on your physical ed. program	1. Better showers 2. Longer classes 3. More activities	1. More activities 2. Better facilities 3. Better equipment	1. More classes 2. Better equipment 3. Better facilities	1. More activities 2. Outside activities 3. More involvement
6. (a) professional sports personality	1. Basketball 2. Tennis	1. Hockey player 2. Basketball player	1. Hockey player 2. Baseball player	1. Hockey player 2. Basketball player
(b) Why they were admired	1. Skill 2. Ability	1. Skill 2. Ability	1. Skill 2. Ability	1. Skill 2. Ability
7. (a) Sports personality in your school community you admire	1. Student	1. Teacher 2. Teacher/ coach		1. Student
(b) What do you admire most about that person?	1. ability 2. sportsman- ship	1. ability 2. hard worker	1. ability 2. sports- manship	1. skill

### Interviews

The second part of the research consisted of semi-structured interviews, eight individual and six small groups sessions, conducted with Level II and/or level III students. The interviews were devised in this manner so that the questions would initiate conversation and dialogue and thus allow for the concerns of the interviewer and interviewees to be brought forward. The information gathered supplemented what was compiled from the questionnaires. Twelve students registered in the academic program, eight students in honors program, and three students in the general program took part in the interviews. The interviews were taped and later transcribed and analyzed for recurring themes (See Appendix B for the interview questions.).

The interviews are presented under the recurring themes that were gleaned from the discussions with the students. The recurring themes were: participants and non-participants, activities liked or disliked, fitness, physical education as part of the curriculum, female and male attitudes, facilities-equipment, time factors, and significant others. Each of these is discussed in turn.

### Participants and Non-Participants

The reasons for taking physical education were: they liked the variety of activities offered, enjoyment, and fun. Other answers included: to get back in shape, a good course,

a break from the classroom, instruction received in how games are played. Reasons given by students who did not take physical education were timetable problems or course requirements to prepare for university.

#### Activities Liked or Disliked

Fourteen different sports were mentioned in the least liked category, but basketball and volleyball were named most often. Fitness and circuit training were also discussed as being disliked. Three students said they liked all the activities in physical education class. Basketball was mentioned again by other students as the activity that was liked because it was exciting and more action oriented. Ten other activities were mentioned in this question in almost equal proportions.

#### Fitness

Most of the students felt that their fitness level would be maintained by the activities they did outside of physical education class, but three of the students disagreed and an additional three believed they needed to be involved in both areas. Most students felt physical education class helped them learn to set up a personal physical fitness program and test one's physical fitness levels. Some students felt that there should be a stronger emphasis on physical fitness in class. The answers to how the students would improve the physical

education program at their school were varied but the two mentioned most often were: include more activities outside of the school and put more emphasis on physical fitness.

#### Physical Education as Part of the Curriculum

A majority of students considered physical education more important than courses like Culture, Religion, Democracy, and Law, but not as important as Math, Physics, and other courses that were needed to prepare for university. Students generally agreed that physical education should not be dropped from the school program and a number of them mentioned that one physical education course should be compulsory in high school. Only a few students felt that physical education was taken because it was an easy credit and evaluation was not a consideration as to why they took physical education. A number of them thought their physical education mark should be based on effort and participation. Other responses included the courses should be scheduled better and most, if not all, of their physical education classes should be double periods.

#### Females and Males

Only a few students thought that the classes were either female or male oriented. Females believed they were male oriented because there were too many rough sports taught in physical education class. The majority of students felt that

it did not matter whether they had a female or male teacher. A few of the male students thought that it might affect some of the females' decisions to take physical education if they had a female teacher. All of the males said that the number of females in class did not influence their decision, but a few of the females felt that it would sway their opinion against physical education.

#### Facilities-Equipment and Time Factors

Most of the students agreed that their school facilities were good but the students from one particular school mentioned that the shower facilities needed to be improved. The majority of students agreed that there was not enough time to change between classes. All the students believed that there should be double periods for physical education classes. Generally the students believed that neither transportation nor cost was a factor in why students did not take physical education.

### Significant Others

The majority of students felt that they were not influenced by their friends but a few said they were. Students generally agreed that physical education should not be dropped from the school program and a number of them mentioned that one course should be compulsory in high school. The majority felt that role models played a small part in influencing them to take physical education.

