

**The Ability of Gender to Challenge:  
Queensland Senior Physical Education**

Thesis submitted by

Gillian Sandra Rachel **WALLS** BHMSc BEd(Hons)

in February, 2006

for the degree of Doctor of Philosophy  
in the School of Education  
James Cook University

## **ELECTRONIC COPY**

I, the undersigned, the author of this work, declare that the electronic copy of this thesis provided to the James Cook University Library, is an accurate copy of the print thesis submitted, within the limits of the technology available.

---

Signature

---

Date

## Statement of Access

I, the undersigned, author of this work, understand that James Cook University will make this thesis available for use within the University Library and, via the Australian Digital Theses network, for use elsewhere.

I understand that, as an unpublished work, a thesis has significant protection under the Copyright Act and;

I do not wish to place any further restriction on access to this work.

---

Signature

---

Date

## Statement of Sources

I declare that this thesis is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education.

Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.

---

Signature

---

Date

## Acknowledgements

Acknowledgement and thank you must go to the schools, teachers and students without whose interest, curiosity and participation this research would not have occurred. Also to all the staff, past and present, in the School of Education who assisted me in so many ways but who are too many to name, thank you.

To all of the 'Old Men', and the 'Old Lady', in the neighbouring offices who freely gave their time, advice and humour, your wisdom was recognised and appreciated.

Special thanks to Paul Travis who ran out of time trying to teach me patience, but who gave me so much more through his support, advice and encouragement.

Thank you to my supervisor, Dr Peter Horton for his guidance and recommendations throughout my research. Thank you also to my co-supervisor, Dr Maree Dinan-Thompson, for her input and time.

To my Mum and Dad, and my family of friends who have fed me, put up with me, supported me, and encouraged me; I wouldn't have survived without you all. Thanks especially to everyone at the Pink Palace and to Steve for his inspirational fictitious names, and Mel for all her 'apostrophe' skills.

## Publications

Walls, G. S. (2005). Measuring student perceptions of the practical physical education class environment: Developing an instrument. *ACHPER Healthy Lifestyles Journal*, 52(2), 13-18.

Walls, G. (Interview, November 1, 2005) *The Postgrad Apprenticeship*. Interview by Ali Benton for Triple J: Hack. Aired on Triple J, November 11, 2005.

## Pending Publications

Walls, G. (9-12 March, 2006). *Challenging ability and gender in Queensland Senior Physical Education*. Paper to be presented at the 13<sup>th</sup> Commonwealth International Sport Conference, Melbourne.

## Abstract

Previous research in physical education has historically focussed on the gender issues of single-sex and coeducation, however discussion on alternate groupings of students, is not as significantly discussed. Ability is a factor that has also been infrequently dealt with in this examination. This doctoral research explored from the students' perspectives, the class habitus of single-sex and coeducational Senior Physical Education classes in three North Queensland regional Catholic High schools. This research considered the factor of ability in single-sex and coeducation practical physical education learning environments, and the homogeneous groupings of single-sex schooling alongside a coeducation setting. It did this by examining the relationship of the themes of ability, challenge and gender, which were identified and incorporated into the study's multidimensional methodological framework using the dimensions of Ability, Individual and Environment. It was hypothesised that gender, ability and the learning environment could affect an individual's experiences, perceptions and sense of level of challenge experienced within the physical education environment.

Participants were ( $N$ ) 117,  $n = 78$  male and  $n = 39$  female, year 11 students enrolled in an elective Queensland Senior Physical Education subject. A case study method was utilised allowing for the triangulation of the qualitative and quantitative data. Quantitative instruments were trialled in a Pilot study and found appropriate for use in the case study methodology. Qualitative and quantitative data were collected over the duration of a study unit which involved an interceptive, team, ball physical activity. Data collection techniques employed were those of survey, observation and interview.

The data analysis revealed that ability was a significant factor in Senior Physical Education learning environments. However, the findings of this research did not reveal gender as a significant factor in the same learning environments. Student perceptions of issues of ability, challenge and equity in the class habitus were both quantitatively and qualitatively linked to ability. Implications of the preliminary findings of this research for grouping students in Senior Physical Education classes indicate issues of equity relating to grouping students based upon ability and gender with the recommendation that further research be undertaken to examine such issues.

## Table of Contents

Statement of Access	ii
Statement of Sources	iii
Acknowledgements	iv
Publications and Pending Publications	v
Abstract	vi
Chapter Contents	viii
Abbreviations	xi
List of Figures and Tables	xii



## Chapter Contents

Chapter 1	Researching Ability, Gender and Challenge in Physical Education	
1.0	Introducing Ability, Gender and Challenge	1
1.1	Background to Ability, Gender and Challenge Research	1
1.2	A Significantly Rational Study	3
1.3	Questioning Ability, Gender and Challenge	4
1.4	Methodological Framework of Student Differentiation	5
1.5	Limiting and Delimiting Factors	9
1.6	Defining Words	11
1.7	Thesis Overview	13
Chapter 2	Education, Sport, Gender, Ability and Equity	
2.0	The Issue of Gender, Ability and Physical Education	15
2.1	The Development of Education in Queensland	16
2.2	The Emergence of the Australian Sporting Culture	20
2.2.0	Gender constructions in sport and physical education	24
2.2.1	Physiological gender differences	27
2.2.2	Gender comparison of performance	29
2.3	Ability	32
2.3.0	Challenge and competition	35
2.3.1	Ability and self-perception in physical education	38
2.3.2	Educational environment and self-concept	41
2.3.3	Ability, gender and curriculum	42
2.4	The Physical Education Environment	46
2.4.0	Gender and grouping	47
2.4.1	Differences in variables, focus and curriculum areas	49
2.4.2	Ability and grouping	52
2.4.3	Grouping and physical education	54
2.5	A Matter of Equity	56
2.6	Emerging Issues and Inquiries	59

Chapter 3	Pilot Study	
3.0	Introducing the Pilot Study	62
3.0.0	The participants	62
3.0.1	The process	63
3.1	Physical Self-Perception Profile	64
3.1.0	The resulting analysis	65
3.2	Student Perceptions of the Practical Physical Education Class Environment	68
3.2.0	Developing the SPPPECE	69
3.2.1	The analysed result	70
3.3	Pilot Study Concluded	74
Chapter 4	Stating the Case	
4.0	The Case in Study	75
4.1	Research Methodology	75
4.1.0	Consenting participation	77
4.2	Procedure of the Research	78
4.2.0	Instrumental data collection	79
4.2.1	Instrument administration	80
4.2.2	Analysing the cases	80
4.3	Valid and Reliable	82
4.4	Considering the Ethics and Politics	83
4.5	Case in Summary	83
Chapter 5	Habitus Revealed	
5.0	Exploring the Habitus	85
5.1	The Girls' School: Producing Ladies	85
5.1.0	A ladies' habitus: SG-1	88
5.2	The Boys' School: Developing Leaders	105
5.2.0	A habitus leader: SB-1	107
5.2.1	Leading a habitus: SB-2	118
5.3	The Coed School: Natural Socialisation	126
5.3.0	Socialising a habitus: Co-1	129
5.3.1	Another social habitus: Co-2	141

5.4 Habitus Explored	153
<b>Chapter 6</b> <b>Habitual Similarities and Differences</b>	
6.0 Comparing the Different Similarities	154
6.1 Demographically Speaking	154
6.2 Questioning Gender	156
6.3 Focusing on Ability	158
6.4 Developing Challenge	160
6.5 Equitable Provision	162
6.6 Teacher Influence	163
6.7 Comparative Habitus	163
<b>Chapter 7</b> <b>Concluding Ability and Implying Challenge</b>	
7.0 The Challenge of Ability and Gender	165
7.1 Senior Physical Education Habitus Research Summarised	165
7.2 Finding Challenge in Ability	166
7.3 The Implications of Challenging Ability	169
7.4 Challenging Recommendations	170
7.5 Concluding Ability, Gender and Challenge	171
<b>References</b>	<b>173</b>
<b>Appendices</b>	
A      James Cook University Ethics Review Committee Approval	187
B      Student Informed Consent Form – Pilot Study	188
C      Parent/Guardian Informed Consent Form – Pilot Study	190
D      Student Perceptions of the Practical Physical Education Class Environment (SPPPECE) Survey Instrument	192
E      SPPPECE Scoring Sheet	194
F      Participant Information Questionnaire	195
G      Participant Observation Pro Forma	199
H      Semi-structured Interview Pro Forma	200
I      The Participants	203
J      Student Informed Consent – Case Study	205
K      Parent/Guardian Informed Consent – Case Study	207

## Abbreviations

<i>ACT</i>	Australian Capital Territory
<i>ANOVA</i>	Analysis of Variance
<i>Body</i>	Body Attractiveness (as indicated in regards to the PSPP)
<i>Boys' school</i>	The Single-sex Boys' school
<i>C-PSPP</i>	Children's Physical Self Perception Profile
<i>Co-1</i>	The first of two Coed school Senior Physical Education classes
<i>Co-2</i>	The second of two Coed school Senior Physical Education classes
<i>Coed school</i>	The Coeducational school
<i>FFM</i>	Fat Free Mass
<i>GATE</i>	Gifted and Talented Education
<i>Girls' school</i>	The Single-sex Girls' school
<i>HPE</i>	Health and Physical Education
<i>MANOVA</i>	Multivariate Analysis of Variance
<i>NSW</i>	New South Wales
<i>OP</i>	Overall Position
<i>O<sub>2</sub></i>	Oxygen
<i>PSPP</i>	Physical Self Perception Profile
<i>PSW</i>	Physical Self Worth (as indicated in regards to the PSPP)
<i>QAS</i>	Queensland Academy of Sport
<i>QSA</i>	Queensland Studies Authority
<i>SB-1</i>	The first of two Boys' school Senior Physical Education classes
<i>SB-2</i>	The second of two Boys' school Senior Physical Education classes
<i>SG-1</i>	The Girls' school Senior Physical Education class
<i>SPOCQ</i>	Student Perceptions of Classroom Quality
<i>Sport</i>	Sport Competence (as indicated in regards to the PSPP)
<i>SPPPECE</i>	Student Perceptions of the Practical Physical Education Environment
<i>SPSS</i>	Statistical Package for the Social Sciences
<i>SSEPP</i>	Single-sex Education Pilot Project
<i>Strength</i>	Physical Strength (as indicated in regards to the PSPP)
<i>UK</i>	United Kingdom
<i>US</i>	United States
<i>VET</i>	Vocational, Education and Training

## List of Figures and Tables

<i>Figure 1</i>	Multidimensional Framework of Student Differentiation	6
<i>Table 1</i>	Female and male PSPP item and subscale means and standard deviations	65
<i>Table 2</i>	PSPP subscale means and standard deviations	66
<i>Table 3</i>	Combined Pilot study and Case study female and male PSPP item and subscale means and standard deviations	67
<i>Table 4</i>	Combined Pilot study and Case study PSPP subscale means and standard deviations	68
<i>Table 5</i>	SPPPECE reliability statistics	70
<i>Table 6</i>	SPPPECE standard deviations and Cronbach's Alpha if Item Deleted	71
<i>Table 7</i>	Initial items removed from SPPPECE instrument	72
<i>Table 8</i>	Items removed from SPPPECE instrument using Corrected Item-total Correlation	73
<i>Table 9</i>	Girls' school PSPP subscale means	90
<i>Table 10</i>	SG-1 SPPPECE construct total means	92
<i>Table 11</i>	SB-1 participant perception of sporting level	189
<i>Table 12</i>	SB-1 PSPP subscale means	109
<i>Table 13</i>	Coed school HPE subject selection	127

<i>Table 14</i>	Co-1 gender comparison of PSPP subscale means	131
<i>Table 15</i>	Co-2 gender comparison of participant perception of sporting level	141
<i>Table 16</i>	Co-2 gender comparison of PSPP subscale means	142
<i>Table 17</i>	Student Participation in Junior HPE	154
<i>Table 18</i>	Participant perception of sporting level	155
<i>Table 19</i>	Participant perception of being competitive or non-competitive	155
<i>Table 20</i>	Gender comparison of participant competitiveness	156
<i>Table 21</i>	Gender comparison of participant perception of sporting level	157
<i>Table 22</i>	Gender comparison of PSPP subscale means	159
<i>Table 23</i>	Ability regression with equity, challenge, gender and class as predictors	160
<i>Table 24</i>	Challenge regression with ability, equity, gender and class as predictors	161
<i>Table 25</i>	Equity regression with ability, challenge, gender, class and school as predictors	162

## Chapter 1: Researching Ability, Gender and Challenge in Physical Education

### *1.0 Introducing Ability, Gender and Challenge*

Shields (2002) recognised that discussion concerning acceptable and alternate methods of grouping students, other than by age and gender, has been limited. Queensland currently places students in classes according to the year they were born, with grouping options of either single-sex or coeducation. Slavin (1990) asserted that moving beyond simple comparisons was needed to address the learning needs of a heterogenous student body. Slavin also recognised that research into groupings of students at the senior (year 11 and 12) level was lacking. Research into gender groupings has been heavily focused on middle schooling (years 8 to 10) especially for physical education, but little research has been centred on senior schooling.

This research study addresses issues of ability, gender and challenge arising from grouping students in selected regional North Queensland Catholic High schools' practical Senior Physical Education learning environments. The purpose and significance of the research is established in this introductory chapter, and the boundaries of the research set. The rationale and significance of the study as a piece of strategic educational research is developed, and the research problem is outlined. The aim of this research is to contribute to existing knowledge and understandings of the current practical physical education environments in single-sex and coeducational schools, gleaned from the experiences, perspectives and voices of the students.

The multidimensional theoretical framework that guided the study and its major parameters of Ability, Individual and Environment, are explained followed by an outline of the study's initial research question and hypotheses that formed the focus of the research. The boundaries of the study, mentioned previously, have been confirmed in the section dealing with the limitations and delimitations of the research. The operational definitions of all key terms used throughout the proceeding chapters of this thesis have also been defined in this initial chapter. The concluding section of Chapter 1 presents an overview of the thesis and its individual chapters.

### *1.1 Background to Ability, Gender and Challenge Research*

Educational research, particularly in Australia, Britain and the United States (US) has fluency in the examination of single-sex and coeducational learning

environments (see for example, Haag, 2000), however discussion on alternate groupings of students in learning environments, has not been so significantly discussed (Shields, 2002). The concept of ability is an aspect that has also been infrequently dealt with in this examination. Previous research from Australia and internationally (see for example, Bechervaise, 1996; Carlson, 1995; Clinkenbeard, 1991; Cotton, 2002; Elliot, 1998; Emanuelsson, 2002; Fiedler, Lange & Winebrenner, 2002; Gross, 1999; Holloway, 2001; Lam, Wong & Ho, 2002; Martin, 2002; Stanley & Baines, 2002; Zevenbergen, 2002) has investigated various aspects of ability and ability based groupings, however many aspects remain unexplored. Aspects of ability, and gender specific to either physical education or Senior Physical Education in the Queensland education system, in particular, have not been thoroughly investigated.

The use of the term 'gender' in much of the literature (for example, Australian Sports Commission, 1992; Bhambhani & Maikala, 2000; Burrows, 2000; Costa & Guthrie, 1994; Hall, 1996; Manios, Kafatos & Codrington, 1999; Manktelow, Farrell & McAuliffe, 2001; Messner & Sabo, 1990; Theberge, 1998) on sport, education and groupings refers to males and females, that is, boys and girls in the biological sense, rather than the sociocultural context of feminine and masculine behaviours by which gender is defined. To limit confusion of the seemingly transient use of the term gender, and to provide continuity with the literature, its use in this thesis follows that of past literature. It is assumed that the broad use of gender for both biological and sociocultural meanings will be understood by the context with which it is used in this thesis.

This research has considered the factor of ability in single-sex and coeducation learning environments, and the homogeneous groupings of single-sex schooling alongside coeducation settings, in practical physical education classes. Lacking in much gender based educational research has been the factor of ability and homogeneous groupings of students. This research specifically focused on the practical physical education learning environment and the relationship of gender and ability within existing single-sex and coeducational learning environments.

This study centred upon the examination of the practical physical education environment in three regional North Queensland Catholic High schools from the perspectives and perceptions of Senior Physical Education students. Specific aspects of the research study look at: how ability interacts with class type (i.e., single-sex and coeducation) and gender; the effects of groupings (ability and gender) in practical



physical education classes, and; the provision of challenge in the physical education environment. Aspects which have all been identified as areas in need of further research (Lirgg, 1993; Slavin, 1990).

### *1.2 A Significantly Rational Study*

The consideration of the relative merits of the single-sex and coeducational learning environments has long been a feature of educational discussion (see Caplice, 1994; Dale, 1971, 1974; Harris, 1986; Schachter, 2003) however, the inclusion of ability and physical education are aspects that have not been so prominent in this discussion. The recognition of a need for further research into how ability is interrelated with gender and class type, single-sex or coeducation, occurred over a decade ago with Slavin's (1990), and Lirgg's (1993) research of US secondary students, which highlighted the need for a better understanding of the effects of ability groupings and challenge in education. The absence of such work in this area suggests there is a need for further research, and more specifically, Australian based research in the context of physical education, such as is embodied in this study.

Keeves (1999) regarded the necessity to reorient issues addressed in educational research not as the foundation for observations, but rather the consequences of observations. The significance of this study lies in its questioning of the acceptance of the status quo and the various processes of grouping students according to gender and ability which, have been established and have remained unchanged for some time. Rather than examining these issues in a manner that embraces the notion that 'it's not broken so there's no need to fix it', consideration is needed of what can be done to make educational groupings better, more equitable and suitable to the needs of a diverse body of students who so far have been grouped homogeneously.

The purpose of this study was to observe students in practical Senior Physical Education environments in both single-sex and coeducational regional North Queensland Catholic High schools, in order to gain an understanding of their experiences. This study questioned whether students of varying abilities were challenged in various practical physical education environments which accords with Penney and Chandler's (2000) argument that the theme of 'challenge' whilst being regarded as a defining characteristic of some physical activities, has also been rather

narrowly defined and explored in and via physical education. The theme of challenge is explored further through Chapter 2 where it is defined in terms of this study.

A significant feature of this research lies in its consideration of the factor of 'ability', which is lacking in much gender based educational research, and which largely questions the reflective merits of homogeneous groupings of single-sex schooling, particularly in physical education classes. Wright (2001) suggested that a more complex understanding of gender issues should take into account the individual differences within groups of males and females. Shields (2002) also stated that there seemed to be little discussion about acceptable alternate methods of grouping and organising students in learning environments, further prompting the need for research in this area, such as explored in this study.

By examining the relationship of these aspects, such as; 'perceived ability', 'actual ability', 'challenge' and 'gender' from a student perspective through the means of observation, interview and survey, this study attempts to give a more global view of learning (Martin, 2002), to better understand the complexities of learning in current Catholic, regional North Queensland Senior Physical Education environments. This is consistent with the notion that it is the role of educational research to seek new solutions to practical problems, and also to gain new knowledge and ideas (Keeves, 1999).

### *1.3 Questioning Ability, Gender and Challenge*

The research questions of this study were formed to gain an understanding of the experiences and perspectives of students within their Senior Physical Education learning environment. Possible differences between the individual learning environments, and whether there were individual differences in experiences and perceptions based on ability and gender will be explored. Martin (2002) asserted that a better understanding of the complexities of learning in physical education could be gained through the examination of student perceptions, and experiences. Slavin (1990) also recognised that there has previously been a lack of research into groupings of students at the senior level of education, such as the Senior Physical Education level as examined in this study.

The three dimensions of the theoretical framework (Ability, Gender and Environment) discussed in the following section, provided the basis for the research questions. The key research questions addressed are:

1. Do student perceptions and experiences differ in regard to learning environment, ability and gender in Queensland Senior Physical Education subjects?
2. How do a Queensland Senior Physical Education student's ability level and gender affect their perceptions of the level of challenge in their practical physical education class environment?

It was hypothesised that gender, ability and the learning environment (single-sex or coeducation) would affect an individual's experiences, perceptions and sense of the level of challenge experienced within the physical education environment. It was understood that as the study progressed inductively that the research questions may need to be modified in line with the development of the study and the gathering and analysis of the data. The research questions were however confined by the limitations and delimitations, discussed later in this chapter, and the methodological framework of this study.

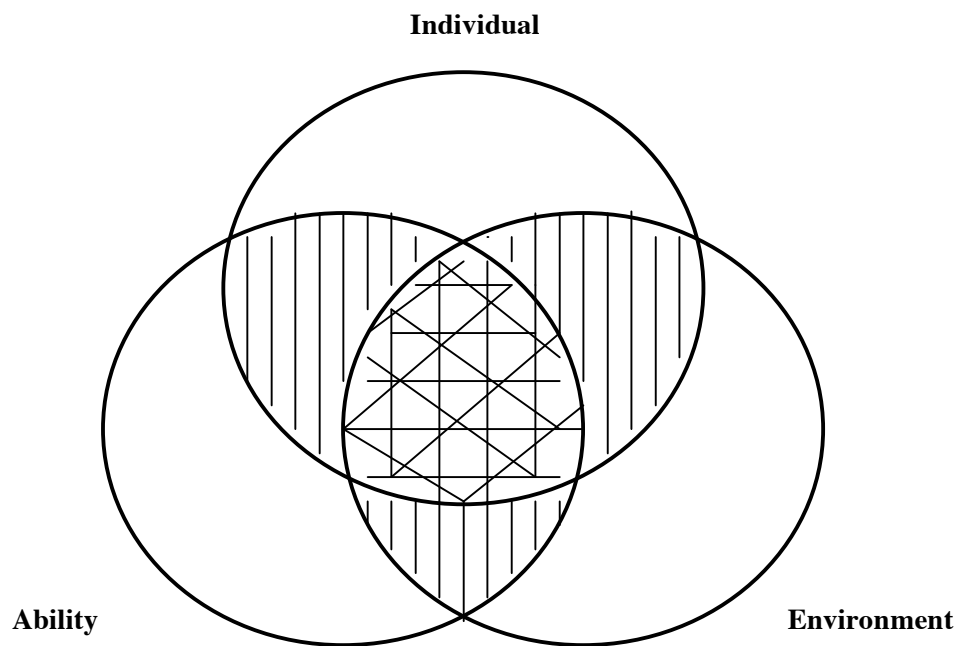
#### *1.4 Methodological Framework of Student Differentiation*

A multidimensional framework that distinguished the individual in regards to ability, interests and choices surrounded the strategic educational research conducted. The Multidimensional Framework of Student Differentiation used within this study was drawn from the Multidimensional Framework of Gender Differentiation used by Doherty and Varpalotai (2000) in their work reviewing Canadian municipal policy on gender equity in sport. The Multidimensional Framework of Student Differentiation, also incorporating Bourdieu's concept of habitus (see Bourdieu, 1977, 1990a, 1990b, 1993, 1998; Nash, 1999; Webb, Schirato & Danaher, 2002), provided a theoretical basis for this study, as it applied to the practical physical education environment.

Habitus is a product of history which produces a set of individual and collective practices within a structure. It provides a set of internalised structures, schemes of perception and actions that are common to all members within that habitus (Bourdieu,

1977). This is evident in the routines and practices found within the practical physical education class such as warming up, forming teams, setting up and packing up equipment, practices common to each lesson and which are accepted as the norm. The concept of habitus is embedded in the three dimensions that are the bases of the Multidimensional Framework of Student Differentiation that informed this study.

Doherty and Varpalotai's (2000) Multidimensional Framework of Gender Differentiation in Sport was based on the three dimensions of Individual, System and Culture, and the integration of perspectives where social policy was positioned. The adjusted framework (see Figure 1) applied to this study was also based on three dimensions, and their integration from the perspective of the effect of education practices and educational policy on students as heterogenous individuals. The dimensions that applied to this study were that of Individual, Ability and Environment.



*Figure 1* Multidimensional Framework of Student Differentiation

The three separate dimensions overlap showing the interrelationship of ability, individual and environment in educational considerations. The shaded areas of the framework indicate the integration of the dimensions and the influence the dimensions have on each other, and which should be a consideration in educational practices and policy. The educational focus of this research is on ability, gender and challenge in

practical physical education learning environments. These foci were explored in, and through, the dimensions of the framework in terms of the students as Individuals, with individual characteristics such as gender and Ability, and which affect concepts like challenge within the physical education learning Environment and habitus.

Environment in the terms of this study, refers to the practical Senior Physical Education learning environment and whether it is single-sex or coeducational. This formed a major part of the description of the habitus of each individual learning environment. The learning environment habitus embraces the values, attitudes, and ways students interact and behave in their practical physical education environment as a result of the socialisation processes involved in the production of the existing environmental structure. Webb et al., (2002) described the habitus as having a role in the development of attitudes and dispositions, therefore the way that individuals engage in practices, or within this research, and how they engage in the practical physical education environment would be a manifestation of their habitus.

The practical physical education environment is a product of the practices and behaviours generated within that environment and is the same, or homologous for all individuals who are a part of that habitus (Bourdieu, 1990a). Bourdieu (1990b) considered that embodied history that is internalised as second nature, even though it informs their actions, practices and even beliefs, is a homologous habitus for participants in that environment, despite individual differences. This is particularly applicable to the physical education environment. The subject of physical education has its own system of acquired preferences, and principles, that inform students in the environment in relation to what is to be done in certain situations, and of how actors are to participate (Bourdieu, 1998). The 'environment habitus' then, is the same for all participants within that environment, though how they react and the experiences will be different for each individual.

The use of Individual as a dimension has been used to highlight the place and importance of the students in the educational process. Specifically, in the physical education environment, whilst recognising students have an array of individual differences, with particular focus on aspects of ability and gender. Understanding the environment habitus enables an understanding of the way individuals behave within the physical environment, and articulates the socialisation processes that have been established to provide the environment structure (Nash, 1999).

The Individual habitus of students is informed by the homologous physical education environment habitus to which they belong. Bourdieu (1977) describes the Individual habitus as a system of lasting and transposable dispositions, which integrate the past experiences of the individual and functions as a matrix of perceptions, appreciations and actions. Whilst the habitus produces collective practices, it also produces individual practices and is constituted in the course of an individual history (Bourdieu, 1990b). For the individual, habitus often operates at an unconscious level and is utilised without intention in language, thoughts and practical action (Jarvie & Maguire, 1994; Webb et al., 2002). The actions, experiences and perceptions of individuals may also be directly affected by the third dimension, Ability.

Ability, as the third dimension, simply questions how an individual's ability affects the participation of students in their physical education class environment. It questions whether ability is influential in the creation of the structures and processes that are part of each physical education habitus and which inform the Individual habitus. Physical education and sport can be seen to be ideologically laden and instrumental in establishing wider social identities of class, gender and nationality (Jarvie & Maguire, 1994). It is questioned whether ability is also a contributor to that social identity for physical education students. Identity within the physical education habitus produces a pattern for which attitudes and dispositions emerge as a result of relationships between particular factors like ability, and an individual's habitus (Webb et al., 2002). In the practical physical education habitus an individual's ability may inform the pattern of participation within that environment. Despite being a part of a homologous habitus, the individual experiences differ due to such dimensions as Ability.

However, Bourdieu (1977) identified that even in the homologous habitus, in this case the practical Senior Physical Education learning environment, students are united despite their individual and diverse differences. Despite differences in ability of students, it was understood that individuals would be informed by the same physical education habitus of which they are a part. Each individual's habitus within the homologous physical education habitus however, is believed to be different.

Jarvie and Maguire (1994) explained that Bourdieu uses the concept of habitus to construct a framework, such as was used in this study, by which to examine both social and individual conduct. The manner in which the three dimensions of Individual, Ability and Environment overlap and were integrated was dependent on the individual habitus of each school. How each of these dimensions was related and integrated would

have an affect on the learning, teaching and educational practices within physical education. The investigation of the relationship between each of these dimensions was essentially the purpose of this study.

It is believed the questioning of how the individual, their ability and environment interact may produce findings that could require educational practice and policy to be reviewed in terms of physical education. The adopted Multidimensional Framework of Student Differentiation therefore directed the methodology of the study. A largely qualitative research methodology was embraced in this research study, however quantitative methods were used to complement and further strengthen the qualitative data gathered. Bourdieu utilised both qualitative and quantitative methods in what Jarvie and Maguire (1994) described as his challenge to the formulations found in both subjectivity and objectivity in research debates. The use of both quantitative and qualitative research methods and the concomitant collection of subjective and objective data in this study provided more valid and reliable data.

By definition the use of case study utilising observation and interviews is qualitative by nature, however in this study it also incorporated quantitative data in the form of questionnaires and survey (Stake, 1995). The statistical analysis of the quantitative data provided by the two survey instruments was generated through the Statistical Package for Social Sciences (SPSS) program for both the Pilot and Case studies. A detailed description of the methodology and data collection, analysis and interpretation methods, for both the trial pilot and the major research aspects of this study are provided in Chapters 3 and 4 respectively.

