THE PREFERENCES OF GENDER: A STUDY OF LOW FEMALE ENROLLMENT IN HIGH SCHOOL PHYSICAL EDUCATION

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FRANCIS JOSEPH POWER

The Preferences of Gender:

A Study of Low Female Enrollment in High School Physical Education

By

Francis Joseph Power

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Abstract

The purpose of this study was to determine the reasons why many female students in the Avalon North Integrated School Board were not participating in Physical Education courses 1100, 2100, and 3100. Nine high schools were used in the study, with a total population of 2079 students. Of that total, 1827 students participated. The study was conducted during the 1993-1994 school year. A questionnaire was administered to Physical Education participants and non-participants. This population comprised male and female students, although not in equal numbers. A review of current pertinent literature suggested a number of causes of non-participation by females in high school Physical Education courses. The questionnaire used for the present study was designed to ascertain the significance of these causes, which have been referred to as "themes" for the purpose of this study. Eleven such themes were investigated, namely, awareness of benefits, curriculum, embarrassment, facilities/equipment, few role models, hygiene factors, previous experience, social factors, teaching methodology, timetable conflicts, and gender discrimination.

Based on the means of responses for each theme, it was shown that the strongest deterrents to enrollment for females were hygiene factors, and previous experience in Physical Education classes.

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CHAPTER I

INTRODUCTION

Physical Education is that phase of the general education program that contributes, primarily through movement experiences, to the total growth and development of each child (Dauer & Pangrazi, 1986). A successful Physical Education program must meet the demands and interests of the students, and should reinforce the importance of enrolling in Physical Education courses when enrolment is no longer compulsory. Physical educators need to analyze students' existing attitudes, values and behaviors toward Physical Education. This is necessary in order to enable educators to devise programs which will be based upon student needs and will at the same time meet the objectives of the Physical Education program as put forward by the Department of Education of Newfoundland and Labrador.

Studying student concerns in Physical Education may alert physical educators to the need for changes in the current high school Physical Education program. Understanding student needs and interests is crucial for influencing fitness levels and participation patterns for all Canadian students.

Historical Overview

Prior to 1960, there were few organized Physical Education programs in Newfoundland and Labrador, and since that time, Physical Education has undergone many changes in primary, elementary, and secondary schools, and also at the post

secondary level. During the 1960's new schools were built which included gymnasia as part of the physical plant, and Physical Education programs became established components of the school curriculum. The 1960's saw the first curriculum guide introduced for Physical Education in the province (Annual Report of the Department of Education, 1961). In 1963 Memorial University of Newfoundland introduced its first degree program in Physical Education to help fill the need for specialists (Eastman, Hostetter and Carroll, 1991).

By 1970, many schools had hired Physical Education teachers who taught classes and provided opportunities for males and females to compete in sports programs. During the 1970's, Physical Education programs had advanced tremendously and there was almost total participation in all grades throughout the province (Higgs, Anderson, Tobin, Lundrigan, Quick, Drover, Noseworthy, Shelley, & Churchill, 1987).

In 1981, the Department of Education implemented the Reorganized High School Program. In the revised program Physical Education was changed from a compulsory to an elective subject, and courses for each of the three high school levels were developed. The province added an extra year of high school simultaneously with the revision of the whole high school program. Under this system, the three levels (Level I, Level II and Level III) of high school which were introduced corresponded closely to what were previously known as grades ten and eleven, with the addition of the new grade twelve. There was also a provision for Level IV, for those students who had still not achieved all

the program requirements after three years of study (Eastman, Hostetter & Carroll, 1991)

Prior to the time of the revision, high school in Newfoundland and Labrador consisted of grades nine, ten and eleven. A student who was successful in each grade progressed to the next grade the following year. A student who had not successfully completed the required courses prescribed for a particular grade usually repeated the entire course load for that grade in the following school year. However, the revised program provided that a student who might be unsuccessful in one course would be permitted to proceed to the next level while making up the failed course (Eastman, Hostetter & Carroll, 1991)

Currently, throughout the high school program, a student is required to obtain thirty-six course credits in order to achieve graduation. These credits are to come from a prescribed set of courses at each of the three levels. Certain core courses, such as English, Mathematics and Sciences, are considered compulsory for all students, while there are a number of courses in other areas which are considered electives. It is to this elective category that Physical Education was assigned in the revised high school program.

The first level course, Physical Education 1100, focuses on the meaning and importance of physical fitness and its contribution to health. Students taking this course participate in a variety of sports and recreational activities that contribute to personal

fitness while also learning how to assess their physical fitness requirements, and to plan personal fitness programs (Education Statistics, 1988-89).

The second course, Physical Education 2100, comprises one compulsory unit on physical conditioning, and a minimum of five other activities The major objectives of this course are:

> To have students develop skills in a variety of physical activities that have appeal as worthwhile, lifetime physical recreation and sports pursuits, and to have students attain a good level of physical fitness, as measured by the Cooper-Twelve-minute Run (Education Statistics, 1982-1983)

Along with this endurance test, there are tests of muscular endurance such as sit-ups and pushups.

The third course, Physical Education 3100, focuses on introducing indoor and outdoor activities suitable for lifelong participation. The course content comprises a physical fitness unit, five physical activity units, and a cognitive unit (Education Statistics, 1982-1983).

In the Reorganized High School Program, Physical Education was included as an elective course in a section which also included religious education, music, art and/or performing arts, family studies, and French. Making Physical Education courses elective appears to undermine the aims of Newfoundland education as outlined in The Aims of Public Education For Newfoundland and Labrador (1984), which states "people are

possessed of physical health, and a knowledge of, and respect for, their physical bodies, as well as a desire, and a knowledge of how to take care of them and their functions."

Importance of Physical Activity

Fitness Canada (1990) commissioned a Gallup National Omnibus Physical Activity Study to determine what the adult Canadian population was saying about the significance of Physical Education in Canada's schools. Highlights of that study indicated that 94% of the adult population thought Physical Education in schools was important, 67% thought it very important. Over half (51.8%) of Canadians felt Physical Education was as important or more important than subjects like Math and Reading. Twenty-nine percent of decided Canadians thought that the Physical Education students now receive in school was inadequate.

The importance of Physical Education was conceptualized by the researchers of the Gallup National Omnibus Physical Activity Study:

> The importance of Physical Education is as far-reaching as any school subject. It is important in the long-term development of an active and healthy lifestyle but it is also extremely beneficial to students while at school (Eastman, Hostetter & Carroll, 1991, p. 14).

Research shows that inactive lifestyles can lead to degenerative diseases, lower work productivity, and increased health costs. According to the Physical Education Special Interest Council, it is in the best interest of our province to teach young people the benefits of physical activity and to provide them with the opportunity for the

development of an active lifestyle (Brief to the Royal Commission on Education in Newfoundland and Labrador, 1991).

Enrollment Concerns

Declining enrollment patterns are evident in Physical Education courses which are non-compulsory. Newfoundland statistics for both males and females (Higgs et al., 1987) indicated that Physical Education 1100 was taken by 81% of the students, with 41% and 37% registered for Physical Education 2100 and 3100 respectively.

However, as well as declining enrollment the province faces another, more disturbing, phenomenon--that of differential enrollment numbers between males and females. In the school district that is the subject of this study, the Avalon North Integrated School Board (ANISB), for 1992-1993 enrollment was: 39 females (12%), compared with 138 males (35%) in Physical Education 1100; 59 females (18%) compared to 173 males (48%) in Physical Education 2100; 77 females (22%) compared to 192 males (56%) in Physical Education 3100 (Newfoundland Educational Statistics, 1992-1993).

Perhaps the female enrollment problem in high schools can be best understood in light of a wider view of female participation in athletics both inside and outside of school. This view must take into account the work of organizations devoted to sport and fitness, as well as the possible effect of young women's schooling on their participation in sport in later life. According to Sopinka (1984), the exposure to gender-based biases which young women experience in high school has a clear influence on their

participation in sport and athletics in adult life. Sex-role stereotyping in educational materials and methods produces a lasting negative effect on females. There is obviously a direct link between the experiences of high school students in Physical Education classes and the lifestyles of those same students as adults. Sopinka suggests that the choices which these young people make are influenced as well by the efforts of sport and athletic organizations to emphasize the benefits of involvement in physical activity.

Research suggests that over the last two decades females have become more physically active. This may be directly related to an increasing awareness of health benefits derived from a good physical activity program. Young women today are the focus of efforts by national groups to encourage their participation in physical activity (Dahlgren, 1988). These efforts are evident at the high school level. National organizations such as Sport Canada have provided leadership and direction to Canadians in an attempt to help women gain access to a male dominated sports world. In 1974, for example, the first National Conference on Women and Sports was sponsored in Toronto (Dahlgren 1988). In 1980, a second conference was held in Toronto, which provided guidelines for women in sport. These meetings were crucial milestones in the formation of the Canadian Association for the Advancement of Women and Sport (CAAWS) in 1981 and for the establishment of the Women's Program of Fitness and Amateur Sport in 1982. Fitness Canada also completed a task force report on Young Females and Physical Activity which was the foundation for greater endeavors towards involving women in sport (Dahlgren, 1988). Further support for the position of females in sport was provided

by Talbot (1989), in the Canadian Association of Physical Health Education and Recreation Journal which focused on women in sports in Canada.

People tend to accept without question that males are better at sport than females because they are stronger, faster, and tougher (Bryson, 1987). Physical activity is the accepted norm for the healthy young male, whereas females are perceived as inactive, weak, quiet, and helpless (Dahlgren, 1988). Society has developed sex-role stereotypes, narrowly defining roles for males and females in our society. The existence of sex-role stereotyping in many educational materials and methods perpetuates the traditional attitudes governing male and female behavior, placing many obstacles in the path to self-actualization for females (Sopinka, 1984).

The learning environment should provide the opportunities necessary for the achievement of the goals of education. Students should be able to see men and women in a variety of roles, exhibiting a wide range of human behavior, abilities and emotions. Materials and methods in our schools should reflect a society in which men and women have made, and are making, a variety of contributions based on their human attributes.

The achievements of women in sport have historically been ignored in both learning materials and the curriculum, promoting a situation where there are too few female sport role models. It has been suggested that the lack of female role models has led many potential female Physical Education students to assume that the combination of femaleness and achievement in non-traditional activity areas is unnatural (Sopinka, 1984). Because of the prevalence of this idea and the very strong need that young people

have for a sense of belonging, it would appear that many female Physical Education students have been deterred from striving to develop their full physicality.

There are many factors which are known to influence participation in physical activity, including: location, economic status, ethnic origin, religious and cultural beliefs. Many people, because of their economic status, could not afford such things as modern sporting equipment or money to travel to sporting events. Consequently, participation became a function of socio-economic status and many were unable to take part in structured physical activity programs (Sopinka, 1984).

Many females are not as concerned with physical activity outcomes as they are with the choices that are offered to them (Sopinka, 1984). Females need to be presented with many different possibilities to enable them to choose something suited to the effort they can give, and to the goals which they may be able to achieve. From a Newfoundland perspective, it is important to realize that there appear to be many more inter-school competitions in high schools for males than for females.

When females enter school, they lack the basic skills needed to feel comfortable taking part in physical activities with their male counterparts (Winther, 1983). Consequently, they do not engage in as many physical activities as males, and do not develop their skills to the same degree. This lack of activity results in low confidence levels and as a result females fall further behind. They are therefore less likely to engage in physical activities as they get older (Butcher and Hall, 1983). Lenskyj (1986)

contended that social restrictions imposed on females' physical activities were a major factor in keeping their performance below that of males.

Research suggests another reason for fewer female participants than male is that most activities are directed at encouraging male participation (Sopinka, 1984). There are many instances in which males go to sports facilities where coaches or instructors play games that were designed by males for male participation. This is probably as true in Newfoundland as it is elsewhere. There appear to be more activities offered to males than to females at the high school level. Consequently, females are placed at a disadvantage as they have fewer opportunities to participate, are unable to develop proper skills, and are unable to attain the same competence levels as males. Another potential influence for lower female enrollment in Physical Education could be the low number of female Physical Education teachers in Newfoundland. In 1986, females comprised 25% of the total Physical Education teacher population. Female Physical Education teachers were in a majority only from Kindergarten to grade three and the profession became more male-dominated as the grade level increased (Higgs et al., 1987).

A number of research studies (Sopinka, 1984; Higgs, et al., 1987) have suggested that a discrepancy exists between male and female participation in Physical Education. Higgs et al., (1987) reported that this discrepancy also exists in Newfoundland schools. Therefore, it was important to conduct a research project which identifies the issues affecting female participation in Physical Education. It is hoped that this study will

provide data and information that may provide insight, and from this, initiatives and strategies may be developed that will enable women to participate equally with men.

Statement of the Problem

Since the revision of the High School Program in Education, there has been a wide discrepancy between the numbers of females and males enrolled in Physical Education classes. This study investigated the concerns of females with respect to high school Physical Education programs, and the reasons why females do not enroll in these classes to the same extent as males.

Rationale for the Study

Minimal research has been conducted on the reasons females do not participate in larger numbers in Physical Education. In Newfoundland and Labrador in 1989 there were nearly twice as many males as females participating in Physical Education classes in the three courses offered (Education Statistics, 1988-1989). As females represent a higher percentage of the student population than males, it should be of interest to teachers, principals, and administrators to identify reasons for this lower participation.

Research Questions

The main question this study addressed was why fewer females than males enrolled in optional high school Physical Education classes in the Avalon North Integrated school district. Specifically the study investigated the following questions:

1. Are teaching methodologies a consideration for females deciding whether or not to participate in Physical Education?

2. Does the lack of female role models discourage female enrollment?
3. Are hygiene factors related to female's decision to participate?
4. Are social factors such as sex-role stereotyping and peer group influences related to females' decision to participate?
5. Are previous Physical Education experiences related to females' participation?
6. Does the curriculum meet the needs and interests of females?
7. Are class scheduling conflicts a deterrent to participation of females?
8. Is a lack of awareness of Physical Education benefits related to non-participation by females?
9. Does embarrassment due to their body image, physical condition or lack of basic skills affect females' participation?
10. Is the lack of suitable equipment and/or facilities related to females' decision to participate in Physical Education?
11. Are females deterred by the notion that females are treated differently than males in Physical Education classes?

Delimitation of the Study

The following constitutes the delimitation for this study:

1. This study was delimited to an investigation of 1993-1994 Levels I, II and III students (males and females) in the Avalon North Integrated School Board.

Limitations

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

1. Students may not have filled out the questionnaire truthfully.
2. Some questionnaires were not filled out completely.
3. This study was dependent on the return of completed questionnaires from nine schools in the Avalon North Integrated School Board.
4. In order to conduct this study, the cooperation of the school board, schools, teachers, and students was required.
5. There was not the same number of males and females taking part in the questionnaire.
6. The results can only be generalized to the Avalon North Integrated School Board area.
7. With rare exceptions, the students were of homogeneous ethnicity and socio-economic status.

CHAPTER II

REVIEW OF RELATED LITERATURE AND RESEARCH

Introduction

Physical Education is included in the school curriculum because of its contribution to the development of the "whole child". The general goals of education suggest that those who have achieved their fullest and best development as individuals are those who, to the best of their ability, are possessed of physical health, and a knowledge of, and respect for, their physical bodies, as well as a desire, and a knowledge of how to care for them (Newfoundland and Labrador Annual Report, 1983-1984) The goal of Physical Education is to educate the student "through the physical" and to develop students' skill and understanding so that they may experience a more enjoyable quality of life (Alberta Education, 1988; Manitoba Department of Education, 1981).

The purpose of this study was to investigate the concerns of females with respect to high school Physical Education programs, and the reasons why females do not enroll in these classes to the same extent as males. Since the revision of the High School Program in Education there has been a wide discrepancy between the numbers of females and males enrolled in Physical Education classes. The review of the literature is divided into 10 parts to reflect these concerns and is focused on the areas of: attitudes of students towards Physical Education; socialization factors; sex-role stereotyping; the influence of teachers, family, peers, and significant others; perceived competence and personal

attributes; teaching and scheduling of programs; reasons for non-selection of high school Physical Education courses; student likes and dislikes; Physical Education program support; and suggested program changes.

Attitudes Towards Physical Education

Historically, Physical Education attitude inventories have revealed generally positive attitudes towards Physical Education. One widely used instrument for measuring student attitudes, the Wear Inventory (Wear, 1950, 1951, 1955), was administered to student populations ranging from grades 8 to 12 (Hojjati, 1980; Williams & Nelson, 1983; Williams & O'Neil, 1983; Poitras, 1984) The statements contained in the Wear Attitude Inventories assessed the subject's attitudes toward Physical Education and referred to the perceived values and objectives of Physical Education. The results showed that overall students expressed generally positive attitudes towards the importance of Physical Education.

In 1987, the Carleton Board of Education noticed a decrease in female enrollment in Physical Education programs between grades 7 and 10 (Carleton Board of Education, 1987). The board was concerned that this negative trend might continue until few females were participating and benefiting from Physical Education classes. A survey conducted by the board concluded that there were only three major differences between female and male activity preferences. Firstly, males preferred "ball" sports more so than females. Secondly, female and male preferences seemed to differ when it came to physical activity. For example, males preferred game sports such as hockey and football,

while females preferred jazz and aerobic dance. Thirdly, both males and females indicated that a major reason for not participating in Physical Education was because there was "no room in the timetable." Ironically, the survey revealed that students valued Physical Education in their overall education program.

In a similar study, Crossman (1988), examined the sport choices of 807 females attending high school in Northwestern Ontario and their reasons for not participating in Physical Education classes. The findings revealed that girls participated in unorganized sport significantly more than organized sport. The three most mentioned reasons for not participating in both organized and unorganized sports were other interests, lack of time, and no interest.

Browne's (1992) study of Year 12 females in Western Australia found that enrollment decreased from 44% to 37% during the years 1984 to 1988. The study wanted to ascertain why females did or did not select Physical Education. Reasons given for selecting Physical Education included enjoyment of physical activity, fitness, enjoyment of learning new skills, enjoyment of the sports offered, and positive self-concept pertaining to Physical Education. The most important reasons given by females for not selecting Physical Education were that other subjects were more important to their career plans, that they could not fit it into their timetable, that they obtained enough exercise out of school, and that there was too much competitive activity within the Physical Education classes.

Socialization

Throughout the history of western society, female roles have been restricted compared to those of males. Historically, women were restricted to roles closely linked to family life, such as rearing and educating children, volunteer services, and running the home (Cairns and Williams, 1986). The lives of men involved more public activities, such as participating in local government. Often, guidelines on the conduct of males and females put forth by socializing institutions such as schools and churches were used to make people aware of gender role expectations. Females were thus restricted by society's expectations of stereotypical behaviour and this was, and is, difficult for them to change. It has only been during the last few decades that society's views of women have changed and that women have slowly changed how they view themselves. As a result of education programs, women have been able to raise their consciousness concerning their right to be vital, confident, and forceful. Women are recognizing that they also have the right to equality with men in sports - equal access, opportunities, money, and facilities (Jones, 1988).