### Summary of the Questionnaire Data

There were six schools surveyed from various parts of Newfoundland and Labrador which included 170 females and 169 males. Table 5 illustrates that there was a huge discrepancy between the activities that females liked most and ones that males preferred. The analysis of variance that was performed on each of the research questions demonstrated a number of significant differences. Those differences were: females strongly agreed that social factors, embarrassment, few role models, and hygiene factors were a major reason for non-participation by females in physical education. Social factors, timetable conflicts, teaching methodology, embarrassment, hygiene factors, and facilities-equipment were important reasons why non-participants strongly agreed that students did not participate. Levels I and II students strongly believed that teaching methodology, curriculum content, and facilities-equipment were reasons why they did

not participate. The general and academic students felt that embarrassment and facilities-equipment were major reasons for the decision not to take physical education. The significant results discovered in the multiple regression are included in the following table which presents the research questions on the left and the students' opinions in the columns on the right. Table 45 illustrates clearly a summary of the findings determining which factors were found to be significant in the analysis of variance and the multiple regression.

**Table 45**  
**Summary of Findings**

RESEARCH AREA	STRONGLY AGREED IT TO BE A PROBLEM
SOCIAL FACTORS	1. <b>FEMALES</b> 2. NON-PARTICIPANTS
CURRICULUM CONTENT	1. NON-COMPULSORY STUDENTS 2. NON-PARTICIPANTS
TEACHING METHODOLOGY	1. NON-PARTICIPANTS
EMBARRASSMENT	1. <b>FEMALES</b> 2. NON-PARTICIPANTS 3. NON-COMPULSORY STUDENTS
FEW ROLE MODELS	1. <b>FEMALES</b>
HYGIENE FACTORS	1. <b>FEMALES</b> 2. NON-PARTICIPANTS 3. NON-COMPULSORY STUDENTS
TIMETABLE CONFLICT	1. PARTICIPANTS
FACILITIES-EQUIPMENT	1. LEVEL I STUDENTS 2. ACADEMIC STUDENTS

The overall impression given by the comments in the in-depth interviews was that the answers given by the female and male participants and non-participants were very similar. For example, favorite activities were the reason given by all the students as the reason why they liked the course and written tests and lectures were the reasons why they did not like physical education.

## CHAPTER V

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents a summary of the study, and conclusions resulting from analysis of the data are also presented. Implications for the teaching of physical education classes are deduced and recommendations made for future changes.

Summary of Study

This study investigated reasons why there were only approximately half the number of females registered in physical education classes in Newfoundland and Labrador High Schools, as compared to the number of males. In order to accomplish this main objective, ten research questions were evolved from the researcher's own knowledge of and experience as a physical education specialist, and through a review of related literature. With respect to involvement in physical education classes the major research questions investigated were the following:

1. Are social factors more relevant to females' participation than to males' participation?
2. Is the teaching methodology inappropriate for females?

3. Is the curriculum/content suited to the needs and interests of females?
4. To what extent does a lack of awareness of the benefits of physical education affect females' decisions more than males'?
5. To what extent does embarrassment, due to physical condition or lack of basic skills, affect females' participation?
6. Do females have fewer role models?
7. Are hygiene factors a more important consideration for females than for males?
8. Does lack of previous involvement in physical education classes act as a major deterrent for females?
9. To what extent does class conflicting schedules between physical education and other academic subjects influence females' decision to take physical education?
10. To what extent does the lack of facilities and/or equipment available affect females' decisions?

In an attempt to answer these questions, 340 questionnaires were administered to students in six schools throughout the Province of Newfoundland and Labrador. In addition, fourteen semi-structured interviews were conducted to supplement data that was gathered in the questionnaires.

A one-way analysis of variance and multiple regressions were completed on each of the research questions, using five major domains relative to high school physical education. Those five areas were: Differences due to gender, participants or non-participants, grade level, type of program and between students where physical education was compulsory or not compulsory. The findings for each of these are summarized below.