### *1.5 Limiting and Delimiting Factors*

The most identifiable delimitation of this study is that it was especially concerned with the physical education subject, Senior Physical Education. The delimitation to Senior Physical Education placed limits on the study in that it was centred upon the Queensland Studies Authority (QSA) Senior Syllabus for Physical Education (Queensland Studies Authority, 2004). The syllabus defines the requirements for the personalisation of Senior Physical Education programs in terms of the four objectives of the course and the foci requirements, the areas from which the physical activities are to be selected, the formative and summative assessment guides, and equity

issues which include considerations of gender, indigenous, disabilities, geographic, socio-economic and gifts and talents.

The delimitation of the study to Senior Physical Education subjects restricted the inclusion of participant schools to only those which offered Senior Physical Education as an elective subject. The schools were further delimited to that of one each of single-sex girls' (Girls' school), single-sex boys' (Boys' school) and coeducational (Coed school) schools. The use of single-sex schools further restricted participant schools to Independent schools, and were delimited to Catholic schools within the 'independent' category. The participant schools were confined to those within the same coastal North Queensland region, and which were identified as using an invasive, team, ball game as a physical activity unit within their Senior Physical Education program. The use of the three differing educational environments was to provide validity to the findings by not favouring one educational style over another, while the use of the same kind of physical activity provided comparability of data between the three environments.

The period during which data collection occurred was limited by each school's timetabling. In each school the physical activity unit under study was to run for one term, or approximately ten weeks. The Girls' school period of data collection was shorter because of that school's timetabling for the physical activity unit. Due to the time constraints of data collection, and the researcher's role as sole data collector, the number of participant schools was limited to those within an easily accessible area. For this reason, the participant schools were delimited to those in a regional North Queensland coastal area.

For the Case study, the target population from each of the identified schools was confined to year 11 students enrolled in the Board registered, elective subject, Senior Physical Education. The interview cohort was delimited to a group identified by the researcher throughout observations of the physical activity unit. The Pilot study target population was restricted to year 12 Senior Physical Education students of the participant schools. This delimitation was to ensure that the data collection instruments were appropriate for the target population in the Case study.

Of concern was the limitation in the research procedure created by the researcher's presence in the course of data collection, to which measures were taken to reduce the impact of researcher presence in the data collection environment. Data collection using observation and survey occurred during practical class times, with the researcher involvement remaining outside the normal teaching and learning practices.



Interview data collection methods were restricted to times outside of class times that required no intervention on the part of the researcher so as to cause minimal disruption to the normal class environment.

### *1.6 Defining Words*

Rather than a glossary of terms, the following list of terms and their corresponding operational definitions as they are used throughout this thesis has been provided. The terms and definitions are presented not in alphabetical order, but in relation to each other to provide easier readability and understanding.

*Habitus* refers to the environmental structure that is produced through the socialisation processes that both embrace and inform the values, attitudes and ways students interact and behave in their learning environment.

*Ability* refers to the practical skills, concepts and game play demonstrated in performances by individuals in the practical physical education environment.

*Challenge* refers to the intrinsic and individual feeling that ability and skills have been stimulated, extended and possibly exceeded within the practical physical education environment.

*Equity* refers to the equal educational opportunity for all students, with the same access to curriculum provision, teaching, resources and facilities, regardless of gender and ability.

*Gender* refers to females and males in both biological and sociological contexts.

*Coeducation* refers to an educational grouping including individuals from both genders.

*Single-sex* refers to an educational grouping including individuals from the same gender.

*Mixed ability* refers to an educational grouping including individuals of differing abilities.

*Streamed* refers to an educational grouping including individuals of the same or similar ability.

*Senior* refers to years 11 and 12 of secondary school.

*Junior* refers to years 8 to 10 of secondary school.

*Overall Position (OP)* refers to the statewide position that students achieve as part of their Queensland Education High school leaving certificate.

*Board registered subject* refers to a subject that is registered with the QSA and contributes towards a student's OP.

*School based subject* refers to a subject offered within an individual school, but which is not registered with the QSA.

*Core subject* refers to a subject that all students must study, particularly in Junior.

*Elective subject* refers to a subject that a student chooses to study, and may be either school based or Board registered.

*Senior Physical Education* is a Board registered physical education elective subject for senior students, with a QSA syllabus.

*Practical components* refers to the component of physical education in which students are actively engaging in physical activities relating to the physical activity they are studying.

*Theoretical components* refers to the components of the subject that is theory, and is studied in conjunction with the practical component of Senior Physical Education.

### *1.7 Thesis Overview*

This thesis incorporates seven chapters, which combined, provide a description of the purpose and aims of the study, a review of literature, a pilot study to investigate survey instruments, the methodology of the major research and results, and the final conclusions of the research findings. In this first chapter the research problem was introduced and, in doing so, both the rationalisation and significance of the study to the educational setting of elective practical Senior Physical Education in regional North Queensland High schools was addressed. Pertaining to the purpose of the study, the specific research questions that direct the research in terms of data collection have also been identified. The Multidimensional Framework of Student Differentiation that provided the basis and structure of the study has been explained, as have the limitations and delimitations which provided the boundaries of the study. All relevant operational definitions used throughout the thesis were given and many of these are explored more fully in Chapter 2.

The second chapter is a review of the available and relevant literature relating to the research problem outlined in Chapter 1. The review of literature begins with background information concerning the development of education and physical education in Queensland and leads into discussion of the Australian sporting culture, which introduces the topic of gender construction in both sport and physical education. Other issues identified and that relate specifically to this research within physical education include; gender comparisons of performance and physiology, student self-perceptions, ability, gender, student groupings, and equity. It is noted in the chapter that student perceptions regarding their learning environment are limited, as are instruments with which to measure them.

Chapter 3 outlines the method adopted to conduct the research for the Pilot study which examined the appropriateness of survey instruments measuring student perceptions, for use in the major aspect of the research. The development of the Student Perceptions of the Practical Physical Education Class Environment (SPPPECE) is detailed, as are the results and analysis of the appropriateness of both the SPPPECE and Physical Self-Perception Profile (PSPP) survey instruments for use in the Case study.

The methodology used in the Case study of this research is explored in Chapter 4. The use of a case study research methodology is justified, and the quantitative (tested in the Pilot study of Chapter 3) and qualitative data collection instruments are detailed. Consideration has been given to both the ethics and politics of the research undertaken

as well as the validity and reliability of the research. This chapter gives an understanding of how the quantitative and qualitative results and findings were obtained in the successive chapter.

Chapter 5 is an analysis of the results and findings of the Case study, with tabled results and referral back to the literature reviewed in Chapter 2. A description of each participant school's habitus precedes an exploration of the five class' habitus from the perspective of participants' individual habitus. In Chapter 6, comparisons between data from the differing habitus is analysed and reported in terms of the major themes that were initially identified, and any new themes that emerged through the data. Following on from the results and analysis, the final chapter of the thesis summarises the study.

Chapter 7 provides concluding statements of the findings, and considers the possible implications these findings may have for Senior Physical Education subjects in regional North Queensland Catholic High schools. The findings, implications and resulting recommendations are linked back to the literature reported in Chapter 2.

## Chapter 2: Education, Sport, Gender, Ability and Equity

### *2.0 The Issue of Gender, Ability and Physical Education*

Educational research in Australia and internationally has long featured discussion regarding single-sex and coeducational learning environments, however the concept of ability and ability based groupings are aspects that have not been as extensively explored within the discussion, particularly in Australia. Though gender is not always the central focus of the single-sex and coeducational schooling debate, research (see James, 1999; Jones, Kyle & Black, 1987; Lee, Marks & Byrd, 1994; Lepore & Warren, 1997; Lirgg, 1993; Mael, 1998; Woodward, Fergusson & Horwood, 1999) still reflects the importance of gender in the consideration of both forms of learning environment. Lacking in educational research is the inclusion of the concept of ability that questions the merit of homogeneous groupings of the genders within single-sex schooling, and particularly in physical education classes. It has been suggested that acknowledging individual differences of students (i.e. ability) within gender groupings, would help to provide a more complex understanding of gender issues (Wright, 2001).

While educators and policy makers continue to ponder upon what are the most appropriate ways students should be taught, the voices of the students, who are most affected by such decisions, have been largely unheard (Humbert, 1996; Lirgg, 1994; Macdonald, 1989; Sherman, 2000). From a student perspective, this study addresses the issues of gender and ability in the environments of single-sex and coeducation physical education classes.

This critical review of the literature focuses on the broad areas of gender, ability, and education style in physical education, which have been explored individually in previous research, but not as influencing interrelated factors such as in this study. The following issues have been identified and are discussed in the review of relevant literature: gender constructions that exist in sport and physical education; the physiological differences between the genders; a gender comparison of sport and physical education performance; equity, and; the relationship of ability to gender, educational environment, curriculum and student self-perceptions. An understanding of the development of education and physical education in Queensland is however, central to the review of relevant literature.

## *2.1 The Development of Education in Queensland*

Marginson (1993) commented that public schooling in Queensland and Australia is a universal, socially and culturally heterogeneous service open to all. With that intent, Queensland's first school was opened in Brisbane in 1826, with later schools opening and closing depending upon enrolments, which increased and decreased with the movement of soldiers and convict camps (Department of Education, 2003; Holthouse, 1975). The introduction in 1848 of Australian primary schools was predicated upon the provision of a universal state schooling system for a scattered population of differing religious denominations, at the lowest possible cost (Department of Education, 2003; Jones et al., 1987). This compared to the religious denominational schools which were essentially private schools, run by the Catholic Church and the Church of England, and which were able to charge attendance fees, as well as receiving government funding (Holthouse, 1975). Thus both public and private schooling existed in Queensland by 1850.

A number of authors (Department of Education, 2003; Goodman, 1968; Holthouse, 1975; Lawson, 1973) outline the policies of the Education Act of 1860, which instituted the Board of General Education in order to give Queensland a system of secular primary school education, similar to the system that had previously been adopted by the New South Wales (NSW) Board. In 1870, Queensland became the first colony to introduce free education in schools provided by the Board of General Education, with Victoria following suit in 1872 (Fischer, 2001). Subsequently, the 1875 Education Act laid down the basis upon which the Queensland education system of free secular and compulsory primary education was to develop for the next century. There were two categories of schools; State schools, and Provisional schools in which temporary provision was made for primary instruction. Due to a previous lack of standardised primary education, the curriculum had to be built around the basics of reading, writing and arithmetic, ignoring what Holthouse (1975) described as 'ornamental' subjects, such as languages and sewing, and with drill and gymnastics to be taught in primary schools.

In order for a widespread, low cost, universal school system to exist, it meant that the small, rural, or 'bush', primary schools were attended by both sexes. Coeducation in this form was accepted despite the contemporary socially constructed gender distinctions which called for separate schooling for the genders (Jones et al., 1987). Lawson (1973) noted gender segregation was the case in the private and

denominational schools that were concentrated in the metropolitan area of Brisbane. This is confirmed by the fact that Queensland's first two Grammar schools, Brisbane and Ipswich, founded in the 1860's, were both boys only schools (Holthouse, 1975). However, the first secondary school established in Brisbane was the Catholic girls' school, All Hallows, having been established in 1863 (Howell, Howell & Brown, 1989).

In the systemic schools, separate provision for physical education was specifically made, despite the necessity of coeducation in rural schools. The Department of Education (2003) reported that at that time boys and girls participated in physical lessons separately, with girls participating in activities such as common drills which would develop grace and rhythm, and the boys being taken for more 'practical' and 'exertive' activities such as swimming lessons (Holthouse, 1975). Like Britain and the US, Australian societal attitudes were largely against coeducational schooling, with small rural schools being the exception. In metropolitan or urban areas, students were segregated on the basis of both age and sex (Jones et al., 1987; Mael, 1998).

The purpose of single-sex schooling was to educate boys and girls in a manner that reproduced the sexual and social norms of the dominant ideology held by society at that time. Due to the sociocultural immersion within Australian culture, such sexist or gender distinctions historically were considered to be natural and so continued to be deliberately perpetuated (Caplice, 1994; Jones et al., 1987; Lee et al., 1994). Mael (1998) noted that the development of the US education system showed similar rural and urban educational provisions to that of Australia. Those guiding principles for primary schooling continued to be perpetuated in the development of secondary schooling in the 19<sup>th</sup> century.

Lawson (1973), discussing the development of secondary education in late 19<sup>th</sup> century Queensland, suggested it was not provided free by the State as was primary education because 'further' education at that time was seen as a luxury and a preserve of the upper classes; an English tradition which persisted in the colonies. In 1898, in response to the growing demand for availability of post-primary education, a significant extension of the syllabus was made (Goodman, 1968; Holthouse, 1975). The mid 1800s saw secondary education provided at a cost, by subsidised grammar schools and some private girls schools in which charged fees were a requirement.

The Department of Education (2003) paper on the history of education in Queensland provided a detailed account of the establishment of the Queensland education system. The lack of specific commentary by the Education Department on the

separate education of boys and girls is apparent, as is a lack of discussion of the significant differences in curriculum provision for girls and boys. Goodman (1968), Holthouse (1975), and Lawson (1973) all characterised education, from primary to what we now call high school, for girls in the 1900's as being practical and related to their role in life as wife, housekeeper, domestic servant and entertaining hostess, as opposed to the sound 'English' education that was provided for young men.

Whether in single-sex metropolitan or rural coeducational schools, there were substantial differences in subject matter taught to boys and girls. The right of girls to have an opportunity, equal to boys, to a high school education and further for those who could afford it, can be seen as a part of what Goodman (1968) described as the wider social movement for liberalising the strict 'Victorian' attitude towards the abilities and role of women in the social structure. One manner for women to achieve this educational opportunity was perceived to be coeducation, which became an issue in Australia and overseas as late as the 1960s and early 1970s.

The movement towards coeducation in Australia, the US and Britain began in earnest during the 1960s, and increased in intensity with the emergence of the 'equal opportunity' movement in the 1970s, as reported by Jones et al. (1987), Lee et al. (1994), Lirgg (1993) and Mael (1998). In the US, the Title IX Act of the Education Amendments of 1972 sought to eliminate discrimination among students. The call for coeducational high schools, at this point in time, was seen as the ultimate expression of equal 'gender' opportunity, as the traditional sociocultural stereotypes in existence were being questioned. The stereotypical choices afforded to women in Australian and US education may suggest a reason as to why early feminists regarded coeducation as an equalising educational structure for young women (Goodman, 1968; Lee et al., 1994).

It would appear, then, that the move from single-sex schooling to coeducational schooling, in State or Government schools, occurred as a result of a need to provide educational opportunities and choices for females that were already available to males. This contradicts the Australian affirmative action strategy of the 1990s, to provide single-sex classes in order to overcome what Macdonald (1989) and later Smith (1995) perceived as disadvantages and problems that have been experienced by girls within coeducational classes. It is stated in the 1987 Commonwealth Commission, National Policy for the Education of Girls in Australian schools key educational values and principles, that equality of opportunity and outcomes in education, for both girls and



boys, may possibly necessitate different provisions at different time periods (Department of Education, 2002).

Though there had been Catholic Girls' schools established for twenty years in NSW and Victoria, Goodman (1968) described the initial establishment towards the end of the 19<sup>th</sup> century of the Queensland Girls' Grammar schools in Brisbane (1875), Maryborough (1883), Rockhampton (1892) and Ipswich (1892) as a solution to the socially perceived problems related to the provision of coeducation in those areas. However, Goodman commented that towards the turn of the century, the Girls' Grammar schools were a means of providing girls with an education tailored to their specific learning needs in core education subjects. This was differentiated from the early purpose of single-sex schools, to educate students in a manner that reproduced the 'natural' gender stereotypes apparent in society at that time.

The preference for girls' single-sex education contradicts earlier justifications of coeducational schooling as a means of gaining equality. A different action may have seen females being given the same opportunities and choices afforded to males within their already established single-sex learning environment, as is evident in many single-sex girls' schools with a wider variety of subjects than the previously mentioned 'polite accomplishments' and 'home duty' subjects, now available to students. This contradiction of theory and practice has, and will continue to encourage the development of new theoretical frameworks in the educational sphere in an attempt to provide the most equitable educational environment possible for all students, in all subject areas.

Physical education is a subject area that has witnessed disparity in the provision of single-sex education for males and females, even in the coeducational rural schools at the end of the 19<sup>th</sup> century. Tinning, Macdonald, Wright and Hickey (2001) also noted there were curriculum differences in physical education for the middle and upper class males at private schools and that of the working class boys and girls attending government schools. The private boys' schools emphasised competitive team games thought to develop the masculine attributes of courage and loyalty whilst the government schools' focus was health and cleanliness. The upper class girls' physical activity during that same period differed, in that they participated in calisthenics and such activities thought to ensure the development of bodies capable of producing healthy children.

As for earlier 1800s basic curriculum provision, the physical education curriculum was based on the British syllabus, and continued to be the curriculum document for physical education in Australian schools until the mid 1930s to the mid 1940s. In 1946, Victoria's Physical Education for Victorian Schools, otherwise known as the 'Grey Book', became Australia's first physical education textbook for teachers (Tinning et al., 2001). Holthouse (1975) commented that it was not until the late 1950's that Queensland's first published physical education syllabus for primary schools emerged, with the secondary schools physical education syllabus not being introduced until 1963.

School sports, however, had an earlier origin than curriculum based physical education lessons. In the 1870's Queensland Secondary school sports began with football and cricket matches being played between the Brisbane and Ipswich Grammar schools (Holthouse, 1975). It should be noted that these sports today are still considered masculine sports, or sports predominantly played by males. The distinction between male and female participation will be discussed in more depth in the following section.

The quest for gender equity was not restricted to educational environments. Sport within Australia developed along similar lines to the development of the Australian education system, with the same gender divides in existence in education being existent in sport practices and sporting culture. The emergence of sport in Australia and the socially constructed norms and values that were placed on it, whilst being challenged today, are still prevalent.

## *2.2 The Emergence of the Australian Sporting Culture*

As a social institution, sport reflects societal values, beliefs and norms of behaviour (Miner, 1993) evident in the Australian society. The development of the Australian sporting culture followed the Victorian masculine and feminine proprieties that were, in part, responsible for shaping the early Australian education system. Howell and Howell (1992) commented that during the early years of settlement, sports in the new colony remained class differentiated, and mirrored those played in England.

Commonly reported is the association of sport with a masculine culture (Cashman, 2002). Both Hargreaves (1993) and Koivula (2001) observed that the assumed masculine traits of aggression, dominance, power and competitiveness were celebrated in sport participation and contributed to the mateship and masculinity ethos

that, Howell and Howell (1992) stated, dominated early Australian society. Consequently 'sport' developed as a representation of masculinity. McPherson, Curtin and Loy (1989) reported on the predominant English view that female athletes were contrary to the common Victorian concept of an ideal woman, and generally, women did not publicly participate in physical activities to any great extent until the late 19<sup>th</sup> century. Hargreaves (1993) noted that in all forms of exercise for women at that time, a 'proper' demeanour, decency and modesty were required. This was a continuation of the expected gender stereotypical behaviours of that time, which held women as feminine, delicate and gentle. The male hegemony inherent in sport and society was a direct contradiction to the feminine stereotypes that were in place, and which continue to be challenged today. As a consequence of the inherent male hegemony, sport was largely deemed not appropriate for female participation (Anderson, 1999).

The level of active participation by women in the early male dominated sport culture was restricted in Britain (McPherson et al., 1989), the US (Hult, 1994) and Australia (Burroughs, 2001; Hargreaves, 1993), for reasons based on the physiological, biological and medical opinions of males, that sport would be harmful to the assumed delicate female constitution. Such patriarchal opinions sought to perpetuate culturally based definitions of feminine behaviour and, as a result, women's sport was thought to contain no skills, purpose nor objective compared to the competitive nature of men's sport (McPherson et al., 1989; Stoddart, 1986). Hargreaves (1993) and Stoddart (1986) described the role of women in sport early in the 19<sup>th</sup> century as remaining one of passivity, with women being cast into supportive and decorative bystanders in the visible role due to the male hegemony surrounding sporting culture.

Eitzen (1996) described the few sports permissible for women of the 1890s and early 1900s in the US, and which similarly could apply to the Australian context, as having three main characteristics. He described them as having to be aesthetically pleasing, to not involve any bodily contact, and would embrace controlled action, so as to protect the athletes from overexertion. Burroughs (2001) noted that in Australia at that time, activities that developed 'grace' and 'artistry' which had the added benefit of 'improving' a woman's figure were acceptable, however, in truth most women were denied access to male controlled sporting facilities.

On the other side of the gender fence, by the 1870s and 1880s, sport was a major yardstick by which the Australian male's progression to 'manhood' was measured (Stoddart, 1986). While the first sports taken up by middle and upper class women –

tennis, croquet and golf - emphasised the grace Burroughs (2001) mentioned, as well as non-competitiveness and non-exertion. As Stoddart (1986) reflected, sports that embodied toughness, resilience and competition were highly regarded and actively pursued by the Australian male.

Hargreaves (1993) believed physical education was a major contributing factor for increasing female involvement in the sports arena. It did so by widening the definition of how women could legitimately use their bodies and provided a habitus in which they could do so. Research (see Giles, 2003; Lucas, 1992; Parratt, 1994; Pirinen, 1997; Toohey, 1997) has reported that there are still discrepancies between men's and women's involvement in sport with women continuing to lag behind in positions of administration, participation, competition opportunities, media, coaching and training facilities and funding to name but a few areas.

Despite the multitude of discrepancies, Shephard (2002) asserted that the gap is shrinking between male and female records in many types of athletic competition. Performance differences between the genders may be attributable to differences found in facilities, programs and opportunities for participation for boys and for girls. Theberge's (1998) study of ice hockey in Canada found that although programs for females have been increased dramatically in the last decade, many girls play on boys' teams for a better experience. Theberge found that in a mixed gender environment, girls experience a higher level of competition, and play with and against athletes of similar or better skills, all of which she considers are factors that work to improve the girls' skills and provide a more enjoyable experience. It is questionable whether this is a reflection that a more competitive habitus exists in the boys' league compared with the girls' league. However, the improvements Theberge described may not be experienced by all players of all ability levels, and may be largely dependent on the culture, that is, the habitus of the sport.

The way society constructs acceptable participation patterns for both genders informs the culture, or habitus, of a sport. Recently emerging sports, those that do not have preconceived socially constructed rules and regulations and which are gaining interest and participation, such as snowboarding, allow both males and females to participate in a sporting environment that is not constrained by the clear cut gender boundaries that are an integral part of many more established, traditional organised sports. Anderson (1999) cited snowboarding as an example of a sport that has greater levels of female participation, and the unorganised individual practice of snowboarding

has inhibited the opportunity of male snowboarders to define the sport as an exclusively male practice. Anderson further commented that the lack of sex segregated teams, regulated structure and exclusive participation policies that are inherent to organised sports and their training practices, mean that in snowboarding it is harder to reinforce the notions of gender differences and male hegemony that are present in so many other traditional sports.

This suggests then that sports, which do not have a pre-existing label of either 'male' or 'female', can only be labelled as such if society allows those gender divisions to be perpetuated. Anderson may have been correct in assuming that preconceived notions of gender participation are lacking in the unorganised practice of snowboarding, however, the gender divisions society places on most competitions also exist for competitive snowboarding. For example, in the Winter Olympics the snowboarding competition is divided on the basis of gender, with separate competitions for men and women continuing to exist.

Society continues to define sport as male, with behaviours, attitudes and beliefs that are encompassed in sport being used to define masculinity (Miner, 1993). The marginalisation and trivialisation of female athletes, along with the male definition of sport, has been used to continue to limit opportunities and minimise accomplishments of female athletes (Drummond, 1994; Miner, 1993; Pirinen, 1997). Pirinen's (1997) study of Finnish newspaper coverage of women's relatively new entry into five sports (boxing, ski jumping, hammer throwing, triple jump and pole vault) found the media to both marginalise and trivialise sportswomen's achievements. She stated this to have been done by the misrepresentation of women in accordance with cultural stereotypes, by objectifying women in a sexual way and by comparing women's performances to that of men, even though it is rare that men and women compete against each other.

Miner (1993) identified that even the discourse, or language of sport, defines sport as a male domain with such descriptions as 'man-to-man defence' and the descriptions of poor performance with comments such as 'playing like a girl', which can also be found in Australian sport contexts. Drummond (1994) suggested that feminist research on sport is in part responsible for uncovering the social realities and limitations that are faced by women in the habitus of the sporting world. It is believed that the gender constructions in sport, and in education, are accountable for the sporting culture that now exists, and that is perpetuated by society through sponsors and media

images in Australia and internationally (Buysse & Embser-Herbert, 2004; Lenskyj, 1998; Pirinen, 1997; Toohey, 1997).

### *2.2.0 Gender constructions in sport and physical education*

Cashman (1995) noted that sport has played an immense role in the socialisation of men and women in Australia, and as such it is a strong representation of the hegemonic culture of Australia. Elliot (1998) and Koivula (2001) reported that sport reflects, as well as reproduces, the attitudes, beliefs, rituals and values of society. Historically, gender role behaviours have been accepted and perpetuated as two separate sets of traits called masculine and feminine (Miner, 1993). These accepted gender roles still exist in both the education and sporting spheres, as evidenced in research by Theberge (1998), Lantz & Schroeder (1999), Mael (1998), Lirgg (1994) and Chepyator-Thomson and Ennis (1997).

Traditionally, competitive sports have provided a male domain where men are encouraged to pursue masculine gender role identities (Lantz & Schroeder, 1999) and which is evidenced throughout Australia's sporting history. It could be supposed that the male hegemonic culture is drawn from the intimate association sport and athleticism have with the core 'manly' virtues of courage, aggression, power, dominance and competitiveness (Hargreaves, 1993; Koivula, 2001). Lantz and Schroeder (1999) noted that research has drawn consistent relationships between competitive sport participation and the development of masculine characteristics with those characteristics being definable by body contact, bodily force, projection of the body and face-to-face competition situations (Koivula, 2001). This differs greatly to the gentle, passive characteristics attributed to a feminine gender role identity.

Koivula (2001) helped to define feminine sports, or those traditionally considered appropriate for women, as sports that allow women to participate whilst remaining true to the stereotyped expectations of femininity. With women who participate in competitive sport being characterised as masculine in some cultures, the onus has been placed on women to prove that they have not lost their femininity (Burroughs, 2001; Cashman, 1995; Lantz & Schroeder, 1999).

Women who participate in competitive sport and men who do not participate in competitive sport are often perceived as acting outside of prescribed gender roles (Lantz & Schroeder, 1999). Masculinity has long been found to be associated with boys' competitiveness in sports, and femininity as being associated with girls' minimal

involvement in active sports (Chepyator-Thomson & Ennis, 1997). Miner (1993) regarded unrealistic assumptions such as described about masculinity and femininity as creating problems for both women and men in sport, and in physical education. Such unrealistic and sweeping beliefs about masculinity and femininity limit the opportunities for both genders to participate and achieve in sport.

Wright (2001) defined gender as not being fixed, rather, that what it means to be female or male changes over time and is different for different social and cultural groups. With this understanding of gender, it is assumed that the individual habitus, such as the physical education class, would have an effect on the understandings of gender within it. Chepyator-Thomson and Ennis (1997) attributed physical education as having either the ability to challenge gender stereotypes, or as being able to construct patterned gender relations as well as participation patterns. The habitus reflects the gender views held by a particular society, such as a school or physical education class.

Macdonald (1989) cited evidence from the 1984 Commonwealth Schools Commission Working Party on the Education of Girls, that girls' reluctance to perform competently in coeducational physical education environments was previously due to the notion that sporting success was incompatible with their image of femininity. These findings are contradicted by Macdonald's (1989) Australian research, with questionnaire responses indicating that girls in coeducational classes were overcoming stereotypes of male and female participation patterns more than girls in single-sex groupings. Supporting this early research is Hopwood and Carrington's (1994) study, which showed that of the adolescent female participants surveyed in their study, three quarters (75%) questioned the claim that physical education was not compatible with prevailing notions of femininity.