Women have made many strides in the process of change but change comes slowly. Hall and Richardson (1982), indicated that young females are subjected to age-old expectations, attitudes, and inequalities. They concluded that sex differences in sports, in the areas of performance, participation and enjoyment, can be linked to cultural factors, rather than physiological factors such as size and strength. They further concluded that female socialization teaches women 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) concurred by stating that, although increasing numbers of women are becoming active in sports, traditional attitudes towards women's participation in sports still appear to remain intact. Sports have been traditionally viewed as a masculine activity so women who participate tend to be viewed either as masculine in the physical sense (Rohrhough, 1979) or as homosexual (Del Rey, 1977). In comparison, participation on the part of men has been viewed as extremely desirable and socially acceptable (Rohrhough, 1979).

The issue of gender-associated traits has been studied by Kane (1973), who stated that athletic ability correlates positively with such traits as aggression, dominance, drive, tough-mindedness, confidence, lack of anxiety, and emotional stability. These attributes directly contradict society's expectations of females and many of these attributes threaten the female sense of identity. Often females resolve this conflict by adhering to the traditional paradigms of feminine behaviors. 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 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).

Shaver (1974) examined male-female role perceptions of 250 junior high school students to see if social conditioning could be nullified by participation in a non-discriminatory, co-educational Physical Education program in the area of athletics. Shaver found social perception changed in the males who no longer viewed females as helpless, weak, and inactive. Females also viewed males differently because males did not appear to be as aggressive and dominant as the females expected. Shaver also concluded that home and family environment was the strongest conditioning factor in the early years and the most difficult to alter.

Greendorfer and Lewko (1978) found similar results in a study of 300 female college students that examined socialization factors Their results indicated that during childhood (ages 5-12) family and peers were the most significant indicators of active participation. Family influence diminished as the children became older. Supporting this conclusion, Hall and Richardson's (1982) study of the socialization of children towards athletics in 50 families indicated that parental attitudes about the value of athletics affected their children. If the parents valued athletics, then their children tended to participate. Snyder and Spreitzer (1978) compared the socialization of adolescent female athletes and musicians. The findings showed a clear relationship between selective parental encouragement and participation in these two extracurricular activities.

Rheingold and Cook (1975) studied the contents of 96 children's rooms as indicators of parental behavior. They suggested that differences in boys' and girls' behavior may be attributed to the way parents behaved toward them. Boys were encouraged to play with more complex, active, toys at an early age, while females were encouraged to play with more simple toys such as dolls. Boys played vigorously, while girls played passively. Birns (1976) indicated that males were encouraged to participate in sports because of role models. However, there are few role models for females and consequently few participate in sports. Birns also stated that appropriate and inappropriate behaviour based on gender was primarily the result of parental and environmental child rearing practices and was not innate.

Kenyon and McPherson (1973) established that regardless of how great the female's innate ability, unfavorable socialization factors deterred her participation. Five such socialization factors were, intrinsic enjoyment, extrinsic rewards, stigma, loss of status, and sentiment associated with sports. The researchers reported that every female who assumed a sports role must fully realize that she would encounter conflict in her attempt to become an athlete. Female athletes tended to be more assertive, dominant, self-sufficient, intelligent, reserved, achievement-oriented, and in greater control of their emotions (Greendorfer, 1977).

In a study of administrative support, Franklin (1978) indicated that support given to physical educators by administrators depended upon the administrators' philosophies, knowledge, and attitudes toward Physical Education. A similar relationship to that which

exists between administrator and instructor can be said to exist between family on the one hand and a Physical Education student on the other. In a study of socializing influences on athletes, Hall and Richardson (1982) found that athletes' peers were more likely to be athletic participants and were likely to value their athletic participation. Coleman (1960) reported 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 (1977) indicated that most females at the beginning of high school were attracted to activities with peers rather than with family. At this time, peer socialization pressures were probably strongest in helping to free adolescents from parental restrictions. The peer-group 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 have felt that their parents had less time available for them than they previously did, while at the same time parents felt that their children were rejecting them (Clausen, 1968).

The literature indicated that males and females are socialized to view competition and physical activity from different perspectives. Studies have shown that females value health-related fitness and socially-oriented outcomes more highly than males (Kisabeth, 1986; Earl & Stennett, 1987). Health-related fitness refers to attractiveness, body image, joy of movement, weight control, and circulatory-respiratory efficiency. Males valued skill development and competition more highly than females (Semotiuk, 1967; Asquith,

1971). Although females accepted competition, they desired less emphasis on competition in their classes (Earl & Stennett, 1987). Their findings also indicated that males and females differed in their preferred movement purposes and they suggest that this has implications for program development.

Sex-Role Stereotyping

Sex-role stereotyping is a prevalent factor in today's world. They examined sex role stereotyping and found Physical Education classes were often separated by gender and that females were discriminated against in co-educational classes. They determined that throughout society men were differentiated from women, and that the results of this stereotyping were quite evident in the participation of females in sports. They also found that the budgets for sports were not shared equally between males and females, with males generally getting the larger share (Hall & Richardson, 1982).

Females participating in sport have to overcome many obstacles. Historically, men developed and organized sports from a male perspective. Probably the biggest obstacle that women had to overcome was society's concern that women might endanger their reproductive system and thus put the survival of the human race in danger (Kidd, 1983). As recently as 1986, Lenskyj (1986) found that Canadian women's experiences in sport and physical activity had not been fully investigated even at the level of descriptive or documentary history. According to Lenskyj, sport-related aspects of women's health and fitness have generally been neglected. The ways in which male power and privilege have historically been entrenched, through male sporting practice,

and the related links between sport and femininity/masculinity have not been fully examined (Lenskyj, 1986).

In recent years, physical educators have become aware of sex-role stereotyping. Birns (1976) indicated that, while adult sex roles derive from innate differences between males and females which can be measured during the infancy period, further socialization for sex roles occurs through physical activity. Birns asserted that although one cannot state absolutely that behavioral sex differences are not present at birth, the majority of studies suggested that they are not. Although future research may uncover important biological factors, the present data give more than sufficient evidence that environmental shaping of sex differentiated behavior exists. Montemayor (1974) indicated that attaching a sex-type label to a game can influence both performance in, and attraction to, the game.

It has been 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 activity situations. A further suggestion was that co-educational classes may indeed cause more stereotypical attitudes (Duquin, 1975). It is important to realize that educators were not suggesting single-sex Physical Education classes, according to Duquin, but rather that additional efforts towards non-sexist education may be needed to reduce stereotyping in co-educational situations.

Malumphy (1971) described female athletes as aggressive, frustrated, and unfeminine. She stated that people believed that with athletic achievement females lose their femininity. Similarly, according to Lenskyj (1986), femininity and heterosexuality are seen as incompatible with sporting excellence. The rapidly increasing opportunities for females in sports may make the problem of role conflict among female athletes one of merely historical interest. It will exist only as long as society supports the stereotype of female role-appropriate behavior which is in conflict with the requirements of sports participation (Lenskyj, 1986).

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. They found that college students appeared to have a generally favorable attitude towards college athletes of both sexes irrespective of the sex-appropriateness of sports. Their most significant finding was that society itself still had a long way to go to eliminate sex-stereotyping from sports. They stated that more money and equipment for women athletes, more support and encouragement to overcome existing stereotyping, and more media attention for women's events would benefit everyone.

The ideology of sport as a male domain is reinforced through differential media coverage (Courtney & Whipple, 1978). The media treats females differently from males. The media may have an effect on female participation in sport and physical activity in that they stressed which activities were appropriate for females and which were not

(Dahlgren, 1988). Dahlgren found that the media printed very few female-focused articles and when they did, they were short and were seldom front-page news. Females received only 10% of sports coverage. Dahlgren suggests that with the media's attention focused on male achievement, females may be discouraged from participating.

Marovelli and Crawford (1987) examined the relationships between the athletes with whom high school students most identified, and the media coverage of male and female sports. They found that young female athletes identified with a greater number and variety of professional male athletes than professional female athletes. They also suggested that lack of media coverage of females in sport has left females with few same-sex role models to emulate, as compared to those offered to males.

The Influence of Teachers, Family, Peers and Significant Others

Weiss and Knoppers (1982) suggested that three social systems - peers, teachers and coaches, and parents - exerted collective influence on sport participation in childhood, with decreasing influence during adolescent years. Teachers' personal qualities and their classroom practices influenced student perceptions and enjoyment of Physical Education. Rice (1988), in a study of student likes and dislikes about their teachers, found that 70% of the students liked Physical Education because they liked the teacher. He noted that the teachers who were friendly, easy to talk to, took a personal interest in the students, had a good knowledge of the subject matter and possessed a sense of humor were viewed positively by the students. Additional positive teacher qualities included the ability to generate enthusiasm for learning and to convey a positive attitude

about teaching (Csikszentmihalyi & McCormack, 1986). They did however note that the positive qualities of teachers were sometimes viewed negatively by students because they were perceived as being present only to encourage the students to like the teacher. They stressed that when the teacher was effective in gaining the students' respect, the students not only liked the teacher and the class, but enjoyed the subject matter as well. Teachers who did not allow the class to plan activities, directed negative remarks towards the students, showed favoritism toward more highly skilled students, and did not participate in the activities along with the students, were generally disliked.

Snyder and Spreitzer (1973) examined the role family encouragement played in sports involvement. Using 510 subjects ranging in age from six to fifteen, they found that parental involvement decreased as the child increased in age. For children of both sexes, parental interest in sports showed a consistent positive relationship to sport involvement. This study also looked at the influence of the encouragement of family, peers, teachers and coaches upon adolescent female participation in high school sports. The findings indicated that there was a significant difference in interest in sport between parents of athletes and parents of non-athletes. Snyder and Spreitzer discovered that same-sex parents had greater influence on children's sport involvement than did opposite-sex parents. McEvoy (1983), in a similar study, reached the same conclusion. He examined same-sex as well as cross-sex parent/child relationships to see whether they affected the children's sports involvement. His findings revealed that parents passed on their own sex-role socialization attitudes to their same-sex children. This study also

found that parents offered economic and emotional support, were seen as role models, and provided opportunities to interact within a social environment. They were more likely to take their children to sport venues and practice sessions, and to encourage children to interact positively with other participants.

Snyder and Spreitzer (1977) studied female involvement in sports. They examined the relationships between participation and familial factors; the encouragement of peers, teachers and coaches towards female participation in sports; the social-psychological variable of perceived femininity; and self-report of athletic ability and body image. Findings indicated that socialization into sports began in childhood and continued into high school with considerable encouragement from significant others. Female basketball players reported less encouragement and tended to regard themselves as less feminine than other athletes. Athletes had higher self-perceptions of athletic ability than did non-athletes and athletes' perceptions of their body image were generally more positive than those of non-athletes.

Brooks, Chansonneuve, and Cooper (1986) investigated why there were so few women coaches. Their findings confirmed that male coaches outnumbered female coaches. Men coached female teams even when women were available, probably because they were more experienced and were perceived as better for the job. Also, male coaches had superior training facilities to those available to women. They also found that women did not have the time necessary for training purposes, attributing this to their

multiple social roles. The authors reported that many women saw fitness and recreation as important goals, in addition to prowess in sports.

Hall and Richardson (1982) surveyed academic women in Physical Education faculties. Their findings showed that a total of 23% of all professors were female, with most concentrated at the rank of assistant professor. Over half held master's degrees while only 19% held doctorates. Their findings showed that, as in other areas of sport, there is a serious shortage of role models and mentors for female students and academics. They suggested that the lack of female coaches and female Physical Education teachers may be a reason for non-participation by female students. Because a female coach or female Physical Education teacher may understand the physiological, psychological, and social make-up of females better than males, the female student may confide in them. The researchers indicated that parents and other authority figures stressed academic achievement for females, resulting in Physical Education being dropped in favor of academic classes.

Underwood (1987), in a study of English schools, found the Physical Education teacher to be the major figure in learning about sport. He indicated that the teacher should decide on objectives, organize the most efficient methods to ensure optimal learning, and observe students. Also, Underwood noted a significant difference in the way male and female coaches approached their teams. For example, female coaches used more managerial cues than did male coaches. Underwood indicated that co-educational teams were likely to be coached by males. These trends and the possibility

that more males than females would be hired if and when vacancies occurred, contributed to female non-participation.

Perceived Competence and Personal Attributes

In a longitudinal study conducted for the Alberta Department of Education, Butcher and Hall (1983) studied whether adolescent female participation in physical activity changes with age. They also attempted to determine the reasons why women participated in physical activity. The researchers concluded that satisfaction with Physical Education declined as female students reached junior high school. Release of tension became more important while competition became less important. During the five years of the study, the self-image of the female athletes declined. Yearly decline was also seen for the socialization variables: (a) father's and mother's socialization influence; (b) encouragement, support and examples from significant others; and (c) socialization variables and socio-economic status, which separated participants and non-participants in community-organized activities.

MacIntosh, King, and Greenham (1978) conducted a study on participation in Physical Education in Eastern Ontario schools. They found 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 more skillful peers. Even though they had decided not to take Physical Education the young people generally expressed positive attitudes toward physical

activity and Physical Education, and reported that sports were an important aspect of their school and community life.

Research by Butcher (1976) and MacIntosh (1979a) investigated the reasons why students selected or did not select Physical Education. Butcher's study of grade 10, 11, and 12 females revealed that non-selectors gave the following reasons: a lack of confidence in their physical ability; an unwillingness to exert the necessary effort to achieve the benefits of Physical Education, a preference for unorganized noncompetitive physical activity; and a dislike for certain aspects of Physical Education classes. Both studies reflected the importance of student self-perceptions and their own physical abilities as determinants of their level of competence to take part in Physical Education classes. However, non selectors still expressed a positive attitude toward the value of Physical Education. Their comments indicated acceptance of the commonly held values of Physical Education, even though their experiences, preferences or aptitudes may have influenced them not to select non-compulsory Physical Education.

Butcher (1983) studied the participation of 661 girls from grades six to ten. Her findings indicated that perceived athletic ability was closely related to participation. It appeared that satisfaction and confidence in movement activities were prime prerequisites for female participation in physical activity. Puberty was also found to be a traumatic time of physical, emotional, and social changes. As Butcher asserted, young females may not be willing to submit themselves to activities in which they feel incompetent.

In a classic early study of attitudes of females, Anderson (1934) studied 800 girls from grades 10, 11, and 12. The study investigated the attitudes and interests of high school females in certain Physical Education activities. The results indicated that most females were motivated and wanted to participate after seeing a good performance. They also liked to participate in vigorous activities, work out, and keep in good physical condition. Anderson concluded that females' attitudes towards Physical Education influence their success in it. According to Anderson, three factors that contributed to success were: (a) motor ability, (b) attitudes towards Physical Education, and (c) intelligence. In a similar vein, Carr (1945) also concluded that students' attitudes should be made known to teachers so that obstacles to learning can be removed.

Butcher (1980) studied students for five consecutive years, and differences were reported in athletic participation among students. For inter-school teams, personal attributes correlated most highly with participation. Inter-school participants in grade 10 were extremely satisfied with their sport skills. During the five years, it was reported that only 33% failed to participate on school teams. Also, only 2% participated every single year, suggesting that school teams changed substantially from year to year. The researchers also concluded that the average physical activity of adolescent females declined from grades 6-10. 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 non-activity; and independent, assertive, self-descriptions.

Females have traditionally been led to believe that they are physically weak, inactive, helpless and not capable of being competitive (Dahlgren, 1988). This influences some females throughout life, particularly in their choice of whether or not to take part in physical activity. Dahlgren felt that many females had been encouraged to believe they could not succeed in physical activities and that sport participation was inappropriate. A perceived conflict theoretically exists between sport and femininity (Lenskyj, 1986). According to her, one of the significant reasons why females did not participate was because they felt sport was unfeminine. As a result, females tended to grow out of sports at puberty as they matured physically and their body fat increased. They also tended to be concerned about menstruation.

Lenskyj (1986) also studied how females developed confidence in their bodies. She stated that such confidence and abilities could be developed by female participation in contact sports like football, soccer and hockey. This could be followed by instruction in self-defense techniques such as those given in martial arts. This would be of particular help in defending themselves, especially from sexual attacks.

Nicholson and Snyder (1979) studied young female participants and their self-perceptions. They reported that self-perceived characteristics of ambition, competition, strength, and speed were more evident among participants than non-participants. On the other hand, there were no significant differences between participants and non-participants concerning characteristics such as happiness, affection, femininity, sensitivity, gentleness, and attractiveness Snyder and Kivlin (1975) looked at collegiate

female athletes and non-athletes on measures of self-reported psychological well-being and body image. Their findings showed that athletes have more positive self-perceptions than non-athletes.

Earl and Stennett (1983) completed a survey of student attitudes towards Physical and Health Education in London Secondary schools. The main objectives of the study were to look at declining enrollment in Physical and Health Education classes and to try to improve on the programs that were offered. The survey showed that as students increased in age, male and female participation in Physical and Health Education decreased significantly. Some females responded that they would choose to take Physical Education if teachers said things that would increase their self-esteem. Related findings by Earl and Stennett in the same study revealed that females were more likely than males to describe themselves as overweight and that a female's sense of self and her perceived competence were a function of the way significant others in her life, such as peers, teachers, coaches and family, viewed her. They believed the views of the significant other's ultimately affected participation in sport and physical activity. The study found that another contributing factor in female non-participation was the manner in which courses were taught and scheduled. Timetabling was found to be a true inhibitor to participation, and students were sensitive to the content of courses offered.

The Teaching and Scheduling of Programs

In 1985-86, the Ottawa Board of Education (Campbell & Zacour, 1986) expressed a concern about the declining enrollment of females in Physical Education and

the interests and feelings of adolescents toward Physical Education. They conducted a survey of grade 9 and 10 female students to determine their preferences for and attitudes toward selected activities in physical and health education programs. Their findings showed that 55% of females who were planning to continue with the physical a id health education programs were satisfied with the existing syllabus. They indicated that they would like to see more variety incorporated into the curriculum with activities such as dance, weight programs, racquet sports and slim-and-trim programs. Females who were not participating in the physical and health education program in grade 10, listed the following reasons: timetable clash; did not have any interest in the subject; and disliked running. Most indicated that more dance programs could possibly entice more females to participate.

The report also concluded that for physical and health programs to improve, schools needed to examine their core programs and make necessary changes. The core program should reflect the needs of females and should be based on sound physical and health education principles. Furthermore, courses needed to be established that satisfied both traditional and non-traditional needs. The authors also suggested that new elements such as dancing, aerobics, and weight training should be introduced into the Physical Education program. The need for a more flexible timetable was also a major finding of the report. This would allow students to follow either a recreational or traditional path. With respect to evaluation, the report suggested that emphasis should be placed on

participation, effort, and fitness, while skill testing be de-emphasized (Campbell & Zacour, 1986).

Campbell and Zacour concluded that most students took Physical Education because they enjoyed it and also because it provided a change from the regular daily schedule. Many students felt that academics were the most important part of school, while the lack of privacy in Physical Education, and the feeling that students do not learn enough skills, were factors which inhibited participation. The authors reported that students felt that physical activities which students participated in outside of classes were enough. The survey indicated that many females did not participate in Physical Education because they disliked competitive and challenging sports, and practicing skills. Many students felt that with the exception of wrestling and dance, all other activities should be available to all students. Some reasons common to both males and females for not taking Physical Education were, lack of interest, lack of importance, and dislike of the activity (Campbell & Zacour, 1986).

The Ottawa survey also looked at the reasons for greater male than female enrollment. Findings indicated that males were more suited to and more interested in the activities offered. Reasons females provided for not participating included: not wanting to get dirty; more interested in being pretty and popular; and a feeling that certain activities made them unfeminine. Students also stated that time-honored roles, greater sports orientation of males, and competition and pressure were reasons that males participated more in Physical Education than females (Campbell & Zacour, 1986).