### Gender

Analysis of the data revealed that a significantly larger number of females than males agreed that the reasons for fewer females taking physical education are: hygiene factors, embarrassment, few role models, and social factors. With respect to hygiene, females indicated that schools did not have adequate changing facilities or provide enough time for changing and personal grooming between classes. Females reported that they experienced embarrassment for a variety of reasons, some of which included: poor skill levels, physical size, appearance in gym clothes, ridicule, and physical development. The lack of role models were also perceived to be a deterrent because there were very few female teachers, coaches, or professional athletes with whom female students could identify. Females also seem to have more social problems with physical education than males. These problems start before they even enter school and females carry with

them the negative influences that family, peers, teachers, media, and society in general have instilled in them since birth. These negative influences include stereotypes that girls are weak, non-competitive, unaggressive, disinterested in sports, and adverse to sweating. A multiple regression comparing the attitude of females and males indicated that females considered social factors, embarrassment, and few role models were all deterrents to their interest in taking physical education.

#### Participation

There was stronger agreement among non-participants than participants that they do not take physical education for six reasons. These are: social factors, teaching methodology, curriculum content, embarrassment, hygiene factors and facilities and equipment. However, participants felt more strongly than non-participants that timetable conflicts were deterrents to students in taking physical education. The multiple regressions showed that non-participants perceived that social factors, curriculum content, embarrassment, and hygiene discouraged females from taking physical education. On the other hand, participants also regarded timetable conflicts as being problematic.

### Grade Level

Levels I and II students agreed in greater numbers than Level III's that teaching methodology, hygiene factors, curriculum content, and facilities and equipment were major reasons why students did not take physical education. Levels I and III students perceived that few role models and timetable conflicts were more of an obstacle than did those in Level II.

### Type of Program

General and academic students perceived that embarrassment and facilities and equipment were major reasons why students were discouraged from taking physical education. Academic students reported that lack of facilities and equipment was a deterrent to participation, and this was reinforced by results of the multiple regression analysis.

### Compulsory/Non-compulsory

Students in schools where physical education was not compulsory felt strongly that hygiene factors, embarrassment, and curriculum content were problems why students did not take physical education.

### Conclusions and Recommendations

The following are the conclusions and recommendations emanating from the study.

#### 1. Hygiene

This study has shown four significant differences that must be addressed if there is to be equality between the sexes in physical education instruction situations in the high schools of Newfoundland and Labrador. Females believe that hygiene is a significant factor in why they do not take physical education. Hygiene was also a significant factor with the non-participants, and Levels I and II students.

One way to help solve the problem would be to schedule double classes to provide adequate time for showering and changing. Another suggestion is to have physical education classes end at recess, lunch, or the end of the day. A third way to help with hygiene problems is to plan for more private showers and changing facilities. Finally, there is need for sessions with females about fitness activities and involvement in physical education classes during menstruation. It may be preferable to have such sessions conducted by a female, either the school nurse or a doctor. Such educational sessions should be continuous throughout the school years, providing

greater detail and more in-depth discussions as students mature.

## 2. Embarrassment

Embarrassment was seen as a significant reason why females did not take physical education, compared to males. The non-participants, the general and academic students, and the non-compulsory students significantly agreed that embarrassment was a major reason why they did not take physical education. To help remedy this situation, physical education teachers across the Province need to be made aware of the problems. They should provide situations where students can participate at their own level, competing against themselves rather than meeting with failure on a regular basis. More emphasis should be placed on non-competitive activities and where competition is necessary, divide classes into groups so that students of equal ability will compete against each other. If the school is large enough, high school courses could be divided into two sections - competitive and non-competitive. It is also suggested that a counsellor or a psychologist hold discussions on body image and society's attitudes toward body image.

The development of skills should be accentuated in the primary, elementary, and junior high school courses. High school courses should stress activities and fitness

development that students will want to pursue in later life with the emphasis on participation and effort and not solely on skill testing.

### **3. Social Factors**

Females and non-participants strongly agreed that social factors were a significant reason why they did not take physical education courses. The Department of Education and School Districts need to be more aware that significantly fewer females are taking physical education. It is recommended that a committee be established to examine what could be done to change this trend towards non-participation by females. Part of the committee's job would be to educate the public on the values of living a healthy lifestyle where physical involvement is emphasized. Further, the provincial committee could liaise with the federal government and its various agencies dealing with fitness and amateur sport to help educate the public, especially females of all generations, of the benefits of physical education and recreational activities. One means of accomplishing this could be through the public media or by enlisting the help of private and public companies and foundations to include physical fitness as part of their corporate mandates.