Research such as this fuels assertions that coeducational physical education provided a prime opportunity to test the limits of, or eliminate, gender role stereotypes while at the same time giving students the chance to learn and enjoy recreational activities together (Lirgg, 1994). This positive concept may be more easily said than done, as Mael (1998) asserted that breakdowns in gender stereotypes have still not yet been fully realised, despite research such as Macdonald (1989) and Hopwood and Carrington's (1994), which revealed continuing changes to old gender stereotypes. However, research (Chepyator-Thomson & Ennis, 1997; Lirgg, 1994; Mael, 1998) from the US has shown coeducational physical education classes as being responsible for strengthening and exacerbating gender stereotypes. This has occurred, they suggested,

by allowing boys to fulfil the dominant, aggressive and competitive stereotype, and, in the process, forcing the girls into the non-competitive, non-aggressive, non-participant role previously attributed to them. This may have occurred through the selection of sports and movement forms favoured by males making up the school curriculum, and the marginalisation of female preferences (Gard & Meyenn, 2000).

In contrast, there is evidence from Australia and the US to suggest that single-sex education actually reduces gender stereotypes, by allowing females freedom to participate in physical education and by giving them more attention in male dominated subjects (Caplice, 1994; James, 1999; Ramsey, 1998). This is also applicable for boys, giving them attention in previously female dominated areas such as literacy and humanities subjects (Alloway & Gilbert, 1997). Lee et al.'s (1994) research in single-sex Catholic schooling in the US showed benefits, especially for females, on a range of outcomes including academic achievement, but more to the point, there were fewer stereotypical views of gender roles. Hargreaves (1993) argued however, that separate male and female sports, which by definition could directly relate to single-sex physical education classes, have done nothing to minimise the polarisation between masculine and feminine. Rather, Hargreaves believed such classes perpetuate the idea that there are differences between the genders which, in turn could impact upon levels and types of sport participation.

Koivula (2001) commented that normative conceptions regarding gender, gender differences and the appropriateness of gender participation work to stereotype sports. That is, stereotypes provide sport with a gendered identity of either masculine or feminine, or in some cases, where there is no domination of one gender, as gender neutral. Clifton and Gill (1994) posed the question, who decides on the gender typing of a particular sport as being masculine or feminine? It is questioned whether it is a conscious decision made by sporting bodies, or whether it is the way a sport evolves with the majority gender influencing its characterisation, and perpetuated by sporting bodies, media, and commerce. Considering this, how also do we identify the traits seen as necessary to be successful in a particular sport (Miner, 1993)? Rather than identifying traits according to gender, it would be much simpler to identify traits as necessary for a specific sport or activity without regard to gender, or society's characterisation of appropriate gender traits. It should be possible then to identify sport specific traits within athletes, irrespective of their gender. To look only at athletes'



individual traits opens the door for competition between the genders based upon skill and ability.

The construction, reconstruction, strengthening and naturalisation of perceived gender differences has continued to occur through sport (Koivula, 2001) and through physical education. In our practices, approaches and attitudes, as educators and sportspeople, we can attempt to change cultural assumptions and expectations of how females and males should behave and participate in sports. Anderson (1999) perceived that through attempts to run faster, jump higher, throw farther or hit harder, men demonstrate their strength and superiority. It would be a natural assumption that through athletic attempts, women too can demonstrate their strength, skills and superiority. Hargreaves (1993) stated that the strength and superiority men display has been challenged by women's participation in traditionally all-male competitive sports, challenging society's gender constructs.

Gender distinctions in sport allow for the acceptance that there are differences in athletic performance, or a 'muscle gap', which Theberge (1998) described as a social construction of male and female abilities. A viewpoint that discounts other aspects of sport, such as playmaking, strategy and skill, where there is no evident gender gap. This could affect performance sports, like surfing and freestyle snowboarding where the 'muscle gap' is not a factor, and competition with and between boys and girls could be a reality. Though sport participation should not necessarily be defined solely on gender, it should be noted that physiological differences between the genders do exist that affect participation in some sporting activities.

### *2.2.1 Physiological gender differences*

The physiological differences that exist between females and males are responsible, in part, for the perpetuation of gender stereotypes of female suitability and appropriateness to sport. The misleading 'natural ability' argument Cashmore (1990) described, suggests that women are not equipped to competitively participate in sport, or even just undertake physical activity, and are carrying a physical handicap, exaggerates physical factors and ignores social and psychological processes that either facilitate entry into or halt progress within sport. The belief that men are 'naturally' stronger, more aggressive and competitive and therefore, have greater sporting potential is reinforced within the patriarchal sporting culture that promotes and celebrates these attributes (Bremner, 2002; Hargreaves, 1993; Koivula, 2001; Shephard, 2000).

However, it is impossible to ignore that there are real physiological differences that exist between the genders, and which do contribute to sport performance.

Major physiological differences of the genders begin to occur at puberty (Koutedakis & Sharp, 1991; Shephard, 2000; Wilmore & Costill, 1999). Prior to the onset of puberty there are no sex specific differences in fat free mass (FFM), maximal aerobic capacity is essentially the same, and there are only minor differences in physical characteristics, with the specific exception of the sex organs (Aulin, 1995; Shephard, 2000; Thein & Thein, 1996; Wilmore & Costill, 1999). Using adult averages, males tend to be taller and heavier, with a lower FFM and higher bone density than females (Thein & Thein, 1996; Wilmore & Costill, 1999), whilst the average female tends to have a wider pelvis, shorter femurs and a lower centre of gravity (Thein & Thein, 1996).

Males have been found to have greater absolute strength compared to females, with differences in upper body strength accounted for by a larger muscle mass and shoulder and chest girth in males (Holloway & Baechle, 1990; Koutedakis & Sharp, 1991; Thein & Thein, 1996). However, when upper body strength is expressed relative to total body weight and FFM, differences between the genders are somewhat reduced (Wilmore & Costill, 1999). For lower extremity strength, the shorter relative leg length of females allows them to more closely match that of males (Thein & Thein, 1996). Reaction times have been found to be similar to those of males, but the shorter limb length and less powerful muscles make movement times substantially slower in women than in men (Shephard, 2000).

In terms of both anaerobic and aerobic potentials of the genders, Aulin (1995) noted that there was conflicting data and consistent gender specific differences. Those physiological differences primarily affecting aerobic capacity in females are noted to include the greater body fat, lower muscle mass and a reduced oxygen (O<sub>2</sub>) capacity (Thein & Thein, 1996). Both Hill and Smith (1993) and Aulin (1995), in earlier research, attributed the possibility of gender differences in anaerobic and aerobic contribution in part, as a reflection of training effect or cultural bias. Research by Mayhew et. al (1994) further contributed to the perception that factors other than the physiological are responsible for differences between men and women when components of body composition and strength are taken into account in tests, such as those for maximal strength.

Okely and Wright (1997) believed another factor, often disregarded in testing, is that most fundamental motor skill tests are strongly related to skills that are integral to traditional male sports, but are associated less strongly to skills essential to traditional female sports. A male biased criteria for testing motor skills simply reinforces the notion of female athletic and sporting inferiority (James, 1999) and proves the 'natural' athletic abilities of males (Koivula, 2001). Remove the testing bias, and past research evidence has shown women to be neither biologically, nor intellectually inferior to men (McPherson et al., 1989), rather, gender physiological differences need to take into account the athletic background and amount of training before concluding that physiological responses are sex related (Helgerud, 1994). The development of sport as male, and the dominant masculine physiological characteristics that have 'naturally' become the basis of most sports are an integral part of the bias existing between the participation and comparability of the genders in sport and physical education. This is reflected in a physical education curriculum that favours the sporting preferences of males over those of females (Koivula, 1999).

Whilst acknowledging there are certain differences between the genders physiologically, it must be accepted that comparability between gender performances also exists. Chatterjee and Laudato (1995) commented that the increase in the number of events and sports in which both females and males participate allows for a comparative analysis across gender boundaries. It is this notion of comparability that raises further questions, and specifically raises the uncertainty of whether performance differences between the genders would be so marked if both genders had experienced the same sporting opportunities from the emergence of the Australian, and in fact worldwide, sporting culture (Cashmore, 1990). One possibility that may account for gender performance differences is the argument that women have been training for a relatively short time period, and separately, to men (Cashmore, 1990; Thein & Thein, 1996).

### *2.2.2 Gender comparison of performance*

Cashmore (1990) asserted that to compare performances in male and female sporting events that have developed separately is misleading as facilities, participation, training, and coaching opportunities available to males have not necessarily been available to females. In doing so, it would assume that a male and female of similar physiological attributes and training level could produce similar performances,

quantitatively speaking. A quantitative literature analysis by Thomas, Michael and Gallagher (1994) of throwing performance in lower primary school children concluded that training produced significant performance improvements for both girls and boys, and at that age and level, physiological performance differences between the genders can be discounted. Though boys generally used a more mature throwing pattern, with the same training as for boys, girls exhibited rapid improvement in throwing form, which should allow for a potential catch up effect in throwing, for distance at least. A valid criticism of gender comparison research, such as used for Thomas et al.'s analysis, is that results in such studies are affected by the possibility of substantial training differences between the genders (Helgerud, 1994; Tarnopolsky, 2000), which it is expected would give a trained group a performance advantage over a non-trained or lesser trained group.

Research in single-sex learning environments (Dale, 1971, 1974; Haag, 2000; LePore & Warren, 1997; Schachter, 2003; Woodward et al., 1999) indicates there are real differences in how each gender performs and participates in a class environment, and specifically in the physical education environment (Chepyator-Thomson, You & Hardin, 2000; Davison, 2000; Derry, 2002; Greenwood, Byars & Stillwell, 2001; Papaioannou, 1998; Trost, Pate, Dowda & Saunders, 1996). As for the sporting context, Weiller and Doyle (2000) asserted that there is not agreement however on whether these differences are produced through gender biased physical education settings (Koivula, 2001). Chepyator-Thomson and Ennis (1997) argued biased physical education environments can limit girls' opportunities to learn and improve. It was revealed that both female and male US high school students surveyed in Chepyator-Thomson and Ennis' study concurred that boys and girls participated differently in physical education.

Participation differences in physical education were also evident in Lirgg's (1994) study of US high school students in coeducational physical education classes. In both Chepyator-Thomson and Ennis' (1997) and Lirgg's (1994) studies, boys tended to exhibit the socially defined masculine traits of aggressive, competitive behaviours towards others, resulting in domination of team games. Girls on the other hand tended to display non-aggressive behaviour with more cooperation and affiliative behaviour that has been previously attributed to social notions of femininity. Silverman's (1999) research into the sport education model in the US showed that girls perceived boys to be more dominant and competitive in the coeducational environment. The competitive and dominant nature of boys also appeared in single-sex classes with reports of fighting and

roughness as one of the worst features of boys' classes in Jackson and Smith's (2000) research in Australian and English coeducational and single-sex learning environments.

The physically dominating behaviour of boys in coeducational physical education classes affects how both genders are able to experience and be involved in practical class activities. Chepyator-Thomson and Ennis (1997) reported on the tendency for boys to dominate in games through such actions as only passing the ball to each other rather than including girls in the game play, affects how females are able to learn and perform. These findings appear to indicate that the male and female students who participated in the studies were conforming to the socially constructed behaviours associated with what it means to be feminine and masculine, as discussed previously. The behaviours and practices create a history which informs both the physical education and the students' individual habitus. It is not a question of girls not having the ability to participate, as the English and Australian studies by Hopwood and Carrington (1994), and James (1999) respectively, revealed female physical education participants in both studies believed they were as athletically competent as their male counterparts.

The athletic competence displayed by girls in physical education classes is evident in sports as a whole. Chatterjee and Laudato (1995) reported that the rate of improvement in swimming, running and skating, based on world record data, is consistently higher for women than for men, at all distances. Substantial performance increases for women may be attributable to improved participation and training opportunities, access to facilities and resources and less stereotypical pressures for women (Chatterjee & Laudato, 1995; Helgerud, 1994). If the same opportunities and activities were available in the physical education environment it would mean girls may be able to participate to their full potential, which should be the aim of teachers. Teachers should facilitate this through the provision of appropriate, supportive and encouraging environments that are reflected in the physical education habitus.

Derry's (2002) findings from a US study reported that in a single-sex environment, adolescent girls were able to participate in practical lessons and challenge themselves because they did not have to contend with the boys' different developmental abilities, and their aggressive and dominant play style. Both male and female adolescent students in the earlier US study of Sherman (2000) reported that in single-sex classes, participants perceived they performed skills and played better in team sports, received more practice opportunities, learned more and had less fear of injury than they did in a coeducational environment. Research of the physical education environment in

coeducational classes (Derry, 2002; Humbert, 1996; Ramsey, 1998) found instances of male harassment, domination and intimidation resulting in a lack of female participation. Jones et al. (1987) believed the implication was that both sexes would benefit from a single-sex learning environment free from such instances of harassment, domination and intimidation.

While such research supporting either single-sex or coeducational physical education learning environments takes gender into account, both tend to ignore the individual, socialised and habitus differences and abilities of students. Lirgg (1993) maintained that the interaction between ability, gender (the individual) and single-sex and coeducation (the environment) has not been explored in depth. The inequitable manner in which sport is measured and delivered hampers the concept that athletes should be measured and should compete in accordance with ability, rather than by their gender. The inherent bias of most fundamental motor skill tests towards males reinforces the notion of females having an inferior athletic competence (James, 1999; Okely & Wright, 1997).

Taking into consideration that not all physical differences between men and women necessarily have a bearing on performance (Cashmore, 1990), athletic comparisons between the genders are possible when skill and ability based. For example, it is questioned whether sports that do not rely solely on strength and power, in which males have a physiological advantage, but which rely on skill and ability, or where athletes are matched in weight divisions based on FFM, should be able to match athletes on their identifiable abilities without regard to gender. To look only at athletes' individual traits without regard for gender opens the door for competition between the genders based upon skill and ability, such as occurs in assessment practices of physical education subjects.

### *2.3 Ability*

Lirgg (1993) acknowledged the need for further research into how ability interacts with gender and class type (single-sex or coeducation). It would appear that issues of ability are not strongly discussed in literature regarding the single-sex and coeducation debate. Wright (2001) argued that the provision of an environment based solely on a homogeneous generalisation of each gender's needs ignores the differences in ability of individual students.

Craven, Marsh and Print (2000) perceived a major concern facing researchers, educators and policy makers, of how best to educate students of high ability. This is a concern that should be applied equally to students of all ability levels. In the Senior Physical Education syllabus (QSA, 2004) there was specific mention regarding equity of the recognition of gifts and talents, yet there was no mention of low or even normative abilities. It is questioned whether there is a misperception that students with low physical ability are not expected to choose Senior Physical Education as an elective subject, and that students of a normative standard of ability are not expected to have any difficulties in the subject. Imison's (2001) report on the Review of Gifted and Talented Education (GATE) in Queensland State schools failed to mention the subject of physical education at all.

To be able to cater for differing ability levels in a physical education environment, ability first needs to be defined. In his study of gender differences in the learning and testing of science for primary students in the US, Dimitrov (1999) characterised the term 'ability' as a latent trait underlying a student's performance. In physical education terms, this would assume that a student's ability determines their potential practical performance, and should be recognisable whether a student is performing to their ability, above or below their ability level. McKiddie and Maynard (1997) acknowledged students' understanding of ability as a capacity, and not merely a performance. With this understanding, ability can be identified through, but not limited to, performance, and would include aspects of skills, concepts and game play. In this study, ability is defined through the practical skills, concepts and game play demonstrated in performances by individuals in the practical Senior Physical Education learning environment.

An indication of higher ability in a performance-oriented physical education environment was identified by both Valentini, Rudisill and Goodway (1999) and Sarrazin, Roberts, Cury, Biddle and Famose (2002) as being able to achieve more with less effort, and reciprocally, a lower ability was indicated by achieving less with more effort. In a mastery-oriented environment however, effort and ability are positively correlated with more effort leading to more ability. Sarrazin et al. (2002) further reported that students with high ability expected to demonstrate superiority over most of their peers, regardless of the environment orientation.

Evidence of demonstration of superiority occurred in Derry's (2002) study of US Junior High school students where it was found that less skilled female students

were often the brunt of critical comments and rude remarks and intimidated by the more athletic boys. Drummond's (2003) study of Australian adolescent boys also found that less skilled males were also often ridiculed. Wright's (1996) Australian High school study attributed boys' preference not to participate with girls, to the perceived lack of skill of the girls, their unwillingness to try, and modifications the boys would have to make to their own play in order to accommodate the girls' differences in abilities. Wright also acknowledged that girls are not necessarily the problem, but rather it is the curriculum and the learning context, or environment, they find themselves in. Clearly, the individual experiences within the physical education habitus are influential in the way students respond to their learning environment, regardless of ability level.

Wright's (1996) comments highlighted how both high ability and low ability students can be affected within a mixed ability physical education environment. However, when ability levels are more closely matched, research (Derry, 2002; Wright, 1996) showed there was a higher acceptance of a coeducation habitus, specifically at a high ability level. In Derry's study, teachers observed that highly skilled, athletic female students were able to command boys' respect in verbal interactions, through their evident athleticism, and they also enjoyed the challenge of competing with boys of similar ability. This may justify the need for coeducational classes for higher ability students to provide them with a more challenging and stimulating environment. That is, a class context that will interest students by providing them with an environment that matches their perceived capabilities and extends skills and abilities in the pursuit of excellence (Bandura, 1999).

Wright (1996) reported that highly active and skilled boys enjoyed the company of girls who were also active and competent and who shared similar attitudes and abilities to themselves. Further responses from girls in Wright's study expressed the preference of coeducation in terms of the perceived superior ability and experience of the boys and the advantages of having a standard to work towards. Essentially the girls were expressing a desire to be challenged, and it is perceived that a coeducational physical education environment would provide that challenge. A small percentage of female students in Derry's (2002) study also stated that their preference for coeducational physical education classes was due to the opportunity to be challenged by the boys' competitive and aggressive nature, and their level of athleticism.



### *2.3.0 Challenge and competition*

Stanley and Baines (2002) purported that in an already diluted environment, single-sex physical education classes that teach to the middle or lower ability groups, as occurred in the US school of their study, may not be providing a challenging enough environment to extend and improve higher ability level students. It is believed that teaching to the middle may be seen by some teachers as a solution of having to cater to the wide and diverse range of abilities within their classroom. It is assumed that, as the Senior Physical Education syllabus requires (QSA, 2004), it is the aim of every teacher to provide for the diverse educational needs of each individual student through the personalisation of the curriculum. Stanley and Baines' comments however, may question the viability of that aim in classrooms, at least within the US. Stanley and Baines (2002) further commented that ability levels of students largely become irrelevant if a teacher predetermines to cover curriculum at a prescribed pace. The result may be that no ability level is challenged.

Challenge is understood, in this study, as an intrinsic feeling and the stimulation and extension of ability and skills within the practical Senior Physical Education learning environment. In their work on achieving flow, or the optimum training and competition level for athletes, Jackson and Csikszentmihalyi (1999) highlighted the importance of a balance between challenge and an individual's skills. For high ability athletes, a lack of challenge may result in boredom and unproductivity, whilst too much challenge may result in avoidance behaviour at the lower end of the ability spectrum Jackson & Csikszentmihalyi, 1999; Stanley & Baines, 2002).

The implication of this for physical education is that both a high level of challenge, and a low challenge level may result in off-task and distractive behaviour by students of all ability levels. Achieving the challenge-skills balance that Jackson and Csikszentmihalyi (1999) described requires that challenges be ranked above an individual's personal average, but in line with their perceived skills and ability. Boredom would ensue if an individual was to choose challenges lower than their current level of skills. Jackson and Csikszentmihalyi noted this was particularly significant for high ability individuals forced to choose low challenges due to their high ability and a lack of comparable ability to participate with. For those whose challenges are far greater than their individual skills, anxiety - not boredom - will be the outcome.

The fact that skills are set to a range of limits for different levels and abilities requires physical education teachers to provide an environment with diverse learning experiences to cater for all abilities (Jackson and Csikszentmihalyi, 1999). Individual differences of students would expect that experiences and perceptions within the learning environment would differ for individuals. To gain an understanding of students' perception of their classroom learning environment, Gentry and Springer (2002) developed an instrument to measure high school students' perceptions of their class activities. In their validation of the Student Perceptions of Classroom Quality (SPOCQ) survey instrument, Gentry and Springer identified four constructs (meaningfulness, choice, appeal and challenge) as central to learning.

A literature search revealed there are few instruments measuring challenge, differentiated from competition, and even fewer appropriate for use in the practical physical education learning environment. The perception of challenge experienced by students in the practical physical education environment will be affected by the level of competition and the individual student's gender and ability level. These factors contribute to the student's experiences in the physical education environment and have a conditioning effect upon the class and individual's habitus.

Eitzen (1996) identified that for highly skilled female athletes it may be easier to find challenging competition among males than amongst females for demographic reasons, including the smaller class sizes of single-sex schools. It is believed that within a coeducational environment, female students should be able to gain access to higher levels of competition provided by a wider demographic. Apart from those few events that require the rawest muscle power, Cashmore (1990) asserted more than a decade ago that within open competition, women should be able to achieve parity with men in virtually all events. This still has yet to be achieved. It is believed that the skills, tactics and teamwork involved in team physical activities studied in physical education, provide the opportunity for challenge and competition regardless of gender, and allow for comparability of performance between males and females, based on ability, in the learning environment.

James (1999) demonstrated that athletically competent girls enjoy competition, challenging the argument that competitiveness is a male trait (Koivula, 1999). Young (1997) reported that Canadian females, like males, also enjoy the physical and aggressive aspects of competition, whilst interviewees in Mulvihill, Rivers and Aggleton's (2000) more recent English study expressed an overwhelming preference for

competitive sports, perhaps due to the challenge students derived from it. This points to the need to address the rather narrowly defined and explored characteristics of challenge within the social context of participation and performance in physical education (Penney & Chandler, 2000). Ability groupings, where students are defined only in terms of their skill and ability, and not axiomatically by their gender, is one possible way of achieving this outcome in individual and team physical activities. To provide challenge, and to achieve the feeling of support and learning opportunities for all ability levels, physical education environments may need to be restructured, particularly for those students with higher ability levels.

The adoption of such a notion may predicate the need for both single-sex and coeducation classes based on ability level and students' self-concept of ability. Xiang and Lee (1998) described ability self-concept as a student's sense of what they are able to do and how good they are at different tasks. Although ability contributes to performance, a student's perceived self-concept operates, in part, independently of those skills. Student achievement is an important outcome, and a specific educational goal of physical education classes, however other factors mediate that achievement. One such factor has been identified by Lirgg (1993) as students' perceptions of self-esteem and self-confidence.

McInerney and McInerney (1998) emphasised that a student's sense of confidence is influenced not only by their performance but also by their self-expectation of success. Manktelow et al. (2001) reported on studies having found that individuals with higher levels of self-efficacy or self-concept were those who also had higher levels of sport participation. Therefore, a student is more likely to disengage from an activity if they are lacking in self-confidence in their ability or if they are lacking in ability for that task (Beveridge & Scruggs, 2000; Chase, 2001).

Lantz and Schroeder (1999) reported that the influence of gender on an individual's perception of performance, or perception of ability, is an area of particular research interest. A common finding from a number of studies (Asci, Kosar & Isler, 2001; Clifton & Gill, 1994; Hayes, Crocker & Kowalski, 1999; McKiddie & Maynard, 1997) is that males tend to have an overall higher self-concept in their sporting abilities than females, indicating males as having higher self-esteem within the physical education environment. The higher self-concept of ability that males hold compared to females, may be attributed to the longer and stronger sporting culture that has been a part of the masculine hegemonic society. With the greater acceptance for female

participation in sport, it would appear the traditional male hegemonic attitude in sport and physical activity is changing. In a US study of college cheerleaders, Clifton and Gill (1994) showed that a greater gender difference in self-confidence occurred the more 'masculine' a task was perceived. Females were found, however, to possess greater self-concept of athletic ability in tasks that were seen as appropriate for their gender, or those tasks defined as 'feminine'.

### *2.3.1 Ability and self-perception in physical education*

Regardless of gender, it has been found (see Clifton & Gill, 1994; Manktelow et al., 2001) that a higher level of sport participation correlates to a higher level of athletic self-concept. Ryska (2002) noted that it has been documented that self-confidence, or a high self-concept, is a positive predictor of athletic performance. Therefore, individuals who begin with a high self-concept would be more likely to continue to have higher self-efficacy than those who begin with a low self-concept (Chase, 2001), and would be more likely to consider physical education as an attractive activity (Cury, Fonesca & Rufo, 2002). Self-concept of ability is frequently theorised as a mediating variable that facilitates the attainment of other desired outcomes (Craven et al., 2000). It is believed such variables may also include acceptance by others in the learning environment, as well as a certain social status amongst peers.

In a study of US upper primary students, Chase and Dummer (1992) reported that for boys, sport was the most important determinant of popularity. This is consistent with Holland and Andre's (1994) research with US high school and college students of which the majority of males expressed a desire to be remembered as star athletes, whether they had participated in sport at school or not. In comparison, female participants from both studies did not show such a strong correlation between popularity and social status related to sport participation. Rather, appearance and participation in sports regarded as feminine were stronger determinants. Holland and Andre (1994) reported that a more complex social system existed for females, which they regarded as being primarily defined by the traditional values held by society in regards to gender.

How the relationship between sport participation and popularity, or social status, as investigated by both Chase and Dummer (1992) and Holland and Andre (1994), translates in the Queensland High school and physical education context is of

interest. The habitus of individual physical education environments, either single-sex or coeducational, and the culture of the school are factors perceived to be influential in the determining of social status in regard to sporting, or athletic ability. It is expected that a high social status based on ability would also correlate with a higher self-concept, especially within physical education.

Ebbeck and Weiss (1998) revealed that the extent to which students perceive their ability is related to their evaluation of their self-concept and self-worth. The PSPP (Fox, 1990) is an instrument that allows for the measurement of such factors, and is the reason for its use in this study. Hoge and Renzulli's (1993) meta-analysis of studies on giftedness and self-concept constructs revealed that gifted, or high ability children, exhibited more positive self-concepts than comparison groups. In the physical education environment, Whitehead and Corbin (1997) revealed that it is students with higher feelings of competence and who feel good about themselves, who are more likely to participate and exert effort in physical activities.

Manktelow et al.'s (2001) Canadian study of high school students revealed sport participants at a moderate or high competitive level to have higher self-concepts in relation to sports than lower level participants. This correlates with Martin (2002), who found Australian primary school physical education to be an environment where isolation, humiliation and alienation are common, and success to be uncommon, for low skilled students. The findings of both Whitehead and Corbin (1997) and Manktelow et al. (2001) should indicate that students who enrol in Senior Physical Education should be those who feel competent of their athletic ability, which in this study, will be measured using the PSPP. It will be investigated whether Martin's (2002) findings of isolation, humiliation and alienation occur at this age and level.

Ebbeck and Weiss (1998) explained the substantial variance in self-concept by students' self-perceptions of competence specific to the physical domain or physical education habitus to which they belong. Bandura (1999) observed that students receive a great deal of comparative information about their capabilities from grading practices and teacher evaluations which, Ryska (2002) added, can foster both uncertainty and performance success. Lirgg (1993) found that students' grades are a consistent variable in explaining differences in students' perception of usefulness or ability. Bandura (1999) identifies that students publicly label, rank, discuss and judge how well they perform compared to their peers, and that students' self appraisals are closely related to the appraisals of their classmates. Whitehead and Corbin's (1997) research confirmed

that as they grow older, students depend more and more on peer comparison in competence judgements, however it is questionable as to whether this occurs at the Queensland Senior Physical Education level, or not.

Ebbeck and Weiss (1998) considered self-perception of ability a significant predictor of self-concept. Whitehead and Corbin (1997) indicated a number of components of self-concept have been identified and differentiated from each other. For the specific purpose of this study, self-perceptions take into consideration the perceived competence of students in terms of what they are able to do, and how good they are at different skills (Xiang & Lee, 1998) within the practical physical education environment. A contributing factor to the higher perception of competence held by males compared to females (see Asci et al., 2001; Hayes et al., 1999), may be attributed to the perceived gender of the sport or activity, whether it is perceived as masculine, feminine or gender-neutral. The Senior Physical Education Syllabus (QSA, 2004) provides scope for gender-neutral physical activities to be included in the subject curriculum.

Clifton and Gill (1994) reported women to have displayed lower self-confidence on tasks viewed as masculine, compared with a feminine typed activity. The more masculine the task, it appears the greater the gender difference in self-concept. It would be expected that females would exhibit greater levels of self-concept and confidence in ability in feminine typed activities compared to males in those same activities, as reflected by Clifton and Gill's study. The implication of this for a curriculum that is often biased towards males needs further consideration, and will be discussed further in the chapter.

Fox (1990) regarded interest in self-concept in the educational setting as having occurred as a result of research indicating that students with higher self-concepts perform better academically. The instrument used to measure self-concept, specifically in physical domains, is the PSPP (Fox, 1990). The PSPP consists of five 6-item subscales; Sports Competence, Physical Condition, Body Attractiveness, Physical Self-Worth and Physical Strength. Originally validated with US college students, and subsequently adapted for use with younger children in the form of the Children's Physical Self Perception Profile (C-PSPP), the PSPP has not been specifically validated for a teenage or athletic population (Welk, Corbin & Lewis, 1995).