According to the survey, females felt that improvements should be made in the following areas: (a) adequacy of equipment, (b) qualifications of Physical Education instructors, (c) personal help and encouragement, (d) choice of activities, and (e) balance between games and sports. They also felt fitness needed to be an important component of Physical Education classes. Other things which they deemed important were: more female-oriented sports; more extra-curricular activities held during the school day; mandatory Physical Education; increased facilities for students with disabilities; and reduced competition (Campbell & Zacour, 1986).

Reasons For Non-Selection of Physical Education Courses

Some studies indicated that the reasons given for not enrolling in Physical Education changed as students progressed through the grades. MacIntosh and Albinson (1982) followed grade 8 students from a previous study by MacIntosh (1979a) into grade 11 and found that the reasons for non-selection of Physical Education after grade 11 were in sharp contrast to the reasons in grade 8. In grade 8, the reasons were related to displaying physical incompetence, whereas the senior high school students reported that their reasons for non-selection of Physical Education were based on the relative importance of other courses and other academic related matters. Similarly, results from other studies revealed that senior high students listed other courses as being more important, and that they did not have room in their timetables for optional courses (Jones 1988; Gardner, Melmychuck, Joly & Leighton, 1986; Earl & Stennett 1983).

Some timetabling difficulties are factors over which physical educators have little control. Although the majority of the studies reviewed revealed that students had a positive attitude towards the values and benefits of Physical Education, their attitudes did not translate into the selection of Physical Education in their timetable. For some students, when the timetable choice was between Physical Education and an academic course necessary for preparation for entry into post secondary institutions, real choice was effectively eliminated. However, when the choice was between Physical Education and other non-compulsory options, students, even though they espoused the values and benefits of Physical Education, chose other courses of more immediate interest (Keough, 1962, 1963; Butcher, 1976, 1982; Earl and Stennett, 1987).

Students' Likes and Dislikes

The reasons for student likes and dislikes of Physical Education classes varied. Research findings indicated that the reasons given by some students for liking certain aspects of the Physical Education program were the same reasons identified by others for disliking the program (Rice, 1988; Stensaasen, 1975; Figley, 1985; Earl & Stennett, 1987; Butcher, 1982). Figley (1985) categorized the reasons for these likes and dislikes into 5 broad areas: teacher, curriculum, class atmosphere, peer behavior, and perception of self. Responses pertaining to the teacher and curriculum accounted for over 70% of both positive and negative responses. The "teacher" category included responses about the marking system, the methods of presentation and the teacher's personality. The "curriculum" category contained responses that referred to specific activities taught, the

amount of time spent on each activity, and examinations. Male and female responses differed only in the order of importance, or frequency of responses given to questions of likes and dislikes. Figley's study focused on providing information to physical educators about their programs so changes could be made to better meet the needs of students. By meeting student needs, Figley asserted, attitudes towards Physical Education could be positively affected resulting in a decision to enroll in Physical Education when it was no longer compulsory.

Program Support

In the area of program support, as it applies to the situation in Newfoundland and Labrador, research is scanty. The only pertinent information available was by Higgs et al. (1987). They conducted a study of many facets of Physical Education in the province including the areas of: school Physical Education; programs for students with special needs; facilities and equipment; resource materials; program evaluation; funding; intramurals and interscholastics; and the teachers. The report indicated that Physical Education was taken by most students from Kindergarten to Grade IX. However, the percentage of students participating in Physical Education decreased from 81.07% at Level I, to 41.32% at Level II and to 37.41% at Level III.

With respect to the frequency and the length of classes, the report indicated that the number of Physical Education classes per cycle rose relatively consistently from a low of 1.7 periods per cycle in kindergarten to a high of 3.1 periods per cycle for Level III. With advancement through the grades, not only did the number of periods per cycle

increase, but there was a corresponding increase in the length of each individual class. In kindergarten, it was reported that the average class was slightly less than 30 minutes in length, whilst from grade 7 onwards, almost all classes appeared to be of 40 minutes duration.

The report also examined the venue for Physical Education classes. Most schools indicated that Physical Education was held in a gymnasium, but some indicated places of instruction including classrooms, cafeteria, parish halls, community centres or special multi-purpose rooms.

The findings indicated that the higher the grade, the less equipment and facilities were available, especially for non-traditional activities. The study revealed that in Levels II and III the problem of lack of equipment and facilities seemed to be the most acute. Of 13 sports identified in the curriculum in Level II, only four sports seemed to have the necessary equipment. From a survey of Level III students concerning 25 different sports, it was determined that there appeared to be adequate equipment for only three of the sports mentioned. It was also shown that many of the schools did not have the necessary equipment to ensure a quality Physical Education program as prescribed by the Department of Education.

In Newfoundland and Labrador in 1986, teaching Physical Education was predominantly a male profession, with almost three quarters (74.5%) of those teaching Physical Education being male. It was also significant to note that in addition to teaching

Physical Education, the teachers provided considerable additional programming to the schools.

Suggested Program Changes

Research by Earl & Stennett (1987) involved students who were enrolled in Physical Education, as well as students who were not. The students not enrolled in Physical Education were asked to identify changes they would like to see implemented. They suggested the following changes: offer a recreational activities course; change the marking system by giving priority to the mark allotment for effort rather than skill; allow students to enroll with students of similar attitude and abilities; and encourage teachers to attempt to enhance student self-concept. These recommended changes, identified by non-selectors of Physical Education, reflected the dissatisfaction with the students' past experiences in Physical Education. Their concerns suggested that present practices in high school Physical Education classes did not meet the needs of all high school students, resulting in declining enrollments (Earl & Stennett, 1987).

Summary

This review of the literature has examined factors that have influenced high school students' participation in Physical Education. The review of literature identified major findings concerning female non-participation. It revealed that attitudes towards Physical Education, socialization factors, sex stereotyping, the teaching and scheduling of programs, various reasons for non-selection of Physical Education courses, student like and dislike of activities, and, shortcomings in program content, have contributed to

non-participation by females. Other factors identified were: the influence of teachers, family, peers and significant others; perceived competence and personal attributes; and hygiene.

CHAPTER III

METHODOLOGY

This study examined the reasons for low enrollment of females in Physical Education in the Avalon North Integrated School District. To accomplish this task, a questionnaire was designed by the investigator to assess the contribution of 11 themes towards the participation of females in high school Physical Education courses.

The study was conducted on one group, by means of observation on a single occasion. The single observation was used to discover the factors that influence females in their decision to enroll or not in Physical Education 1100, 2100, or 3100 in high schools in the Avalon North Integrated School Board. A second reason was to find possible means of encouraging females to enroll in Physical Education classes. A third reason was to compare the findings between females and males to discover reasons for similarities or differences for enrolling in Physical Education. The Avalon North Integrated School Board was chosen because it is the geographical and professional area in which the researcher works, and therefore of particular interest.

Researcher's Position

The relationship of research bias and research objectivity is of concern to all researchers. Having a background in teaching Physical Education, the writer must, and did, consider the question of personal bias. Bias or judgment, either conscious or unconscious, is a factor in many research decisions, from the choice of the research

setting to the methodological design of the research. It is the researcher's role to make the various decisions as consciously and as explicitly as possible.

Population Selection

Many high school physical educators in the province of Newfoundland and Labrador encounter problems of very low female participation in Physical Education classes. The researcher felt it would be appropriate to study the school board in which he was employed, one of the largest in the province, to see if the same trends existed there.

The Avalon North Integrated School Board comprises nine schools that offered Levels I, II, and III for the 1993-1994 school year (Education Statistics, 1993-1994). Survey participants included 2079 female and male students who were enrolled in the Avalon North Integrated School Board schools at Levels I, II, and III for the years 1993-1994 (Education Statistics, 1993-1994). This population size was adequate to complete an in-depth study into the reasons why females were not enrolling in Physical Education. The responses also enabled the researcher to make comparisons between males and females.

Design of the Questionnaire

Data collection was by means of a questionnaire (Appendix A). The questionnaire was comprised of three sections. Section A asked for information concerning the participant's physical attributes, as well as information on the family background as it related to physical activity. Section B investigated the activities

students preferred in their Physical Education program. Section C concerned itself with the participant's opinions on a number of themes pertaining to Physical Education.

The design process began with the identification of the problem of low enrollment of females in high school Physical Education courses. A review of the literature was conducted, and key areas of concern were identified. From the research studied, 11 themes emerged which students might consider in their decision to enroll or not to enroll in high school Physical Education. In random order, the themes were: awareness of benefits; curriculum; embarrassment; facilities and equipment; few role models; hygiene factors; previous experience; social factors; teaching methodology; timetable conflicts; and gender discrimination. Based on these 11 themes, the researcher then constructed a questionnaire.

More specifically, section C of the questionnaire dealt with the following areas respectively: (a) awareness of benefits concerned the level of student awareness of the importance of physical activity in daily life; (b) curriculum addressed student concerns over the content of Physical Education courses and its relevance to their lives; (c) embarrassment referred to the degree of embarrassment the student has experienced in previous and present Physical Education classes; (d) facilities and equipment was an area concerned with student opinions of the amount, quality and variety of equipment available for use, and the facilities in which Physical Education classes were taught; (e) few role models represented the question of whether students had been influenced by sport figures, either positively or negatively, in their enrollment choices in Physical

Education; (f) gender discrimination addressed the question of whether the students, male or female, felt they had been subjected to positive or negative gender biases in Physical Education classes; (g) hygiene factors referred to the concerns students may have had about their personal hygiene in relation to participation in Physical Education classes; (h) previous experience dealt with the way in which students felt they had been influenced to enroll or not due to the nature of their previous experiences in Physical Education; (i) social factors was the area which investigated whether the student had been influenced to enroll or not due to social factors such as sex-role stereotyping, or pressure from peers, family or significant others; (j) teaching methodology asked whether students had been influenced in their enrollment choices by the teaching methodologies employed by previous or present teachers of Physical Education; and (k) timetable conflicts concerned itself with the question of whether or not timetabling posed a deterrent to enrollment in Physical Education.

The questionnaire was developed as follows:

1. Questions were based on the 11 themes identified in the literature review.
2. Questions were patterned after those from three Canadian studies (Butcher and Hall, 1983; Campbell and Zacour, 1986; Earl and Stennett, 1983).
3. Questions were drawn from the author's own Physical Education background, which included teaching Physical Education for eight years in the Avalon North Integrated School Board.

The questionnaire was divided into three sections. Section A, the demographic section, contained questions which asked all respondents to indicate gender, age, grade, height, weight; whether during the current year or in previous years they were enrolled in Physical Education 1100, 2100, or 3100; participation in intramurals; participation on school teams; and parents' sport background. This section was considered important in order to determine grade levels, gender, and physical attributes which could influence the students' decisions regarding Physical Education.

Section B listed some activities which students might like to see included in a Physical Education program. A list of 32 activities was presented, and respondents were asked to rate how much they would like to have each included in their Physical Education program. Responses were ranked on a scale of one to five; one being "A lot", two being "Some", three being, "Undecided, four, "Not much", and five, "Not at all". This section was considered to be an important component of the research as it was felt that it would indicate the types of activities students would enjoy as part of the Physical Education program. This might be a strong determining factor in student decisions. For the purpose of comparison, the list of activities was separated by the researcher into three groups: the top one-third, which would be the most preferred activities, the middle one-third, and the bottom one-third, representing those activities least preferred. This grouping made it easier to compare the choices made by students, and to examine similarities and differences between the groups.

As there were 32 activities presented, each one-third included approximately ten activities. It was impossible to divide the thirds precisely since the preferences sometimes overlapped and, in some cases, the means were the same for more than one activity, resulting in a tie for position.

In Section C, 55 statements were given to which students were asked to respond by choosing from five degrees of agreement using a Likert scale. These statements were based on the eleven themes identified through the review of the literature, and were intended to reveal the extent to which each of the eleven themes influenced participation in Physical Education. Choosing "1" indicated strong agreement, "2" meant agreement, "3" meant undecided, "4" indicated disagreement, and "5" meant strong disagreement.

These three sections, taken together and analyzed accordingly, enabled the researcher to see any differences between female participants and female non-participants, and the nature of any such differences.

Validity

Validity refers to the ability of a test or instrument to measure what it claims to measure (Miller, 1994). Validity was established through a process of repeated consultations with various experts during the construction of the inventory. Experts, including university professors, graduate students in the area of athletics, and a statistics expert, contributed to the item set of the questionnaire, thus meeting the criteria of content validity. Barrow, McGee, and Tritschler (1989) describe content-related validity as the "degree to which the sample of items, tasks, or questions on a test are

representative of some defined universe or domain of content" (p. 59). Having the experts approve the items for the inventory also met their suggestion that experts should be used to define what is to be measured by the content of the test, scale, or inventory.

Pilot Study

After developing the instrument, a pilot study was initiated in order to assess the questionnaire's ease of comprehension by the students and to measure its reliability. Reliability refers to the similarity of results provided by independent but comparable measures of the same object, trait, or construct (Baumgartner and Jackson, 1991). One of the more popular ways of establishing the reliability of an instrument is to measure the same object or individual at two different points in time and to correlate the obtained scores. The reliability of the present instrument was established by having the same group of students complete the questionnaire two times, with a time interval of one week between occasions. If the subjects could remember or recall previous responses during the second administration, the test-retest value would be jeopardized. With 101 items on the inventory, and questions having as many as five alternative responses, it was felt that the one week between test and retest adequately prevented memory and recall from influencing the results on the second administration.

The Superintendent of the Avalon North Integrated School Board was first contacted by letter (Appendix B). A personal visit to the office of the Assistant Superintendent was made to obtain permission to conduct the study, and to discuss its procedure and purpose.

The pilot study was conducted in one school of the Avalon North Integrated School Board. As this school is within the Avalon North Integrated school district, the pilot study was considered to be quite valid for use throughout the district. Permission was sought and received from the principal to visit a class of Level II students and provide them the opportunity to participate in the pilot study. Twenty students were involved, 12 males and 8 females. Subjects who participated in the pilot study were chosen because of accessibility and convenience.

During the visit explanations were provided as to the reasons for the study, the enrollment of females in high school Physical Education classes and what participation would entail. Information letters were distributed to the students (Appendix F). The students were advised that the questionnaire would be administered in seven days and that if they wished to participate they were to remain in the classroom. They were also advised the process would be repeated one week later.

Seven days later, 20 students were in attendance. The students were thanked for their interest and attendance. The students were then given an explanation of the directions for the questionnaire's administration. They were told that answers were to be indicated by shading in circles with pencil on a computer-scannable sheet. These directions included a request for subjects not to share answers. The subjects were advised that any questions they might wish to ask concerning the questionnaire would not be answered during the completion of the questionnaire, but rather before beginning and after they had finished. The subjects were then asked if they had any questions before

they began. After several questions from subjects on minor points, the questionnaire was administered.

The first subject completed the questionnaire in 18 minutes. The last subject completed the questionnaire in 29 minutes. Most of the subjects had completed the questionnaire after approximately 25 minutes. After this initial administration some subjects indicated that they could not answer one question that asked them to indicate how much they would like an activity in their Physical Education program.

Upon the completion of the questionnaire, the 20 students were given a student questionnaire on which they provided valuable feedback on the general structure and comprehension of the questionnaire (Appendix E). Some additional comments were also provided verbally at this time. Among these comments were suggestions to improve the questionnaire and these were noted by the researcher to be corrected. Some minor typesetting and editing errors were also identified and noted. These errors were subsequently corrected before the next administration.

After analyzing the results, it was determined from student feedback responses that five of the questions were unsuitable because they were not easily understood by the students. As a result, these five questions were reworded to suit the level of the subjects' understanding. The same students were readministered the questionnaire one week from the original administration following the protocol previously described and, following successful retesting, the instrument was then deemed to be reliable ($r = 0.87$) Barrow,

McGee, and Tritschler (1989) describe the level of reliability of a questionnaire with an r between ± .70 to .89 as strong.

The five questions which had required changes constituted a relatively small portion of the 101 items on the questionnaire. Although the measure of reliability attained on the instrument may have been slightly lower due to the alterations to the wording, it was considered that the reliability would not be adversely affected to any meaningful extent.

The test-retest procedure by which the questionnaire was piloted served to refine and ensure its readability and ease of comprehension by the students. Mouly (1970), Engelhart (1972), and Evans (1984) stressed the importance of a readable and understandable questionnaire specific to the ability level of the subjects. The pilot study helped determine that the language and terminology used in the questionnaire were consistent with student understanding of the language. Also, the questions included in the questionnaire were checked to ensure that they were congruent with the purpose of the study, as suggested by Evans (1984). The length of the questions and the length of the questionnaire were considered in its design, since, if questions or the questionnaires are too long student interest might be lost (Mouly, 1970; Statistics Canada, 1979).

Confidentiality

When asked to participate in the present research, several students expressed concern that they would be identified through the questionnaire. Subjects were informed that individual identities would not be revealed. It was explained to the subjects that in

order to ensure this confidentiality no names were used on the questionnaires. In addition, students were not even identified according to the school they attended. This was done for the main study as well as the pilot study.

Main Study Procedure

Two weeks after the pilot study was completed, the questionnaire was administered to the entire high school population of the Avalon North Integrated School Board. The investigator made a personal visit to the Assistant Superintendent to determine the correct school procedures to follow for collecting data. Acting on the Assistant Superintendent's direction, the investigator telephoned the principals of the nine high schools, comprising all high schools in the Avalon North Integrated School Board. This contact was made in order to seek their assistance and to advise them as to the nature of the study.

As a follow-up to the initial telephone contact the principal of each school included in the study was also contacted by letter (Appendix C). This contact was for the purpose of arranging a convenient time and location to administer the questionnaire in each school. After being forwarded all relevant material for perusal the principals agreed to assist in the investigation. Following this, as in the case of the Superintendent, each of the nine principals was contacted in person in order to clear up any questions or concerns they might have, and to facilitate the delivery of the questionnaire. At this time, a letter outlining the directions to be followed in the delivery of the questionnaire was given to each principal (Appendix D).

Data were collected from subjects in one of two ways. In the first instance questionnaires were administered by the investigator while in the second instance the questionnaires were distributed by teachers, who later collected and held them for pickup by the investigator. In the case of schools where the local teachers were to administer the questionnaire an information sheet was distributed to the teachers explaining the procedure for administering the questionnaire (Appendix G) as well as a packet containing the questionnaires and Scantron machine readable answer sheets. After administering the questionnaires, the teachers collected them and later passed them to the investigator, who thanked the teachers for their cooperation.

The decision to have teachers assist in the distribution and collection of the questionnaires was based on the wide geographical distribution of subjects, and on time and cost considerations. The two farthest schools from the investigator's centre of operation were at distances of 50 and 80 kilometers. The researcher administered the questionnaire in person at Holy Trinity in Heart's Content, and at Jackson Walsh in Western Bay, while at the other seven schools local teachers administered the instrument.

Because the study was conducted using Scantron machine readable answer sheets, it was necessary to take the completed responses to a facility where amassing and interpreting the data could be carried out by machine. The responses were brought to Memorial University of Newfoundland and Labrador, where the student answer sheets were put into a scanning machine and read automatically. The resulting information was

stored on a computer disk and analyzed using the Statistical Package for Social Sciences (SPSS-X) software.