#### **4. Role Models**

The study revealed that females and non-compulsory students significantly agreed that few role models affected their choice to participate in physical education. This situation would be improved if the School of Physical Education at Memorial University intensified recruitment efforts to encourage more female students to enter education, became more cognizant of developing courses and training teachers so that the danger of advocating sexually biased training is non-existent. It is further recommended that Memorial University, the Department of Education and school boards develop an affirmative action plan to increase the percentage of females delivering physical education services in the province. As well, public media must be convinced of the necessity of equalizing the amount of sports coverage given to females and males. High profile female provincial and national sports personalities should be made available to talk with high school students concerning the benefits of physical education.

#### **5. Participants and Non-participants/Teaching Methodology**

Non-participants reported that teaching methodology was a factor determining why students did not take physical education. It is recommended that teacher

training programs at Memorial University, especially those in the School of Physical Education, be systematically reviewed in order to maintain high standards. More collaboration and consultation with teachers are necessary. Physical education teachers need on-going professional development opportunities and in-service education programs with the aid of short intense summer sessions and special short courses. There should be one Physical Education Co-ordinator with each school board whose main responsibility would be to help develop programs and to work with physical education teachers.

**6. Participant and Non-participants/Curriculum Content**

Curriculum content was a significant reason as to why non-participants, non-compulsory students, and Levels I and II students are not opting for high school physical education courses. It is recommended that the Department of Education establish a standing committee to examine problems within the physical education curriculum and make the necessary revisions. It is also essential to have a curriculum person at the Department of Education whose sole responsibility is physical education. The Department must develop better teachers' guides and textbooks for each course. Different skill standards must be developed for various levels similar to the federally recommended fitness standards for

different age levels. These would be especially useful in the lower grades. It is also recommended that there be one required course in high school. It became evident from the interviews and the open-ended comment sections that students want a greater variety of activities.

**7. Participants and Non-participants/Timetable Conflicts**

Participants and levels I and III students strongly agreed that timetable conflicts were preventing students from taking physical education. The Department of Education must revise its graduation requirements so that students have more options. Further, in times of declining enrolments and other constraints, individual schools must schedule courses in order to provide more options for students to take physical education, rather than having to choose between it and the more "academic subjects" required for university entrance.

**8. Participants and Non-participants/Facilities-Equipment**

Improvement of facilities and equipment was seen as a necessity by the non-participants, academic students, and Level I and II students. Schools must firstly maximize utilization of the facilities-equipment that are available both in the school and in the community. Interview responses clearly indicated that students would like to be taught more activities either in the

community recreational facilities or outdoors. The Department of Education and the school boards should ensure that specialist grants for physical education equipment are used only for that purpose. There is also room for increased sharing among schools and across school districts.

#### 9. Grade Levels

There were six areas of concern identified by the three grade levels. Levels I and II students felt that teaching methodology, curriculum content, hygiene factors, and facilities-equipment were important factors by students in determining whether or not they enrol in physical education. Levels I and III students contended that lack of role models and timetable conflicts were important reasons for non-participation. It is difficult to deduce from the investigation why some of these were perceived problems with certain levels and not with others. However, since the regression analysis showed these as being significant, this may be an area for future research efforts.

#### Summary

In conclusion, this study indicates why some students do not participate in physical education, why others do, and

who would participate if circumstances could be changed. The results also offer suggestions to encourage more involvement in physical education, especially by females, and how to improve conditions for the present participants.

It is hoped that benefits of this research will emerge when the above recommendations are put into practice. However, the problems identified will need to be addressed if all students, female and male alike, are to take an active part in physical education. For the most part, females do not take physical education due to adverse social factors, embarrassment, few role models, and poor hygiene factors. These factors were identified in the study as being the most significant, and need to be addressed in order to help rectify the present situation throughout the Province.

The researcher strongly recommends that the findings of this study be reviewed carefully by the Department of Education, School of Physical Education, schools boards, principals, and physical education teachers, and that immediate steps be taken to solve the problem outlined herein.