Though not specifically validated for a teenage population, Welk et al.'s (1995) study suggested that the PSPP would be an appropriate measure for that population, as

there are only minor differences to the C-PSPP, which was validated as a suitable instrument for high school students. Fox (1990) stated that the PSPP is equally valid for both genders, making the genders suitable for examination of differences. Along with the demonstration that the PSPP is predictive of sport involvement, its validation and previous use make it an appropriate measure for this study. The PSPP does not however take into consideration the external factor of class context, streamed or mixed ability groupings, single-sex or coeducation, which Lirgg (1993) believed may also be a mediating factor on self-concept in physical education. In this study, the learning environment is a factor that is used to compare data between the genders.

### *2.3.2 Educational environment and self-concept*

Whilst conclusive evidence is yet to be found, it is suggested that the single-sex education environment can have positive effects on both females' and males' self-confidence and self-esteem. It has been shown in research (Caplice, 1994; Jones et al., 1987) that the self-confidence, self-concept and leadership capabilities of females, and the self-esteem and positive development of males, are enhanced in the single-sex environment. According to Mael (1998), girls in single-sex classes are more likely to experience higher levels of self-concept and self-confidence. In an analysis of the Single-sex Education Pilot Project (SSEPP) that was undertaken in 1993 to 1994 in Western Australia, Parker and Rennie (1997) found that within single-sex environments girls were more confident, had higher self-esteem, and could progress through their work at their own pace. Jackson and Smith's (2000) Australian analysis reported girls' preference for single-sex mathematics classes as they were not 'made fun of' for getting something wrong, and did not feel embarrassed for scoring low marks. Humbert (1996) and Jones et al. (1987) believed single-sex education offers a better working environment by providing a more relaxed environment in which the students can be themselves.

Research has shown (Jackson & Smith, 2000; Mael, 1998; Ramsey, 1998) that in the coeducational environment, girls are often picked on by boys and are more frequently the subjects of jokes and sexual innuendo. Lirgg's (1993) US study of high school coeducational physical education classes revealed that boys limited the girls' abilities and opportunities by bothering and distracting them, whilst not affecting their own opportunities. Humbert (1996) claimed that boys ridiculing and making comments about their female classmates' skill level and physical appearance can affect the girls'

self-esteem. James' (1999) Australian study concurred, with the assertion that the very presence of boys and their potential to put girls down discourages most girls from participating in physical education in a coeducational environment.

It is believed by some researchers (Jones et al., 1987; Mael, 1998) that single-sex schooling reduces such opportunities for harassment, and offers greater freedom and more privacy. Lirgg (1994) found that girls in a US high school basketball unit perceived single-sex classes more favourably than coeducational classes, while at the opposite end of the spectrum the boys looked more favourably on coeducational classes. Lirgg's (1993) previous study found boys in coeducational physical education classes to be significantly more confident than boys in single-sex classes. She noted that it was the students who had previously participated in single-sex environments who were more likely to prefer single-sex classes than those who had been in a coeducational environment. It is questionable whether this preference is actually an indication of preference of an environment and habitus that students are already familiar with, or whether they can not make an informed choice on an environment they have not previously experienced.

According to Lirgg (1994) coeducational schools were perceived by students as being more gregarious, group centred, friendly, enjoyable, tolerant of non-compliance, spontaneous and conducive to self-confidence and self-respect. These aspects are largely social and it might be said that they are suited to boys learning. The claim that coeducation offers a confidence building environment (Jones et al., 1987) is disputable when faced with the evidence of harassment and lowered self esteem felt by girls within that particular environment (Humbert, 1996; James, 1999; LePore & Warren, 1997; Mael, 1998). The habitus of the learning environment is not static, and can be changed to provide a more positive learning experience for students, regardless of gender and ability. It is believed that a curriculum which addresses such issues as male behaviour towards their female classmates within the class context and vice versa, is one long term method which may assist in positive changes to the physical education habitus for all students, irrespective of their gender and athletic aptitude.

### *2.3.3 Ability, gender and curriculum*

Teachers live with the daily experiences of diversity in terms of the students whom they teach, and the lessons they deliver (Elliot, 1998). Gross (1999) asserted that a curriculum which is differentiated in level, pace and content is both valid and



necessary in order to respond to the needs of a gifted, or highly capable student. It can be argued however, that a personalised curriculum as per the Queensland Senior Physical Education Syllabus (QSA, 2004), is valid and necessary for all students regardless of ability and gender. Elliot (1998) stated that it is a reality that teachers are forced to make rapid decisions, as well as their planned decisions, regarding which students are in need of greater time and attention, as well as considerations about which aspects of the curriculum to emphasise. Stanley and Baines (2002) claimed that such decisions as time allocation, and the sequence and progression through the curriculum at a prescribed pace, renders the relative ability levels of the students as irrelevant. Progression through the curriculum regardless of student understanding and attainment of knowledge and skills would result in students who are unable to maintain the pace falling behind, with the risk of disengaging due to a challenge-skills imbalance.

Whipp's (2001) understanding was that to be able to respond to the needs of all learners' demands, teachers do not reach for standardised instruction, but rather are required to begin at each individual student's current achievement levels. This is an important aspect of the Queensland Studies Authority (2004) Senior Physical Education Syllabus. In regards to physical education, it is, as Hutchinson (1995) commented, important for physical education teachers to assess the diverse needs of a class, and to use a variety of instructional strategies to meet the needs of every 'ability' level. Without a developmentally appropriate pedagogy and curriculum that targets the ability level of each student, as Hutchinson recommended, Whipp (2001) suggested that teachers are likely to inhibit meaningful movement experiences for all.

Rogers (2002) noted that it has been stated that high ability learners need some form of ability grouping to provide challenging and extended curricula. This may be harder to apply in the practical domain of physical education, where there is a range of ability levels and there may be, especially in a single-sex environment, only a small number of either high or low ability levels. The application of this to elective physical education subjects such as Senior Physical Education is questioned. Fiedler, Lange and Winebrenner (2002) remarked that there is concern though, that grouping by ability will lock students into an ability grouping and not allow movement between the differing ability groupings, and may possibly result in the 'labelling' of students. This does not necessarily have to occur if teachers are consistent in an ongoing assessment of individual student ability, such as occurs with Formative Assessments in Senior Physical Education (QSA, 2004). What ability groupings should imply is that students

are placed within an environment that is suitably challenging, along with others whose learning needs are similar, for the length of time needed (Fiedler et al., 2002).

Grouping students according to ability levels does have administrative as well as philosophical implications. Whipp (2001) recognised that it may require that several classes be timetabled at the same time, which would result in additional staff and facilities being needed. For Queensland schools, specifically regional schools with smaller numbers and limited facilities, the administrative realities of grouping students according to ability is probably unrealistic. The advantages, however, of allowing teachers to teach specifically to one group and for students to have a curriculum tailored to their needs, as suggested occurs in single-sex groupings, also makes ability grouping a valid consideration of education policy makers. It is believed that the advantages of teaching to a specific group such as described, may also have the effect of positively altering aspects the hidden curriculum within the planned pedagogy.

Chepyator-Thomson and Ennis (1997) defined hidden curriculum as the knowledge, attitudes and values that are learned by students outside the intended curriculum. The hidden curriculum comprises those aspects of the class environment that are not consciously taught or planned, but are learnt nonetheless through social interactions and processes within the school and class environment (Azzarito & Solomon, 2005). Wright (1999) asserted that the dominance of particular sets of values, beliefs and discourses over others are maintained in an environment such as physical education, through the practices of individuals, teachers and students, within that habitus.

It would appear that the development of the hidden curriculum is similar to the development of each individual's habitus. Bourdieu (1998) stated that the habitus is an acquired system of preferences, of principles of division; a practical sense of what is to be done in a given situation. Like the hidden curriculum it is not necessarily an overt conscious process, however it is learned and internalised through socialisation processes. In physical education, both the hidden curriculum and the habitus are reflected in such actions as the way the class is divided, how teams are picked, or who is captain. It is also evident in the harassment of low ability students and girls, a male biased curriculum and the domination of boys in the physical education environment.

Brady and Kennedy (1999) stated that the construction of curriculum to favour one group or gender over another is influential in producing a hidden curriculum, however the hidden curriculum, and habitus, may also be influential in how the

curriculum is itself constructed. The construction of habitus and hidden curriculum can also be applied to favouring one ability group over another by teaching to that level rather than accommodating all ability levels. Physical education programs in the US, the UK and Australia are based upon male oriented sports, which offers a reason why girls are less inclined to be actively involved in physical activity than are boys (Chepyator-Thomson & Ennis, 1997; Hopwood & Carrington, 1994). Scraton (1993) argued that to place students in a coeducational setting does not necessarily create a less gendered environment if ideologies of masculinity are reinforced and reproduced, such as often occurs with physical education curriculum. Fromel, Vasendova and Krapkova (2000) stated that physical education curriculum is often in direct contrast to the preferences of female students, which is understandable with the evidence from Greenwood et al.'s (2001) study which revealed that adolescent males and females differ in their sporting activity preferences. Greenwood et al. (2001) further commented that the curriculum should reflect students' preferences in order to encourage them to be involved in the class.

Society has considered it acceptable and normal for boys to be active participants in sport related activities, but not appropriate for girls, who should be displaying femininity, to participate in the same manner. Flintoff (1997) found that there were many examples of stereotypical views that were confirmed, rather than challenged, by both male and female educators in Britain, and which may prompt bias in curriculum toward one gender. Brady and Kennedy (1999) asserted that a curriculum biased towards one group, based on gender or ability, will fail to cater for all students. Whether this bias exists in Senior Physical Education subjects in North Queensland's regional Catholic High schools, and whether it is dependent on the school being coeducational or single-sex will be questioned in this study from the students' perspective.

A specific area of curriculum reform in Australia is the removal of gender stereotyping of participation and sports to enhance participation and achievement in physical education (Brady & Kennedy, 1999). These factors are hindered by the impact of the hidden curriculum. Merely mixing boys and girls together for physical education, without modifying the teaching approach and practices, may serve to exacerbate and reinforce stereotypical roles and the dominant forms of masculinity and femininity within the physical education environment (Chepyator-Thomson & Ennis, 1997; Hutchinson, 1995). Similarly, Ramsey (1998) acknowledged that giving girls and boys

separate classrooms would not increase participation or achievement if teachers retain outmoded attitudes. Such a shift would require a cultural and mindset change, which amount to a change in the habitus, to accompany the physical changes effected in the learning environment for a real change and reform to occur.

Caplice (1994) emphasised that a single-sex environment can advance the quality and effectiveness of instruction by concentrating upon areas of primary interest to only one sex, with the absence of the opposite sex removing the pressure to adhere to societal stereotypes. The argument for the merits of single-sex education include teachers being able to develop an appropriate pedagogy that allows for teaching methods preferred by one gender, which groups students homogeneously within their gender, regardless of ability. Grouping students homogeneously by gender, regardless of ability, ignores the heterogeneous differences within the group. The relationship between ability and the single-sex and coeducational learning environments in physical education warrants further review and consideration to avoid homogenous groupings that fail the individual learning needs of a diverse group.

#### *2.4 The Physical Education Environment*

From a review of the literature on ability grouping (Clinkenbeard, 1991; Dai, 2000; Holloway, 2001; Zevenbergen, 2002) and single-sex and coeducation learning environments (Jackson & Smith, 2000; Kenway & Gough, 1998; LePore & Warren, 1997; O'Brien, Martinez-Pons & Kopala, 1999; Ramsey, 1998), it can be seen that the majority of research is focussed on the core academic subjects such as english, mathematics and science. The progression of research into other subject areas including elective physical education is warranted.

Sherman (2000) observed that of the research that has been conducted concerning physical education and single-sex and coeducational learning environments, the students' roles, perceptions and input has been very limited. Macdonald (1989), Lirgg (1993, 1994) and more recently James (1999) and Sherman (2000), have attempted to involve students in the debate, by researching their perceptions of the environment, and participation in either single-sex or coeducational physical education lessons. Research into ability grouping on the other hand, has produced a number of student-based studies. For example, the Australian studies of Carlson (1995) and Zevenbergen (2002), and Clinkenbeard's (1991) US study revealed student perceptions

of their learning environment. However, these predominantly looked at either the high end of the ability spectrum, or the low end, and all were in classroom settings, not in practical physical education settings.

Few studies looked at the relationship between ability, gender in terms of the individual, and the learning environment in terms of single-sex and coeducational settings. Theberge (1998) believed that one of the most contentious issues in discussions of gender, which can be applied to educational and particularly physical education spheres, is the issue of gender integration. How are meaningful groupings for students decided, and formed?

#### *2.4.0 Gender and grouping*

The literature (see Caplice, 1994; Dale, 1971, 1974; Derry, 2002; Gillet, 1999; Harris, 1986; Jackson & Smith, 2000; Lee et al., 1994; Parker & Rennie, 1997; Ramsey, 1998; Smith, 1995; Woodward et al., 1999) has so far provided no clear evidence to indicate that one environment, single-sex or coeducation, is superior to another, nor has it indicated suitability for a specific cohort. Parker and Rennie (1997) said that the findings from both sides have failed to give a consistent view as to the advantages or disadvantages either single-sex or coeducational schooling offers.

The debate is not so simple as to be able to define either single-sex or coeducation as the more advantageous education environment, and throughout the literature there are continuing conflicts of opinion and contradictions in research findings. The literature does not offer a defined racial, ethnic, social, or economic group for whom single-sex and coeducation is presumed to be better, nor is there any identified age or ability level who would benefit from either setting. Wright (2001) found that the impact upon students from the choices educators make in relation to the organisation of schools and classes, and the basis of those decisions on such conflicting data to be dubious.

As has been acknowledged, there are genuine psychological and physiological differences that exist between the two genders. These acknowledged differences include the rate at which each gender develops physiologically, intellectually and emotionally, with females generally developing ahead of males (Caplice, 1994; Wilmore & Costill, 1999). Developmental and maturation differences, as described, do have a bearing on the manner in which both genders learn.

Caplice (1994) stressed that the argument that single-sex is not an effective educational environment ignores such fundamental differences between females and males. She argued for the provision of a learning environment tailored to meet the specific learning needs and particular developmental characteristics of each gender. It is noted that there is an absence of the acknowledgement of differing abilities and learning styles within the gender grouping. Mael (1998) however agreed with Caplice, adding that coeducation does not allow for the different forms and time frames of maturation between the genders. Caplice (1994) made a sweeping claim that little is done within coeducational schools to address the specific achievement needs of either females or males. The same assertion can be applied to the specific achievement needs of differing ability levels within the genders, which is not taken into account in either single-sex or coeducational settings.

Jones et al. (1987) argued that teaching specifically for gender can take into account both physiological and psychosocial differences, as well as learning and participation differences between the genders, which they believed would logically be more easily accomplished in a single-sex class than in a coeducational class. Both genders, Caplice (1994) contended, stand to benefit from an educational environment that recognises students' specific learning and social needs. Similarly, this could be said for an environment that embraces a curriculum planned for and delivered to the specific needs of one ability level, rather than a wide range of ability levels (Zevenbergen, 2002).

In regard to physical education, Mael (1998) reported that research has shown that children at a primary level learn athletics and sports skills faster in single-sex groupings, and this may also be significant at the secondary level. It is reported (Caplice, 1994; Mael, 1998) that differences in interaction, styles of play and self-perception can affect the learning of skills. The same could be applied to ability. Such differences included the tendency of females to exhibit a more cooperative attitude, and more positive response to a supportive environment, compared to the aggressive, disruptive and competitive nature of males (Caplice, 1994; Mael, 1998).

However, the homogeneous labelling of behavioural generalisations attributed to both genders ignores what Gilbert and Gilbert (1998) suggested are in fact behaviours that are shared by men and women and could be labelled more simply as 'human'. In the education context, such generalisations regarding the genders do not take into account individual differences of students, which Power (2001) noted leads to a 'one

size fits all' approach, effectively silencing the needs, experiences and abilities of many students. However, within a single-sex physical education environment, Lirgg (1994) found a habitus that for both genders has fewer distractions and greater time on task, a decrease in student attention seeking behaviour and fewer discipline problems for boys.

Macdonald's (1989) Australian study revealed that, though girls found coeducational classes fun, they preferred most of the physical activities to be taught in a single-sex environment. This indicates that the single-sex environment creates a habitus that is conducive to learning, however it must be questioned whether these findings are still relevant to today's Queensland schooling environment. Through his review of coeducation and single-sex education, Mael (1998) noted that there have been numerous studies that show members of both genders, of all ages, prefer single-sex associations for certain activities. However, a variable that Lirgg (1994) revealed has not been examined through these findings is whether male and female students of differing abilities would view their classes differently.

LePore and Warren (1997) stated that observers have argued that single-sex schools are more effective learning environments, especially for females. Ramsey (1998) also noted that males generally study better in the absence of females. From his findings on issues of boys' education from the Australian Capital Territory (ACT), Martin (2003) explained pedagogy as the most consistent influential factor in student's engagement and achievement, and not the gender composition of the school body. Mael (1998) argued that the benefits of single-sex education are shown through the higher academic achievements of single-sex schools, with girls producing generally 'higher' results. These academic achievements, however, need to take into account such variables as student ability levels, learner characteristics, pedagogy, resources, socio-cultural factors and teacher-student ratio.

A review of the available literature provides no agreement on the benefits or otherwise of either single-sex or coeducation. More comprehensive and conclusive findings could be gained through the comparison of differing studies, however research results are affected by the fact that variables for each study differ immensely.

#### *2.4.1 Differences in variables, focus and curriculum areas*

Caplice (1994) made the pertinent point that the case for single-sex education may be overstated because of the many different variables involved. Harris (1986) contended that research on the effect of coeducation and single-sex schooling suffers

from the inability to randomly assign participants to the different types of schools, and thus control for the background of the participants. This point will be taken into consideration within this study, and the participant schools have been delimited to Catholic High schools within the same regional North Queensland city. It is the selective nature, being able to choose which students to enrol, of a school that is often a more powerful predictor of performance than the gender of the students (Jackson & Smith, 2000; Kelly, 1996).

It is argued (Caplice, 1994; Woodward et al., 1999) that most single-sex schools are small, selective, private schools with low class numbers, low student-teacher ratios, specialised curricula with well provided programs and facilities, and importantly, a history of successful single-sex education, all of which result in higher achievement levels. Harris (1986) reported that coeducational schools, on the other hand, are more likely to be larger than single-sex schools, and located in small towns or rural areas. This is evidenced historically, with the provision of coeducational schools in rural Australia as a means of providing a universal education system, and with the single-sex private schools being concentrated within the city and larger regional areas.

Any study of coeducation or single-sex education should take particular care to recognise the variables of socioeconomic and sociocultural backgrounds of students, school size, students' measured abilities, teacher qualifications and experience, as well as school facilities and resources (Harris, 1986; Woodward et al., 1999). Such variables can be easily identified, though they may, in reality, be harder to control and measure when conducting research. Kelly (1996) stated that like is seldom compared with like, and to get a true picture of the effect of single-sex schools, a comparison is necessary between girls of single-sex schools and girls of coeducational schools, and boys of single-sex schools and boys of coeducational schools, such as conducted in this study.

Considering the variables involved in a study may reveal a difference in the findings than were initially reported. LePore and Warren's (1997) comparison of US single-sex and coeducational secondary Catholic schools, in a variable controlled study of academic and social psychological outcomes, found that single-sex Catholic schools were not necessarily advantageous academically over coeducational Catholic schools. The implications of LePore and Warren's findings should be able to settle the long argued debate on an academic level, for those schools at least. It is implied that with the same variables and under the same conditions, there is no difference between single-sex and coeducational schooling when looking solely at academic performance. Of course



there are many other factors to consider, such as gender and ability which are major features of this study.

Previous research and literature on single-sex and coeducational schooling is, not surprisingly, centred round gender issues. Chepyator-Thomson and Ennis (1997) and Hopwood and Carrington (1994) both looked at stereotypical roles based upon gender in the educational context. Hutchinson (1995) considered inequities based on gender differences while Lee et al. (1994) focused on sexism in the mathematics and sciences. Other pieces of research (James, 1999; Jones et al., 1987; Lee et al., 1994; LePore & Warren, 1997; Lirgg, 1993; Mael, 1998), though not solely based on the issue of gender, still reflect upon the importance of gender in the consideration of single-sex and coeducational schooling.

Taking gender into consideration, the main concern has been how girls have fared within the traditionally male subjects of mathematics and science (Lee, et al., 1994). Such authors as Kenway and Gough (1998), and O'Brien et al. (1999) noted the inequities and difficulties girls experience within those subject areas. There has previously been the concern that girls were under-represented in the mathematics and science subject areas (LePore & Warren, 1997), however it is questioned whether these concerns of under-representation are valid in today's educational climate. In comparison to concern for girls' performance in the mathematic and science areas, Alloway and Gilbert (1997) revealed that there was not a similar level of attention given to boys' low performance levels in school based literacy, and under-representation in the humanities around the same period.

While research in the area of both girls' and boys' performance in education is ongoing and is becoming extensive, there are further areas in the single-sex and coeducation debate that are yet to be more fully explored. Areas which also have strong traditional gender stereotypical participation roles, such as physical education and sport, which have long been dominated by males, have not been as widely researched (Dewar, 1987; Lirgg, 1994; Silverman, 1999). A review of the literature indicates that research regarding gender, ability and challenge in the physical education environment is minimal.

It is on this largely unrepresented area of physical education and the contentious concept of ability, that this study is focused, and to which the single-sex and coeducation debate is relevant. Whilst Mael (1998) noted that there have been numerous studies that show members of both genders, at all ages, prefer single-sex

associations, a variable that has not been examined in these studies, and which is the focus of this study, is the hypothesis that students of both genders and varying abilities perceive aspects of their physical education classes differently. Taking this hypothesis further requires research into the concept of grouping students based on ability, the first step of which is to investigate experiences of students of varying ability levels in their current physical education classes.

#### *2.4.2 Ability and grouping*

Zevenbergen (2002) defined ability grouping, otherwise referred to as streaming, clustering, tracking or multi-age levelling, as the practice of placing students into groupings based upon their measured abilities, with the intention that curriculum, delivery and lesson presentation will be tailored to the needs of that group of students. It is not the purpose of ability groupings to provide one group with a distinct advantage, as is assumed by the belief that homogeneous ability groupings promote elitism, but rather to provide all groupings with the same educational advantage (Hallinan, 1996). This is similar to the argument for single-sex education, which Caplice (1994) said is tailored to the specific needs of its gender, so as to give both genders every possible educational advantage. Grouping students based on ability therefore, attends to the specific needs of each ability group to provide all ability levels with the same educational advantage.

Zevenbergen (2002) further explained that it is the explicit intention of the practice of streaming to 'streamline' teaching so that appropriate learning and planning can be developed to give students greater levels of understanding and competence. A further consequence and benefit of ability grouping which has also been purported as an advantage of single-sex schooling, is specified by Whipp (2001) as smaller class sizes, particularly for minority groups, which have the potential to increase time allocated to curriculum activity. There are many similarities that can be identified between the single-sex and coeducational schooling debate and the arguments for and against grouping students according to ability.

As with the single-sex and coeducation debate, Craven et al. (2000) stated that there is no conclusive basis that students would necessarily be advantaged by attending selective schools. It would appear, through the literature, that it is the higher ability students who find streaming to be more advantageous (Hallinan, 1996). In Zevenbergen's (2002) Australian study of ability grouping in mathematics, it was the upper stream students who favourably reported on their teaching and learning, whereas

those students in lower streams reported qualitatively different experiences. Notable by its absence is research surrounding the 'middle' ability stream of students. A search of the literature shows arguments to centre round the extremes of the high ability gifted and talented students, and the low ability students at the opposite end. Imison's (2001) report on GATE in Queensland State schools reported that it is said to be against Department Policy to establish groupings based on ability. This may indicate also the lack of research in the middle ability areas.

Comments from lower stream students in Zevenbergen's (2002) study indicated that classes were often boring and slow, with restricted learning and unsupportive teachers. This is specific to the subject in the study, mathematics, and points to a need to change curriculum and delivery in order to engage and interest students at their level of understanding and learning. It is questionable whether there would be similar findings in the elective practical Queensland Senior Physical Education class, however indicators of disengagement should appear to be similar.

Higher incidents of behaviour management problems in lower streamed classes are reported by Zevenbergen (2002) as a sign of the disengagement those students feel. The question of why students in lower streamed classes misbehave is one for continuing investigation and to which, in the streamed environment, Carlson (1995) attributed to student awareness of, and resulting frustration to, their limitations. It should be questioned whether it is the habitus of the streamed environments that exacerbates behaviour management problems, or if it is the environment, including the teacher, that 'produces' such problems. Zevenbergen (2002) reported that it has been indicated in studies on streaming that the placement of students within ability groupings has widened the gap between the groups beyond what would normally be expected.

Dai (2000) indicated that there is a concern that a streamed environment, which can promote competition and accentuate normative success and comparison, can put lower achieving students at a motivational disadvantage. There appears to be a common perception amongst lower ability students that considering their 'low ability', there is no point in trying, or putting effort into learning, whether in mixed ability groupings or streamed groupings. This indicates engagement problems for low ability students regardless of their learning environment. However within a mixed ability environment, the literature suggested that it is the higher ability students who have negative experiences.

Clinkenbeard's (1991) study of US junior high school students comparing experiences in regular and gifted classes found that within a regular classroom, higher ability students reported a perception of unfair expectations by both teachers and their peers. It was perceived by higher ability students that teachers expected consistently high grades and model behaviour, and that they were graded harder by normal class teachers. They also felt that other students expected higher ability students to do all the work, in addition they were sometimes insulting and jealous, and neither teachers nor students acknowledged the successes of higher ability students. Dai (2000) highlighted that while much attention has been given to average or below average students who are at risk of disengaging from learning, there has been little attention given to the other end of the spectrum. It is believed that if not stimulated and engaged in their learning experiences, all students, regardless of ability level would be more likely to disengage.

Holloway (2001) argued that high ability students within a mixed grouping were hesitant and conforming, compared with high ability students in streamed classes. This difference in behaviour may be a reflection of a class habitus that does not encourage individuality and differences in participation, which informs the individual habitus of the students and results in their conforming and hesitant behaviour so that they are not perceived as different from their peers. Imison (2001) reported that since the introduction of mainstreaming in Queensland State schools, teachers have to cope with both a wide range of abilities and levels of intellectual functioning. As Parker and Rennie (1997) suggested, teachers forced to 'teach to the middle' of a mixed ability grouping could create problems for lower achieving students, and concern that high achieving students would not be extended enough to keep them interested. This argument has specific implications for single-sex classes in a coeducational setting, where, to stream would mean the dilution of an already limited number of high achieving students. It can be inferred that this same dilution is exaggerated within a single-sex school, that is smaller in size, and that has a smaller number of high ability students.

#### *2.4.3 Grouping and physical education*

Physical education, of all the school subjects, has been significantly influenced by traditional understandings of biological gender differences, and the social roles assigned to each gender as a consequence (Weiller & Doyle, 2000; Wright, 1996). This

is evident in the practices, behaviours and interactions that occur in physical education environments. Humbert (1996) discerns that the unresolved issue of whether physical education should be taught in single-sex or coeducation environments invites further research. Similarly, the lack of inclusion of ability in such discussions poses further questions regarding the place of homogeneous grouping based on ability within both the single-sex and coeducation environments. Imison (2001) argued that whilst ability groupings in education are argued against, it is accepted that school sporting teams are ability based. He comments further that to suggest that sporting teams should be mixed ability would be greeted with scorn and yet in the classroom, grouping students based on ability is offensive to egalitarian beliefs. It is curious that the assumption that school sport teams are naturally ability based is not translated into sport and physical activities within the subject and class context of physical education.

Wright (2001) interpreted the provision of programs targeted at girls, and the move back towards single-sex classes, as a response to the concern of the perceived lower participation of girls within physical education, as compared to boys. It is a concern that concentrating on increasing female participation detracts attention from those girls who do willingly and enthusiastically participate in physical education classes as well as boys of all abilities. Students of high ability would be disadvantaged being placed within a group designed to increase general participation due to lack of challenge-skills balance. If students think that they are limited in terms of opportunities and their capacity to perform at their best, the quality of the learning experience for them will be effectively reduced (Jackson & Csikszentmihalyi, 1999). This can be assumed for all ability levels.