Summary

This chapter has presented an overview of the methodology utilized in the study. The researcher's position has been stated with particular reference to the influence of bias. Various details of the design of the questionnaire, such as reliability and validity, are offered, and an in-depth explanation of the procedure followed in administering the questionnaire to students in the nine high schools involved. The processing of the resulting data was completed by means of computer-scanning sheets.

CHAPTER IV

RESULTS

Since the revision of the High School Program in Education, there has been a wide discrepancy between the numbers of females and males enrolled in Physical Education classes. This study investigated the concerns of females with respect to high school Physical Education programs, and the reasons why females do not enroll in these classes to the same extent as males.

This study examined the low enrollment of females in Physical Education in the Avalon North Integrated School Board (ANISB). The data collected were examined and interpreted in relation to various demographic variables - gender, status of enrollment in Physical Education, and grade levels. These variables provided data which were used to examine and understand the reasons why females were not participating in Physical Education classes to the same extent as males.

The first part of this chapter reports the enrollment in the province of Newfoundland and Labrador with regards to overall enrollment and Physical Education enrollment. The second part reports the enrollment of the ANISB, broken down by gender, year and grade level. The third part reports the results of a questionnaire concerning which activities students would like to see included in their Physical Education program. The fourth section deals with the responses of students to a questionnaire designed to reveal differences between genders and between enrollment

status. It also examined their experience and beliefs regarding Physical Education. Their responses were analyzed with respect to differences between students of both sexes, between those enrolled and not enrolled in Physical Education, and between students at different grade levels.

A summary of student enrollment at Levels I, II, and III in Newfoundland and Labrador high schools for the years 1991-1994 is provided (See Table 1). Overall, the data indicated that there were slightly more males (51%) in high schools than females, and that during the three year period from 1991-1992 to 1993-1994, the student population decreased by 1415 students, or approximately 5%.

Table 1

Number of Students Enrolled in Newfoundland and Labrador High Schools for the Years 1991 - 1994

Years	Level I			Level II			Level III		
	M	F	Total	M	F	Total	M	F	Total
93-94	5031	4726	9757	5028	4822	9850	4694	4635	9329
92-93	5340	5078	10418	5105	4884	9989	4656	4654	9310
91-92	5496	5256	10752	5050	5062	10112	4728	4753	9481

Table 2 shows the enrollment in Physical Education classes for the academic years 1991-1992 to 1993-1994. For the academic year 1993-1994 the data clearly indicate that almost twice as many males as females participated in Physical Education 1100, 2100 and 3100 (See Table 2)

Table 2

Male and Female Enrollment and Percentage of Overall Total of Students Enrolled in Physical Education 1100, 2100, and 3100 in Newfoundland for the Years 1991 - 1994

Years	Physical Education 1100				Physical Education 2100				Physical Education 3100			
	M	%	F	%	M	%	F	%	M	%	F	%
93-94	3099	60%	1594	34%	2677	53%	1096	24%	2475	53%	1080	23%
92-93	3124	59%	1727	34%	2446	48%	1006	21%	2586	56%	1233	26%
91-92	3377	61%	2009	38%	2467	49%	1100	22%	2601	55%	1347	28%

In the three levels of Physical Education for the academic year 1993 -1994, the pattern of male and female enrollment throughout the ANISB was generally similar to that of the province as a whole. In Level I, the average enrollment of females was 26% lower than that of males in both the ANISB and the province. In Level II, the enrollment of females in the ANISB was 44% lower than males, while at the provincial level it was 29% lower. In Level III, the ANISB's female enrollment was 24% versus 20% for the province.

Demographic Profile

The participants in the present study were 1827 students, enrolled in Levels I, II and III in the nine high schools of the Avalon North Integrated school district in the year

1993-1994 (See Table 3). This figure represented approximately 88% of the total high school enrollment for the district. While the researcher attempted to have a participation rate of 100%, this was not achieved as some students were absent from the classes in which the questionnaire was administered.

The subjects in 1993-1994 (N = 1827, 856 females, 47%, 971 males, 53%) were assigned to one of three categories (see Table 3) based on grade level. Category one subjects were enrolled in the first year (Level I) of the senior high school program (N = 610, 33% of the entire student population of the ANISB; 284 females, 47% of the population; 326 males, 53% of the population). Category two subjects (Level II) were enrolled in the second year of high school (N = 598, 33% of the population of the ANISB; 272 females, 45% of the population; 326 males, 55% of the population). Category three subjects were enrolled in the third year of high school (Level III) (N = 619, 34% of the population of the ANISB, 300 females, 48% of the population, 319 males, 52% of the population).

Table 3

Overall Male and Female Enrollment in Physical Education, and Percentage of Total of Students Enrolled in Physical Education 1100, 2100, and 3100 in the Avalon North Integrated School Board, and Overall Percentage for the Years 1991-1994.

Years	P.E. 1100				P.E. 2100				P.E. 3100				Totals	
	M	%	F	%	M	%	F	%	M	%	F	%	T#	T%
1993-1994	141	39%	45	13%	228	61%	53	17%	188	55%	71	21%	724	39
1992-1993	138	35%	39	12%	171	47%	59	18%	188	55%	77	22%	672	32
1991-1992	186	47%	64	19%	141	40%	64	19%	127	40%	61	18%	643	30

Participation Rates

Of the 2079 students enrolled in schools of the Avalon North Integrated School Board, 1827 students responded, 971 (88%) males and 856 (88%) females. At Level I 89% of males and 87% of females responded. At Level II response rates were 86% for males and 90% for females. For Level III the response rates for males and females were 89% and 88% respectively (see Table 4).

Table 4

Number and Percentage of Males and Females in Levels I, II, and III who Participated in the Survey

Level I				Level II				Level III				Totals			
M		F		M		F		M		F		M		F	
N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
326	89	284	87	326	86	272	90	319	89	300	88	971	88	856	88

Participants' ages ranged from 14 years to 20 years (M = 16.4 years, SD = 1.50). The mean ages of the Level I, Level II and Level III students were 15.3 years (SD = 1.4), 16.5 years (SD = 1.6) and 17.8 years (SD = 1.5), respectively.

Activities Preferred By Respondents

This section of the questionnaire dealt with the rating of activities based on the order of student preference. Activities were rated by students on a scale of 1 to 5, with 1 representing "A Lot" and 5, "Undecided". The means, represented by "M", were used to rank the activities from the most preferred to the least preferred.

The two groups of female students, enrolled and not enrolled, shared a preference for seven activities in the first one-third of all possibilities: skating, badminton, dance, swimming, aerobics, cross-country skiing and volleyball (See Table 5). The middle one-third shared a preference for six activities: basketball, floor hockey, weight training, soccer, racquetball and track and field; and the final one-third shared a preference for eight activities: cross-country running, handball, fencing, broomball, football, wrestling, boxing and golf. From the data, it appeared that female student preferences were similar, whether they were enrolled or not.

The list of activities for males by preference was similarly divided into thirds. The results for the males were very similar to those of the female students, showing an even closer similarity between the preferences of the enrolled and non enrolled males. In the top one-third, nine activities were preferred by both groups of males: ice hockey, floor hockey, baseball, softball, weight training, football, basketball, boxing and archery. Both male groups shared a preference for eight activities from the middle category:

Table 5

Rankings of Activities by Females Enrolled and Not Enrolled in Physical Education, Ranked in Order of Preference by Means

Females Enrolled			Females Not Enrolled		
Ranking	Activities	M	Ranking	Activities	M
1	Skating	4.05	1	Skating	4.30
2	Badminton	4.01	2	Swimming	4.16
3	Dance	3.90	3	Badminton	4.10
4	Swimming	3.79	4	Volleyball	4.06
5	Aerobics	3.69	5	Dance	4.05
6	Bowling	3.54	6	Softball	3.86
7	Cross-Country Skiing	3.50	7	Aerobics	3.84
8	Gymnastics	3.44	7	Ice Hockey	3.84
9	Volleyball	3.32	8	Cross-Country Skiing	3.79
10	Tennis	3.29	9	Baseball	3.73
11	Ice Hockey	3.15	9	Basketball	3.73
11	Softball	3.15	10	Gymnastics	3.71
12	Baseball	3.12	11	Tennis	3.64
12	Soccer	3.12	12	Floor Hockey	3.51
13	Basketball	3.05	13	Weight Training	3.50
14	Weight Training	3.04	14	Soccer	3.46

Table 5 - continued

Females Enrolled			Females Not Enrolled		
Ranking	**Activities**	**M**	**Ranking**	**Activities**	**M**
15	Track & Field	2.92	15	Bowling	3.45
16	Floor Hockey	2.91	16	Racquetball	3.14
17	Archery	2.80	17	Track & Field	3.11
18	Orienteering	2.79	18	Field Hockey	3.04
19	Racquetball	2.69	19	Curling	3.02
20	Rugby	2.66	20	Orienteering	2.97
21	Handball	2.62	21	Rugby	2.92
22	Curling	2.59	22	Archery	2.87
23	Cross-Country Running	2.58	22	Cross-Country Running	2.87
24	Field Hockey	2.55	23	Handball	2.80
25	Fencing	2.51	24	Fencing	2.66
26	Broomball	2.41	25	Broomball	2.65
27	Boxing	2.33	26	Football	2.61
28	Wrestling	2.28	27	Wrestling	2.58
29	Football	2.27	28	Boxing	2.49
30	Golf	2.04	29	Golf	2.13

Table 6

Rankings of Activities by Males Enrolled and Not Enrolled in Physical Education, Ranked in Order of Preference by Means

Males Enrolled			Males Not Enrolled		
Ranking	**Activities**	**M**	**Ranking**	**Activities**	**M**
1	Archery	3.89	1	Ice Hockey	4.44
2	Weight Training	3.85	2	Floor Hockey	4.38
3	Baseball	3.76	3	Baseball	4.33
4	Boxing	3.70	4	Softball	4.32
4	Floor Hockey	3.70	5	Skating	4.15
5	Ice Hockey	3.67	6	Weight Training	4.13
6	Softball	3.62	7	Football	4.10
7	Basketball	3.56	8	Basketball	4.07
8	Wrestling	3.53	9	Boxing	4.06
9	Football	3.52	10	Archery	3.95
9	Swimming	3.52	11	Volleyball	3.91
10	Rugby	3.45	12	Badminton	3.88
11	Skating	3.42	13	Wrestling	3.87
12	Volleyball	3.29	14	Swimming	3.83
13	Badminton	3.27	15	Rugby	3.78
13	Orienteering	3.27	16	Field Hockey	3.71

Table 6 - continued

Males Enrolled			Males Not Enrolled		
Ranking	**Activities**	**M**	**Ranking**	**Activities**	**M**
14	Bowling	3.23	17	Soccer	3.63
15	Soccer	3.17	18	Cross-Country Skiing	3.55
16	Cross-Country Skiing	3.14	18	Tennis	3.55
17	Fencing	3.04	19	Bowling	3.41
17	Field Hockey	3.04	20	Orienteering	3.33
18	Track & Field	2.87	21	Track & Field	3.31
19	Curling	2.83	22	Racquetball	3.27
20	Tennis	2.81	23	Curling	3.26
21	Racquetball	2.78	24	Handball	3.21
22	Handball	2.73	25	Fencing	3.17
23	Broomball	2.51	26	Broomball	2.97
24	Cross-Country Running	2.42	27	Cross-Country Running	2.96
25	Gymnastics	2.25	28	Gymnastics	2.77
26	Golf	2.18	29	Golf	2.53
27	Dance	2.17	30	Dance	2.50
28	Aerobics	1.85	31	Aerobics	2.24

volleyball, badminton, field hockey, soccer, cross-country skiing, tennis, bowling and orienteering; and from the least-preferred one-third, seven activities: racquetball, handball, broomball, cross-country running, gymnastics, golf and dance (See Table 6).

In examining the preferences expressed by the two groups of enrolled students, males and females, it was seen that only one activity in the first one-third of the list, swimming, was agreed upon by both genders. In the middle one-third, three activities; track and field, soccer and orienteering: and in the lowest one-third, four activities, handball, cross-country running, broomball and golf, were chosen in common (See Table 7).

This data appeared to indicate a major difference in choice of activities between females and males who were enrolled in Physical Education. When the three divisions of activities were compared, it could be seen that only one activity in the first third of the list, swimming, was preferred by both males and females enrolled.

Table 7

Rankings of Activities by Females and Males Enrolled in Physical Education, Ranked in Order of Preference by Means

Females Enrolled			Males Enrolled		
Ranking	**Activities**	**M**	**Ranking**	**Activities**	**M**
1	Skating	4.05	1	Archery	3.89
2	Badminton	4.01	2	Weight Training	3.85
3	Dance	3.90	3	Baseball	3.76
4	Swimming	3.79	4	Boxing	3.70
5	Aerobics	3.69	4	Floor Hockey	3.70
6	Bowling	3.54	5	Ice Hockey	3.67
7	Cross-Country Skiing	3.50	6	Softball	3.62
8	Gymnastics	3.44	7	Basketball	3.56
9	Volleyball	3.32	8	Wrestling	3.53
10	Tennis	3.29	9	Football	3.52
11	Ice Hockey	3.15	9	Swimming	3.52
11	Softball	3.15	10	Rugby	3.45
12	Baseball	3.12	11	Skating	3.42
12	Soccer	3.12	12	Volleyball	3.29
13	Basketball	3.05	13	Badminton	3.27
14	Weight Training	3.04	13	Orienteering	3.27

Table 7 -continued

Females Enrolled			Males Enrolled		
Ranking	**Activities**	**M**	**Ranking**	**Activities**	**M**
15	Track & Field	2.92	14	Bowling	3.23
16	Floor Hockey	2.91	15	Soccer	3.17
17	Archery	2.80	16	Cross-Country Skiing	3.14
18	Orienteering	2.79	17	Fencing	3.04
19	Racquetball	2.69	17	Field Hockey	3.04
20	Rugby	2.66	18	Track & Field	2.87
21	Handball	2.62	19	Curling	2.83
22	Curling	2.59	20	Tennis	2.81
23	Cross-Country Running	2.58	21	Racquetball	2.78
24	Field Hockey	2.55	22	Handball	2.73
25	Fencing	2.51	23	Broomball	2.51
26	Broomball	2.41	24	Cross-Country Running	2.42
27	Boxing	2.33	25	Gymnastics	2.25
28	Wrestling	2.28	26	Golf	2.18
29	Football	2.27	27	Dance	2.17
30	Golf	2.04	28	Aerobics	1.85

The final comparison to be made from this section of the study was between the males not enrolled and the females not enrolled (See Table 8). All three sections of the list in the preceding table resulted in the same number of activities preferred by both of these groups - five. In the first one-third, both groups expressed mutual preference for skating, softball, ice hockey, baseball and basketball. In the second one-third, tennis, soccer, bowling, field hockey and orienteering were chosen in common; and in the last one-third, both groups least preferred cross-country running, handball, fencing, broomball and golf.

Table 8

Rankings of Activities by Females and Males Not Enrolled in Physical Education, Ranked in Order of Preference by Means

Females Not Enrolled			Males Not Enrolled		
Ranking	Activities	M	Ranking	Activities	M
1	Skating	4.30	1	Ice Hockey	4.44
2	Swimming	4.16	2	Floor Hockey	4.38
3	Badminton	4.10	3	Baseball	4.33
4	Volleyball	4.06	4	Softball	4.32
5	Dance	4.05	5	Skating	4.15
6	Softball	3.86	6	Weight Training	4.13
7	Aerobics	3.84	7	Football	4.10
7	Ice Hockey	3.84	8	Basketball	4.07
8	Cross-Country Skiing	3.79	9	Boxing	4.06
9	Baseball	3.73	10	Archery	3.95
9	Basketball	3.73	11	Volleyball	3.91
10	Gymnastics	3.71	12	Badminton	3.88
11	Tennis	3.64	13	Wrestling	3.87
12	Floor Hockey	3.51	14	Swimming	3.83
13	Weight Training	3.50	15	Rugby	3.78
14	Soccer	3.46	16	Field Hockey	3.71

Table 8 - continued

Females Not Enrolled			Males Not Enrolled		
Ranking	**Activities**	**M**	**Ranking**	**Activities**	**M**
15	Bowling	3.45	17	Soccer	3.63
16	Racquetball	3.14	18	Cross-Country Skiing	3.55
17	Track & Field	3.11	18	Tennis	3.55
18	Field Hockey	3.04	19	Bowling	3.41
19	Curling	3.02	20	Orienteering	3.33
20	Orienteering	2.97	21	Track & Field	3.31
21	Rugby	2.92	22	Racquetball	3.27
22	Archery	2.87	23	Curling	3.26
22	Cross-Country Running	2.87	24	Handball	3.21
23	Handball	2.80	25	Fencing	3.17
24	Fencing	2.66	26	Broomball	2.97
25	Broomball	2.65	27	Cross-Country Running	2.96
26	Football	2.61	28	Gymnastics	2.77
27	Wrestling	2.58	29	Golf	2.53
28	Boxing	2.49	30	Dance	2.50
29	Golf	2.13	31	Aerobics	2.24

Themes

The review of literature identified 11 themes related to potential reasons for the low enrollment of females in Physical Education. The eleven identified themes were, (1) Awareness of benefits, (2) Curriculum, (3) Embarrassment, (4) Facilities and equipment, (5) Role models, (6) Hygiene factors, (7) Previous experience, (8) Social factors, (9) Teaching methodology, (10) Timetable conflicts and (11) Gender discrimination. The responses to questions related to each theme are given below.

Awareness of Benefits. For this theme, a higher mean score indicated that the student had expressed a greater belief in the benefits of participation in physical activity. Overall, females ($\underline{M}$ = 3.80, SD = .58) showed a slightly lower level of awareness of benefits than males ($\underline{M}$ = 3.82, SD = .62). The highest levels of awareness of benefits were reported by males who were not enrolled in Physical Education ($\underline{M}$ = 3.95, SD = .64) and by females who were not enrolled ($\underline{M}$ = 3.88, SD = .78). There was no discernible difference between reported awareness of benefits scores of females who were enrolled in Physical Education ($\underline{M}$ = 3.73, SD = .64) and males who were enrolled ($\underline{M}$ = 3.70, SD = .58) (See Table 9).

Table 9

Awareness of Benefits Scores Broken Down By Enrollment Status in Physical Education, Gender, and Enrollment Level

Level I				Level II				Level III			
En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D
yes	F	3.67	.57	yes	F	3.82	70	yes	F	3.69	.61
yes	M	3.64	.64	yes	M	3.91	.66	yes	M	3.55	73
no	F	3.80	.60	no	F	3.94	.61	no	F	3.89	.71
no	M	3.93	.70	no	M	4.03	.61	no	M	3.88	.79

When responses were broken down by grade level, students enrolled in Level II reported the highest level of awareness of benefits (M = 3.93, SD = .62), followed by Level I students (M = 3.76, SD = .57). Least awareness of benefits was shown by Level III students (M = 3.75, SD = .69). The theme awareness of benefits was valued more highly by non-enrolled students in Physical Education at each level (M = 3.91, SD = .70) than by those enrolled (M = 3.71, SD = .62), regardless of gender. The highest mean (M = 4.03, SD = .61) occurred in the category of males not participating in Physical Education at Level II and the lowest mean (M = 3.55, SD = .73) was found in males participating in Physical Education at Level III (See Table 9).