#### Recommendation for Further Study

The following are recommended areas for further research:

1. That a similar study be completed in high schools with enrolments less than 500.

2. That similar studies be completed with students from kindergarten to high school to ascertain if similar problems exist at all levels.
3. That a more detailed study be conducted on each of the problem areas identified in this study, in order that more in-depth treatment of each can be achieved.

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**Appendix A**  
**Questionnaire**

STUDENT QUESTIONNAIRE

The purpose of this questionnaire is to investigate why students in Level II and Level III decided to take or not to take Physical Education 2100 and/or 3100.

Your cooperation in answering the questions to the best of your ability will benefit the research being done in the area of high school physical education.

Your answers will remain anonymous, as you are not required to write your name on the questionnaire.

Please read the directions carefully, and thank you for your assistance.

PHYSICAL EDUCATION SURVEYSection A

1. SCHOOL: \_\_\_\_\_
2. GRADE LEVEL \_\_\_\_\_
3. TYPE OF PROGRAM = ACADEMIC \_\_\_\_\_ 1.  
 HONOURS \_\_\_\_\_ 2.  
 GENERAL \_\_\_\_\_ 3.
4. SEX = MALE \_\_\_\_\_ 1.  
 FEMALE \_\_\_\_\_ 2.
5. Height \_\_\_\_\_ ft. \_\_\_\_\_ in.      6. Weight \_\_\_\_\_ lbs.
6. Are you taking Physical Education 2100 this year?  
 YES \_\_\_\_\_ 1.  
 NO \_\_\_\_\_ 2.
7. Are you taking Physical Education 3100 this year?  
 YES \_\_\_\_\_ 1.  
 NO \_\_\_\_\_ 2.
8. Are you taking part in any intramural activities or sports clubs this year?  
 YES \_\_\_\_\_ 1.  
 NO \_\_\_\_\_ 2.
9. Are you playing on any school teams this year?  
 YES \_\_\_\_\_ 1.  
 NO \_\_\_\_\_ 2.
10. Are you involved in any activities in the community this year?  
 YES \_\_\_\_\_ 1.  
 NO \_\_\_\_\_ 2.
11. Please list any medical conditions or physical considerations that effects your participation in physical education: (injuries, disabilities, special needs).
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

12. Do your parents take part in any sports or other fitness activities?
- 
- 
- 

13. Does your school require you to take one physical education course in high school? Yes  1. No  2.

14. Please rank the **TEN** activities that you most enjoyed in physical education. Place number **1** next to the activity you liked most and number **2** to the activity you liked next, etc.

<input type="checkbox"/> Tennis	<input type="checkbox"/> Volleyball
<input type="checkbox"/> Golf	<input type="checkbox"/> Bowling
<input type="checkbox"/> Football	<input type="checkbox"/> Swimming
<input type="checkbox"/> Basketball	<input type="checkbox"/> Ice Hockey
<input type="checkbox"/> Baseball	<input type="checkbox"/> Floor Hockey
<input type="checkbox"/> Softball	<input type="checkbox"/> Fencing
<input type="checkbox"/> Track & Field	<input type="checkbox"/> Field Hockey
<input type="checkbox"/> Cross-country running	<input type="checkbox"/> Soccer
<input type="checkbox"/> Cross-country skiing	<input type="checkbox"/> Archery
<input type="checkbox"/> Wrestling	<input type="checkbox"/> Boxing
<input type="checkbox"/> Gymnastics	<input type="checkbox"/> Aerobics
<input type="checkbox"/> Weight Training	<input type="checkbox"/> Dance
<input type="checkbox"/> Badminton	<input type="checkbox"/> Curling
<input type="checkbox"/> Racquetball	<input type="checkbox"/> Gymnastics
<input type="checkbox"/> European Handball	<input type="checkbox"/> Broomball
<input type="checkbox"/> Skating	<input type="checkbox"/> Orienteering

Others \_\_\_\_\_

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15. Please list any sport, fitness or recreational activities that you are involved. Indicate whether you play them in the school or the community. Also, give the number of hours that you usually play them each week.

ACTIVITY	PLACE	HOURS	ACTIVITY	PLACE	HOURS
1.			5.		
2.			6.		
3.			7.		
4.			8.		

Section B

Please circle the number that best represents your opinion.