Derry (2002) contended that it was assumed that gender integration in physical education would resolve the issue of inequity, as both genders would be receiving the same instruction and curriculum content. The same reasoning can be applied to the issue of ability grouping, where, by placing students in mixed ability groupings, the issue of inequity regarding one group gaining advantages over another is removed. However, not teaching to all ability levels in that group could also be seen to raise a different set of equity issues.

## *2.5 A Matter of Equity*

Hargreaves (1993) believed that the division of social space between men and women was a characteristic of the dominant, patriarchal worldview of the 19<sup>th</sup> century. As discussed previously, this is evident in the division of social space and both the masculinisation and feminisation of sports, which is replicated in physical education practices and environments. Miner (1993) maintained that understanding and challenging the socialisation process that reinforces and defines such beliefs is a priority for those who desire to achieve equitable opportunities for both genders. In respect to physical education, this predicates the need to challenge both the unconscious and conscious socialisation processes that inform the physical education habitus and students' individual habitus.

Wright (2001) commented that in the 1970s, most Western countries enacted anti-discrimination legislation in response to feminist research and to the clearly inequitable opportunities and outcomes that were available to girls and women in a range of areas, including education. In Australia and New Zealand, policies to address gender reform and issues of gender equity have been gradually implemented over the past four decades. In the context of this study, gender equity can be defined as the fair treatment of both genders (QSA, 2004; Lee et al., 1994). In educational terms, gender equity is about equalising educational opportunities, with the same access to curriculum provision, resources and facilities for all students (Caplice, 1994; Wright, 2001).

Issues of gender inequity can be identified in the physical education environment. Despite the growing argument of what Kenway and Gough (1998) referred to rather simplistically, as an over-feminisation of the curriculum to the detriment of males, Mael (1998) contended that at all educational levels females in a coeducational environment are 'short changed' by a lack of teacher attention, and a curriculum structured towards males' needs. Through her case study analyses of four major sporting organizations in Canada, US, UK and Australia, Hall (1997) indicated that whilst equity seeks to provide the same opportunities and resources for females, a curriculum involved largely with male defined sports, with their emphasis on hierarchy, competitiveness and aggression, counteracts any progression towards real equity in the physical education environment.

Miner (1993) stated that physical education should be structured to meet the needs of the participants, rather than the needs and preferences of the teachers. If teachers were made aware that curriculum is male oriented, and that they respond to the

boys who shout the loudest, instead of balancing curriculum and interaction within the classroom, they might achieve something close to gender equity (Ramsey, 1998; White, 1997). Lee et al. (1994) ascribed equity in the classroom to be where the planned curriculum and the hidden curriculum which inform the class habitus, treat males and females equitably, so that they receive equal benefits from the instruction.

In terms of physical education, White (1997) credited a sports equity approach in the class environment as aiming to ensure that opportunities both to perform and to excel are available to all students who have the necessary desire and talent. This is considered to be a major feat for teachers required to follow the dictates of the Senior Physical Education Syllabus. The assumption that exposure to the same subject matter, teachers, and facilities, would provide an equal outcome as reported by Wright (2001), does not necessarily occur. Nor does it seem likely with the restrictions, and the enormity of providing an equitable environment to cater for both genders as well as all preferences and abilities within a single class.

The argument that females should be the only beneficiaries of single-sex education is inconsistent and unfair. Biddulph (1998) maintained that boys have a right to the same benefits of single-sex schooling under any concept of equity in schooling. Ramsey (1998) described the challenge by boys to their exclusion from a program conferring benefits on girls, as a reverse discrimination claim against an affirmative action policy. Martin (2003) asserted that strategies that enhance one gender's educational outcomes could be equally effective for the other gender.

When there is an emphasis on the development of all students' abilities, it is believed that gender equity in physical education is more likely to be evident (Papaioannou, 1998; QSA, 2004). The Queensland Studies Authority (2004) further acknowledged that schools need to provide the opportunity for all students to be able to demonstrate their knowledge and abilities. It is believed, as Wright (2001) asserted, that the aim should be to produce classes where all students feel safe and respected, and have the opportunity to learn meaningful content in ways relevant to them. This applies to gender and also ability, where classes are tailored to the needs of the students in terms of gender and are also appropriate to their level of ability.

Caplice (1994) called for the provision of a same sex alternative to coeducation to ensure that substantially equal programs are available for both females and males, in addition to their coeducational options. She regarded that schools designed for the specific needs of females would be very different from schools designed for the specific

needs of males, but it is questioned whether this difference possibly contributes to the perpetuation and acceptance of the homogeneous and socially accepted gender distinctions. Wright (2001) clarified that a more complex understanding of gender issues takes into account differences within groups of boys, and groups of girls. Talbot (1993) further explained that the principle of equal treatment for all students ignores the fact that individuals differ in ability, interests, resources and previous experiences. In a sporting and physical education context, the specific needs of students in accordance to their ability may be a better method of designing ways to meet student needs than regarding them as a homogenous group based only on their gender.

It is noted that dividing students equally by gender in activity courses, or sports participation, is no assurance that their participation will be equitable, nor is it necessarily practical or desirable (Chepyator-Thomson & Ennis, 1997; Ramsey, 1998). It would appear that curriculum would need to be designed so as to permit students to acquire relevant knowledge and skills, with lessons being conducted in a manner allowing students to participate to their full capabilities, whilst conveying equitable messages about sport and physical activity, regardless of gender (Chepyator-Thomson & Ennis, 1997; Hutchinson, 1995; QSA, 2004). This is achieved through the personalisation of the Senior Physical Education curriculum whereby work units are developed within each school, making the curriculum relevant to the interests, knowledge and skills of students within that school context.

With the thought of opportunity for all students in mind, it is questioned how the provision of a competitive environment for all ability levels can be achieved. Students in a single-sex environment, particularly females, may not have the opportunity to experience the competition and challenge of similar level athletes due to a smaller demographic. This presumes that in a coeducation environment, higher achieving students, particularly girls, would experience a greater level of competition. This has yet to be proven.

McDaniel (2002) regarded the idea of mainstreaming, or mixed ability groupings, as the answer some US educational policy makers have chosen as the primary concept for addressing the excellence-equity issue. This is a line of reasoning that Australian educational policy makers appear to have also taken. Equal opportunity requires that all students, regardless of ability level, should be encouraged to develop their potential to the fullest (Department of Education, 2002; Gross, 1999; McDaniel, 2002). While it is to be acknowledged that there are no simple solutions to remedy the



complex issues surrounding both gender and ability issues, Rogers (2002) affirmed that it must also be acknowledged that one size does not fit all.

Fiedler et al. (2002) recognised that equality in education does not require that all students, regardless of gender or ability, have exactly the same experiences. This is reinforced by Gross' (1999) contention that, unfortunately, adopting an equitable education environment implies that no student be provided with an educational 'opportunity' that is not appropriate for their classmates. The commonly perceived idea that streaming students runs the risk of contributing to elitism (McDaniel, 2002) has meant a false equality has been achieved by levelling down the pace and rigour of curriculum so that all can succeed (Gross, 1999). Bechervaise (1996) regarded that the dilemma for teachers and educators is that the desire to help all students reach their potential and a desire to provide for all students equally, often means teaching to the middle of all abilities. Teaching to the middle however, does not equate to equitable treatment of students achieving either above or below the middle stream, and who may not reach their full potential.

Bechervaise (1996) further considered that the notion of special provision for students has tended to be restricted to those with measurable physical, intellectual and learning disabilities which restrict their learning opportunities. This limited provision ignores the needs of higher ability learners, and all abilities in between. Stanley and Baines (2002) contended that schooling in a democracy such as Australia should not mandate a universal program of study for every student, irrespective of their individual special needs, intellect, talent or ability. Therefore, it could be viewed that providing an equitable educational environment is ultimately responsible for meeting the needs of all students, by providing a curriculum that allows all learners to reach their full potential.

It would appear that equity has forced education to the point where it is moving towards a universal education system that does not distinguish between differences in gender, ability or individual students, and that can not assess levels of learning, outcomes or achievement as this distinguishes one student from another in ability.

## *2.6 Emerging Issues and Inquiries*

The development of both sport and education in Queensland has occurred along gender lines, with both spheres being based upon the behaviours of Australia's British forbears (Hargreaves, 1993; Wright, 1996). Chepyator-Thomson and Ennis (1997)

suggested that such traditional gender stereotypes are still in existence, with the physical education environment a powerful site for constructing and challenging patterned gender relations. There is evidence for both single-sex (Caplice, 1994; James, 1999; Ramsey, 1998) and coeducational (Harris, 1986; Hopwood & Carrington, 1994; Lirgg, 1994) physical education environments challenging and reducing the traditional gender stereotypes, an aspect explored in practical physical education environments in this research.

The single-sex and coeducation debate is one that has long been argued and will continue to be drawn out with no definitive answers emerging (Lirgg, 1994; Parker & Rennie, 1997). The assumption that single-sex education is a better learning environment for all students (Humbert, 1996; Jones et al., 1987), classes males and females as being homogeneous within their gender groups. Gender based groupings do not implicitly allow for individual differences of students, nor with regard to physical education, do they axiomatically allow for differences in ability.

Students' own preferences need to be heard in order to gain a real understanding of whether the single-sex environment is better for that individual, or whether coeducation is the preferred option. Ramsey (1998) asserted that 'choice' is the key word. The question needs to be asked why students, but particularly girls, should choose between an unfair or inequitable coeducation, and a homogeneous single-sex option (Ramsey, 1998). The idea is put forward that rather than either only single-sex schools or coeducational schools, what education could really utilise are single-sex classes that cater for gender specific needs, operating within a coeducational environment (Jones et al., 1987; Ramsey, 1998). Add to this the opportunity for streamed or non-streamed classes, and educators may be closer to providing real choices for students.

As Swalm (1999) highlighted, there is a decision conflict in how the physical education environment can equitably be separated based on gender whilst at the same time arguing for togetherness, and without taking into consideration the individual differences in ability of the homogenous groups we are trying to make. The purpose of this study was to investigate how 'ability' level, and education 'environment', single-sex or coeducation and streamed or non-streamed, affected the preferences of 'individual' students within their practical Queensland Senior Physical Education environment. With inconclusive evidence from research on student groupings, either single-sex or coeducation and mixed ability or single ability, there is room for further research and debate as to how ability interacts with gender and class type (Lirgg, 1993),

and whether single-sex classes within a coeducational school could enhance student learning (Jackson & Smith, 2000). In attempting to bridge this gap, this research into student perceptions of their learning environment (single-sex or coeducational), investigates how ability and gender influence students' experiences and the level of challenge felt in practical Senior Physical Education classes.

## Chapter 3: Pilot Study

### *3.0 Introducing the Pilot Study*

The Pilot study was conducted in the first instance, to determine the appropriateness and usefulness of the specific survey instruments to be used in the collection of data in the main research study. The qualitative research methods and procedures of participant observation and semi-structured were not part of the pilot study. The execution of the trial surveys however, served to familiarise the author with the research settings and the procedures involved in the survey data collection (Robson, 1993). The survey instruments used in the Case study are the PSPP (Fox, 1990), and the SPPPECE which was based on Gentry and Springer's (2002) SPOCQ instrument and is reviewed in the following section.

#### *3.0.0 The participants*

Participants for the Pilot study were the year 12 Senior Physical Education students from the same three regional North Queensland Catholic High Schools participating in the Case study. Delimitation of participants to year 12 Senior Physical Education students from the participant schools added to the reliability of the appropriateness of both instruments for the main study as the instruments were already tested within a wider population of the same sample.

The participants in the Pilot study were made up of 27 girls, 19 from the Girls' school and 8 from the Coed school, and 29 boys, with 16 from the Boys' school and 13 from the Coed school. A total of 56 ( $N = 56$ ) Senior Physical Education students therefore participated in the Pilot study. Tabachnick and Fidell (2001) regarded that a smaller sample size could be adequate if the appropriate statistical analysis is adopted, using reliable correlations. As suggested by Asraf and Brewer (2004), there is no requirement for a minimum sample size when using statistics for descriptive purposes, such as used in this Pilot study.

To provide strength to the initial analysis determining the appropriateness of the PSPP and the development of the SPPPECE, data from the Case study participants was combined with that of the Pilot study participants. There were 117 ( $N = 117$ ) total participants in the Case study; a total of 39 female participants, 20 from the Girls' school and 19 from the Coed school, with a total of 78 male participants with 49 from the Boys' school and 29 from the Coed school. The Case study  $n = 117$  combined with

the Pilot study  $n = 56$  provided a total of  $N = 173$  for further analysis. Variations in total  $n$  for the PSPP and SPPPECE for the Research study are due to participants transferring out of the participant school during the data collection period.

Potential for contamination of data as an outcome of conducting both the Pilot study and the Case study in the same schools was low in regards to the survey instruments. The timing of the administration of the survey instruments for the Pilot study in term 1, 2004 for all 3 schools, and the commencement of data collection for the Case study in term 3, 2004 for the Girls' school and the Coed school and term 1, 2005 for the Boys' school, further reduced the likelihood of student contamination. Contamination emanating from using survey data from the Case study in the Pilot study's statistical analyses was negligible due to the distinct differences in use and analysis of data for both studies (Norusis, 2003).

Contamination of the PSPP was negligible as it is a validated instrument that relies on individual participant responses about themselves. SPPPECE data contamination was largely reduced by the fact that the final instrument was created as a result of, and after, the Pilot study took place; this will be discussed in the following sections of this chapter. The level of contamination was also reduced as the SPPPECE was administered at the conclusion of the identified sport unit in the Case study. Contamination of the teaching environment was reduced by ensuring that the participant groups' teachers did not see the SPPPECE survey instrument, and that they were either not present at the time of administration, or did not have classes that were to be involved in the Case study.

### *3.0.1 The process*

As per ethical research requirements of James Cook University (refer to Appendix A), before the commencement of data collection, informed consent was gained from all participants (Appendix B) and their parents or guardians (Appendix C). The researcher outlined the purpose of the Pilot study and the function of the survey instruments prior to commencement. At all three sites, both surveys were administered during Senior Physical Education lessons. The method guidelines used were the same for all three schools.

The researcher distributed the PSPP and it was stated that the survey was developed in the UK to measure students' physical self-perceptions, and that all data gathered from the survey would remain confidential. The researcher then read the

precise instructions to the participants, checked for understanding and the participants then completed the instrument.

The SPPPECE survey was distributed to participants and the survey's function to measure students' perceptions of their practical physical education environment was explained. Again, participants were informed that all data gathered from the survey would remain confidential. The instructions (see Appendix D) were read out to participants, understanding checked, and the participants completed the instrument. The average time taken to complete the surveys was 20 minutes for the PSPP, and 15 minutes for the SPPPECE. Both instruments were completed within the class environment.

The statistical analysis of both the PSPP and SPPPECE survey instruments was completed using SPSS. The type of analysis varied for each instrument with a detailed explanation in the following sections.

### *3.1 Physical Self-Perception Profile*

The PSPP was originally validated using US college students, and has subsequently been adapted for use with younger children in the form of the C-PSPP, however it has not been specifically validated with an Australian, or a teenage or athletic population (Welk et al., 1995). Despite not having been specifically validated with teenage populations, Welk et al.'s (1995) study suggested that the PSPP would be an appropriate measure for that population as there are only minor differences to the C-PSPP, which was validated as a suitable instrument for US High school students. Page, Ashford, Fox and Biddle (1993) indicated that the PSPP was equally valuable for use within British college populations as it had been for US populations. For the purpose of this study, the PSPP was checked for relevance of content in regard to the Queensland Senior secondary school population used in this study.

The PSPP consists of five 6-item subscales; sports competence (Sport), physical condition (Condition), body attractiveness (Body), physical strength (Strength) and physical self-worth (PSW). Fox (1990) explained that the profile's specific function was to provide information that would facilitate the investigation of the individual differences of varying ability levels, as well as the differences between the genders, in the physical education environment. Fox noted that the instrument's reliability and validity has held up well for a Junior High school population, as demonstrated in

Whitehead and Corbin's work (see Whitehead & Corbin, 1997). An important aspect of the Pilot study was to test the PSPP instrument's appropriateness for use in North Queensland Senior Physical Education populations.

### 3.1.0 The resulting analysis

SPSS was used to analyse the PSPP data to provide descriptive statistics. Table 1 presents the means and standard deviations for the six subscales and the 30 individual items, revealing similarities and differences in the four samples; Girls' school, Coed school girls, Boys' school and Coed school boys.

**Table 1**

*Female and male PSPP item and subscale means and standard deviations*

Subscale/ Item #	Female				Male			
	Single-sex Sample (n = 19)		Coeducational Sample (n = 8)		Single-sex Sample (n = 16)		Coeducational Sample (n = 13)	
	M	SD	M	SD	M	SD	M	SD
<b>Sport</b>	15.52	5.387	15.52	4.061	18.69	3.981	18.46	3.909
1	2.58	.607	2.38	.916	3.25	.577	3.00	.816
6	2.37	.831	2.38	.518	2.75	.683	3.00	.707
11	2.68	1.057	3.13	.641	3.31	.602	3.00	1.000
16	2.47	.841	2.50	.535	2.81	.750	3.15	.801
21	2.79	.976	2.50	.535	3.38	.619	3.08	.760
26	2.63	1.012	2.63	.916	3.19	.750	3.23	.725
<b>Condition</b>	15.63	4.44	15.52	4.913	17.07	4.568	18.68	3.487
2	2.32	1.057	2.38	.518	2.94	.772	2.92	.760
7	2.79	1.182	2.88	.991	3.13	.885	3.46	.519
12	2.58	.692	2.50	.756	2.94	.772	2.69	.855
17	2.79	.855	2.63	.744	2.94	.680	3.38	.506
22	2.68	.749	2.63	.916	3.12	.885	3.23	.439
27	2.47	.905	2.50	1.069	2.94	.574	3.00	.408
<b>Body</b>	13.64	4.934	13.64	4.557	15.44	4.708	17.32	4.33
3	2.21	.787	2.25	.463	2.31	.873	3.08	.760
8	2.16	.898	2.13	.641	2.63	.806	3.00	.816
13	2.53	.905	2.38	1.188	2.75	.856	3.00	.816
18	2.37	.955	2.25	.463	2.31	.704	2.85	.689
23	2.21	.787	2.25	.886	2.63	.719	2.62	.650
28	2.16	.602	2.38	.916	2.81	.750	2.77	.599
<b>Strength</b>	15.05	4.902	13.75	4.473	15.51	4.007	17.84	4.069
4	2.47	.697	2.25	.886	2.50	.816	3.08	.641
9	2.42	.838	2.25	.463	2.50	.730	2.92	.641
14	2.53	.905	1.88	.991	2.50	.730	2.92	.862
19	2.63	.895	2.62	.744	2.88	.500	3.00	.707
24	2.42	.692	2.25	.463	2.44	.629	2.92	.641
29	2.58	.902	2.50	.926	2.69	.602	3.00	.577
<b>PSW</b>	15.74	5.118	14.64	5.193	17.95	3.749	18.70	3.282
5	2.79	.787	2.63	.518	3.19	.834	3.54	.519
10	2.74	.872	2.25	.886	3.13	.719	3.23	.599
15	2.53	.964	2.38	1.061	2.94	.574	3.08	.494
20	2.84	.765	2.50	.926	2.94	.574	3.08	.494
25	2.42	.961	2.25	.886	3.00	.365	2.77	.599
30	2.42	.769	2.63	.916	2.75	.683	3.00	.577

Subscale means are distributed around 16, which is the mathematical mean for the range. For both genders, subscale means are within 1 point of each other with the exception of the Strength subscale for which the Coed school girls' mean showed over a 1 point difference to that of the Girls' school mean. Standard deviations ranged from .494 to 1.188, which shows an adequate dispersal of variability in the original item scores (Tabachnick & Fidell, 2001). The greatest differences in standard deviation being above 1.0 were shown in both female samples for which the small *n* may be a factor. Standard deviations from Fox's study showed a much smaller range, however taking into account differences in the number of participants, the Pilot study results do show comparability with the results from Fox's (1990) work.

Table 2 shows the means and standard deviations for the items and subscales of both females and males. The results show females to be over 2 points lower on subscale means with the exception of the Strength subscale for which there is just under .2, revealing a difference between the male and female means. The standard deviations of the subscales showed females to have higher deviations for each subscale. This is consistent with Hayes, Crocker and Kowalski's (1999) findings that also indicated that males within their US sample, consistently scored higher on all scales of physical self-perceptions.

**Table 2**

*PSPP subscale means and standard deviations*

Subscale	Females ( <i>n</i> = 27)		Males ( <i>n</i> = 29)		Total ( <i>N</i> = 56)	
	M	SD	M	SD	M	SD
<b>Sport</b>	15.51	4.993	18.59	4.384	17.11	4.913
<b>Condition</b>	15.59	5.261	18.32	4.158	17.00	4.911
<b>Body</b>	13.62	4.822	16.27	4.637	14.88	4.901
<b>Strength</b>	14.67	4.81	16.56	4.169	15.66	4.565
<b>PSW</b>	15.40	5.116	18.27	3.577	16.89	4.65

These findings are comparable with the results of Fox (1990), which showed the same pattern of higher male scores compared to females in his sample, and which are also reflected in the work of Hayes et al., (1999) and Page et al., (1993). The combination of data from the Case study with that of the Pilot study also produces results comparable with those of Fox (1990). Table 3 indicates item and subscale means



and standard deviations for the combined Case study and Pilot study data for the four samples.

**Table 3**

*Combined Pilot study and Case study female and male PSPP item and subscale means and standard deviations*

Subscale/ Item #	Female				Male			
	Single-sex Sample (n=39)		Coeducational Sample (n=27)		Single-sex Sample (n=65)		Coeducational Sample (n=42)	
	M	SD	M	SD	M	SD	M	SD
<b>Sport</b>	16.30	4.861	15.97	4.138	18.08	4.245	17.83	4.462
<b>1</b>	2.59	.637	2.56	.641	2.89	.710	2.88	.705
<b>6</b>	2.36	.743	2.15	.662	2.68	.752	2.67	.721
<b>11</b>	2.95	.999	3.04	.587	3.29	.655	3.21	.842
<b>16</b>	2.64	.778	2.48	.753	2.83	.698	3.05	.731
<b>21</b>	2.79	.801	2.78	.641	3.14	.768	2.90	.692
<b>26</b>	2.97	.903	2.96	.854	3.25	.662	3.12	.772
<b>Condition</b>	16.42	4.903	16.64	4.385	18.19	4.435	17.86	4.243
<b>2</b>	2.49	.914	2.33	.480	2.77	.766	2.83	.696
<b>7</b>	3.00	1.076	3.30	.869	3.40	.703	3.17	.762
<b>12</b>	2.62	.633	2.67	.679	2.88	.761	2.86	.783
<b>17</b>	2.79	.695	2.93	.656	3.08	.756	3.12	.739
<b>22</b>	2.67	.806	2.67	.781	3.11	.732	2.95	.623
<b>27</b>	2.85	.779	2.74	.920	2.95	.717	2.93	.640
<b>Body</b>	13.88	4.926	14.22	4.559	16.36	4.787	16.41	4.256
<b>3</b>	2.33	.772	2.37	.565	2.54	.779	2.64	.692
<b>8</b>	2.26	.818	2.63	.884	2.80	.851	2.74	.767
<b>13</b>	2.31	.893	2.41	.971	3.02	.838	3.05	.795
<b>18</b>	2.49	.885	2.22	.641	2.58	8.08	2.55	.739
<b>23</b>	2.28	.826	2.33	.734	2.60	.806	2.55	.670
<b>28</b>	2.21	.732	2.26	.764	2.82	.705	2.88	.593
<b>Strength</b>	15.57	4.673	14.28	4.275	15.85	4.189	16.44	4.145
<b>4</b>	2.64	.778	2.48	.753	2.58	.748	2.81	.634
<b>9</b>	2.44	.754	2.44	.751	2.58	.727	2.74	.665
<b>14</b>	2.62	.815	2.11	.698	2.66	.713	2.76	.726
<b>19</b>	2.74	.785	2.44	.641	2.77	.632	2.67	.754
<b>24</b>	2.54	.756	2.33	.679	2.60	.725	2.79	.645
<b>29</b>	2.59	.785	2.48	.753	2.66	.644	2.67	.721
<b>PSW</b>	15.69	4.96	16.18	4.686	17.69	4.342	18.48	3.747
<b>5</b>	2.54	.854	2.96	.759	3.09	.765	3.40	.544
<b>10</b>	2.77	.810	2.67	.832	2.95	.799	3.12	.739
<b>15</b>	2.64	.873	2.67	.877	3.00	.637	3.00	.584
<b>20</b>	2.79	.732	2.63	.839	2.98	.649	2.98	.563
<b>25</b>	2.44	.940	2.44	.698	2.78	.760	2.86	.647
<b>30</b>	2.51	.756	2.81	.681	2.89	.732	3.12	.670

The descriptive statistical analysis of the combined Case study and Pilot study data shows subscale means to be distributed around 16, which is reflective of the Pilot

study mean distribution. The mathematical mean of the combined data was 15.9, again showing an adequate dispersal. Standard deviations for subscale items ranged from .563 to 1.076, with the full range of possible scores represented for all subscales and between sample comparisons showing between group stability.

Table 4 shows the combined Pilot study and Case study female, male and total subscale means and standard deviations. Consistent with the Pilot study data, Fox's (1990) and Hayes et al.'s (1999) findings, the combined data shows female mean scores to be lower than the male mean scores for all subscales however, female scores over 2 points lower were for the Body and PSW subscales only.

**Table 4**

*Combined Pilot study and Case study PSPP subscale means and standard deviations*

Subscale	Females ( <i>n</i> = 66)		Males ( <i>n</i> = 107)		Total ( <i>N</i> = 173)	
	M	SD	M	SD	M	SD
<b>Sport</b>	16.17	4.575	17.99	4.339	17.30	4.515
<b>Condition</b>	16.50	4.717	18.05	4.356	17.46	4.566
<b>Body</b>	14.02	4.792	16.39	4.578	15.49	4.818
<b>Strength</b>	15.05	3.784	16.05	4.173	15.69	4.378
<b>PSW</b>	15.90	4.875	18.00	4.134	17.20	4.548

Subscale standard deviations showed females to have higher deviations for the subscales with the exception of the Strength subscale, which correlates with Fox's (1990) findings. As with the Pilot Study findings, the combined data showed the same pattern of differences in the sample as for Fox (1990) and Hayes et al.'s (1999) results. Further investigation is required to ascertain whether the higher subscale standard deviation and mean scores are a result of differences in *n*, or relate to such variables as age.

### *3.2 Student Perceptions of the Practical Physical Education Class Environment*

The development of the SPPPECE instrument stemmed from the work by Gentry and Springer (2002) on the SPOCQ. The initial validation of the SPOCQ instrument by Gentry and Springer was conducted with students from grades nine to twelve in an urban High school in the US. They reported that the student sample

included representation from both genders, and various ethnic groups, with students of varying achievement levels who were enrolled in either Biology or Advanced Biology.

Gentry and Springer (2002) developed the SPOCQ to assess how high school students perceived their class activities in relation to meaningfulness, challenge, choice and appeal. The instrument is specific to classroom participation and for the purpose of this study, needed to be modified in order to make it appropriate for use in a practical physical education setting. In this regard, the constructs of Ability, Equity, Challenge and Independent Choice were identified as issues within the practical physical education learning environment, and substituted the original constructs. Responses were sought using a 5-point Likert scale to measure the degree of students' agreement with items in order to assess attitudes regarding the four constructs.

### *3.2.0 Developing the SPPPECE*

Based on the previous instrumentation work of Gentry and Springer's (2002) development of the SPOCQ, sixty (60) items, appropriate to the four identified constructs of Ability, Challenge, Equity and Independent Choice, and relating to the practical physical education environment were derived and checked for clarity before being submitted to a panel of experts for authentication. The panel of twelve experts was made up of six academics from Australia, the UK and Singapore, each with an education specialisation in, either physical education or linguistics, two Queensland deputy principals with a physical education background, and four physical education teachers who are heads of Health and Physical Education (HPE) departments in Queensland high schools.

The 60 items were placed in a random order, and the panel of experts were asked to assign each item to one of the four constructs that they felt it related to. Of the original 60 items, forty-five (45) items were assigned under the appropriate construct with a minimum 75 per cent agreement amongst the experts. Of the 15 items removed, 6 items were from the Ability construct, and 3 items from each of the Challenge, Independent Choice and Equity constructs.

The remaining 45 items were then used to construct a survey to measure student perceptions through a 5-point Likert scale which ranged from 'strongly disagree', 'disagree', 'undecided', 'agree', 'strongly agree'. Student responses from the Likert scale were analysed using SPSS descriptive and reliability procedures.