Curriculum. On this theme, higher mean scores indicated that the student had a strong feeling of having been affected negatively by the courses and activities offered

within the curriculum in Physical Education classes. Overall, males (M = 2.79, SD = .45) reported a slightly higher level of being influenced by the curriculum than females (M = 2.76, SD = .60) (See Table 10). The highest level of being influenced by the curriculum was reported by males who were not enrolled in Physical Education (M = 2.85, SD = .63). There was essentially minimal variation in the mean scores concerning the influence by the curriculum among females who were enrolled in Physical Education (M = 2.76, SD = .64), females who were not enrolled in Physical Education (M = 2.75, SD = .58), and males who were (M = 2.74, SD = .65).

When responses were examined by grade level, students enrolled in Level II (M = 2.83, SD = .49) reported the highest level of influence by the curriculum, followed by Level III students (M = 2.76, SD = .70). Least influence by the curriculum was reported by Level I students (M = 2.74, SD = .72).

Table 10

Curriculum Scores Broken Down By Enrollment Status in Physical Education, Gender, and Enrollment Level

Level I				Level II				Level III			
En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D
yes	F	2.72	.48	yes	F	2.87	.55	yes	F	2.70	.45
yes	M	2.71	.61	yes	M	2.78	.51	yes	M	2.73	.44
no	F	2.71	.51	no	F	2.78	.48	no	F	2.77	.49
no	M	2.82	.60	no	M	2.89	.54	no	M	2.83	.54

There was little variation in the means among groups, whether enrolled or not, regardless of gender. The highest mean occurred at Level II males not participating in Physical Education (M = 2.89, SD = .54), and the lowest mean score was in females participating at Level III (M = 2.70, SD = .45).

Embarrassment. With this theme, higher mean scores indicated that the students felt they had experienced embarrassment in previous Physical Education classes. Females and males enrolled in Physical Education at all levels were more embarrassed then females and males who were not enrolled. Overall, females (M = 2.35, SD = .78) reported a higher level of embarrassment than males (M = 1.97, SD = .82) (See Table 11). The highest levels of reported embarrassment were by females who were enrolled in Physical Education (M = 2.56, SD = .80) and by females who were not (M = 2.14, SD = .83). There was a difference in reported embarrassment between males who were enrolled in Physical Education (M = 2.08, SD = .72) and males who were not (M = 1.86, SD = .74).

Table 11

Embarrassment Scores Broken Down By Enrollment Status in Physical Education, Gender, and Enrollment Level

Level I				Level II				Level III			
En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D
yes	F	2.56	.74	yes	F	2.66	.86	yes	F	2.46	.71
yes	M	2.11	.78	yes	M	1.98	.81	yes	M	2.16	.86
no	F	2.14	.84	no	F	2.18	.88	no	F	2.09	.88
no	M	1.83	.76	no	M	1.81	.70	no	M	1.93	.89

When responses to the theme of embarrassment were examined by grade level, the averages of means for students enrolled in Levels I, II, and III were the same ($\underline{M}$ = 2.16, SD = .81). The highest mean was for Level II females enrolled in Physical Education ($\underline{M}$ = 2.66, SD = .86), while the lowest mean was seen in Level II males not enrolled ($\underline{M}$ = 1.81, SD = .70). Level I females showed a difference of .42 between participants and non-participants, while Level II females showed .48 and Level III, .35. Among females in each Level, the lower mean - indicating the least embarrassment - was for the females not participating in Physical Education. When the males in each Level were included in the analysis along with the females, the males not participating had the lowest means of all (Level I, 1.83; Level II, 1.81; and Level III, 1.93). Overall, the participating students had a mean of 2.32 and the non-participants had a mean of 2.00.

Facilities and Equipment. On this theme, higher mean scores indicated a greater level of concern with the adequacy of facilities and equipment. Overall, males (M = 3.17, SD = .56) reported a slightly higher level of concern over facilities and equipment than females (M = 3.14, SD = .52) (See Table 12). The highest reported level of concern with the adequacy of facilities and equipment was by males who were not enrolled in Physical Education (M = 3.17, SD = .56) and by males enrolled (M = 3.16, SD = .54). There was essentially no difference in concern with facilities and equipment scores between females who were enrolled in Physical Education (M = 3.15, SD = .51) and females who were not (M = 3.13, SD = .57).

When responses were examined by grade level, students enrolled in Physical Education at Level II (M = 3.17, SD = .56) reported the highest level of concern with facilities and equipment, followed by Level I students (M = 3.16, SD = .58). Least concern with facilities and equipment was reported by Level III students (M = 3.14, SD = .53).

Results indicated that student opinions, whether participating in Physical Education or not, did not differ substantially among groups with regard to adequacy of facilities and equipment. Between participants and non-participants, Level I females reported a variation in mean scores of .04; Level II females, a variation of .05; while Level III females reported a variation of .05. The highest mean (M = 3.24, SD = .58) occurred within males participating in Level II while the lowest mean (M = 3.06, SD = .53), was found in Level I males participating, for a variation of .18. The means for both

participants and non-participants overall were identical (3.15). Even though both means were the same, the high numbers indicated that both groups held a degree of concern about facilities and equipment.

Table 12

Facilities and Equipment Scores Broken Down By Enrollment Status in Physical Education, Gender, and Enrollment Level

Level I				Level II				Level III			
En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D
yes	F	3.22	.48	yes	F	3.10	.56	yes	F	3.12	.51
yes	M	3.06	.53	yes	M	3.24	.58	yes	M	3.18	.55
no	F	3.18	.53	no	F	3.15	.53	no	F	3.07	.57
no	M	3.16	.60	no	M	3.17	.57	no	M	3.19	.64

Gender Discrimination. On this theme, higher scores indicated a greater belief that the student had been subjected to gender discrimination in previous Physical Education classes. Overall, females ($\underline{M}$ = 3.05, SD = .58) reported a very slightly higher level of discrimination than males ($\underline{M}$ = 3.01, SD = .68) (See Table 13). The highest level of reported discrimination was by females who were enrolled in Physical Education

(M = 3.13, SD = .68) and by males who were not (M = 3.06, SD = .67). There was essentially no difference in reported discrimination scores between males who were enrolled in Physical Education (M = 2.97, SD = .69) and females who were not (M = 2.96, SD = .72).

Table 13

Gender Discrimination Scores Broken Down By Enrollment Status in Physical Education, Gender, and Enrollment Level

Level I				Level II				Level III			
En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D
yes	F	3.19	.68	yes	F	3.28	.64	yes	F	2.93	.59
yes	M	2.89	.68	yes	M	3.05	.56	yes	M	2.93	.53
no	F	2.98	.67	no	F	3.05	.68	no	F	2.89	.64
no	M	3.10	.72	no	M	3.08	.70	no	M	3.00	.69

When responses were broken down by grade level, students enrolled in Level II (M = 3.12, SD = .62) reported the highest level of previous discrimination, followed by Level I students (M = 3.04, SD = .71). Least prior discrimination was reported by Level III students (M = 2.94, SD = .68).

Scores were fairly high for this theme among females. Between enrolled and not enrolled female students in Level I, the difference was 0.21, with the enrolled students

rating it higher; for Level II the difference between females was 0.23, with the enrolled students giving it a higher ranking; for Level III, there was a slight difference of 0.04 in favor of the enrolled females.

Hygiene Factors. On this theme, higher mean scores indicated that concern over hygiene was a major negative influence on whether a student enrolled in Physical Education classes. Overall, females (M = 2.85, SD = .56) reported a higher level of concern over hygiene factors than males (M = 2.72, SD = .56) (See Table 14). The highest level of reported concern with hygiene factors was by females and males who were enrolled in Physical Education (M = 2.96, SD = .59), and (M = 2.79, SD = .62) respectively. There was a slight difference between females and males who were not enrolled in Physical Education, with scores of 2.73 and 2.64 respectively.

When responses were examined by grade level, students enrolled in Level I reported the highest level of concern with hygiene factors (M = 2.81, SD = .57), followed by Level II and Level III students, each with the same mean score of 2.77. Scores for females who enrolled in Physical Education classes varied from females not enrolled. In Level I, females differed by .23, in Level II the difference was .21, while in Level III the difference was .25. The highest mean was in Level I females participating in Physical Education (M = 3.05, SD = .50), while the lowest mean was in males not participating in Physical Education (M = 2.60, SD = .67), for a difference of .45. Females also differed from males. In Level I, females participating had a mean of 3.05, compared to males participating, 2.76, resulting in a .31 difference in means. Level II showed a difference

of .17 between females and males, while in Level III, there was very little difference in means (.05). Overall, participants showed a mean score of (M = 2.88, SD = .52) while the non-participants reported a mean score of (M = 2.69, SD = .54).

Table 14

Hygiene Factors Scores Broken Down By Enrollment Status in Physical Education, Gender, and Enrollment Level

Level I				Level II				Level III			
En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D
yes	F	3.05	.50	yes	F	2.95	.56	yes	F	2.88	.55
yes	M	2.76	.58	yes	M	2.78	.59	yes	M	2.83	.64
no	F	2.82	.59	no	F	2.74	.56	no	F	2.63	.62
no	M	2.60	.67	no	M	2.61	61	no	M	2.72	.67

Previous Experience. On this theme, higher mean scores indicated a greater belief that the student had been influenced by previous experience not to enroll in Physical Education classes. The overall low mean scores indicated that students in the ANISB felt that previous experience was not a strong negative factor in determining whether or not they enrolled in Physical Education classes (See Table 15). Overall, females (M = 2.45, SD = .59) reported a slightly higher level of influence by previous experience than males (M = 2.41, SD = .56). The highest level of reported influence

from previous experiences was by females and males who were enrolled in Physical Education (M = 2.54, SD = .50 and M = 2.51, SD = .55 respectively). There was very little variation in reported influence by previous experience between females and males who were not enrolled in Physical Education, with mean scores of 2.35 and 2.30 respectively.

When responses were examined by grade level, students enrolled in Level III reported the highest level of influence from previous experience (M = 2.45, SD = .62), followed by Level II students (M = 2.44, SD = .58). Least influence from previous experience was reported by Level I students (M = 2.40, SD = .52).

Table 15

Previous Experience Scores Broken Down By Enrollment Status in Physical Education, Gender, and Enrollment Level

Level I				Level II				Level III			
En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D
yes	F	2.56	.52	yes	F	2.55	.54	yes	F	2.52	.53
yes	M	2.43	.59	yes	M	2.52	.51	yes	M	2.59	.71
no	F	2.33	.50	no	F	2.38	.54	no	F	2.34	.62
no	M	2.27	.57	no	M	2.29	.53	no	M	2.33	.62

Results indicated that the effect of previous experiences varied between male and female participants depending on levels. In Level I, females participating in Physical Education had a mean of 2.56, compared to males participating, with a mean of 2.43 for a difference of .13. Level II females participating showed a mean of 2.55, and males participating, 2.52, for a difference of .03, while in Level III the difference in means between male and female participants was .07, with males at 2.59 and females at 2.52. The highest mean score was in Level III males participating in Physical Education ($\underline{M}$ = 2.59, SD = .71) and the lowest mean score was in Level I males not participating ($\underline{M}$ = 2.27, SD = .57). Between females participating and males non-participating in each level, the means varied by the widest margins; in Level I the difference between these two groups was .29; Level II, .26; and Level III, .19. The mean for participants overall was 2.53 (SD = .63) and for non-participants overall, 2.32 (SD = .52).

Role Models. On this theme, higher mean scores indicated that students felt that they had experienced less positive influence from being exposed to role models. Although this may appear contrary to what might be expected, the items on the questionnaire which dealt with role model influence were phrased so as to require a higher score to indicate a lesser degree of influence Overall, males ($\underline{M}$ = 3.28, SD = .61) reported a very slightly higher level of exposure to role models overall than females ($\underline{M}$ = 3.21, SD = .60)

(See Table 16). The group with the highest mean score, indicating that they had had the fewest role models of all groups, were males who were not enrolled in Physical

Education (M = 3.31, SD = .64) and males who were enrolled (M = 3.24, SD = .63). There was essentially no difference in exposure to role models between females who were enrolled in Physical Education (M = 3.21, SD = .56) and females who were not (M = 3.20, SD = .54).

Table 16

Role Models Scores Broken Down By Enrollment Status in Physical Education, Gender, and Enrollment Level

Level I				Level II				Level III			
En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D
yes	F	3.20	.58	yes	F	3.28	.61	yes	F	3.16	.53
yes	M	3.22	.62	yes	M	3.33	.64	yes	M	3.18	.62
no	F	3.17	.60	no	F	3.24	.67	no	F	3.19	.60
no	M	3.32	.67	no	M	3.31	.65	no	M	3.31	.62

When responses were examined by grade level, students enrolled in Level II reported the highest level of being exposed to role models (M = 3.29, SD = .63) followed by Level I students (M = 3.23, SD = .65). Least exposure to role models was reported by Level III students (M = 3.21, SD = .55). Both females participating and non-participating in Physical Education classes varied little with regard to this theme The reported difference between Level I females was only .03, while Level II females

differed by .04 and Level III females, .03. The highest mean displayed was by Level II males participating in Physical Education (M = 3.33, SD = .64) while the lowest mean occurred with Level III females (M = 3.16, SD = .53), a difference of .17. Within the different levels, the students differed minimally with regard to the importance of role models. Females participating in Physical Education classes only differed in mean scores by .12, while non-participating females varied by only .07. Males participating had a difference in mean scores of .15 and males non-participating had a difference in mean scores of .01.

Social Factors. On this theme, higher mean scores indicated a greater belief that the student had been influenced by social factors to enroll in Physical Education. Overall, females (M = 2.88, SD = .50), reported a slightly higher influence from social factors than males (M = 2.84, SD = .48) (See Table 17). The highest level of reported differences in influence from social factors was between females who were enrolled in Physical Education (M = 2.94, SD = .54) and males who were not enrolled in Physical Education (M = 2.87, SD = .53). There was essentially no difference in reported influence from social factors between males who were enrolled in Physical Education (M =2.82, SD = .46) and females who were not (M = 2.81, SD = .52).

When responses were broken down by grade level, students enrolled in Level I, (M = 2.93, SD = .56) reported the highest level of influence from social factors, followed by Level II students (M = 2.90, SD = .50). The least influence from social factors was reported by Level III students (M = 2.75, SD = .44).

Females and males, both participants and non-participants, varied slightly between levels. In Level I the difference between participating and non-participating females was .16; in Level II, .19; and in Level III, .03. The highest mean was in Level II females participating (M = 3.04, SD = .53) while the lowest (M = 2.68, SD = .53) was for females non-participating in Level III, for a difference of .36. Males participating and females not participating had almost identical means. For example, the means for males participating and females non-participating were the same in Level I. There was a .02 difference between males participating and females non-participating in Level II, while Level III males participating and females non-participating had a difference of .05. The influence of social factors was practically identical for both participants (M = 2.88, SD = .52) and non-participants (M = 2.84, SD = .56).

Table 17

Social Factors Scores Broken Down By Enrollment Status in Physical Education, Gender, and Enrollment Level

Level I				Level II				Level III			
En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D
yes	F	3.03	.46	yes	F	3.04	.53	yes	F	2.76	.42
yes	M	2.87	.52	yes	M	2.85	.53	yes	M	2.73	.45
no	F	2.87	.45	no	F	2.87	.49	no	F	2.68	.53
no	M	2.93	.56	no	M	2.84	.55	no	M	2.84	.52

Teaching Methodology. On this theme, higher mean scores indicated a greater belief that students had been influenced to enroll by exposure to teaching methodology in previous Physical Education classes. Overall, females (M = 2.92, SD = .42) reported a higher level of influence from teaching methodology than males (M = 2.77, SD = .42) (See Table 18). The highest level of reported influence of teaching methodology was by females who were enrolled in Physical Education (M = 2.98, SD = .54) and by females who were not enrolled (M = 2.86, SD = .60). There was a difference in males who were enrolled in Physical Education classes (M = 2.83, SD = .48) and males who were not enrolled (M = 2.70, SD = .46).

When responses were examined by grade level, students enrolled in Level II (M = 2.91, SD = .58) reported the highest influence from teaching methodology, followed by Level II students (M = 2.82, SD = .42). Least influence by teaching methodology was reported by Level I students (M = 2.80, SD = .50). Results indicated that very little difference existed between females and males participating in Physical Education at Levels I (.06) and III (.10). However, in Level II, there was a difference of .29 between females and males participating. The difference between females participating and non-participating in Level I was .05, Level II, .20, and Level III, .12. The highest mean occurred in Level II females participating (M = 3.14, SD = .49) and the lowest mean (M = 2.68, SD = .64) occurred in males not participating in Physical

Education at Level I, for a difference of .46. There was a reported difference between participants (M = 2.91, SD = .50) and non-participants (M = 2.78, SD = .54).

Table 18

Teaching Methodology Scores Broken Down By Enrollment Status in Physical Education, Gender, and Enrollment Level

Level I				Level II				Level III			
En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D
yes	F	2.87	.41	yes	F	3.14	.49	yes	F	2.93	.51
yes	M	2.81	.49	yes	M	2.85	.62	yes	M	2.83	.59
no	F	2.82	.48	no	F	2.94	.48	no	F	2.81	.58
no	M	2.68	.64	no	M	2.70	.56	no	M	2.72	.66

Timetable Conflicts. On this theme, higher mean scores indicated that concern with academic timetable conflicts in school negatively influenced the student's decision regarding enrollment in Physical Education classes. Overall, both males (M = 2.84, SD = .66) and females (M = 2.84, SD = .68) reported the same average score (See Table 19). The highest level of reported concern over timetable conflicts was by females who were enrolled in Physical Education (M = 2.87, SD = .62) and by males who were enrolled (M = 2.84, SD = .70). There was essentially no difference in scores between males (M =

2.83, SD = .70) and females (M = 2.81, SD = .66) who were enrolled in Physical Education.

When responses were broken down by grade level, students enrolled in Level II (M = 2.91, SD = .62) reported the highest level of concern with timetable conflicts, followed by Level III students (M = 2.81, SD .64) and Level I students (M = 2.80, SD = .68).

Very little variation in scores occurred among males and females participating or non-participating in Physical Education classes. Females participating and females non-participating in Physical Education at Level I (M = 2.83, SD = .68) were almost the same respectively, compared to (M = 2.85; SD = .64). In Level II the difference was .09, while the difference in Level III was .10. The lowest mean was found in Level III females not participating (M = 2.71, SD = .69) and the highest mean occurred in females participating at Level II (M = 2.96, SD = .60), for a difference of .25. There was essentially no difference between participants (M = 2.86, SD = .70) and non-participants (M = 2.82, SD = .66).

Table 19

Timetable Conflicts Scores Broken Down By Enrollment Status in Physical Education, Gender, and Enrollment Level

Level I				Level II				Level III			
En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D.	En-rolled	Gender	Mean	Std. D
yes	F	2.83	.63	yes	F	2.96	.60	yes	F	2.81	.69
yes	M	2.76	.59	yes	M	2.91	.70	yes	M	2.86	.68
no	F	2.85	.62	no	F	2.87	.73	no	F	2.71	.69
no	M	2.76	.73	no	M	2.88	.65	no	M	2.85	.66

Influence of Themes on Enrollment

The research area themes were ranked in order of significance for influencing whether or not the student enrolled in Physical Education. They were ranked from most to least significant, with those marked * being significant.