STRONGLY AGREE - "1"; AGREE - "2"; UNDECIDED -"3"

DISAGREE - "4"; STRONGLY DISAGREE -"5"

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. Physical education classes embarrass me because of my poor skill level.  | 1 | 2 | 3 | 4 | 5 |
| 2. There are too many written tests in physical education classes.  | 1 | 2 | 3 | 4 | 5 |
| 3. The teaching methods in physical education class make the class enjoyable.   | 1 | 2 | 3 | 4 | 5 |
| 4. We concentrate too much on physical fitness in physical education class.   | 1 | 2 | 3 | 4 | 5 |
| 5. The school does not provide adequate changing facilities for personal hygiene.                                       | 1 | 2 | 3 | 4 | 5 |
| 6. I don't get to play enough in physical education class.  | 1 | 2 | 3 | 4 | 5 |
| 7. Physical education helps me to develop good social skills.   | 1 | 2 | 3 | 4 | 5 |
| 8. Physical education classes are too physically demanding.   | 1 | 2 | 3 | 4 | 5 |
| 9. I do not take physical education because we do not have adequate playing areas.                                      | 1 | 2 | 3 | 4 | 5 |
| 10. Physical education classes teach me how to keep my body in good physical condition.                                 | 1 | 2 | 3 | 4 | 5 |
| 11. I do not take physical education because it conflicts with another course that I need for post secondary education. | 1 | 2 | 3 | 4 | 5 |
| 12. I like the activities taught in Physical Education 2100 and/or 3100.  | 1 | 2 | 3 | 4 | 5 |
| 13. Physical education is for the more athletically inclined.   | 1 | 2 | 3 | 4 | 5 |

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 14. I like physical education because I can make decisions regarding the activities taught.                                   | 1 | 2 | 3 | 4 | 5 |
| 15. I would take physical education if my friends were taking it.   | 1 | 2 | 3 | 4 | 5 |
| 16. Cooperating with other students should be stressed in physical education class.   | 1 | 2 | 3 | 4 | 5 |
| 17. I take physical education because it raises my overall average on my report card.   | 1 | 2 | 3 | 4 | 5 |
| 18. I think physical education classes have too much competition.   | 1 | 2 | 3 | 4 | 5 |
| 19. There are not enough "leisure time" (lifelong) activities taught in physical education, e.g., golf, curling, bowling etc. | 1 | 2 | 3 | 4 | 5 |
| 20. I have time to develop my physical skills in physical education.  | 1 | 2 | 3 | 4 | 5 |
| 21. I am embarrassed to take physical education because of my physical size.  | 1 | 2 | 3 | 4 | 5 |
| 22. I had good physical education in jr. high school.   | 1 | 2 | 3 | 4 | 5 |
| 23. I don't like physical education because I get sweaty and then have to go to another class.                                | 1 | 2 | 3 | 4 | 5 |
| 24. My father encourages me more than my mother to take physical education.   | 1 | 2 | 3 | 4 | 5 |
| 25. Physical education conflicts with another course which is required for graduation.  | 1 | 2 | 3 | 4 | 5 |
| 26. I don't like the way I look in gym clothes.   | 1 | 2 | 3 | 4 | 5 |
| 27. We spend too much time on testing sports skills in physical education class.  | 1 | 2 | 3 | 4 | 5 |
| 28. I find physical education classes boring.   | 1 | 2 | 3 | 4 | 5 |

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 29. I do not like co-educational physical education classes (boys and girls combined).                       | 1 | 2 | 3 | 4 | 5 |
| 30. I believe that I will be made fun of if I participate in physical education class.                       | 1 | 2 | 3 | 4 | 5 |
| 31. Physical Education classes are not well-organized.   | 1 | 2 | 3 | 4 | 5 |
| 32. I would take physical education if I had a female physical education teacher rather than a male teacher. | 1 | 2 | 3 | 4 | 5 |
| 33. Physical education conflicts with another subject that I prefer to take.                                 | 1 | 2 | 3 | 4 | 5 |
| 34. I don't have fun in physical education class.  | 1 | 2 | 3 | 4 | 5 |
| 35. I did not have a good physical educational program in elementary school.                                 | 1 | 2 | 3 | 4 | 5 |
| 36. We have enough individual activities taught in physical education class, i.e. table tennis, archery etc. | 1 | 2 | 3 | 4 | 5 |
| 37. I do not take physical education because of my physical development during adolescence.                  | 1 | 2 | 3 | 4 | 5 |

Section C

1. What do you like most about the physical education program in your school?

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2. What do you like least about the physical education program in your school?