### 3.2.1 The analysed result

In accordance with Gentry and Springer's (2002) work, data from the SPPPECE were analysed using SPSS descriptive procedures (i.e. frequencies, percents, means and standard deviations). Descriptive statistics were used to test the correctness of the data and to determine the appropriateness of running further analyses. The descriptive statistics determined that a factor analysis as per Gentry and Springer's (2002) method was not appropriate with the current data due to the small  $n$ . Tabachnick and Fidell (2001) describe a sample size of  $n = 56$ , such as available for this study, as poor for providing correlations that are reliably estimated. Therefore a more appropriate statistical analysis than a factor analysis was used to test the reliability of the items and subsequently less reliable items were removed. Reverse scoring items were identified and scored accordingly within the four identified constructs before checking for reliability.

A reliability analysis was used to measure the relationship of individual items to the overall scale, as well as coefficients that measure the reliability of the scale (Norusis, 2003). Internal consistency reliability was addressed for each item using Cronbach's Alpha ( $\alpha$ ) (Norusis, 2003; Tabachnick & Fidell, 2001). The reliability analysis showed that the instrument had good internal consistency with a Cronbach's alpha coefficient of .767 (refer to Table 5). It is also shown that 100 per cent of cases were valid with no items excluded.

**Table 5**

*SPPPECE reliability statistics*

<i>N of Items</i>	<i>Cronbach's <math>\alpha</math></i>	<i>Cases Valid</i>	<i>Cases Valid %</i>	<i>Items Excluded</i>
45	.767	56	100.0	0

For all items in the scale, the Cronbach's alpha coefficient if an item was to be deleted, was above the ideal .7. However, twelve items (see Table 6) if they were to be deleted, displayed a Cronbach's alpha value higher than the final alpha of .767.

**Table 6***SPPPECE standard deviations and Cronbach's Alpha if Item Deleted*

Item	SD	Chronbach's $\alpha$ If Item Deleted	Corrected Item-Total Correlation
** 1	1.131	.761	.274
** 2	1.080	.766	.134
* 3	1.089	.771	.017
* 4	1.119	.772	.002
** 5	1.119	.761	.262
** 6	1.080	.761	.270
** 7	1.130	.766	.145
8	.992	.753	.477
9	1.060	.762	.308
10	.904	.760	.308
* 11	1.038	.775	-.088
12	1.065	.750	.517
13	1.038	.750	.540
** 14	1.186	.763	.229
* 15	1.276	.768	.112
16	1.171	.763	.504
* 17	1.130	.768	.006
18	1.017	.760	.365
* 19	.805	.772	.380
20	.817	.749	.651
** 21	.954	.762	.250
** 22	.859	.763	.220
** 23	.849	.767	.091
24	.778	.753	.537
** 25	1.009	.765	.158
26	1.026	.758	.343
* 27	.963	.769	.063
28	.901	.761	.309
29	.970	.758	.342
30	.903	.759	.336
* 31	.960	.770	.032
** 32	.970	.760	.287
* 33	.917	.778	-.233
** 34	.902	.766	.129
** 35	1.052	.760	.289
* 36	.963	.777	-.175
37	.870	.760	.300
*** 38	1.000	.756	.381
39	1.017	.757	.374
40	.903	.759	.334
41	1.105	.750	.516
* 42	.983	.782	-.303
* 43	.945	.771	-.006
44	1.114	.750	.513
** 45	1.012	.765	.157

*Items prefaced with \* were removed using Cronbach's  $\alpha$  if item deleted**Items prefaced with \*\* were removed using Corrected item-total correlation**Item prefaced with \*\*\* was removed from Independent Choice construct*

The SPPPECE is not yet an established, well-validated scale, therefore, to ensure a strong internal consistency, those twelve items (see Table 7 for the items and their constructs) displaying a Cronbach's alpha if item deleted value higher than the scale final alpha were removed (Norusis, 2003; Pallant, 2001).

**Table 7**

*Initial items removed from SPPPECE instrument*

<b>No.</b>	<b>Item</b>	<b>Construct</b>	<b>Cronbach's <math>\alpha</math> if Item Deleted</b>
3	The teacher didn't spend much time with students who were already good at the sport	Equity	.771
4	I don't feel that the skills and plays I learnt challenged my abilities in this unit	Challenge	.772
11	This unit wasn't challenging for me	Challenge	.775
15	Teams for games were chosen by the teacher	Independent Choice	.768
17	I was able to choose the team I played with in games	Independent Choice	.768
19	I was able to choose the position I played in during games	Independent Choice	.772
27	I had control of how I wished to participate in skills and games aspects of the unit	Independent Choice	.769
31	I felt challenged in this unit	Challenge	.770
33	The teacher explained how we were to demonstrate various plays during game play	Independent Choice	.778
36	Applying the skills and plays learnt in class to a game situation was not challenging for me	Challenge	.777
42	I was able to choose my partners in the skills components of the lesson	Independent Choice	.782
43	I found that my practical skills and abilities were challenged during lessons	Challenge	.771

Of the 12 items removed, five belonged to the Challenge construct, six to the Independent Choice construct and one to the Equity construct. None of the Ability construct items were identified for removal. Rather than discard the 12 items and the issues they raise, they will be retained for use in interviews to explore more fully the ambiguities that were revealed through the SPSS reliability analysis.

Correlation of the item to scale total (after elimination of the item) indicates contribution of items to internal consistency. For the remaining 33 items these range between .091 and .651 (refer to Table 6). If a scale's overall Cronbach's alpha is low (less than .7) it is usual to consider removing items with low (less than .3) item-total correlations (Pallant, 2001).

**Table 8**

*Items removed from SPPPECE instrument using Corrected Item-total Correlation*

No.	Item	Construct	Corrected Item-Total Correlation
1	Some students in the class were excluded by others during game play	Equity	.274
2	I often compared myself to others in the class to see how good I was at the sport	Ability	.134
5	We were not given any opportunity to devise team tactics and plays	Independent Choice	.262
6	Teams were often made up of students of different abilities	Equity	.270
7	The teacher had to spend more time with students who were misbehaving	Equity	.145
14	The students who were weaker players were often excluded in game situations	Equity	.229
21	The teacher was able to spend time individually with everyone in the class	Equity	.250
22	The teacher allocated player positions in all of the teams	Independent Choice	.220
23	The game playing component of the class challenged my practical skills and abilities	Challenge	.091
25	Compared to others in the class I find the skills and game play quite easy	Ability	.158
32	We were allowed to develop our own plays to be used in games	Independent Choice	.287
34	The teacher allocated individual positions within the teams	Independent Choice	.129
35	I don't possess many general athletic skills	Ability	.289
*38	We were given the opportunity to practise our own plays and tactics	Independent Choice	.381
45	I could devise my own strategies to use in game situations	Independent Choice	.281

*Item prefaced with \* indicates the final Independent Choice construct item removed*

As the scale overall Cronbach's alpha was above .7 it was not necessary to remove items, even though there were items with an item-total correlation below .3. To maintain a strong internal consistency in the scale, and to ensure the items were measuring what was indicated on the scale, all items with a corrected item-total correlation of less than .3 were removed (Norusis, 2003). Using the corrected item-total correlation limit, a further 14 items were eliminated from the scale (refer to table 6) leaving only one from the Independent Choice construct, and six each from the Challenge, Ability and Equity constructs. As there was only one item from the Independent Choice construct remaining, the construct was removed completely from the scale as its quantitative value was diminished (see Table 8 for removed items and their constructs). The value of the Independent Choice construct however was maintained for use in qualitative data collection in the Case study.

After removal of items with a value below .3, the Ability, Challenge and Equity constructs mean corrected item-total correlation were all above .4. A total of twenty-seven (27) items (refer to Table 6) were removed during the development of the survey instrument, leaving eighteen (18) items on the final SPPPECE survey instrument (see Appendix D). To facilitate the scoring of the SPPPECE items were numbered following the construct order of Equity, Ability and Challenge with items placed randomly within their construct (see Appendix E for SPPPECE score sheet and reverse scoring items).

### *3.3 Pilot Study Concluded*

This chapter explained the nature and purpose of the Pilot study that was to develop and assess the appropriateness of the survey instruments to be used in the Case study. The execution of the survey instrument also served to give the researcher experience of the research setting. Results from the PSPP indicated that the instrument is appropriate for use with the specific regional North Queensland Catholic High school population of Australian Senior Physical Education students. The SPPPECE results indicated that the final 18 item instrument is also appropriate for use with the same population. Both instruments will be used in the major research aspects of this study.

The Pilot study also provided valuable insight into the practices and nature of each participant school, and provided the researcher with knowledge of each individual learning environment prior to embarking on the Case study. A description of each participant school habitus will be provided in the results of Chapter 5. Before this, the methodology employed to conduct the research is explained in Chapter 4.



## Chapter 4: Stating the Case

### *4.0 The Case in Study*

Chapter 4 provides an overall description of this study and the research methodology that underpinned it. Justification of the use of case study methodology for this research argues that a humanistic understanding of the experiences and perspectives of participants, which is a focus of this study, is gained. Both of the quantitative and qualitative data collection techniques employed were a key element in the gathering of such data. The participant selection process and a description of the target population are also outlined.

Following this, the research procedure provides an explanation of the data collection instruments, the administration process of the instruments as well as time frames in which data collection occurred. A description of the data analysis process which occurs in Chapter 5 of this thesis is also provided. The validity and reliability of the study's methodology is stated as are the ethical and political considerations that informed the study. The nature of the research's case study methodology and the specific aspects explored in this chapter allowed for rich, descriptive data to be gathered which give a better understanding of the Senior Physical Education habitus from the participants' perspectives.

### *4.1 Research Methodology*

The use of a case study methodology allowed for the collection and analysis of data, both qualitative and quantitative, to provide multiple sources of information that can be integrated to better explain the habitus of the class and the individual (Scholz & Tietje, 2002). The research method was reflected in the three dimensions of the methodological framework (Individual, Ability and Environment) that informed the individual habitus and the class habitus, upon which this study is focussed. Webb et al. (2002) regarded Bourdieu's work to be based on an attempt to think through the divide between quantitative and qualitative positions. The methodologies used to bring to light the educational issues of the relationship between ability, gender and physical education learning environments in empirical or quantitative terms also had to factor in the qualitative discourses, observations, personal experiences and knowledge that testified to the validity of the theory and findings.

The non-interventionist method of data collection adopted in this study offered a means for investigating the natural processes and interactions that belonged to the class habitus of each site (Merriam, 1998; Stake, 1995). Multiple case study design allowed a wider range of data to be compared, enhancing the reliability and validity of the interpretation. Individual participant cases, from all three participant schools, identified throughout the data collection process provide rich, deep data to help understand how the class habitus informs the individual habitus of participants. The case study methodology of this research aimed to give a humanistic understanding of the participants' experiences through their perceptions and experiences of their habitus (MacDonald & Walker, 1975; Merriam, 1998; Robson, 1993; Yin, 1994). The perceptions of participants were reflected in both the qualitative and quantitative data.

The quantitative data collection method of survey delivered the researcher as close to the subject of interest as possible, whilst minimising the influence the researcher had on the setting (Merriam, 1998; Yin, 1994). Its purpose was to produce statistical data that gave a quantitative numerical description of specific aspects of the participants (Fowler, 1993). Within this study descriptive survey has been utilised to ask the same questions of all of the participants. Survey was used to obtain data to determine specific characteristics of the group in terms of the PSPP and SPPPECE instruments (Fraenkel & Wallen, 2003). Both the PSPP and SPPPECE were used to measure the individual attitudes, beliefs and behavioural experiences of participants. The quantitative data was also used to compare differences and similarities of those aspects between individuals (Weisberg, Krosnick & Bowen, 1996). The Participant Information questionnaire (see Appendix F) was designed to provide the demographic characteristics of the participants (Alreck & Settle, 1995). The demographic characteristics provide background information that both enriches and was enriched by the qualitative data.

The qualitative data collection method of observation was used and recorded on a stylised pro forma observation sheet (see Appendix G) during practical lessons of Senior Physical Education classes, in their natural setting (Burns, 2000). Observation is a technique which relays the 'real life' experiences that are occurring in the learning environment providing more accurate data (Kidder, 1981; Robson, 1993, Thomas & Nelson, 2001). Participant observation necessitated that the researcher build a rapport with the participants and become a known but not involved aspect of the learning environment, without intentionally altering the habitus. Participant observation as used

in this study is advantageous in obtaining the firsthand deep knowledge that was gained by the researcher (Burns, 2000; Stake, 1995). Having a rapport with participants assisted in minimising the observer intrusion to the learning environment however there is always the danger that the researcher presence may have an affect on participant behaviour, which would be subsequently recorded (Burns, 2000; Thomas & Nelson, 2001). The researcher made no demands on the content or delivery of lessons, with the expectation that classes be undertaken as they would be whether the researcher were to be, or not to be, present. The observational data recorded was used to complement or contradict the quantitative survey data and the interview data (Robson, 1993).

The scheduling of interviews after the observation data collection meant that a level of rapport had been established with participants, contributing to their comfort in answering questions openly. The one-on-one style of semi-structured interview method used in this study provided a safe, anonymously reported environment for participants to express their beliefs, feelings and perceptions (Robson, 1993). Interviews allowed participants to respond in their own words rather than as required by closed questions in a survey, and had the added advantage of participants being able to correct misunderstandings and clarify statements (Burns, 2000; Yin, 1994). Also the semi-structured interview format (see Appendix H for the Semi-structured Interview Pro Forma) used in this study provided flexibility in the interview to allow themes to emerge whilst also ensuring the intended data was collected (Robson, 1993).

The flexibility of case study allowed for the inductive emergence of themes distinct to the habitus as data collection occurred. Whilst some themes (for example ability, challenge, gender, participation, equity) were identified prior to data collection through the review of literature, the Pilot study and the quantitative survey instruments, further themes (for example teacher, sporting experience, grades, groupings) were able to emerge inductively throughout the data collection process and ongoing analysis (Gall, Borg & Gall, 1996; Robson, 1993).

#### *4.1.0 Consenting participation*

For the Case study, participants were selected on the basis that they were year 11 students enrolled in a Senior Physical Education subject within the identified participant school. There were five participant Senior Physical Education classes from the three schools. The Girls' school had only one class (SG-1), with two classes each

for the Boys' school (SB-1 and SB-2), and the Coed school (Co-1 and Co-2). As outlined in Chapter 3, a total of 117 ( $N = 117$ ) students participated in the Case study component of the research (see Appendix I for a complete list of participant's assumed names in their class groupings). Of that total, 39 ( $n = 39$ ) participants were female, with 20 from the Girls' school and 19 from the Coed school. There were 29 male participants from the Coed school, and 49 participants from the Boys' school giving a total of 78 ( $n = 78$ ) male participants in the Case study. Due to participants transferring out of the participant class or school during the data collection period, there may be variations in total  $n$  for the PSPP and SPPPECE for the Case study. The participant sample size was limited to the number of students enrolled in the elective subject of Senior Physical Education.

Individual Case study participants were decided upon through the reduction of data where points of interest were revealed for particular participants. From each class eight participants were selected as individual case studies. The eight were chosen as the sample size to give a broad variation of data from the learning environment, and because it was considered to be a tolerable workload for the researcher. The total number of individual cases was 40, broken down to 25 males with 16 from the Boys' school and 9 from the Coed school, and 15 females with 8 from the Girls' school and 7 from the Coed school.

In accordance with James Cook University Ethic procedures, informed consent was gained from all participants (Appendix J) and their parents or guardians (Appendix K) before the commencement of data collection occurred. A detailed explanation of ethical considerations is given in a subsequent section of this chapter. Consenting participants were involved in all aspects of the study undertaken, for the duration of the entire study, and all aspects of data collection, with the exception of interviews which were delimited to identified participants.

#### *4.2 Procedure of the Research*

Data collection times for the participant schools differed in accordance with the individual schools' curriculum schedule for the identified sport unit under study, however the period during which data collection occurred at each site was the same (Fraenkel & Wallen, 2003). The Coed school data collection was the first to commence, in term 3 of 2004, and concluded mid-term, term 4, 2004. The Girls' school data

collection commenced mid term 3, 2004 and concluded at the end of term 4, 2004. The Boys' school data collection began with the commencement of the 2005 school year in term 1 and continued to mid term 2, 2005. The procedure adopted for data collection and its inductive analysis was the same for each participant school.

#### *4.2.0 Instrumental data collection*

Three main sources of data collection were used; the quantitative method of survey, and the qualitative methods of participant observation and semi-structured interview. The Participant Information Questionnaire was used to provide background information of the participants in relation to their physical education and sporting experiences, and both friendship and family influences on sport and physical activity participation.

Both the PSPP and SPPPECE were described in detail through the course of the Pilot study in Chapter 3. The PSPP provided individual data on participant's perceptions of themselves in the six subscales of Strength, Condition, Body, Sport and PSW. The SPPPECE was developed to provide information on how the participants perceived their own practical learning environment within the three themes of Ability, Challenge, and Equity. To help prevent response bias, both the PSPP and SPPPECE used reverse scoring (see Appendix E for the SPPPECE score sheet) (Pallant, 2001). The quantitative results from the PSPP and SPPPECE instruments have been triangulated with qualitative data collected through observation and semi-structured interviews, and which is discussed in the following section describing the data analysis.

Interview participants as individual case studies were determined during the course of observation. Individual case studies at each site were selected on the basis of their uniqueness within their individual class habitus, in terms of self-perceived and actual demonstrations of skill and ability, and their participation in their learning environment, amongst other factors. All but one participant were positive towards being interviewed. It would have been easier to interview only enthusiastic and positive participants, however as the participant was negatively engaged, it provided more reason to explore her experiences and perceptions.

The interview structure was based around the initial themes of challenge, ability, individual choice and equity. Each interview had the same basic structure however there were individual aspects of each participant and participant school that related specifically to the individual interviewee and which had emerged during the inductive

data collection process. Any new issues that emerged during the course of the interview were also included as relevant data.

The participant observations included aspects of the themes identified in the literature and used in the SPPPECE, however the inductive nature of the research allowed for additional themes to emerge during data collection that could be applied to the semi-structured interviews. Observations occurred throughout the physical activity unit, and focussed on, but were not restricted to, practical Senior Physical Education lessons. The necessity to attend some theoretical lessons was determined by the scheduling of the administration of the survey instruments.

#### *4.2.1 Instrument administration*

Data were collected in each school during the identified invasive, team, ball game physical activity unit under study, the times of which were identified previously in the chapter. The Participant Information Questionnaire and PSPP survey instruments were implemented at the commencement of the physical activity unit in separate sessions. The third survey instrument, the SPPPECE (Appendix D) was administered to students at the conclusion of the sport unit. All three survey instruments were administered during class times by the researcher to ensure individual responses and the 100 per cent response rate (Fowler, 1993; Fraenkel & Wallen, 2003). The maximum time needed for all three survey instruments was 20 minutes for each, however additional time was available if it had been required.

During the inductive data collection process, individual participants were identified for interviews. The semi-structured interviews were conducted on the school grounds at the completion of the physical activity unit under study, and were digitally recorded with verbal participant consent. On average, interviews were 20 minutes in length and followed the same protocol inherent to semi-structured interviews and pro forma (Appendix H) which allowed for themes to inductively emerge during the interview (Burns, 2000; Kidder, 1981). Analysis of interview data followed the same ongoing inductive coding as was applied to observation data.

#### *4.2.2 Analysing the cases*

All of the data analysis occurred away from the case sites and was an ongoing process. Data reduction and coding commenced with the first set of data collection, mid-2004, and was completed mid-2005 after the final data collection. The reduction of

qualitative data occurred by coding the data into identified themes such as body image, sporting confidence, ability, challenge, individual choice and equity, which had been identified previously through the literature, the PSPP and the development of the SPPPECE (Drew et al., 1996; Singleton, Straits & Straits, 1993). The inductive nature of the qualitative data collection process allowed for the emergence of new themes integral to the individual site, such as participation patterns, the teacher, grouping methods and grading and assessment, to emerge (Scholz & Tietje, 2002). All data from observations and interviews at each site, and for each case study, were reduced through coding to both identified and emergent themes. Data were cross-referenced to reveal relationships between the observation and interview data as well as identifying similarities and differences between the sites and individual case studies (Denscombe, 1998).

Both the PSPP and SPPPECE survey data were analysed using SPSS (version 12.0). SPSS descriptive statistics in the form of frequencies, means, standard deviations and percents were used on both survey instruments to describe and characterise the data as well as to ensure its reliability for further statistical analysis (Ferguson & Takane, 1989). The General Linear Model Multivariate Analysis of Variance (MANOVA) was used on both the PSPP and SPPPECE data to evaluate differences amongst the subscales and constructs for the groupings of gender, class and education environment. Post Hoc tests were also applied using a Bonferroni adjustment to the alpha level being used to judge statistical significance (Pallant, 2001; Tabachnick & Fidell, 2001).

Individual analysis of variance (ANOVA) was used to provide between groups, for gender, class and learning environment, variance for the SPPPECE on identified items of significance (Tabachnick & Fidell, 2001). Regression was used on the SPPPECE to predict the construct variables from each other and to explain how much variance there was in the groupings of gender, class and learning environment (Ferguson & Takane, 1989; Tabachnick & Fidell, 2001). Regression also helped explain how much unique variance there was for gender, class and learning environment, explained by the three constructs of Equity, Ability and Challenge. Results from all three types of data have been triangulated to add further validity to the data collected (Scholz & Tietje, 2002).

### *4.3 Valid and Reliable*

Walker and Evers (1999) asserted that it is a claim of many educational researchers that genuine and distinctive human dimensions of education cannot be captured by the statistical generalisations of quantitative data collection. Quantitative data collection methods have been used within this study in conjunction with qualitative data collection methods, which through triangulation and interpretation will place the quantitative data back into the human dimensions from which it was taken. Triangulation of data further aided in minimising misperceptions and invalidity of data (Scholz & Tietje, 2002).

There is no single quantitative instrument, or qualitative method of data collection that could have provided the rich description of each individual case study (Scholz & Tietje, 2002). The Pilot study determined the appropriateness of the PSPP and SPPPECE quantitative instruments for use in providing the data sought for this research from the target population. The inductive process of the qualitative participant observation and semi-structured interview data collection allowed for the emergence of themes individual to each site and case study that had not previously been identified using the quantitative data collection instruments.

The single researcher allowed for consistency in the administration and collection of data within the three separate sites (Fraenkel & Wallen, 2003). Survey instruments were administered in the same manner at all three sites, and within the same time frame. Interviews were conducted in the same manner for each individual case study, and participant observations were recorded and coded consistently for all three sites. Interview and observation data were coded according to identified themes, and allowed for previously unidentified themes to emerge that were unique to the habitus. As data was collected it was systematically coded according to its theme, habitus and the participants, and stored both in an electronic database and in hard copy forms. Data were reviewed as new themes emerged to determine correlation between the differing habitus. To strengthen the analysis of statistical data, all computed data were checked by a statistician to remove the threat of error in the tabulation of results. The validity and reliability of the research was not threatened by ethical nor political considerations.



#### *4.4 Considering the Ethics and Politics*

The political considerations of this research are not biased by a client's needs or interests, therefore, the motivation and purpose of the research is centred on the researcher (MacDonald & Walker, 1975). The purpose for conducting this research was to meet the requirements for the degree of Doctor of Philosophy, however personal experience and interest of the researcher determined the research topic.

Ethical Clearance from the James Cook University Human Ethics Review Committee was confirmed before any research was undertaken. Further, a Suitability Card was obtained, as required by The Commission for Children and Young People Act 2000 in Queensland. Both verbal and written consent, for research to be conducted within each school, were given by the Principals of the three participant schools.

Participants were informed verbally and through an information sheet of their right to withdraw from the study at any stage, and that their confidentiality would be protected at all times. Informed consent was required from all teachers, students and the parents/guardians of students participating in this study. Participant confidentiality was protected throughout the gathering of data and the duration of the research, and continued to be so with the reporting of the research. Assumed names were randomly assigned to protect the participants' anonymity and confidentiality, whilst still enabling the reporting of data (see Appendix I).

All data has been appropriately referenced, with the completed questionnaires and observation notes stored in their hard copy form. Interviews will be stored digitally on disc, with transcriptions in hard copy form. All data will be stored for five years from the publication date.

#### *4.5 Case in Summary*

The purpose of this chapter was to provide an explanation of the case study methodology and research processes employed in this study. The methodology employed used both quantitative and qualitative data collection instruments to provide a rich and detailed description of the habitus under study. An account of the qualitative and quantitative data collection instruments utilised and a description of the administration process of those instruments were provided. The selection of participants and the total number involved in this study was based on Senior Physical Education

enrolments in year 11. Consideration for the selection of single case studies was based on points of interest revealed in the data collection and reduction process.

Following the account of the research procedures, the data analysis procedures employed for both types of data were detailed. The outcomes of which will be provided in Chapter 5 and Chapter 6. Both the validity and reliability of the study in terms of the data collection and analysis methods employed were explored. The political considerations behind the research were also examined, and all ethical protocol were followed as required by the James Cook University Human Ethics Review Committee. In accordance with ethical considerations, data collected through the methodology explored in this chapter is analysed and discussed in the following Chapters 5 and 6 of this thesis.

## Chapter 5: Habitus Revealed

### *5.0 Exploring the Habitus*

Chapter 5 is the presentation of the data analysis and results of the research. The qualitative data is reported in terms of demographic aspects, the PSPP and SPPPECE results for each class habitus. The quantitative and qualitative data have been triangulated to give a rich description of the class habitus from the student perspective, particularly in terms of their ability, level of challenge and emanating issues of equity. Descriptions of class and individual habitus are provided following an overall description of the school habitus to which they belonged.

The school habitus is influential in the development of a class habitus of which students belong. Certain aspects of the school habitus will be reflected in the class habitus and students' individual habitus (Bourdieu, 1998). A description of each school reveals the differences and similarities in the physical education and sporting habitus that exists surrounding each class habitus. An analysis of the participants' perceptions obtained through the collection of qualitative data adds further density to the description of each school's habitus.

### *5.1 The Girls' School: Producing Ladies*

Opened by the Sisters of the Good Samaritan, the Girls' school was a Catholic single-sex, year 8 to 12 day school. The first lay Principal was appointed to the Girls' school in 1982. The Principal at the time of data collection was a male who had been appointed to the school that year, relocating from Victoria. Stated in the school's mission statement was the Girls' school intention to provide a high standard of education that would meet each student's inborn potential spiritually, academically, physically and socially. The school's habitus projected a positive culture without teasing, as reported by Felicity and which was also reflected in the Senior Physical Education class habitus, and was inherent to the Girls' school habitus (Mael, 1998). Another participant, Bindie, also reported her experience in the school habitus as a friendly atmosphere which was also reflected in the class habitus. Such a habitus was supported by the staff and school policy. This was reinforced by the Girls' school specific requirements of the students, as reported in the school handbook, and this was evident in different aspects of school policy.

Situated in the inner city, the Girls' school was spread over two campuses bisected by a cul de sac. In physical education terms, facilities were constrained by the inability to expand due to lack of space. The sporting facilities available on campus were a grassed netball court area, a bitumen basketball court and a small room which doubled as the gym. However, future plans for the Girls' school involved the building of a multi-purpose undercover sport facility. In the meantime, physical education classes were conducted on campus whenever possible, or students were transported to the appropriate community sporting grounds or facility. Travelling to local sporting facilities also reduced lesson time considerably, and was perceived as an annoyance by participants despite the necessity to do so.

At the time of data collection the Girls' school total population was 606. During the data collection phase of the Pilot study 46 students were enrolled in year 12 Senior Physical Education, divided into two classes of 24 and 22. There was one year 11 Senior Physical Education class of 20 students during the data collection phase of the Case study. All students were required to study compulsory Core physical education in Junior. Both Junior HPE and Senior Physical Education subjects were elective with no compulsory Core physical education subject for Senior study.

The school curriculum was shaped to reflect the current educational trends and best practice, tailored to meet the needs of the student body (Caplice, 1994). In that respect, Vocational, Education and Training (VET) subjects were introduced at the Girls' school in 1997. The four physical activities the Senior Physical Education program focussed on were Volleyball, Netball, Touch and Competitive Aerobics which were deemed relevant to the needs and preferences of the students. The Senior Physical Education work program's integration of theory into practical was obvious in the written assignment for the Touch unit which was the focus of this research.