Analysis of Body Mass Index

A logistic regression analysis was performed comparing Body Mass Index (BMI) on the results of the questions on height and body weight in order to determine the level of significance, if any, of these factors on enrollment. This analysis revealed that the body weight and height of the respondents was not significant in the students' feelings of embarrassment. The results revealed that the students who expressed greater

embarrassment were those who were enrolled, and those least embarrassed were the students who were not enrolled.

Table 20

Research Themes, Chi-square, P-values, and % Concordant of All Female Students Enrolled and Not Enrolled In Physical Education in the Avalon North Integrated School Board

Research Theme	Chi-Square	P-Value	% Concordant
Embarrassment	63.007	0.0001	67.8*
Previous Experience	52.852	0.0001	66.7*
Social Factors	43.037	0.0001	65.1*
Hygiene Factors	31.896	0.0001	64.4*
Curriculum	31.043	0.0001	63.2*
Teaching Methodology	28.631	0.0001	62.5*
Few Role Models	23.290	0.0003	62.4*
Gender Discrimination	21.709	0.0006	61.1*
Awareness of Benefits	10.307	0.0670	56.4
Facilities & Equipment	9.720	0.0836	56.7
Timetable Conflicts	6.024	0.3039	55.2

The results suggest that, of all eleven themes, embarrassment had the strongest relationship to enrollment for females (See Table 20), while previous experience was rated second.

Table 21

Research Themes, Chi-Square, P-values, and % Concordant of All Male Students Enrolled and Not Enrolled In Physical Education in the Avalon North School Board

Research Theme	Chi-Square	P-Value	% Concordant
Social Factors	43.355	0.0001	65.2*
Awareness of Benefits	43.229	0.0001	64.0*
Teaching Methodology	39.495	0.0001	64.0*
Previous Experience	33.798	0.0001	63.6*
Curriculum	31.619	0.0001	63.6*
Embarrassment	23.560	0.0003	58.4*
Facilities & Equipment	22.547	0.0004	60.6*
Few Role Models	21.933	0.0005	60.1*
Hygiene Factors	18.282	0.0026	60.0*
Timetable Conflicts	13.667	0.0179	59.2*
Gender Discrimination	4.852	0.4341	54.6

Among males, the themes of social factors, awareness of benefits and teaching methodology were shown to be the strongest deterrents to enrollment (See Table 21). Among both participants and non-participants, males indicated strongly that social factors were a significant reason why students did not take Physical Education. Of all the themes, the only one that was not significant was that of gender discrimination.

Table 22

Themes, Number, Means and Standard Deviations for All Female High School Students in the Avalon North Integrated School Board

Themes	N	Mean	Std. Deviation
Embarrassment	823	2.23	.86
Previous Experience	822	2.39	.56
Curriculum	819	2.76	.50
Hygiene Factors	817	2.77	.59
Timetable Conflicts	822	2.82	.67
Social Factors	816	2.84	.50
Teaching Methodology	825	2.88	.52
Gender Discrimination	814	3.00	.66
Facilities & Equipment	818	3.13	.54
Few Role Models	825	3.20	.62
Awareness of Benefits	815	3.85	.64

Females valued awareness of benefits most highly of the 11 factors, while embarrassment seemed to be the least positive aspect of Physical Education. There was very little difference between curriculum and hygiene factors, while timetable conflicts, social factors, and teaching methodology were also quite closely valued (See Table 22)

Table 23

Themes, Number, Means and Standard Deviations for All Male High School Students in the Avalon North Integrated School Board

Theme	N	Mean	Std. Deviation
Embarrassment	920	1.90	.80
Previous Experience	915	2.35	.59
Hygiene Factors	913	2.68	.64
Teaching Methodology	922	2.73	.62
Curriculum	920	2.83	.56
Timetable Conflicts	913	2.83	.68
Social Factors	915	2.86	.54
Gender Discrimination	911	3.04	.68
Facilities & Equipment	909	3.17	.59
Few Role Models	923	3.30	.64
Awareness of Benefits	922	3.90	.70

Males valued awareness of benefits most highly of the eleven themes (See Table 23). As with females, (Mean = 2.23) (See Table 22), embarrassment was seen to be the least positive aspect of Physical Education for males (Mean = 1.90).

Apart from the theme "Embarrassment", none of the themes differed between males and females by more than .10, which was the difference for the theme "Few Role Models" This showed that, except for embarrassment, males and females generally felt the same about the other ten themes.

Summary

This study examined the low enrollment of females in the Avalon North Integrated School Board. A questionnaire was administered to 1827 out of a possible 2079, both male and female students, for a response rate of 87.8%.

When students were presented with a list of activities which were sometimes included in a Physical Education program, they responded in the following ways: The two groups of females, enrolled and not enrolled, shared a preference for seven activities: skating, badminton, dance, swimming, aerobics, cross-country skiing and volleyball. The results between the enrolled and not enrolled males showed that they shared a preference for nine activities that included: ice hockey, floor hockey, baseball, softball, weight training, football, basketball, boxing and archery. When the two groups of enrolled students, males and females, were examined, only one activity was found to have been agreed upon by both genders, swimming. The final comparison, between males and females not enrolled, revealed that five activities were preferred by both groups, namely: skating, softball, ice hockey, baseball and basketball.

A logistic regression analysis revealed that for all females, enrolled or not, eight themes were significant. They included embarrassment, previous experience, social factors, hygiene factors, curriculum, teaching methodology, few role models and gender discrimination. For males, enrolled and not enrolled, ten of the eleven themes were significant. The only theme that was not significant for males was gender discrimination.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This study was conducted to determine why female students in the Avalon North Integrated School Board were not participating in Physical Education courses 1100, 2100, and 3100 during the school year 1993-1994.

Summary of Procedures

This study investigated the phenomenon of low enrollment among females in Physical Education courses. This was undertaken by studying student attitudes towards Physical Education in the high schools of the Avalon North school district, in the province of Newfoundland and Labrador, in the year 1993-1994. In the nine high schools which comprise the school district, 1827 students took part in the survey. A survey questionnaire was administered to students, who were requested to answer 101 questions by filling in a computer-scannable answer sheet. The survey was divided into three sections: part A requested demographic information of the students; part B comprised a list of 32 activities which respondents were asked to rate, according to how much they would like to have each activity included in the Physical Education program. The activities were ranked on the basis of the means of the students' ratings.

Part C of the survey instrument was designed to reveal student attitudes and beliefs about 11 major themes related to enrollment in Physical Education (See page 11).

This part consisted of 55 questions derived from the researcher's own knowledge and experience as a Physical Education teacher and through a review of related literature. Each theme was investigated using 5 related questions. The items on section C of the questionnaire were answered using a Likert-scale. To compare responses to the themes, a statistical test of logistic regression was carried out. Comparisons were made among students in two different groups: females participating and non-participating, males participating and non-participating. The overall responses of each of these groups were analyzed with respect to each of the 11 themes. Analysis was carried out using mean and standard deviation of the student responses.

Summary of Findings

The summary of findings is presented according to the variables upon which the research questions were based. As the analysis revealed, non-participating females agreed that their reasons for not taking Physical Education, in descending order of significance, were previous experience, social factors, hygiene factors, curriculum, teaching methodology, few role models, and gender discrimination. Awareness of benefits, facilities and equipment, and timetable conflicts were not found to be important reasons for females not enrolling in Physical Education.

Results showed that non-participating female students generally felt they were disadvantaged by gender discrimination in co-educationalucational classes. They would prefer to participate in all-female classes because they found that males received more of the teacher's attention in class, and that females were the last to be selected for co-

educational team sports. Even when they were playing a sport such as basketball, they found that males had a tendency to pass the ball to other males.

The second group looked at were female students who chose to participate in Physical Education in high school. For these young women, the factors which most enticed them to participate were, in order of significance, awareness of benefits, role models, facilities and equipment, and gender. In the area of awareness of benefits, results revealed that female students felt that learning to get along with other people was important, that Physical Education classes taught them how to keep their bodies in good condition, and that physical activity was a good outlet for harmful feelings such as anger. They felt that cooperation with other students was an important lesson learned in Physical Education class, and that regular exercise was important in maintaining good general health.

The participating female students did not consider a lack of role models to be a deterrent in their decision to participate or not. Among the more interesting findings from this question were that these students did not feel that having a female instructor would particularly encourage them to participate, and they did not think, as did females in general, that the mass media underrated female athletes.

As for the factors which might most deter these students, previous experience and embarrassment were the most significant. This implies that previous experience and the embarrassment which often accompanied it, whether in elementary or junior high school, played a part in negatively influencing their decision to participate.

Male students in general stated that the factors most negatively affecting their decision to participate were, in order of significance, social factors, awareness of benefits, teaching methodology, previous experience, curriculum, embarrassment, facilities and equipment, few role models, hygiene factors, and timetable conflicts. The only factor which was not significant was gender discrimination.

In looking at the male students who chose to enroll in Physical Education, it can be seen that in order of significance the factors again were as follows: awareness of benefits, role models, facilities and equipment, gender discrimination, timetable conflicts, teaching methodology, hygiene factors, social factors, curriculum, embarrassment, and previous experience. The male student who enrolled in Physical Education appeared to believe strongly in the benefits of participation; was positively influenced by role models in athletics; and was satisfied with the amount and quality of the facilities and equipment available to him. He did not see gender discrimination, scheduling, teaching methodology, or other social factors as problematic. He was less comfortable with his previous experience in Physical Education classes, yet even though he felt somewhat embarrassed in his participation, obviously this was not significant enough to deter him from enrolling.

Non-enrolled males appeared also to realize strongly the benefits of participation in Physical Education. This was apparent from the high mean assigned to this theme. As for the remaining factors, they almost exactly parallelled the rankings of those chosen by enrolled males. Although there was a slight difference in ranking of the mid-range

factors, their means were so close, with the exception of awareness of benefits, that the differences were negligible. The only meaningful difference between enrolled males and non-enrolled males was that the non-enrolled students rated the factors generally lower overall.

The findings indicate that a lack of awareness of the benefits of Physical Education is not a deciding factor for female students. All of the four groups under study - females and males, enrolled and not enrolled - expressed an appreciation of the benefits of participation in Physical Education activities. Even though the data suggested that they were aware of the importance of Physical Education, most female students were not participating. These findings concur with those of MacIntosh, King and Greenham (1978) who studied the participation of students in Physical Education and found that young people generally expressed positive attitudes toward physical activity and Physical Education. The students reported that sports were an important aspect of their school and community life, even though they were not participating at a level which would indicate this attitude. Butcher (1976) and MacIntosh (1979) in similar studies also concluded that non-selectors still expressed a positive attitude toward the value of Physical Education.

It is incongruous that the students who seem to value physical activity the most are the ones who are not enrolled in the courses. This begs the question of why those who see the benefits of physical activity are not enrolling in order to reap those benefits. One possible interpretation of this might be that those who are enrolled may be more inclined to take the benefits for granted, while those who are not participating may feel

more strongly that they are missing out on the benefits and consequently have expressed this in their responses to the questionnaire. A second possibility is that those students who are not participating but who express an awareness of the benefits may be fulfilling their needs through involvement in more physical activities outside the school. A third possibility might be that even though many of these students agree with the importance of physical activity, they may be under pressure to complete academic requirements which preclude involvement in Physical Education classes. Whatever the reasons, this is clearly an issue for further research.

From the findings, it appeared that female students were fairly satisfied with curriculum offerings as presented, and were not deterred from enrolling in Physical Education by the activities offered. However, it must also be noted that when students were asked whether they would like to have a greater variety of activities, many felt that they would like to see different activities included in the curriculum. They felt that there were not enough choices of practical, individually oriented leisure pursuits, and that the course offerings were for the more athletically inclined. However, the results showed that female enrollment would not be influenced significantly by a wider choice of activities. The Ottawa Board of Education (1985) reached a similar conclusion in determining that females were generally satisfied with the existing syllabus, but would like to see more variety in activities offered. The findings seemed to suggest that males did not decide to enroll based on the activities offered.

For the students involved in this study, there is a strong indication that the males are quite content with the activities, and the females, while not completely satisfied, are accepting of the activities offered. The reasons for this can only be speculated on at this point, but may include the fact that local economic conditions prevent the inclusion of a wide variety of activities in the curriculum. Facilities are not available to offer students activities such as swimming, skiing, bowling, golf, etc. As well, school staffing restrictions do not allow for a wide choice of programs to meet the needs and tastes of different students. These conditions hamper the efforts of Physical Education instructors in extending the selection of activities offered.

The activities which are predominantly offered in Physical Education courses in the ANISB schools are generally those more suited to the preferences of males. This may be the reason why the male respondents feel satisfied with the present syllabus that is offered. The female students, however, may also feel satisfied with this because they have not had the opportunity to be exposed to other types of sports and activities. If they were so exposed, it might have the effect of altering their opinions and making them less satisfied with the existing curriculum.

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. Possibly related to the embarrassment factor is the finding by Earl and Stennett (1983) that females were more likely than males to describe themselves as overweight. They also reported that some females responded that they

would choose to take Physical Education if teachers said things that would increase their self-esteem. A female's sense of self and her perceived competence were a function of the way significant others in her life, such as peers, teachers, coaches, and family, viewed her and was thought to ultimately affect her participation in sport and physical activity.

From the findings presented here it would appear that, although embarrassment may be a deciding factor in determining whether or not some female students enroll in Physical Education courses, it does not appear to be a deterrent generally. This is evident in the fact that female students reported a comparatively high degree of embarrassment in Level II, where the mean was 2.42. Yet at this level the participation rate was 17%, which was greater than at Level I, where the participation rate was 13% and the embarrassment mean was 2.35.

These apparently contradictory findings showed that the students who were enrolled expressed more embarrassment than those students who were not enrolled. This may be easily explained when one realizes that the students who were participating in Physical Education classes were involved regularly in potentially embarrassing situations, and may have been better able to cope well in such conditions. Those who were not participating were removed from that potential source of embarrassment, but might have been more embarrassed had they been enrolled. Because the non-enrolled students were not in embarrassing situations, they did not express feelings of embarrassment, although they may have been more self-conscious.

There may well be further mitigating circumstances which influence student participation in Physical Education, in spite of their degree of embarrassment. They may need to enroll because the course is scheduled against another which is less preferable for various reasons than the Physical Education course; they may have been participating because they were more strongly influenced by other factors such as the socialization, the awareness of the benefits of Physical Education, enjoyment of the activities; or, they may be following a basic tendency of human nature to choose the easiest way out and select a course which would be less demanding mentally than a more academic subject. In each of these cases the embarrassment might be minor compared to the advantages of doing Physical Education.

Today's schools do not appear to have adequate amounts of certain kinds of facilities and equipment necessary to offer those activities in which females have expressed an interest. It is a possibility that students were aware of the inadequacy of the facilities which were available to them, and they may have felt that in order to have a successful program they would need access to better facilities and equipment. It may be for this reason that many females chose not to enroll in Physical Education.

These findings concur with Higgs et al.(1987) and Hall and Richardson (1982), who indicated that the higher the grade, the less equipment and facilities were available. As a result, students may opt out of Physical Education classes. These studies also revealed that in Levels II and III, the problem of lack of equipment and facilities seemed to be the most acute. Hall and Richardson noted that many of the schools did not have

the necessary equipment to ensure a quality Physical Education program as prescribed by the Department of Education.

It appeared that concern about lack of equipment and facilities was a deciding factor in female enrollment in Physical Education courses. As noted previously, female students have expressed interest in a number of activities which were not traditionally offered in local high schools. Although Table 12 does not indicate a large discrepancy between the means of females enrolled and not enrolled, this finding was based on a section of the questionnaire which dealt with students' preferred activities (see Table 5)

This research addressed whether the lack of female role models discourages female enrollment. The data suggested that this may not be a deciding factor for males or females. A possible interpretation of this phenomenon might be that the role models to which females were most often exposed were male, and therefore females did not demand female role models to influence them to participate in Physical Education. Instead, they may have tended to accept the male sports figures as role models for themselves. Moreover, this did not appear to be a deciding factor in why females enroll to a lesser extent than males.

This appears to contradict the findings of Dahlgren (1988) who felt that media may have an effect on female participation in sport and physical activity by stressing which activities were appropriate for females and which were not. She stated that females only got 10% of sports coverage in the media. With the media's attention focused on male achievement, females may be discouraged from participation.

Birns (1976) indicated that males were encouraged to participate in sports because of role models; however, there were few role models for females, and consequently, few females participated in sports. This finding, also, is in contradiction to the results of the present study.

Non-participating female students were strongly aware of the lack of influential role models for girls in sports and Physical Education. The mass media perpetuates this disadvantage by focusing on male-dominated sports, to the extent that female respondents envisioned males when asked to think of sports celebrities. Students felt that they had relatively few female teachers as role models to counteract this tendency. More females would sign up for Physical Education if female instructors were available. This would result in a snowball effect in registration, as many felt that they would be more likely to participate if their friends - particularly other females - were participating.

An interesting finding which came from this area of the questionnaire was the indication that males were not greatly influenced by role models in sports and athletics. The high means for both males and females suggest that neither group felt a strong influence from role models, but the influence on males was even less than on females. A possible interpretation of this might be that females were looking for female role models but were finding very few of them available who could encourage female students to participate in athletics. Males, conversely, may have been less concerned than females with the influence of role models because they would possibly participate even without

such an influence and were not concerned since there were so many male role models for them to follow.

The findings of the present study showed that gender discrimination was a factor in the decision of many females not to enroll in Physical Education. This may stem from the fact that most of the activities offered in Physical Education courses were male-oriented. Females may have felt that males were being favored by this and that female participation was valued less.

Several researchers, such as Dahlgren (1988), Lenskyj (1986), and Malumphy (1971), have looked at the concept of gender discrimination, and generally concluded that females were treated differently than males. Such differential treatment results in females being made to feel inferior to males. This phenomenon results in females being viewed in a different perspective. The results of the present study support the findings of these earlier researchers.

Most of the research to date has reported that a higher proportion of adolescent females than males chose not to participate in sport and Physical Education (Hall & Richardson, 1982). The development of basic skills and satisfactory fitness levels in sex-segregated Physical Education classes may be a necessary first step for many adolescent females. It is clear, however, that females who are skilled and fit enjoy participation in Physical Education and deserve the same or equivalent opportunities to do so as their male counterparts, whether through co-educational or single-sex programs.

The females who were enrolled in Physical Education expressed a higher degree of concern over hygiene than the non-enrolled students. This suggests that being in the Physical Education class presents particular hygiene concerns to the female student. It is perhaps understandable that the non-enrolled female student would demonstrate a lower level of concern in this area, as she was not in the situation. It is quite possible that she had chosen not to enroll because of these very concerns. The Ottawa Board of Education (1986), in a survey of "Students' Attitudes Toward Physical Education," found that females did not participate in Physical Education because they did not want to get dirty, were more interested in being pretty and popular, and felt that certain activities made them unfeminine. It may be that female students in the Avalon North area, as in the Ottawa area, did not want to get dirty and sweaty and were more concerned with being pretty and well-groomed.

In general, females found problems with the lack of adequate changing facilities in high schools. As well, there was not enough time to change between classes and no opportunity to shower after physical activity. Many of the female respondents expressed the opinion that active participation resulted in them being unattractive because they were sweaty and their hair was messy. It was also felt by many that the time spent participating in Physical Education classes could be spent more usefully in other areas of school life. This corresponded with findings from the review of literature which revealed that females have more social problems with Physical Education than males. From pre-school years, females are conditioned by society to behave in certain "female" ways.