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3. If you are not taking Physical Education 2100 or 3100 what factors, if any, would have to be changed before you would take physical education?

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4. If you are taking Physical Education 2100 or 3100, how do you think the physical education program could be improved?

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5. Please give any other comments that are important to physical education in your school.

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6. Please list a professional sports personality that you admire.

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- b. What do you admire about that person?\_\_\_\_\_

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7. Please list a sports personality in your school or community whom you admire?

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- b. What do you admire about that person?

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INTERVIEW QUESTIONS

1. What type of program are you registered for this year (honours, academic or general)?
2. Explain the main reasons why you do or do not take physical education?
3. What activities do you like least that are taught in physical education class and why?
4. What activities do you like best that are taught in physical education class and why?
5. How important is physical education as compared to the rest of the courses offered in school?
6. Do you feel your physical fitness level will be maintained by the physical activities you are involved in outside of physical education? What activities are you participating in outside the school?
7. Did your physical education classes help you set up a personal fitness program?
8. Do you feel the activities offered in class are female or male oriented?
9. On what do you base this answer?
10. Does what your friends say or do affect your participation in physical education?

11. If for any reason a few subjects had to be dropped from the school program, should physical education be one of those courses?
12. What factors would you change in order to improve the physical education program at your school?
13. Please comment on the facilities, equipment, and the changing facilities of your school and identify areas that need to be changed.
14. Is there enough time for changing after physical education class?
15. Are physical education periods long enough?
16. What part do you think role models play in attracting students to physical education classes (school team members, teachers, professional athletes)?
17. Is transportation or cost a major consideration in your taking physical education?
18. Do you take physical education mainly because it is an easy credit?
19. Does the way in which physical education is evaluated affect your decision to take it?
20. Does having a male or female teacher have an influence on your decision?
21. Does the number of girls taking physical education influence your decision?

**APPENDIX B**

**CORRESPONDENCE**

Copy of letter to District Superintendents

Dear Sir:

I would like to request your cooperation in the accumulation of data as part of the thesis for my Master of Education Degree. The main purpose of this study is to ascertain the reasons why fewer females than males participate in Physical Education 2100 and Physical Education 3100.

In order to obtain this information, I would like to survey a sample of high school students from (name of school). In this regard, I would appreciate your permission to approach that high school principal for his/her help in administering a 20 minute questionnaire to approximately 60 students in levels II and/or III. It is hoped that the results of the study will bring forth recommendations that will improve the present situation and encourage greater participation by females in high school physical education courses in Newfoundland and Labrador.

I am enclosing a copy of the questionnaire for your perusal and if it is necessary, I could arrange to administer it myself. I am hoping to carry out the survey in March of 1990, and I would appreciate a reply at your earliest convenience.

Thank you for your consideration.

Sincerely yours,

Joe Devereaux  
Physical Education Teacher  
St. Paul's High School, Gander

Thesis Supervisor

Dr. G. A. Hickman  
Dept. of Educational  
Administration

Copy of Letter to Principals

Dear Principal:

I would like to request your cooperation in the accumulation of data as part of the thesis for my Master of Education Degree. The main purpose of this study is to ascertain the reasons why fewer females than males participate in Physical Education 2100 and Physical Education 3100.

In order to obtain the information it is necessary to survey high school students, participants and non - participants, both females and males. The survey consists of a 20 minute questionnaire which must be administered to approximately 60 students in levels II and/or III. Of these sixty students it is preferable that there will be 15 female and 15 male participants, as well as 15 female and 15 male non-participants. It is hoped that the results of the study will bring forth recommendations that will improve the present situation and encourage greater participation by females in high school physical education courses.

I am enclosing a copy of the questionnaire and if you consider it necessary, I would administer it myself. I am hoping to carry out the survey in the winter semester.

I will contact you in a few days to see if you have any questions or if there are any points that need clarification.

Thank you for your consideration.

Sincerely yours,

Thesis Supervisor

Joseph Devereaux

Dr. G. A. Hickman

St. Paul's High School

Administration

Gander