The physical activities in the Senior Physical Education program were repetitive of the sports offered in the Junior HPE curriculum; Touch, Volleyball, Netball, Oz Tag and Basketball. The Junior Core physical education curriculum also included the Senior Physical Education physical activities of Volleyball, Netball, and Competitive Aerobics in addition to Tennis, Snorkelling, Outdoor Pursuits, and Australian Rules Football. Theoretical links between Senior Physical Education and the Junior strands of physical education were established through the genres used for assignments, and the introduction of theory topics in Junior that were studied in depth in Senior. The practical assessment tasks for Senior Physical Education were similar to those of the

Junior physical education strands, however the Junior and Senior physical education programs were not fully integrated at the time of data collection

The physical education curriculum content for Junior Core and HPE was decided through Physical Education department consultation and was based on staff expertise and tailored to both the staff and student's interests (Caplice, 1994). The Junior practical units were intended to be flexible in an attempt to give students a range of sporting experiences. To meet the syllabus requirements, the Senior Physical Education curriculum was determined through round table consultations between the physical education department staff. Physical activities selected for the Senior Physical Education curriculum were based on available school resources including, facilities, space, equipment, and teacher expertise and, to some extent, student experiences. The Senior Physical Education work programs were written by the subject co-ordinator. Work programs and assessment attempted to be personalised and relevant to the students as required by the subject syllabus. The content of the work programs were revised every few years, however minor changes were made to content and assessment as required, to accommodate differences in students' needs and characteristics from group to group.

Three female physical education teachers were employed at the Girls' school at the time of data collection; two full-time teachers including the Head of Department, and a part-time teacher who also held the position of Coordinator of Sport and Activities. All three teachers taught one class of either year 11 or 12 Senior Physical Education. Additionally, there were two non-specialists who each taught one Junior physical education class.

Coaching of the school sporting teams was mainly covered by school staff with approximately twenty parents and non-physical education teachers having assisted in the coaching and managing of teams. Responsibility for the initial organization of inter-school and inter-house sport teams and competition fell on the physical education department staff. Management of the Girls' school sports teams was handled by physical education staff, other school staff, senior students, volunteer parents and community members.

Sport was well supported by the school administration. There was a feeling of school spirit with about 250 girls representing the school in at least one sport. The Girls' school inter-school sporting results for 2004 included a placing of 4<sup>th</sup> in Athletics, and 2<sup>nd</sup> in both Swimming and Cross Country. The under 15 Basketball team won their

Premiership, however the school was also competitive in Netball, Surf Lifesaving, Touch, Hockey, Rowing, Waterpolo and Indoor Cricket. It was indicated in interview data that inter-school sport carnivals provided opportunity for comparison of sporting ability because a wider demographic was provided than the limited demographic available within the Girls' school, and more so within Senior Physical Education classes (Bandura, 1999; Eitzen, 1996).

Block sport, or term sport competition, teams were formed on an open basis whereby the number of teams nominated was based on the number of students who chose to participate. For the serious competitions where teams may have had to travel away for competition, such as Touch, Indoor Cricket, Vicki Wilson Netball and McDonald's Basketball, students were selected to be included on school teams based on ability. In 2004 the Girls' school sent sporting teams to Brisbane for Touch, Rowing and Indoor Cricket. There was usually one sporting trip planned per year. In 2002 a combined Netball/Touch trip went to New Zealand.

The extent to which students were affected academically by school sporting commitments was primarily dependent on the individual student and their level of organization. Bindie recognised that her extensive sport involvement was scheduled around her academic commitments. Club sport was also a factor in students missing school with selections for representative teams a focus for some athletes as reported by Rose. Conversely, it was acknowledged by physical education staff that students often missed school sport training because of school academic commitments such as homework, assignments and tutorials. Senior Physical Education contributed to the academic workload with many of the participants complaining about the assignment work of the subject.

#### *5.1.0 A ladies' habitus: SG-1*

Demographic data of the Girls' school year 11 Senior Physical Education class, SG-1, revealed that participation and non-participation in a Junior elective HPE subject was equal. However this did not influence participation in sport and physical activity outside the classroom, with only one participant having reported no involvement in competitive sport outside of physical education. Bo cited having recently moved to the school as the reason for no current involvement.

The remaining 19 students reported participation in at least one sport or physical activity at a social, competitive or representative level. Sports played at the

representative level by one or more participants included Basketball, Touch, Waterpolo, Vigoro, Hockey, Netball and Golf, with participation and competition also in Rowing, Horse Riding, Soccer, Surf Lifesaving, Dancing and Swimming as well as the interschool carnivals for Athletics, Swimming and Cross-country. Lara had been identified by the Queensland Academy of Sport (QAS) as an elite athlete specifically in Touch and Hockey, and Rose was a North Queensland representative player and had been identified by the QAS for Hockey.

Despite the high level of sport and physical activity participation, which should indicate a high athletics self-concept (Manktelow et al., 2001), only 35 per cent of the participants perceived themselves to be of a high sporting level. The majority, 60 per cent, of participants perceived themselves to be of an average sporting level, with only 5 per cent perceiving themselves to be of a low sporting level. Interview data revealed different factors influencing participants' perception of their sporting level.

A common factor was that the participants compared themselves to others in order to determine their ability (Bandura, 1999). Abby compared herself to her siblings, whom she knew to be high level representative athletes. She regarded that the smaller demographic of the Girls' school did not give a true indication of sporting abilities compared to a local State High school which had a much larger population. This concurred with Eitzen's (1996) assessment that girls would find higher levels of competition and challenge in larger and coeducation groupings.

Other participants did however indicate that they compared each other to classmates. In her interview, Rose said that she would compare herself to someone she knew to be good at the sport. In Touch, Rose indicated she compared herself to Lara, however she did it less with other classmates who were not as good at the sport. Lara recognised that compared to others in the class, her sporting level was high.

Performance and an ability to pick up skills quickly were reported as another indicator of sporting level in the SG-1 habitus. Interviews revealed that sporting level was also sport dependent and it was expected that a higher sporting level would be achieved in a sport in which a participant had more experience and interest. Effort was also reported as a factor in that more interest in a sport meant more effort was exerted, which it was believed, would result in higher skill levels.

The majority (70%) of participants did however perceive themselves to be competitive, with 30 per cent perceiving themselves to be non-competitive, which would indicate that sport participation did not necessarily equate with competitiveness.

Further, competitiveness was not indicated as a significant aspect of the SG-1 class habitus. Ability, challenge and equity however were revealed as significant aspects of the habitus in both the qualitative and quantitative data.

The quantitative data of the PSPP subscale means were distributed around 16, the mathematical mean for the range (see Table 9), with the standard deviations showing adequate dispersal with a range between 3.08 and 4.19. All of the SG-1 subscale means were higher than those for the female samples reported by Fox (1990). However the SG-1 sample displayed the same pattern as Fox’s sample, with the Body subscale being distinctly lower than the other subscales.

**Table 9**  
*Girls’ school PSPP subscale means*

Valid		Sport	Condition	Body	Strength	PSW
N	Percent					
20	100.0%	17.05	17.15	14.10	16.05	15.65

Although Body Image was not a distinct theme, aspects of it did emerge during the data collection process. In her interview, Shae commented that her dislike for the sport uniform shirt was because it did not suit her body shape and that it was clingy, drawing attention to her body.

Shae            ‘Cause they’re a female cut and I have wide hips and they don’t really fit over them [laughing].

Though she was able to joke about it, body image was evidently an issue despite the all female environment (Humbert, 1996; Lirgg, 1993). Felicity commented in her interview that it was noticeable in class that some people were self-conscious, ‘just if they’re bigger or something’. Different conversations between the participants however indicated that self-consciousness was to be expected, and if it was not evident it was perceived negatively. In a conversation between Megan and Mandy regarding a Touch game they played against the Coed school Girls’ team, Megan and Mandy displayed a derogatory attitude towards the Coed team’s uniform, which consisted of the standard fitted shirt and bummas (sports briefs) as opposed to bike shorts or shorts.



Megan           What about the girls wearing bumma's?

Mandy           Yeah two girls were! That Jamie girl.

Megan           We tried to push them over so they'd graze all up their leg.

Researcher      Who wore bumma's playing Touch?

Megan           Two girls from [the Coed school].

Researcher      Was that Jamie you said?

Megan           Yeah.

Mandy           Yep.

Researcher      And who else?

Mandy           That Rebecca girl. She thinks she's so beautiful!

'That Rebecca girl', from the Coed school Co-1 class, also happened to be a model who recently won a local competition and State contract, as well as being a representative Touch player along with her team mate Jamie, from the Co-2 class. The Coed girls' confidence regarding their Touch uniform was partially explained by Bindie in her interview, when discussing the inclusion and exclusion of different sports in the curriculum. She commented that a water sport would be a good inclusion due to the weather however she felt that a lot of girls didn't like water sports and did not feel confident.

Researcher      So you're obviously not worried about the body image issues?

Bindie           Not really. Oh not super duper confident but like if it's just getting into a swimming suit for sport I'm fine.

Researcher      Is that because of the environment, with your friends and in physical education?

Bindie           Yeah pretty much. It's really funny 'cause I'm getting into swimsuits for like Waterpolo or Swimming or Surfing and stuff, but when it's like going down to the beach in a bikini I'm like 'oh I'm fat oh no I look terrible'.

Bindie indicated her confidence in wearing the appropriate attire for sporting reasons but acknowledged that in a social environment she had the same self-esteem issues that many teenage girls are reported as having.

As research has suggested (Humbert, 1996; Jones et al., 1987; Mael, 1998) there did not appear to be many self-consciousness issues for students to participate in activities in the class habitus. However, Abby reported that the self-consciousness that was experienced could be put down to lack of experience in the sport, or trying an activity for the first time. Lara qualified that it was an internal feeling of self-consciousness rather than an outcome of external habitus factors. Kristie indicated that any self-consciousness she did experience in the SG-1 habitus came from having to participate in front of Mrs D, the SG-1 teacher. This was explored further through the qualitative participant perceptions of their class environment and the quantitative results of the SPPPECE.

The SG-1 participants' perceptions of their practical learning environment scores were distributed around 15, the mathematical mean for the range. Ability showed the lowest mean score (14.95) for the constructs with both Challenge and Equity mean scores above 15.5 (see Table 10). The scores were in the middle of the range, indicating both satisfaction and improvement was possible. This was observed through various interactions between the students and through interview data with individual students. A large influence on all three of these constructs was the teacher, Mrs D.

**Table 10**

*SG-1 SPPPECE construct total means*

<b>Valid</b>		<b>Ability</b>	<b>Challenge</b>	<b>Equity</b>
<i>N</i>	Percent			
20	100.0%	14.95	15.70	15.55

Participants indicated that they felt some negativity from Mrs D. Abby reported in her interview that she 'kind of went away from the lesson not feeling very good about myself sometimes' because she perceived Mrs D to be very critical and 'she wasn't that nice'. Abby attributed Mrs D's manner to her knowledge of the physical activity, and the fact that she coached the school Touch team. Others indicated in interviews that they also felt Mrs D to be quite negative.

Ria                      I don't think she's encouraging enough... Yeah. She's like a bit negative sometimes.

Although Bindie recognised her classmate's perception of Mrs D's manner as being negative, her perspective differed.

Bindie            Yeah she's quite like, she's honest like she tells you if something's good or bad. Some people might find that a bit offending and think she should be nice and stuff, but I think it's practical and sensible. If you're doing something wrong then being told [falsetto] 'oh that was really good'...

Researcher      So Mrs D's pretty straight down the line?

Bindie            Yeah, and she demands a lot. Like you know, you can tell if you're not playing well she'll get a bit cranky with you.

Other participants concurred that they perceived Mrs D did have high expectations of them. Shae commented that 'I think she like expects us to be more'.

Rose              Well when we play sport, she makes it really serious, like she, like I think that she thinks that we're really good at it. So she keeps pushing us. I think that she needs to realise that we're not so good at it and let us get used to it.

The middle score for Ability (14.95) in the quantitative SPPPECE results might be attributed in part to teacher expectation of the student's ability. It could be expected that in an elective subject like Senior Physical Education that student perceptions of their ability should be quite high (Clifton & Gill, 1994; Manktelow et al., 2001). This was not the case in the SG-1 habitus, which displayed a wide range of ability levels, both actual and perceived. It could also be assumed that the score for the Challenge construct, 15.70, was a result of the range of ability levels. The Challenge mean total score indicated that the level of challenge in the SG-1 habitus was not appropriate, but does not indicate specific causes for dissatisfaction. The dissatisfaction indicated by the Challenge and Ability mean total scores could be interpreted as an inequality in the challenge-skills balance experienced by students of all ability levels, in that environment (Jackson & Csikszentmihalyi, 1999).

The most common perception of participants for experiencing challenge was as a result of lack of experience in the physical activity. Ria described her level of initial challenge as a response to ‘learning a new sport’ and reported the level of challenge as decreasing as she ‘learnt the new skills’. The challenge-skills balance experienced by a range of students was not adjusted as skill improved, nor individualised depending on initial skill levels (Jackson & Csikszentmihalyi, 1999).

Lara indicated that lack of challenge for her, which was not limited to the Touch unit but included both the Volleyball and Netball units, was due to her ‘competitive involvement’ in all three sports ‘outside of school’. Overall, Bindie identified the Senior Physical Education learning environment to be challenging because it included sports for which she had no prior participation. In relation to Touch however, a sport that Bindie played competitively, her experience was similar to Lara’s, in that her ‘playing experience’ had reduced the level of challenge she felt in the Senior Physical Education habitus.

Participants in the SG-1 habitus identified at the high end of the ability spectrum, and who also perceived themselves to be of a high sporting ability, considered a habitus of similar level ability to be conducive to more challenge. Felicity indicated that the presence of better players in the class challenged her. A perception repeated in Rose’s assessment of increasing the level of challenge experienced by incorporating a wider demographic (Eitzen, 1996).

Rose                    I think that maybe if we’d played another school, or even if we’d played someone of a higher level, like a really competitive team or something. That could get us to step up a lot more as well.

Lara agreed that playing with people with similar experience and ability could be conducive to creating a more challenging level of play, but she also recognised inequities may be produced.

Lara                    You could maybe separate like the people who’ve played before and the people who haven’t. But then the people who haven’t [played before] can’t really improve too much when you do that.

Increasing the intensity, pace and complexity of skill and game play was another factor that participants, irrespective of ability, identified during interviews that could attribute to the creation of a more challenging learning environment. Kristie, though not an experienced Touch player nor of a high ability noted the lack of intensity.

Kristie            Well if it was more full on. Like it was full on only a couple of times but if we did it each week and practised it and made the sessions harder. Because you'd be actually performing it like an actual Touch player would be doing.

The higher ability participants also recognised the need for increased complexity and pace again indicating a change needed in the challenge-skills balance offered them.

Bindie            Perhaps if she [Mrs D] just increased the pace of it a bit and more complicated [plays]... We needed it a bit more complex and a bit more direction.

Abby's assessment was that it was less the skills required for the game, but the more advanced rules and understandings of how to play the game that contributed to challenge. However, less experienced and lower ability participants may have encountered acceptable levels of challenge. Shae found the level of challenge appropriate due to her 'lack of knowledge and experience in Touch'. The discrepancy between the perceived levels of challenge experienced in the SG-1 habitus were linked to the individual's ability or perceived ability. None of the participants reported experiencing levels of challenge too high. Rather, the common perception was for too little challenge.

Ability emerged as a significant factor in shaping the class habitus, and was linked to the perceived level of challenge participants experienced. Another significant aspect that emerged was that Ability was embedded in issues relating to Equity within the SG-1 habitus. Consistent with Jackson and Csikszentmihalyi's (1999) assertions, disengagement due to lack of challenge, and the resulting boredom indicated inequity in the habitus.

The SPPPECE Equity construct total for SG-1 had a mean total score of 15.55, indicating that there was feeling that the class habitus was not a completely equitable

environment. Qualitative data indicated that equity was linked to issues within the class habitus relating to participation, assessment, curriculum, time, and the teacher. However, not all of the equity issues were negative. The observations and interviews showed that all participants within the class habitus had the opportunity to participate, however it was an individual choice whether that opportunity was taken or not.

Rose said that students feigned illness or injury in order to sit out of a lesson and this was usually never disputed by Mrs D. Ability was also attributed as a reason for differences in participation. Abby commented that if a student was better at a particular sport or physical activity they would be more inclined to participate in it. In her interview, Bindie also indicated ability contributed to participation patterns because ‘Some might have more skill than others, but you know everyone can have a go’.

Rose attributed difference in ability, or perception of ability, as a contributive feature to interference in the class environment. Rose, a high ability sportswoman, commented that though she didn’t think it happened often, those who played the sport or who ‘thought they were experienced’ in it, tended to hog the ball. Abby also indicated that the more experienced players might be more involved, but she also added ‘sometimes those people also share it around and try to help other people out’. Shae also indicated that experienced players like Sammy and Lara ‘tried to give us as much space as they can. ‘Cause they passed the ball there instead of them hogging it’.

Differences in ability appeared to aid in the cultivation of a cooperative class habitus more so than a competitive class habitus (LePore & Warren, 1997). Mrs D stated that she developed peer tutoring and used it extensively during the Netball unit that was studied prior to the Touch unit. Peer tutoring was not observed as a teaching technique during the Touch unit, however participants indicated in interviews that the use of peer tutoring was wanted and possible through grouping students for teams. Rose indicated she would prefer randomly selected teams so that ‘students could get to know each other and learn from each other’. Kristie, a less confident and lower ability athlete, indicated her preference to ‘play with someone better’.

Kristie            So they can explain what to do if you don’t understand what to do. And just a mixed group of levels [of ability], I guess. So everyone gets the equal opportunity to become better at it.

There were conflicting perceptions of the way Mrs D grouped participants for games. The common perception was that Mrs D's choice for groups was largely based on ability within the sport, however the perception of how the groups were formed based on ability differed.

Abby            She puts like the ones that are good at the sport, like she breaks them up sort of thing.

Lara agreed that Mrs D formed groups and teams by placing experienced people with less experienced people. Such groupings were reflective of the cooperative nature of the habitus. However the opposing perception was that students were grouped divided by ability which Rogers (2002) noted was needed to provide more challenge.

Felicity        She'd put all the good people together and then all the other people together. It didn't happen as much for Touch though.

Megan         I think Mrs D groups us according to skill. It was clear that she always put the good, experienced players together.

Shae            Like in Netball she really did it, like had the whole Netball people over there ... and they were always sort of isolated from us.

Researcher    What about for Touch, did that happen?

Shae            Lara and Bindie and Rose and all the Touch players, because they knew everything [were together].

Participant's choice over groupings was observed to be limited to the formation of small groups for drills. For this, the tendency was for friendship to form the parameter for groupings.

Radha         Everyone seems to group themselves with friends. Whether it's drills or games.

Ria commented though that it didn't matter if participants were grouped with friends or not, because everyone in the class were good friends anyway. 'Fun' was the common theme for participants choosing friends for groupings.

Megan I mostly prefer to go with friends because even if they are not good at sport we still have fun because we can laugh at each other's mistakes.

Choosing friends as the basis for groups also appeared to provide a safe and comfortable environment for the participants to interact as purported by research for single-sex schooling (Derry, 2002).

Felicity If we're with other people we can't, we can like tell each other what to do... And like in Touch club sport, we always say what's said on the field stays on the field. And it always does.

Having similar participation patterns was another reason for choosing partners and groups even within friendship groups.

Rose Yeah we're good friends and stuff. And Bindie would work, like a lot of the other girls don't really like to work.

Bindie agreed with Rose's assessment that it was important to be grouped with someone who had a similar work ethic, which Wright (1996) found to be true for both boys and girls.

Bindie Often we tend to go with the people that we work well with, that we have fun with but you also get the work done... I really do like working with Rose. She and I have sort of worked together for most of this year. Just because she and I kind of have, like similar skills and we're both interested in doing it. Like a lot of our, the other group of friends like to just chill out and muck around in PE.



As explained by Bindie, despite friends being present in the class, a similar pattern of participation and ability level were perceived as more important for students who wanted to achieve in the class.

Abby            I'm not really with my friends. 'Cause my best friends would be Ria and Jackie, and I'm not really around them much in PE. But um, 'cause I did it last year and the year before I've become close to Sara so I kind of hang out with her in PE... Like kind of I'm one of the first ones out there and they kind of lag behind. And I don't really want them to hold me back.

Independent choice for participants within the class habitus was restricted to being able to form groups for certain activities. Aspects of the syllabus and the habitus created by the teacher through her choice in learning experiences precluded the opportunity for student choice. Curriculum was identified however by the participants as an area in which they would like to exert their preference. This is of particular interest regarding a syllabus that allows for the production of a curriculum relevant and individual to the group of students it is written for (QSA, 2004). This raised issues of equity, and inequity in curriculum choice as emerged from the perceptions of participants in the SG-1 habitus

Equal opportunity for students within the class habitus was also attributed to the four physical activities chosen for study within the Senior Physical Education subject. Participants indicated concern that those students who had prior experience in the physical activity studied had a distinct advantage over the less experienced participants. This was also indicative of the hidden curriculum advantaging one group over another in the habitus (Chepyator-Thomson & Ennis, 1997). It was felt by both Rose and Abby, that the inclusion of sports in which none of the students were experienced, would provide a more equitable learning environment.

Rose            ... it's like everyone's learning a new one together. So you can see everyone starting from scratch and you can see how they pick up the sport instead of like already knowing it.

Abby agreed that choosing sports not many participants had previously played would provide a more even playing field. Lara agreed that repeating sports that she already played outside of school was not challenging and contributed to boredom for her in the class. She perceived playing sports she was not experienced in, with Tennis offered as an example, as more challenging.

Physical education staff perceived that the inclusion of sports, in the Senior Physical Education curriculum, that students were experienced in would be an advantage for the students. This was, however, disputed by the participants including those with experience in the sport. Identifying and including sports that students, or even the majority of students, were not experienced in may not be realistic with the administrative and syllabus constraints physical education staff face (Whipp, 2001). The extent of student experience in the physical activity studied also raised participant concerns regarding equitable assessment.

Abby            ‘Cause I feel like if you’re good at Touch you’ll excel at that and you’ll get a good mark, but if you’re not, you won’t. And like if you’re good at Basketball and you’ve played it for a while you’ll have a chance to get a good mark kind of thing.

Perception of inequity regarding assessment in the class habitus, as well as relating to experience in the sport, may have been attributable to perceptions of their teacher.

Kristie        Well she [Mrs D] tells us that you can only get an A if you do the sport and that’s her way of marking... They’d get an A because they do it. But yeah they’d just get an A automatically. So there’s no point in even trying to be that level because you’ll never get an A.

The perception of inability to gain top grades not only contradicted the personalisation message of the syllabus (QSA, 2004), it also indicated an imbalance in challenge-skills prompting students to detach from the activity because, as Kristie stated, ‘there’s no point in even trying’ (Jackson & Csikszentmihalyi, 1999). Ria had a

similar perception to Kristie regarding sporting experience and the manner in which Mrs D appeared to determine grades.

Ria                    Basically she says if you play the sport you're an A level. If you don't then you're sitting on a C. And you've gotta [got to] play hard to get up, but she doesn't really tell you how. Like what to do to improve and stuff.

Another student regarded the comparison to classmates as inhibiting for her grades even though she displayed confidence in her own sporting ability.

Sara                    I think I keep up with sport fine. However compared to others I may not be that good. This is what I think gets my grades down.

The perceived inequity regarding assessment and participation was also recognised by one of the 'A' grade students, Lara. She also indicated a lack of challenge-skills balance. When asked how she participated in class, Lara said 'I get bored sometimes and muck around and stuff'. The off-task behaviour that Lara admitted she engaged in due to boredom did not affect her assessment.

Lara                    Like I know that other people are trying a lot harder than me. I'm just mucking around and stuff. But I get it [an A] anyway because, I don't know, she [Mrs D] knows I can do it and she's coached me before and stuff.

Another aspect pointing to inequity in assessment related to the limited time the Touch unit ran for. There was a common perception from the participants that the limited time spent studying Touch restricted their opportunity for improvement and learning. The previous physical activity unit was Netball, which ran for a term and a half, restricting the time available to study Touch and was not in line with the Senior Physical Education syllabus requirements (QSA, 2004). The participants were aware of the difference in time spent on each of the physical activity units. During the Touch

assessment, Lara and Rhianna acknowledged the short amount of time spent studying the Touch unit compared to previous physical activity units.

- Researcher How many weeks of Touch have you done?  
Rhianna Not much.  
Lara Only about four.  
Researcher As much Netball?  
Rhianna Lots of Netball.  
Lara Yeah, 'cause we did it last term [three] as well as term two. We didn't really do much Touch at all because we were doing all that fitness stuff.  
Researcher For your theory assignment?  
Lara Yeah so we weren't actually playing much.

Other participants agreed that the time allocated to Touch was not sufficient.

- Ria We didn't really have much time on the Touch. I mean we only had a few weeks compared to the Volleyball and Netball.

Rose agreed that with more time she 'could really improve'. It was also perceived that more time actually playing the game instead of completing drills would have been more beneficial.

- Shae Like if we'd actually played proper games, I don't know for a certain length of time. Because normally we played for the last ten minutes of class.

Abby agreed that game play did not necessarily incorporate skills learnt through drills.

- Abby We didn't really put many of the skills, like the drills we learnt into it [games]. Not really that many wraps and things.

Teacher attention emerged as another aspect participants perceived as an equity issue. Felicity perceived that certain students who achieved higher grades received more attention, specifically Bindie. Ria's comments during her interview indicated that during the Netball unit Mrs D divided students based on ability and experience for the sport.

Ria                    Using an example, she kept putting the girls, there was like six or seven girls who had played for years or whatever, so she kept putting them over there away. And she kept like getting us doing like basic drills. It was annoying 'cause like she spent time with them, but she kept going about that they were all on A levels and we were all sitting on C's.

Opposing perceptions of this from higher achieving students like Lara, regarded that more attention was received because 'they ask for it'. Bindie's perception agreed with this assessment.

Bindie                ...if you approach the teacher more you're more likely to get more attention... 'Cause I don't think there's any sort of directed attention. Unless it's like choosing you for an example like if you're quite good at it, she might use you as an example.

Bindie, was mentioned by Kristie, Abby, Shae and Felicity as having received more attention from Mrs D. However Kristie did recognise that Bindie was a 'dedicated student', and Abby recognised that she did not necessarily ask for the attention, 'she automatically just gets it'.

The most significant factor in most of the issues of perceived equity in the class habitus were linked to the teacher. Aspects of participation, assessment, curriculum choices, teacher attention and time allocation, were determined by Mrs D, who was also the Girls' school Head of Department for Physical Education. It emerged that Mrs D influenced many factors that contributed to the SG-1 class habitus.

Mrs D's interactions with the researcher also influenced the researcher's interaction with the class. Initially Mrs D, as Head of the Physical Education department, appeared enthusiastic with the research and welcomed the researcher's presence. However Mrs D's later actions indicated that the researcher's presence served as an interference, specifically by not relaying information regarding: location of classes; last-minute changes of venue; alternating the planned practical classes with theoretical classes, and; rescheduling activities where research activities were planned. This was not only inconvenient but also hindered the collection of the data.

Despite Mrs D's apparent efforts not to assist with the research, it did not affect the development of rapport between the researcher and the participants. In fact it may have helped, as the participants were able to speak freely about Mrs D. Upon Mrs D's appointment to another position within the Girls' school, a new teacher (Mrs R) took over the SG-1 class for one term. Mrs R worked for the QAS and was familiar with a number of the students, specifically Lara and Rose through their competitive sporting activities. Mrs R responded in a helpful and interested manner towards the research.

It was observed that participants' responses to Mrs R were positive. Ria indicated that the change in teacher helped her understand concepts that had already been explained by Mrs D.

Ria                      Like even that one lesson we had with Mrs R, our new teacher. She like explained things and summed up heaps of things that Mrs D had never summed up and we were like 'oh ok, yeah I know that'. And just the different approach sometimes...

Kristie concurred that she felt a difference with Mrs R teaching. Whereas she had felt self-conscious performing in front of Mrs D, she was more confident in front of Mrs R.

Kristie                      Well the new teacher we had, she made everyone feel as if they're at the same level. Like if the girls didn't understand what they were doing she'd take you back and run through every single thing with you and she'd just be really understanding. Whereas Mrs D would get impatient sometimes.

Mrs R only taught the SG-1 class for one term. She took the last Touch lesson, videoing the participants for assessment purposes, and assisted Mrs D in determining their marks. A conversation with Ria and Jackie a year after the data collection occurred revealed that Mrs D was teaching the class again, and they were not enjoying it as much.

- Ria            We have Mrs D again and we don't really like it.
- Jackie        Mrs R was heaps nicer.
- Ria            Yeah it was better with Mrs R. She was easier to understand and it was heaps more fun.
- Jackie        Our marks were better too.