This translates into an aversion to sweating, rough play, and competition, as well as a disinterest in sports and an image of females as weak and non-aggressive.

In relation to other themes examined in this study, the mean scores on the theme of previous experience were comparatively low for all groups. These results suggested that generally both female and male respondents felt affected by their prior Physical Education experiences, and that the effects appeared to have made a difference as to whether or not they chose to enroll in high school Physical Education. It is perhaps understandable that the Level III students had the highest mean score and the Level I students had the lowest. This no doubt reflected the fact that the older students had the greater amount of past experiences in Physical Education classes on which to base their responses. It may be necessary, in future studies, to look more closely at the prior experiences of students with a view to determining the nature of those experiences and their specific effects on students' future choices in Physical Education.

In the area of previous experience, there were several concerns expressed by students. These were: concerns about being made fun of due to low ability in junior high school; a poor Physical Education program in elementary and junior high school; and self-perceived lack of coordination. Earl and Stennett (1987) examined student dissatisfaction with past experiences as a reason for not enrolling in Physical Education classes. Their results suggested program changes be implemented to encourage students to enroll in Physical Education. They suggested: offering a recreational activities course, changing the marking system by giving priority to the mark allotment for effort rather

than skill, allowing students to enroll with students of similar attitude and abilities, and encouraging teachers to attempt to enhance student self-concept. Earl and Stennett suggested that practices in high school Physical Education classes did not meet the needs of all high school students, resulting in declining enrollments.

Another theme identified for study was that of social factors. Females reported that they did not like the idea of co-educational classes and that they had experienced a lack of positive influence from parents or guardians. They reported seeing few chances to learn to get along with other people in Physical Education classes, and they believed that not all Physical Education activities were fun. Sex-role stereotyping was also an important theme in this area.

Sex-role stereotyping has been studied by numerous researchers (Kidd, 1983; Hall & Richardson, 1982; Birns, 1976; Snyder & Spreitzer, 1975; Montemayor, 1974; Shaver, 1974; Rosenthal & Jacobson, 1968). These researchers generally conclude that sex-role stereotyping is prevalent not only in society in general, but also within the realm of sport and physical activity.

Based on the findings of the present study, it was concluded that both male and female students felt that sex-role stereotyping existed in their Physical Education programs. The high mean scores for females in Levels I and II appeared to indicate that these students had been subjected to the effects of sex-role stereotyping. In the school setting, this may translate into males and females being treated differently, with the likelihood of males getting their preferred choices in activities as well as receiving

preferential treatment. As a result of this, females could feel themselves treated as inferiors. At Levels I and II, the means for female students enrolled in Physical Education were higher than for females not enrolled. However, when the overall mean scores between females participating and females not participating were compared, very little difference was seen. This may indicate that this social factor et al. are not contributary to whether or not females enroll in Physical Education. It appears, however, that the female students who are enrolled, particularly at Levels I and II, have been influenced by this theme. There is a clear difference between the enrolled and non-enrolled students on this question at these levels. A possible explanation of this outcome may be that non-participants have opted to avoid the situation on the basis of social factors, and may have produced even higher means had they been enrolled. If this were true, then more input should be sought from prospective female Physical Education students. This is clearly an issue which needs to be studied further.

The results on this theme of social factors present one possible implication for physical educators. They may need to look at the kinds of choices offered to female students in Physical Education classes. For example, it is possible that females would respond more positively if they were given the opportunity to work with friends, especially if they had similar skill abilities. This would enable them to feel more comfortable and less threatened in the class situation. To this end, teachers might make concerted efforts to ensure that students have input into such aspects as selection of activities, individualized programming, and group projects and activities.

From a summary of studies reviewed, it appeared that peers have the greatest influence on students during school years. However, teachers and coaches also serve as significant socializing agents during adolescence. Such findings have particular impact upon Physical Education, since they demonstrate that social systems other than the school are primarily responsible for socializing women into sports.

In the design of the present study, it was considered that dislike of the teaching methods employed might be one of the possible reasons for female non-participation in Physical Education courses. This may result from dissatisfaction with the high level of physical activity and competition demanded within the classes, combined with lack of opportunity for individual playing time and attention. In the opinion of a number of the females in this study, Physical Education courses were tailored for an elite group of students.

The findings are similar to those of other researchers who have studied this area. They have concluded that teachers' personal qualities and their classroom practices influence student perceptions and enjoyment of Physical Education. A number of researchers, including Rice (1988) and Csikszentmihalyi and McCormack (1986), have noted the positive and negative effects of teacher attitudes and behaviors on students.

If the teacher is liked and the teaching style is perceived favorably by students, it would logically follow that students would be more likely to enroll in future Physical Education courses. Conversely, enrollment can be negatively affected if the teacher is disliked by students because of either the teacher's personal qualities or teaching style.

However, based on the data from the present study, there appeared to be little difference between the females enrolled and the females not enrolled on the matter of teaching methodology. This suggested that teaching methodology was not a deciding factor in whether females enrolled or not.

To ensure that students are not negatively affected by teacher behaviours, teachers should make every attempt possible to interact with each student individually and should treat all students equally. Positive student attitudes toward the teacher may likely be translated into positive attitudes toward the subject matter. Consequently, it would appear that the teacher has an important role to play in changing negative perceptions of Physical Education, and encouraging students to continue with Physical Education. By displaying qualities that are viewed positively by the students, the teacher creates an environment that encourages student enrollment in non-compulsory Physical Education.

Timetable conflict was another theme considered in non-enrollment. The relatively high overall mean scores on this theme were an indication that timetable conflicts were a concern for students. This was supported by the findings of the Ottawa Board of Education (1985-86) which expressed concern about declining enrollment of females in Physical Education, and the interests and feelings of adolescents toward Physical Education. The need for a more flexible timetable was a major finding of the report.

The findings in the present study indicated that a majority of students, both male and female, were concerned with timetable conflicts in high school, because the average

means of all respondents were high. One possible explanation may be that many students are under pressure of time to complete a particular program. Because Physical Education has been relegated to non-compulsory status, and due to low overall school enrollments and consequent low staffing levels, student priorities are likely to be placed in other curriculum areas in order to complete required programs. Schools are unable to provide a wide range of courses. Therefore students may be forced to take subjects which fulfill the requirements for their chosen programs rather than personal enrichment courses such as Physical Education. However, when the results were compared between females enrolled and females not enrolled, very little difference was observed. As a result, it may be concluded that timetable conflicts are not a deciding factor for females enrolling in Physical Education.

Physical Education Activities Preferred by Students

Students were asked how they felt about having certain activities in their Physical Education program. Their responses to this section of the questionnaire were ranked in order of preference, and are displayed in Tables 5, 6, and 7 (See Appendix A). The mean of responses for each activity was used to determine student satisfaction or dissatisfaction with course offerings. The results of this section were broken down by four categories: females enrolled in Physical Education, females not enrolled, males enrolled, and males not enrolled.

Females enrolled in Physical Education stated that they would most like to take part in skating, badminton, dance, swimming, aerobics, bowling, cross-country skiing,

gymnastics, volleyball and tennis. They showed little interest in golf, football, wrestling, boxing, broomball, fencing, field hockey, cross-country running, curling and handball.

Females not enrolled preferred skating, swimming, badminton, volleyball, dance, softball, aerobics, basketball, ice hockey and cross-country skiing. They were disinterested in golf, boxing, wresting, football, broomball, fencing, handball, cross-country running, archery and rugby.

The males who were enrolled preferred archery, weight training, baseball, boxing, floor hockey, ice hockey, softball, basketball, wrestling, football and swimming. However, they felt that aerobics, dance, golf, gymnastics, cross-country running, broomball, handball, racquetball, tennis and curling were least desirable.

Among the males who were not enrolled in Physical Education, the activities most preferred were ice hockey, floor hockey, baseball, softball, skating, weight training, football, basketball, boxing and archery. The less preferred activities were aerobics, dance, golf, gymnastics, cross-country running, broomball, fencing, handball, curling and racquetball.

An analysis of the responses from males and females enrolled indicated a fundamental difference between the genders with regard to preferred activities. Even females who are enrolled were not pleased with the activities offered, which suggests that it is not surprising that many females choose not to enroll. This begs the question of why those females who enroll choose to do so. There must be other powerful motivators which entice female students to enter Physical Education courses. These may be

timetable factors, which may influence the student to enroll because there may be no other course, or no preferable course, offered in that particular time slot; and indeed there may be those students who probably value Physical Education for other reasons.

Several interesting findings may be interpreted from the data regarding males and females not enrolled: the activities were generally ranked in a similar order by both enrolled and non-enrolled males and females. By comparing the top one-third of the activities between genders it could be seen that females appeared to favor more movement activities and some team sports. Males showed a greater preference for team and ball sports with little preferences for movement oriented activities. Similar results were found by the Carleton Board of Education (1987) which reported that males preferred game sports such as hockey and football, while females preferred jazz and aerobic activities. The bottom one-third of the ranked list of activities also indicated that males least preferred gymnastics, dance, golf and aerobics, while females least preferred football, wrestling, boxing and golf. Interestingly, most of these last few activities are typically seen as being dominated by one gender, and these stereotypical patterns may be reflected in the students' choices.

The notion that students may gravitate toward stereotypical activity choices based on gender is one which has been investigated by Dahlgren (1988). She concluded that females are socialized to believe they are not capable of succeeding at physical activity, that many forms of physical activity are inappropriate for them; and that competence in physical activity is not as important for them as it is for male peers. As a result of this,

females often fail to develop their full potential, and tend to conform to gender-specific sex-role standards.

Summary of Analysis of Research Themes

Of all 11 factors, embarrassment was the strongest negative factor for females enrolled (See Tables 11 & 20). This may be due to feelings of inadequacy with regard to knowledge, skills or physical development. A peculiar characteristic of Physical Education programs is the team-oriented nature of many activities. Such activities often require from individual students a level of knowledge and skill which many may not feel they possess. The expectations of classmates and teachers might contribute to a stressful situation which in turn causes embarrassment for the student. The gymnasium is also a place in which students are expected to wear clothing that may be more revealing of physical appearance than is usually worn in school. For many females, this may be a requirement which causes embarrassment. It is interesting to note that those female students who were participating expressed the greatest levels of embarrassment. Further studies need to be conducted into the reasons why embarrassment is such a prevalent condition among participating females.

MacIntosh, King and Greenham (1978) found that young people avoided situations where they might be compared unfavorably with their more skillful peers. Earl and Stennett (1983) found that females were more likely than males to describe themselves as overweight, and many suffered from low self-esteem. Butcher (1976) found that female non-selectors reported a lack of confidence in their physical ability,

and in a later study Butcher (1983) asserted that young females may not be willing to subject themselves to activities in which they feel incompetent.

It is interesting to see that of the significant factors, the notion of discrimination on the basis of gender did not appear to be an important issue for female high school students in the ANISB. Furthermore, concerns over awareness of benefits, facilities and equipment and timetable conflicts were seen to have no significant influence on whether or not females choose to enroll in Physical Education. The asterisk beside items in Tables 20 and 21 signify that these items were significant.

For the purposes of this study, the theme "Social Factors" included the influence of peers, coaches, teachers and significant others. Related to this, Rice (1988) found that 70% of students liked Physical Education because they liked the teacher. However, Csikszentmihalyi and McCormack (1986) found that the positive qualities of teachers were sometimes viewed negatively because they were seen as being displayed only to encourage students to like the teacher.

In light of the findings presented in Table 21, it may be concluded that there is a problem with the relationships between teachers and students, possibly stemming from the teaching methods employed. This effect would also appear to flow over into the theme "Teaching Methodology".

The results seem to indicate that the males surveyed did not consider awareness of the benefits of Physical Education to be a positive reason to enroll. This would appear to be contrary to the findings of MacIntosh, King and Greenham (1978), who reported

that even though they had decided not to take Physical Education, young people generally expressed positive attitudes toward physical activity, and indicated that sports were an important aspect of their school and community life.

It may be concluded that the males surveyed showed little concern for the possibility of being discriminated against. Clearly, this finding supports research by several writers (Basow & Spinner, 1984; Lenskyj, 1986; and Dahlgren, 1988) which found that males were generally favored in the realm of sports and Physical Education.

Implications for Practice

Several implications can be drawn from the present study. The most obvious of these is that the effect of embarrassment needs to be minimized for the female student in high school Physical Education classes. This must begin in the lower grades and be reinforced through subsequent years. There are many ways of accomplishing this end, and many aspects which should be considered.

Situations should be provided in which the student can participate at her own level and where competition and failure are minimized. Non-competitive activities should be offered more than competitive ones. Ideally, competition should be against oneself rather than against classmates. However, if and when interpersonal competition is necessary, situations should be arranged where students are grouped homogeneously with regard to skill levels. In this way, one student's failure is not a large consideration and will not impact on the other students. Success should be fostered and applauded, and a positive self-image would be built through careful, deliberate effort. Because, for many

physical activities and sports, skill development can not be overlooked, it is important to shift the emphasis on development of such skills to the primary and elementary grades. Younger children seem considerably less concerned with self-image and embarrassment, and are quite adept at learning new physical skills through practice and drill. If this is done, high school courses are free to offer more activities of a fitness and personal-development nature.

Physical Education teachers, and teachers in general, should be made aware of adolescent students' heightened sensitivity regarding self-image. In concert with a guidance counselor, the Physical Education teacher should work at developing the student's inner self along with physical attributes. All females felt that hygiene was a significant factor in determining whether or not they enrolled in Physical Education classes. Hygiene was a significant factor for males as well. One suggestion to alleviate the problem of hygiene would be to have adequate showering and changing facilities within a school. It would be advantageous to have Physical Education classes end at recess time, lunch time, and at the end of the day to provide time for females to shower and groom themselves. Finally, there is a need to have sessions with females about fitness activities and involvement in Physical Education classes during menstruation. This can be conducted by either the school nurse or by a doctor. Such educational sessions should be continuous throughout the school years, providing greater detail and more in-depth discussions as students mature.

Suggestions for Further Research

The following are recommended areas for further research:

1. That a similar study be conducted in high schools in other school boards within the province of Newfoundland and Labrador.

2. Further studies need to be completed on students in junior high, and elementary schools to determine if similar problems occur and what can be done to alleviate the decline in enrollment for females.

3. A more detailed study needs to be conducted on each of the problem areas identified in this study, especially that of embarrassment among participating females, in order that more in-depth treatment of each can be achieved.

4. The Avalon North Integrated School Board needs to look into these findings and try to come up with better solutions as to how females can become involved in Physical Education classes.

5. A study needs to be conducted to examine the phenomenon of non-enrollment by students who express an awareness of the benefits of physical activity yet are not participating.

6. It would be of considerable importance to examine the types of experiences students are exposed to in Physical Education classes prior to high school and the effects of such experiences on the decision to enroll in high school Physical Education courses.

Conclusion

The results of this study indicated that there are a variety of reasons why there is a low enrollment of females in Physical Education classes in the Avalon North Integrated School Board. The accompanying recommendations provide information that will assist female and male students, administrators, researchers, and other interested parties, in structuring sport programs and support services to provide the maximum opportunities and hopefully optimize more participation by females into Physical Education classes.

The information on student likes and dislikes regarding activities in Physical Education courses should allow for greater cohesion between course design on the one hand and student interests on the other. It makes sense to consult the students themselves, as they are the ultimate users of the Physical Education curriculum. Student suggestions as to program changes ought to be considered an important component of curriculum development.

The information may assist Physical Education teachers, school administrators, school board and departmental personnel, and researchers in structuring programs that provide maximum opportunities for females to participate in Physical Education classes.

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Appendix A

Physical Education Questionnaire

School of Physical Education

Questionnaire

Section 1 Instructions

Please use a pencil to record your response on the answer sheet we have provided. Mark only one response to each question.

Please find the area on the left of side one of the MEMORIAL UNIVERSITY ANSWER SHEET and fill in the following:

- Name
- Birth Date
- Sex
- Grade

In order to fill out your height and weight, go to the section titled **IDENTIFICATION NUMBER**. For weight use columns A, B, and C. For example if your weight is 132 pounds, you should pencil in the 1 in column A, the 3 in column B and the 2 in column C.

	A	B	C
1	0	0	0
2	0	0	0
3	0	0	0
4	0	0	0

For height, use columns I and J. Convert your height to inches For example if you are 5' 8", then you are 68 inches tall. You then pencil in the 6 in column I and the 8 in column J.

	I	J
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0

If you have answered the above, please proceed to question #1.

SURVEY OF PHYSICAL EDUCATION ENROLLMENT OF HIGH SCHOOLS IN AVALON NORTH INTEGRATED SCHOOL BOARD

Section A

1. Are you taking Physical Education 1100 this year?
   Yes _____ 1. No _____2.
2. Have you taken Physical Education 1100?
   Yes_____ 1. No_____2.
3. Are you taking Physical Education 2100 this year?
   Yes _____1. No _____2.
4. Have you taken Physical Education 2100?
   Yes_____1. No_____2.
5. Are you taking Physical Education 3100 this year?
   Yes _____1. No _____2.
6. Have you taken Physical Education 3100?
   Yes_____1. No_____2.
7. Are you taking part in intramurals or sport clubs this year? Yes _____1. No _____2.
8. Are you playing on any school teams this year?
   Yes _____1. No _____2.
9. Have you played on school teams before?
   Yes_____1. No._____2.
10. Are you involved in any physical activities, sport or recreational activities this year? Yes _____1. No. _____2.
11. Do you have any medical conditions that restrict you from taking part in physical activity?
    Yes_____1. No_____2.
12. Does your father/guardian take part in any sports or other fitness activities?
    Yes_____1. No_____2.
13. Does your mother/guardian take part in any sports or other fitness activities?
    Yes_____1. No_____2.

14. Does your school require you to take one Physical Education course in high school?

Yes ____ 1. No ____2.

Section B

The activities listed below are often included in the Physical Education program. For each activity indicate how much you would like that activity in your Physical Education program. **A LOT- "5": SOME- "4": UNDECIDED- "3" NOT MUCH- "2": NOT AT ALL- "1":**

Make sure you follow the arrows to ensure that all answers are recorded.

15. _____ Tennis
16. _____ Softball
17. _____ Volleyball
18. _____ Golf
19. _____ Bowling
20. _____ Football
21. _____ Swimming
22. _____ Basketball
23. _____ Ice Hockey
24. _____ Baseball
25. _____ Field Hockey
26. _____ Floor Hockey
27. _____ Cross-Country running
28. _____ Fencing
29. _____ Track & Field
30. _____ Racquetball
31. _____ Soccer
32. _____ Cross-Country skiing
33. _____ Archery
34. _____ Wrestling
35. _____ Boxing
36. _____ Aerobics
37. _____ Gymnastics
38. _____ Weight Training
39. _____ Dance
40. _____ Badminton
41. _____ Curling
42. _____ Broomball
43. _____ Handball
44. _____ Orienteering
45. _____ Skating
46. _____ Rugby

Section C

On a scale of one to five, how would you rate the following? Please circle the number that best represents your opinion.

STRONGLY AGREE - "1"; AGREE - "2"; UNDECIDED - "3"; DISAGREE - "4"; STRONGLY DISAGREE - "5"

47.	Physical Education is for the more athletically inclined.	1 2 3 4 5
48.	The teaching methods in Physical Education class make the class enjoyable.	1 2 3 4 5
49.	We don't have adequate facilities to provide more activities.	1 2 3 4 5
50.	Physical Education classes embarrass me because of my poor skill level.	1 2 3 4 5
51.	I like the activities taught in High School Physical Education.	1 2 3 4 5
52.	There are too many written tests in Physical Education classes.	1 2 3 4 5
53.	I don't get to play enough in Physical Education class.	1 2 3 4 5
54.	Physical Education is one of the more important subjects in helping to learn and practice acceptable rules of behavior with other people.	1 2 3 4 5
55.	Females get all the attention in Physical Education class.	1 2 3 4 5
56.	The school does not provide adequate changing facilities for personal hygiene.	1 2 3 4 5
57.	Physical Education classes are too physically demanding.	1 2 3 4 5
58.	Physical Education classes teach me how to keep my body in good physical condition.	1 2 3 4 5
59.	I do not take Physical Education because we do not have adequate playing areas.	1 2 3 4 5

60.	People made fun of me in Physical Education classes in junior high. As a result, I don't want to take Physical Education anymore.	1 2 3 4 5
61.	I believe that I will be made fun of if I participate in Physical Education class.	1 2 3 4 5
62.	I did not have a good Physical Education program in elementary school.	1 2 3 4 5
63.	I do not like co-educational Physical Education classes (males and females combined).	1 2 3 4 5
64.	Females are often the last to be picked when playing teams sports.	1 2 3 4 5
65.	We have enough individual activities taught in physical education class, i.e. table tennis, archery, etc.	1 2 3 4 5
66.	Physical Education conflicts with another subject that I prefer to take.	1 2 3 4 5
67.	I do not take Physical Education because of my physical development during adolescence.	1 2 3 4 5
68.	I would take Physical Education if I had a female physical education teacher rather than a male teacher.	1 2 3 4 5
69.	Vigorous physical activity works off harmful strong feelings such as anger.	1 2 3 4 5
70.	I would take Physical Education if my friends were taking it.	1 2 3 4 5
71.	I don't like Physical Education because I can't make decisions regarding the activities taught.	1 2 3 4 5
72.	I had good Physical Education classes in junior high school.	1 2 3 4 5
73.	I think Physical Education classes have too much competition.	1 2 3 4 5
74.	I don't like the way I look in gym clothes.	1 2 3 4 5

75.	My father/guardian encourages me more than my mother/guardian to take Physical Education.	1 2 3 4 5
76.	I take Physical Education because it raises my overall average on my report card.	1 2 3 4 5
77.	Physical Education conflicts with another course which is required for graduation.	1 2 3 4 5
78.	I am embarrassed to take Physical Education because of my physical size.	1 2 3 4 5
79.	There are not enough "leisure time" (lifelong) activities taught in Physical Education, e.g. golf, curling, etc.	1 2 3 4 5
80.	I don't like Physical Education because I get sweaty and then have to go to another class.	1 2 3 4 5
81.	Females often complain when they don't play the sports they like.	1 2 3 4 5
82.	We haven't enough Physical Education/sport equipment in the school for the students.	1 2 3 4 5
83.	Cooperating with other students should be stressed in Physical Education class.	1 2 3 4 5
84.	Exercise taken regularly is good for one's general health.	1 2 3 4 5
85.	Physical Education classes are poor in chances to learn how to get along with other people.	1 2 3 4 5
86.	Physical Education class is a waste of time in improving health.	1 2 3 4 5
87.	Time spent in dressing, showering, and playing in physical education class could be more valuable if spent in other ways.	1 2 3 4 5
88.	Meeting and playing with others in some Physical Education activity is fun.	1 2 3 4 5
89.	We have adequate facilities in which Physical Education classes are conducted.	1 2 3 4 5

90.	I don't take Physical Education because it messes up my hair and makes me look unattractive to the opposite sex.	1 2 3 4 5
91.	Our equipment is out of date. We need modern equipment.	1 2 3 4 5
92.	If I have to make a choice between an academic course and Physical Education, then I would choose Physical Education because it gives me a much needed break from the academics.	1 2 3 4 5
93.	My school has adequate shower as well as changing facilities.	1 2 3 4 5
94.	When I think of a sports celebrity, a male sports figure immediately comes to my mind.	1 2 3 4 5
95.	I haven't got enough coordination to participate in physical education classes.	1 2 3 4 5
96.	There is not enough media coverage for female athletes.	1 2 3 4 5
97.	I do not take Physical Education because it conflicts with another course I need for post secondary education.	1 2 3 4 5
98.	I would like to see more females participating in Physical Education classes.	1 2 3 4 5
99.	We spend too much time on testing sport skills in Physical Education class.	1 2 3 4 5
100.	Females are often left out of the play especially playing teams sports such as basketball or volleyball. Males have a tendency to pass the ball to males.	1 2 3 4 5
101.	I would rather take Physical Education classes that only have males in one class and females in the other.	1 2 3 4 5

Appendix B

Letter to Superintendent

Dear Sir:

I would like to request your approval for the collection of data in schools of the Avalon North Integrated School Board as part of my thesis for my Master of Physical Education Degree. The main purpose of this study is to determine the reasons why fewer females than males participate in Physical Education 1100, 2100, and 3100.

In order to obtain this information, I would like to survey a sample of high school students from the following schools: Ascension Collegiate, Bay Roberts; E.J. Pratt, Brownsdale; Carbonear Collegiate, Carbonear; Holy Trinity, Heart's Content; St. George's, New Harbour; Holy Trinity, Norman's Cove; Persalvic, Victoria; Jackson Walsh, Western Bay; and Whitbourne Central High, Whitbourne. In this regard, I would appreciate your permission to approach high school principals for their help in administering a 20-30 minute questionnaire to students in levels I, II, and III. It is hoped that the results of the study will help formulate recommendations that will improve the present situation and encourage greater participation by females in high school Physical Education courses in the Avalon North Integrated School Board.

I am enclosing a copy of the questionnaire for your approval. I am hoping to carry out the survey in November of 1993, and I would appreciate a reply at your earliest convenience.

Thank you for your consideration.

Sincerely yours,

Francis Power
Epiphany Elementary
Heart's Delight

Thesis Supervisor

Dr. Colin Higgs
Dept. of Physical Education
Memorial University

Appendix C

Researcher's Introductory Letter

Researcher's Introductory Letter

I am a graduate student from Memorial University of Newfoundland and I am doing research to complete my Masters Thesis. This research consists of a questionnaire which you will fill out today. Your responses on the questionnaire are confidential and will be seen only by me. The questionnaire is designed to investigate why students in Level I, Level II, and Level III decide to participate or not to participate in Physical Education 1100, 2100 and/or 3100. I would encourage you to work independently while filling out the questionnaires.

This questionnaire is part of a research project that I am involved in as a graduate student at Memorial University of Newfoundland. It is aimed at finding out why students' do not take Physical Education classes. Please answer the questions completely as the information will provide insight into why students are not taking Physical Education classes.

Your participation is on a voluntary basis, and your anonymity is guaranteed.

Francis J. Power

Graduate Student

Appendix D

Student Feedback Form

Please respond to the following questions in the space provided:

1) Are there any statements that you do not understand? If so, what statements? Please mark the ones by placing an asterisk besides the statement(s).

2) What are your feelings about the general structure of the questionnaire?

3) Do you find any question(s) difficult to respond to? If so, give the # of the statement below.

4) Are there any statements that are inappropriate in determining why you decided to enroll or not enroll in Physical Education classes? State the # below.

5) Are there any statements that have not been included in the questionnaire, that need to be addressed? If so, please add them below.

Appendix E

Letters to Principals

Dear Principal:

I would like to request your approval for the collection of data from students in your school as part of my thesis for my Master of Physical Education Degree. The main purpose of this study is to determine the reasons why fewer females than males participate in Physical Education 1100, 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 male and female. The survey consists of a 20-30 minute questionnaire to be administered to students in Levels I, II, and 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.

I am enclosing a copy of the questionnaire which I will administer myself. I am hoping to carry out the survey in November, 1993.

We 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,

Francis Power
Epiphany Elementary
Heart's Delight

Thesis Supervisor

Dr. Colin Higgs
Dept. of Physical Education
Memorial University

Appendix F

Directions to Principals

Dear Principal:

This is to advise you that I will be unable to be present at your school during the administration of my questionnaire. In order to properly administer the questionnaire, the guidelines given below should be followed. I would greatly appreciate it if you would set aside some time to go over these procedures with those teachers who will be conducting the questionnaire sessions:

Please ensure that there are sufficient copies of the questionnaire and the scanning sheet for all students.

Allow up to thirty minutes for students to complete the task.

All answers are to be indicated in pencil.

The instructions for each section of the questionnaire needs to be explained carefully to the students, with time for questions from students regarding the instructions.

Please make sure that all areas of the answer sheets are filled out, with no exceptions, up to #101.

Collect all sheets after completion of the questionnaire and put them in an envelope, ready for pickup.

Thank you for your valued cooperation in this regard.

Sincerely,

Francis Power

Appendix G

Directions to Teachers

Dear Teacher,

This is to advise you that I will be unable to be present at your school during the administration of my questionnaire. In order to properly administer the questionnaire, the guidelines given below should be followed. I would greatly appreciate it if you would set aside some time to go over these procedures in preparation for the questionnaire sessions:

Please ensure that there are sufficient copies of the questionnaire and the scanning sheet for all students.

Allow up to thirty minutes for students to complete the task.

All answers are to be indicated in pencil.

The instructions for each section of the questionnaire need to be explained carefully to the students, with time for questions from students regarding the instructions.

Please make sure that all areas of the answer sheets are filled out, with no exceptions, up to #101.

Collect all sheets after completion of the questionnaire and put them in an envelope, ready for pickup.

Thank you for your valued cooperation in this regard.

Sincerely,

Francis Power

Appendix H

Tables of Enrollments for 1991 - 1994 in Schools of the Avalon North Integrated School Board

Ascension Collegiate (Bay Roberts)

	Male	Female	Total	% Male	% Female
1993-94					
Physical Education 1100	67	10	77	46%	8%
Physical Education 2100	67	7	74	45%	6%
Physical Education 3100	58	13	71	47%	10%
1992-93					
Physical Education 1100	34	3	37	23%	2%
Physical Education 2100	22	5	27	27%	4%
Physical Education 3100	52	12	64	37%	10%
1991-92					
Physical Education 1100	40	13	53	29%	10%
Physical Education 2100	27	9	36	17%	7%
Physical Education 3100	40	10	50	31%	8%

Carbonear Collegiate (Carbonear)

	Male	Female	Total	% Male	% Female
1993-94					
Physical Education 1100	15	7	22	26%	14%
Physical Education 2100	46	19	65	88%	45%
Physical Education 3100	42	18	60	78%	37%
1992-93					
Physical Education 1100	0	0	0	0	0
Physical Education 2100	56	15	71	52%	19%
Physical Education 3100	68	29	97	79%	63%
1991-92					
Physical Education 1100	15	2	17	41%	6%
Physical Education 2100	13	10	23	46%	30%
Physical Education 3100	15	10	25	45%	40%

E. J. Pratt (Brownsdale)

	Male	Female	Total	% Male	% Female
1993-94					
Physical Education 1100	10	9	19	67%	82%
Physical Education 2100	3	4	7	40%	25%
Physical Education 3100	4	4	8	53%	23%
1992-93					
Physical Education 1100	15	3	18	68%	37%
Physical Education 2100	10	14	24	83%	64%
Physical Education 3100	9	5	14	75%	29%
1991-92					
Physical Education 1100	12	8	20	100%	89%
Physical Education 2100	7	12	19	29%	67%
Physical Education 3100	0	0	0	0%	0%

Holy Trinity (Heart's Content)

	Male	Female	Total	% Male	% Female
1993-94					
Physical Education 1100	0	0	0	0%	0%
Physical Education 2100	12	4	16	50%	31%
Physical Education 3100	20	7	27	50%	29%
1992-93					
Physical Education 1100	16	7	23	70%	50%
Physical Education 2100	23	3	26	55%	13%
Physical Education 3100	15	6	21	48%	19%
1991-92					
Physical Education 1100	0	0	0	0%	0%
Physical Education 2100	12	4	16	35%	13%
Physical Education 3100	20	7	27	61%	41%

St. George's (New Harbour)

	Male	Female	Total	% Male	% Female
1993-94					
Physical Education 1100	0	0	0	0%	0%
Physical Education 2100	40	4	44	74%	11%
Physical Education 3100	11	6	17	18%	10%
1992-93					
Physical Education 1100	9	7	16	17%	19%
Physical Education 2100	13	3	16	26%	6%
Physical Education 3100	9	3	12	24%	6%
1991-92					
Physical Education 1100	21	6	27	27%	8%
Physical Education 2100	12	5	17	36%	10%
Physical Education 3100	11	3	14	61%	7%

Holy Trinity (Norman's Cove)

	Male	Female	Total	% Male	% Female
1993-94					
Physical Education 1100	24	2	26	65%	7%
Physical Education 2100	35	7	42	92%	37%
Physical Education 3100	20	9	29	65%	50%
1992-93					
Physical Education 1100	25	10	35	69%	53%
Physical Education 2100	15	4	19	47%	20%
Physical Education 3100	18	12	30	62%	52%
1991-92					
Physical Education 1100	26	14	40	84%	67%
Physical Education 2100	25	13	38	86%	59%
Physical Education 3100	10	7	17	63%	32%

Persalvic (Victoria)

	Male	Female	Total	% Male	% Female
1993-94					
Physical Education 1100	10	4	14	48%	17%
Physical Education 2100	7	3	10	27%	12%
Physical Education 3100	14	5	19	52%	19%
1992-93					
Physical Education 1100	13	3	16	43%	11%
Physical Education 2100	10	3	13	37%	14%
Physical Education 3100	8	9	17	40%	30%
1991-92					
Physical Education 1100	29	3	32	41%	13%
Physical Education 2100	30	3	33	46%	10%
Physical Education 3100	10	7	17	42%	29%

Jackson Walsh (Western Bay)

	Male	Female	Total	% Male	% Female
1993-94					
Physical Education 1100	0	0	0	0%	0%
Physical Education 2100	8	4	12	92%	37%
Physical Education 3100	8	5	13	65%	50%
1992-93					
Physical Education 1100	11	1	12	69%	53%
Physical Education 2100	13	11	24	47%	20%
Physical Education 3100	0	0	0	0%	0%
1991-92					
Physical Education 1100	11	6	17	84%	67%
Physical Education 2100	0	0	0	86%	59%
Physical Education 3100	15	12	27	63%	32%

Whitbourne High (Whitbourne)

	Male	Female	Total	% Male	% Female
1993-94					
Physical Education 1100	15	11	26	65%	7%
Physical Education 2100	10	4	14	92%	37%
Physical Education 3100	11	4	15	65%	50%
1992-93					
Physical Education 1100	15	5	20	69%	53%
Physical Education 2100	9	1	10	47%	20%
Physical Education 3100	9	1	10	62%	52%
1991-92					
Physical Education 1100	15	7	22	84%	67%
Physical Education 2100	14	7	21	86%	59%
Physical Education 3100	0	0	0	0%	0%

Appendix I
Analysis of Data

Related Questions in the survey

Research areas		Related Questions in Questionnaire
1.	Awareness of Benefits	54, 58, 69, 83, 84
2.	Curriculum	47, 51, 65, 71, 79,
3.	Embarrassment	50, 61, 67, 74, 78
4.	Facilities/equipment	49, 59, 82, 89, 91
5.	Few Role Models	68, 70, 94, 96, 98
6.	Hygiene Factors	56, 80, 87, 90, 93
7.	Previous Experience	60, 62, 72, 86, 95
8.	Social Factors	63, 75, 85, 88, 99
9.	Teaching Methodology	48, 52, 53, 57, 73
10.	Timetable Conflicts	66, 76, 77, 92, 97
11.	Gender Discrimination	55, 64, 81, 100, 101

Awareness of Benefits

54. Physical Education is one of the more important subjects in helping to learn and practice acceptable rules of behavior with other people.
58. Physical Education classes teach me how to keep my body in good physical condition.
69. Vigorous physical activity works off harmful strong feelings such as anger.
83. Cooperating with other students should be stressed in Physical Education class.
84. Exercise taken regularly is good for one's general health.

Curriculum

47. Physical Education is for the more athletically inclined.
51. I like the activities taught in High School Physical Education.
65. We have enough individual activities taught in Physical Education class, i.e. table tennis, archery, etc.
71. I don't like Physical Education because I can't make decisions regarding the activities taught.
79. There are not enough "leisure time" (lifelong) activities taught in Physical Education, e.g., golf, curling, etc.

Embarrassment

50. Physical Education classes embarrass me because of my poor skill level.
61. I believe that I will be made fun of if I participate in Physical Education class.
67. I do not take Physical Education because of my physical development during adolescence.
74. I don't like the way I look in gym clothes.
78. I am embarrassed to take Physical Education because of my physical size.

Facilities/equipment

49. We don't have adequate facilities to provide more activities.
59. I do not take Physical Education because we do not have adequate playing areas.
82. We haven't enough Physical Education/sport equipment in the school or the students.
89. We have adequate facilities in which Physical Education classes are conducted.
91. Our equipment is out of date. We need modern equipment. .

Few Role Models

68. I would take Physical Education if I had a female Physical Education teacher rather than a male teacher.
70. I would take Physical Education if my friends were taking it.
94. When I think of a sports celebrity, a male sports figure immediately comes to my mind.
96. There is not enough media coverage for female athletes.
98. I would like to see more females participating in Physical Education classes.

Hygiene Factors

56. The school does not provide adequate changing areas or personal hygiene facilities.
80. I don't like Physical Education because I get sweaty and then have to go to another class.
87. Time spent in dressing, showering, and playing in Physical Education class could be more valuable if spent in other ways.
90. I don't take Physical Education because it messes up my hair and makes me look attractive to the opposite sex.
93. My school has adequate shower as well as changing facilities.

Previous Experience

60. People made fun of me in Physical Education classes in junior high. As a result, don't want to take Physical Education anymore.
62. I did not have a good Physical Education program in elementary school.
72. I had good Physical Education in junior high school.
86. Physical Education class is a waste of time in improving health.
95. I haven't got enough coordination to participate in Physical Education classes.

Social Factors

63. I do not like co-educational Physical Education classes (males and females combined).
75. My father/guardian encourages me more than my mother/guardian to take Physical Education.
85. Physical Education classes are poor in chances to learn how to get along with other people.
88. Meeting and playing with others in some Physical Education activity is fun.
99. We spend too much time on testing sport skills in Physical Education class.

Teaching Methodology

48. The teaching methods in Physical Education class make the class enjoyable.
52. There are too many written tests in Physical Education classes.
53. I don't get to play enough in Physical Education class.
57. Physical Education classes are too physically demanding.
73. I think Physical Education classes have too much competition.

Timetable Conflicts

66. Physical Education conflicts with another subject that I prefer to take
76. I take Physical Education because it raises my overall average on my report card.
77. Physical Education conflicts with another course which is required for graduation.
92. If I have to make a choice between an academic course and Physical Education, then I would choose Physical Education because it gives me a much needed break from the academics.
97. I do not take Physical Education because it conflicts with another course I need for post secondary education.

Gender Discrimination

55. Females get all the attention in Physical Education class.
64. Females are often the last to be picked when playing teams sports.
81. Females often complain when they don't play the sports they like.
100. Females are often left out of the play especially playing teams sports such as basketball or volleyball. Males have a tendency to pass the ball to males.
101. I would rather take Physical Education classes that only have males in one class and females in the other.