The strongest theme emerging from the data was that the teacher had quite a significant impact on forming the class habitus. Aspects of ability, challenge and equity were dependent upon the teacher, and all three constructs were intertwined. The level of challenge participants experienced was dependent on both an individual's ability, and the curriculum planned by the teacher. Independent choice was limited for participants in regard to the curriculum and the delivery of it. Equity in the class was reflected in the cooperative nature of the participants towards each other, but was diminished by the teacher in regards to favouring higher ability and experienced players and was perceived to be reflected through assessment.

### *5.2 The Boys' School: Developing Leaders*

The Catholic Boys' school was a single-sex, boys' year 8 to 12 day school founded in 1969. The school was part of the network of Edmund Rice schools, which operated under the direction of the Christian Brothers. The Boys' school handbook stated that it proudly upheld the tradition of educating young men as leaders of the community (Goodman, 1968; Holthouse, 1975) whilst taking care of their mental, spiritual and physical life. The school had a lay Principal with a physical education background, however a number of Christian Brothers were still actively teaching in the school. The Boys' school campus was situated in the regional city's suburbs and backed onto a Catholic coeducation primary school.

The school campus boasted extensive sporting facilities including a pool, indoor air-conditioned basketball stadium, an outdoor basketball court, two football ovals and

two general use ovals. At the time of data collection there were 759 students enrolled in the school. There were two year 12 Senior Physical Education classes of 23 and 25 students, and two year 11 Senior Physical Education classes, SB-1 with 26 students and SB-2 with 21 students.

The four sports the Senior Physical Education program focussed on were Waterpolo, Athletics, Gymnastics and Basketball. However due to the interests of the SB-2 year 11 Senior Physical Education class, Touch was studied in place of Basketball. The second class continued with the intended Basketball unit, however the flexibility of the Senior Physical Education syllabus allowed for the change in curriculum to be made to suit the individual needs of the students (QSA, 2004).

The Junior elective HPE curriculum included the same sports as Senior Physical Education. However, the wider content range of the Core physical education strand included Athletics, Swimming, Rugby League, Rugby Union, Touch, Soccer, Volleyball, Waterpolo and Softball in its curriculum. Throughout the three physical education strands, Junior Core and HPE and Senior Physical Education, all theory and assessment was linked to the relevant practical work. The Boys' school utilised the elective Junior HPE subject as a development course for Senior Physical Education covering similar theoretical areas and the same practical components.

The Junior Core and HPE physical education curriculum content were determined through consultation between physical education department members. A similar process determined the Senior Physical Education curriculum with the final decision being made by the Head of Department, Mr Braithwaite. The selection process for Senior Physical Education sports and syllabus requirements was based on both student and teacher expertise with the nature and availability of school facilities taken into consideration.

The Head of Department wrote the Senior Physical Education work programs in consultation with physical education department staff and it specifically included assessment that was personalised and relevant to the current students. Evaluation of Senior Physical Education work programs occurred at the end of each year and were personalised for differences in groups of students from year to year. This was evident with the switch from Basketball to Touch for the SB-2 Senior Physical Education class at the time of data collection. It was practice for Senior Physical Education programs to be adjusted yearly and more frequently as the syllabus required.



During the period of research ten physical education staff were employed at the Boys' school, six full time and four part time, with four non-specialist physical education teachers teaching Core physical education classes. The Boys' school physical education staff carried the majority of responsibility and workload of school sport. Sport was very well supported by the schools' administration and staff and by the majority of students. School spirit was considered to be very high and was believed by staff to be comparable to other boys' private schools they competed against.

For the past 25 years the Boys' school had been inter-school champions in Swimming, Athletics and Cross Country. At the time of data collection the Boys' school were the current Queensland Rugby League champions and was known as a 'League school'. The school was also the regional champion in a large number of sports. Boys' school sporting teams included Athletics, Swimming, Cross Country, Touch, Rugby Union, Rugby League, Basketball, Soccer, Cricket, Hockey, and Volleyball. The sporting teams were traditional to the school or were formed based on student request or staff expertise. Coaching of the Boys' school sports teams fell mainly to the physical education staff, however other staff did assist on a voluntary basis. Regular school sporting trips included representative competitions as well as overseas competitions for Rugby Union and Rugby League.

The physical education staff acknowledged that students were slightly disadvantaged academically through their participation in sporting trips and carnivals as they did miss schoolwork. However students were given every opportunity to catch up on missed work and were able to apply for extensions for assessment pieces. It was felt, by the school community and its physical education staff, that the disadvantage academically was strongly outweighed by the advantages provided by sport and which were also gained through Senior Physical Education.

#### *5.2.0 A habitus leader: SB-1*

The 22 students enrolled in the SB-1 Senior Physical Education class reported a high level of sport and physical activity participation. This was also apparent in the participants' previous enrolment in Junior HPE subjects. Of the 22 SB-1 participants, 90.5 per cent had been previously enrolled in an elective Junior HPE subject. Of the participants who did partake in competitive sport outside of school, all had participated in at least one sport at a representative level. Such sports included Swimming and Touch at the National level, and Rugby Union, Hockey, Surf Lifesaving, Tennis,

Cricket, Basketball, Touch and Rugby League at the State or Regional level. Both Touch and Rugby League however, showed the highest numbers of involvement with ten and eight participants respectively from SB-1 playing the sports to a representative level.

Only three participants from the class reported not being involved in sport or physical activity at the time of data collection for the individual reasons of changing school, work and study commitments and, due to a perception of low sporting level. At the commencement of data collection Mr Braithwaite described the SB-1 class as having a majority of high level athletes, including a large group of the school's Rugby League team. He also pointed out participants who were representative in other sports and that he was aware of the training and competitions they were involved in. Both participants and the teacher, Mr Braithwaite, were aware of the high sporting level within the habitus.

The SB-1 participants perception of sporting level (see Table 11) had over half (52.4%) perceiving themselves to be of a high sporting level, 42.8 per cent to be of an average sporting level and 4.8 per cent, or one student, perceiving himself to be of a low sporting level. Indicative of a high self-concept of athletic ability is participation at a high level (Manktelow et al., 2001). Both of these factors could also explain, in part, the high PSPP scores for the SB-1 class.

**Table 11**

*SB-1 participant perception of sporting level*

<b>Valid</b>		<b>High</b>		<b>Average</b>		<b>Low</b>	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
21	100.0%	11	52.4%	9	42.8%	1	4.8%

The PSPP subscale mathematical mean for the SB-1 scores (see Table 12) was around 17. All of the subscale means were higher than those of Fox's (1990) sample and did not show the same pattern. Fox's sample displayed the Body subscale to have the lowest score, however SB-1's lowest score was for Strength. The highest score was for Condition compared to Fox's sample, which showed the highest score for Sport. All of the PSPP subscale means were high.

**Table 12***SB-1 PSPP subscale means*

<i>N</i>	<b>Valid</b>		<b>Sport</b>	<b>Condition</b>	<b>Body</b>	<b>Strength</b>	<b>PSW</b>
	<i>N</i>	Percent					
22	100.0%		18.14	18.45	17.82	16.27	18.09

Of specific interest were the two participants who scored 24 for all of the subscale means. Both Troy and Rick had the highest possible score for each subscale mean, and both expressed the perception that they were of a high sporting level. Participation at the representative level for Rugby League correlated with the high self-concept of athletic ability that those two participants possessed (Chase, 2001; Clifton & Gill, 1994; Manktelow et al., 2001). Other participants also perceived Troy, Rick and the football players to be of a high sporting level. Mitch perceived the Rugby League football players to be a higher sporting level, and specifically noted their higher level of strength. This may account for the lower PSPP subscale mean total for Strength for the SB-1 class if other participants also perceived the football players, who make up nearly half the class, to be stronger.

Interview data did not however reveal many instances of peer comparison nor ranking in the SB-1 habitus (Bandura, 1999). Jesse did reveal that he compared himself to classmates, particularly as he had transferred to the Boys' school that year and had perceived a higher level of athletic ability at the school.

Jesse            Like I'd be better than some people but not as good as others... Our class is pretty good.

Alistar put peer comparisons down to 'boy's will be boys' in that they 'always try to be the best you [they] can'. Noah considered that any ranking or comparison usually occurred on an individual basis without group discussions. Two participants, Jesse and Pete, contributed their perception of sporting ability to their grades, which Bandura (1999) observed provided comparative information for adolescents. Even though Mitch perceived the football players to be better than himself, he had based this on their experience in their specific sport and the physical advantages it may have provided. More common was for the perception of sporting ability to be based on sporting

experience and participation than on comparison to peers. Representation in sport, level of fitness, ability to pick up skills easily and sports participation contributed to participants' perceptions of sporting level.

Participation in class was largely attributed to participant's ability and sporting level. Mitch's perception that 'all the athletic people in the sport probably participate more' concurred with Whitehead and Corbin's (1997) findings of higher competence equalling higher participation. Among interviewees there was a common consensus that higher ability students were more likely to participate.

Mitch            Like all the athletic people in the sport probably participate more than others.

Experience within a particular physical activity was also perceived to contribute to a higher level of participation.

Alistar            Yeah ability and experience. Like a lot of them haven't had as much experience as a lot of the other fellas [boys] have had...So if they don't like the sport they'll tend to sit out a bit I guess.

Troy commented similarly to Alistar, that students with less ability or who were 'not as good at it' would 'sit down and watch'. Jesse agreed with the perception that those who were better at an activity were more likely to participate than those who were not.

Jesse              There's people that kind of like, would be better at what we do, and there might be some people who fall back who can't do it.

Reasons for less participation could be linked to feelings of self-consciousness to which participants admitted experiencing, regardless of ability. Joseph, an average ability participant, agreed that everyone was self-conscious, however it appeared to be intrinsically influenced rather than extrinsically.

Joseph        Yeah like I don't want to get up and make a fool of myself, but I don't really mind if I do 'cause everyone's friends sort of thing.

Mitch reiterated that the SB-1 habitus was not a cause for self-consciousness.

Mitch        It doesn't really matter if you don't do it right 'cause other people aren't going to be able to do it either.

Although the SPPPECE construct quantitative total mean score for Ability was only 14.28 for the SB-1 habitus, participants revealed instances of self-consciousness of ability. Regardless of level of ability, participants revealed aspects of self-consciousness. Troy, a high ability athlete, and who scored the highest possible on the PSPP, also admitted to feeling self-conscious.

Troy        'Cause if you do something bad and people put you down you don't know if you want to keep doing it or not.

Negative comments and interference from classmates did not, however, appear to be inherent in the SB-1 habitus. Both Mitch and Alistar indicated in their interviews that comments were restricted to 'mucking around' from friends. Interference with participation did not occur in regards to students being left out because of lower ability, but rather students were included more because of higher ability.

Pete        I like to get involved but um if we're in a game and like Noah's got more of a chance to get past a defender I'll pass it to someone better than me.

Alistar agreed that students were more likely to pass the ball to someone with more ability.

Alistar        ... Like more or less if you're on the same team there'd be a lot of kids who'll pass the ball to whoever they thinks

best, you know. Not to someone who hasn't played the sport before...

Data revealed that it was self-imposed restrictions that prevented students in the SB-1 habitus from participating equally in the class.

Zane            Most people do [participate]...Oh every now and then some people muck around.

Behaviour management issues such as 'mucking around' were not observed to be a common occurrence in the SB-1 habitus. Mr Braithwaite's expectations of the participants were clear and participants responded to the routine of the habitus.

Joseph            He's [Mr Braithwaite] kind of like an 'old school' teacher that you see on TV and stuff... I like the way he kind of like takes control of the class and never lets anyone get led astray or anything.

Jesse, new to the school that year, agreed that participants responded to Mr Braithwaite's expectation of participants in the class habitus.

Jesse            He's not bossy but he's in control... Everyone does it if he tells them to. Like he says go for a jog around the Basketball court and everyone does it.

Hesitation to participate, rather than lack of participation was more so an issue of ability than of behaviour management.

Alistar            'Cause a lot of kids you know they have different [ability], they don't feel up to it I guess.

Researcher        So they do have the opportunity there?

Alistar            Yeah they do, but it's up to them whether they do [participate] or not.

It was perceived however that everyone had equal opportunity to participate in the class with most participants taking the opportunity to actively participate. It was also perceived that students treated each other equitably in the class as was reflected in the SPPPECE construct mean total result. Equity in the SB-1 habitus showed the lowest SPPPECE construct mean total of 11.43 out of a possible 30. However, interview data revealed that it was commonly perceived that students of higher ability, or who were more interested in sport received more attention from Mr Braithwaite. Attention given to higher ability participants was used in a positive manner.

Mitch            When we're doing prac they'll get asked to demonstrate more stuff that we're doing.

Joseph agreed that Mr Braithwaite often used the more confident and higher ability participants to demonstrate skills during class.

Joseph            He knows they're capable, like they're not going to hate themselves if they get it wrong and that... Yeah like he knows what will happen if they do something wrong. Like he knows them a lot better than some of the other kids.

Other participants agreed that Mr Braithwaite may have treated some students differently, or given more attention to those actively involved in sport and physical activity.

Pete                The better kids at sport and Mr Braithwaite's favourites kind of thing... Yeah if they're a sporty kid they'll get looked at a bit more.

Troy, one of the high ability participants, and who trained with Mr Braithwaite agreed with the perception that Mr Braithwaite paid attention to certain participants.

Troy                If they've got more sporting ability. Oh it depends if you've known him like... for years like I have, he'll like, he'll be good to you.

This was evident when Mr Braithwaite enquired after Troy's injured shoulder, for which he was waiting on surgery, and encouraged Troy to do strengthening exercises to help with recovery and getting back into Rugby League. Mr Braithwaite was aware of several other injuries that participants had experienced due to sport and it was observed that he monitored these and spoke to individual participants about them.

Alistar agreed that if a student got along with a teacher than a teacher would be more 'friendly' to them. However, it was also perceived by a number of participants that Mr Braithwaite put in time to those who put in effort and participated, including average and lower ability participants.

Joseph            Mr Braithwaite gave me quite a bit of attention when we were learning. He'd come up and say you're doing this right, you're doing that wrong.

It was observed that Mr Braithwaite gave a lot of verbal feedback in the form of positive reinforcement and constructive comments, to all members of the SB-1 habitus. He was instrumental in providing an equitable playing environment. In choosing teams and groups for playing games, students were observed to be divided so that each group had the same range of abilities, making them more evenly matched. Participants also were aware of Mr Braithwaite forming teams in that manner.

Alistar            Average ability, like you know spans it out a bit.

Pete was able to explain more clearly the reasoning behind team groupings.

Pete                Probably the same standard of kids like separate in different teams.

Noah agreed that it was attempted to have teams with an even spread of ability. Jesse perceived that Mr Braithwaite divided participants into teams based on ability in order to make it even.

Jesse                If someone's not good they go on that team and there's someone to match him on the other team.



When participants were allowed to choose their own teams there was overall agreement that friends were normally selected due to the added 'fun' it created. Though there was also a tendency for most participants to want a high level of ability on the team in order to 'win'.

Alistar            If you're picking a team sport you want to get like the best players on your team so it's a bit different to what he [Mr Braithwaite] would do.

Participants also reported having liked the manner in which Mr Braithwaite selected teams so that a mix of ability was spread evenly.

Mick              Even. Some good players and some others.

Agreement for even teams appeared to create a more even competition as well. There was a perception of competitiveness in the habitus with 90.5 per cent of participants perceiving they were competitive and the remaining 9.5 per cent perceiving themselves as non-competitive. Evenly matched teams were perceived as conducive to providing a more competitive environment.

Jesse             'Cause everyone knows that they're [the teams] the same and if one's winning the other one tries to beat them. 'Cause if they're the same [ability] they should be getting the same kind of score.

Zane agreed that a more even spread of ability between the teams made it more challenging. Even spread of ability was the preferred method of division for teams and helped to create challenge in the habitus.

Noah              Yeah it's a good way 'cause then the game's a bit more difficult, a bit more of a challenge.

It was observed that independent choice in the learning environment was largely restricted to opportunities of choosing groups for differing activities. Participants did

express other areas in which they would like more control in the Senior Physical Education subject.

Noah ... More opportunities to choose different sports. Like because we have to choose one sport each semester and we should be able to choose maybe an alternative sport... Like there was a Touch group going at the same time as us.

However he did acknowledge the Syllabus requirements in that students would have to 'stick' to the one they chose (QSA, 2004). The administrative complexities involved with timetabling, teacher and facility resources may make this unviable in smaller schools such as those focussed in this study (Caplice, 1994; Woodward et al., 1999). Other choices students would like to make regarding the curriculum related to challenge.

The SPPPECE construct total mean score for Challenge was 12.24. This indicated that the level of challenge participants experienced in the habitus was acceptable. Overall, comments regarding challenge were limited, though there were suggestions for increasing the level of challenge experienced. Jesse identified that simple changes to skills that participants were required to complete could add to the level of challenge experienced.

Jesse Probably with dribbling, we learnt how to dribble and then we started doing running dribbling, but we should have been challenged like in a game situation. Have someone else up there and you dribble towards them, and try and get around them.

Pete agreed that increasing the complexity of the game to incorporate more technical information and then applying it to games would also increase the level of challenge.

Pete ... Practice more rules and stuff like that. 'Cause no one really knew the rules. Mr Braithwaite was all like stop and

go. Maybe practice the rules and actual fouls and stuff like that... To actually play properly I think, yeah.

Lengthening lessons to provide more time to play games in lessons was also seen as a way to increase challenge in the habitus.

Joseph        Like it'd be good if we had like a double lesson of PE where we did prac. You could get like a full size game in. You could learn for a bit longer and play for a bit longer and cement what you had learnt a bit.

Without the practical considerations of timetabling double lessons, changing the current lesson structure to incorporate more game play was a practical suggestion offered by participants.

Pete            Just get straight in and do it then talk about it. Not waste all that extra time at the start of the lesson doing the warm up and all the drills.

Familiarity and experience in the physical activity also affected the perceived level of challenge participants felt.

Alistar        It was sort of something new for me, but I have done Basketball before. It's just that I haven't played, haven't learned some of the skills that he [Mr Braithwaite] taught us. That's all.

Other participants agreed that challenge was mostly derived from learning new skills, but was limited in terms of playing games. Noah, a high level Basketballer, commented that learning new skills was challenging, however he was restricted in what he could learn due to the abilities and experience of his classmates.

Noah            You need people with more experience and more ability in the Basketball to try some of the drills and some plays.

Mitch was also an experienced basketballer, but his skill level was at a somewhat lower level compared to Noah. Due to his experience playing basketball however, Mitch acknowledged that doing more complex plays and skills would be more challenging, but felt that other participants may not have been able to play at that level.

Mitch            Nah they wouldn't have [been able to play at that level]  
                      'cause they're not basketballers. They're all footy players  
                      or whatever.

The comments from participants with experience in the physical activity being studied, highlight the fact that although there was a high level of sporting ability in the habitus, knowledge and experience were needed to increase the complexity of skills learned, and to increase the level of challenge for all participants (Jackson & Csikszentmihalyi, 1999).

#### *5.2.1 Leading a habitus: SB-2*

Over half (55.6%) of the 27 SB-2 participants perceived their sporting level to be average, and the remaining 44.4 per cent perceived their sporting level to be high. No participants however perceived their sporting level to be low despite that four of the 27 participants reported having no current participation in sport or physical activity. The SPPPECE construct total mean for Ability was a score of 13.92 indicating that participants were more confident of their ability in the SB-2 habitus than not. The perceived average to high sporting level of participants could be linked to the broad range of physical activities the SB-2 participants reported being involved in.

The majority (92.6%) of participants perceived themselves to be competitive leaving only 7.4 per cent, or two participants, with a perception of non-competitiveness. The perception of competitiveness could also be linked to the high level of competitive involvement in sport and physical activities. Regional, State and National representative level involvement by participants was reported for Cricket, Swimming, Surf Lifesaving, Waterpolo, Rugby League, Touch, Rugby Union, Soccer and Futsal. Competitive involvement at a Club or School was reported for Basketball, Hockey, Tennis and Volleyball. The football codes of Soccer, Rugby Union, Touch and Rugby League had the highest number of participants involved.

Higher self-concept and self-worth has been linked to involvement in sport at a high level (Clifton & Gill, 1994; Manktelow et al., 2001), which could account for the PSPP scores. The SB-2 PSPP subscale means were distributed around 16, the mathematical mean of the range. All of the SB-2 subscale means were higher than those of Fox's (1990) male sample. The SB-2 data did not follow the same pattern of Fox's sample, with Condition having the highest subscale score and both Strength and Body equally having the lowest score of 15.74, which was still higher than the lowest score, attributed to the Body subscale, for the male sample in Fox's study.

Sporting interests and strengths of the SB-2 class saw the change from the originally prescribed Basketball curriculum to Touch for the physical activity. SB-2's teacher Mr Miller, or Millsy, as the participants and other staff members referred to him, said the change from Basketball to Touch was a result of assessing the participants and making the curriculum relevant to them (QSA, 2004). Spencer, a Touch player, stated he liked the subject Senior Physical Education specifically because they were playing Touch. Other participants also liked Touch, however there were common expressions of dislike for at least one of the other physical activities in the prescribed curriculum. Interest in the physical activity and liking it were factors that contributed to participation in class activities.

Spencer        I try in all the sports but I probably try harder in Touch.

Ross commented in the interview that he perceived participants who were 'better' at the physical activity to be more likely to participate because they found it easier. Connor's perception of participation was linked to ability.

Connor        Oh the people that are better are going to participate more than the other people that are not real keen on it.

It was the common perception that ability and experience in the physical activity was linked to higher participation levels, however experience in the sport could also result in boredom, which could precipitate off-task behaviour (Jackson & Csikszentmihalyi, 1999).

Spencer        ‘Cause sometimes we [touch players] get a bit bored. Like we’ve all played the Touch stuff like a million times so it’s a bit boring doing it all over again.

Repetition of familiar skill and drill activities were reported to result in boredom and disengagement from the task indicating that the challenge-skills balance was not appropriate for those participants (Jackson & Csikszentmihalyi, 1999). The SPPPECE Challenge construct mean total for the SB-2 habitus was 13.96. Challenge within the habitus was perceived favourably. Issues that emerged from the qualitative data that related to decreased feelings of challenge were the playing experience of participants, complexity of skills and aspects of game play.

The lack of challenge due to participants’ experience in Touch was reported across most of the interviews. However, repetition of skills in the practical learning environment also resulted in diminishment of challenge for participants who had no previous Touch experience. The application of skills transferred from other sports also decreased the level of challenge experienced.

Dean            Like I played football [Rugby League] before but I hadn’t played Touch... I’ve got good coordination, like ball-eye coordination and stuff so I didn’t find it hard.

An increase in complexity of skills was indicated as a possible way for the level of challenge to be increased for participants. The higher ability Touch players particularly indicated a preference for more complexity in skills.

Spencer        Like more moves and stuff like that. More game play, like actual plays you could do like switches and stuff like that.

It was observed that participants did learn basic Touch skills and plays, however it was not often observed that they were incorporated into actual games. Participants also acknowledged this.

Micah          New plays and by doing more plays and putting them into the game more.

Not only learning new and more complex skills, but also incorporating them into aspects of game play was perceived as increasing challenge.

Dean More challenging would probably have been to incorporate the plays into the game play.

More time spent playing games, rather than concentrating on drills as was the routine of the curriculum, was perceived as being more beneficial to increasing challenge.

Connor Yeah more game play rather than the drills. There was probably a bit too much drills.

It was perceived that games offered more experience in the physical activity, allowing participants to acquire more skills, particularly for the less experienced participants (QSA, 2004). It was acknowledged by participants that there was no clear link between the drills practised at the beginning of each lesson to the game play, which involved applying and evaluating skills (QSA, 2004).

Dean It [game play] would be more experience. Like you can always run through the drills during the game play anyway. Run through them once before you go on to remember, then just use them in the game play. Incorporate them into the game.

Incorporating skills learned through the drill segment of the lesson was an aspect of the curriculum that participants were able to control. It was however affected, in part, by participant's ability and opportunity to be involved during game play. Reuben perceived that he could have been more challenged if given the opportunity to participate more by his classmates during games. During his interview Reuben expressed the desire to be involved in the game but felt that he was not given the opportunity because he was not a Touch player.

Restriction to participate was linked to the equity of the habitus. The 14.58 Equity construct total mean from the SB-2 SPPPECE quantitative results indicated the

habitus to be considered mainly equitable by the participants. Aspects of inequity emerged through the qualitative interview data. The less experienced, or non-Touch playing participants regarded the higher ability, or Touch players as having more opportunity to participate.

Tony           Um the Touch players get a bit more chance than everybody else.

The inequity in participation based on ability in a particular physical activity appeared to be an embedded facet of the habitus, with participant's acceptance of it.

Dean           I reckon it's always going to be like that with the good people getting the ball more... With um playing games and that, I found that ... the more experienced people tend to like avoid them [inexperienced players] sort of thing, like [avoid] playing with them.

The disparity between participation opportunities for differing abilities also affected able participants playing with less able participants.

Connor       It's hard because sometimes you like don't always have the good players on your team and you can't always make the plays and stuff.

A solution to participation difficulties felt by both experienced and non-experienced participants would be to divide the class.

Jake           Two groups. Like into good and bad and then teach the good people further things that are more complicated.

With that intention, the less experienced participants would be taught the basic skills already possessed by the experienced participants. A lower ability participant with no Touch experience also suggested similar groupings.



Tony            He [Millsy] could have isolated the C students and isolated the A students, and concentrated on skills for the C students and the A students could play a game.

Jake also commented that for a sport he was not experienced in he would 'like to be in the lower group' suggesting the flexibility of moving between groups. The practicality of such a suggestion should be a reality in learning environments to provide students with meaningful learning experiences (QSA, 2004).

Ability emerged as an important factor for forming teams whether they were selected by the teacher, Millsy, or by the participants. The common preference was for teams to be based on an even mix of ability.

Ross            You get the experienced people, put them in half, put them on both teams and mix them with the same amount of inexperienced people.

It was perceived that creating evenly matched teams made for a more evenly matched game.

Tony            It makes for a fairer game, makes for a funner [more fun] game. If you've got one really good team versus one not so good, then the team that's not so good struggles. They try, they try, they try but they don't get anywhere.

There was a distinct preference for not wanting to be on a less experienced, or 'not so good' team.

Dean            'Cause if your teams not too good, like it's alright if you're on the winning team but not so good if you're on the losing team.

Apparently no one likes a loser; everyone wants to be a winner.

Connor        I don't want to be on a dodgy team... If I'm on the good team it doesn't matter, but usually I like it [ability] to be spread pretty evenly... It just means that the other team isn't going to flog you every time.

Not all participants regarded an even spread of ability as the preferable method of grouping for teams. Reuben revealed that his preference was to be grouped with participants who did not have experience in the physical activity.

Reuben        I'd rather not be put with people who actually play footy, 'cause they don't pass you the ball if you don't play footy.

This was related to Reuben's perceived opportunity to participate being restricted by experienced players due to his own lack of playing experience. Although there was widespread preference for teams to be selected evenly with a range of ability, this did not appear to occur when participants were given the opportunity to form their own groups. Given the opportunity to choose their own team, interview data revealed that participants invariably grouped themselves with friends. This differed however when captains were nominated to choose teams. It was understood then that teams were chosen based on ability in the physical activity.

Ross            They pick the better people first.

Jake, one of the captains selected by Mr Miller, agreed that the four selected captains chose the better players first. The result of this however, was that teams ended up with an even mix of ability.

Connor        ...they'll [captains] pick throughout the class so teams are spread pretty evenly... Usually they'll pick the best first and then they'll go down to the not so good.

Taking it in turns to choose, and using the same system of selecting team mates ensured that the teams were evenly matched in ability. This was the same manner in which it was perceived that Mr Miller formed teams.

Micah Millsy [Mr Miller] tries to make the game even and give everyone a go.

This differed to the process used to form groups during assessment. Participants were aware that Mr Miller had placed them into groups based on ability for the purpose of marking.

Tony Like he [Mr Miller] had the A's, and C's. It was like the people who play touch or the people who don't.

Interview data revealed that participants perceived inequity during the assessment process. Reuben perceived that his ability was higher than was indicated by his grade of C, C+, but didn't feel that he was given opportunity to display his ability.

Reuben 'Cause when he [Mr Miller] put the teams, he had people who couldn't play against all the people who could play. So we didn't really have the chance to throw the ball around.

Participants either rejected their grades as an indicator of ability, or adjusted their perception of their ability using grades informatively (Bandura, 1999).

Connor I got a B, B+ for Touch and um usually I get higher marks... In HPE I was getting A's and Stuff.

Researcher So before this unit [Touch] you thought your ability was higher?

Connor Mmmm [nodding].

Jake also used a grade to indicate what he perceived his average sporting level to be. He noted however that his ability was sport dependent and would be higher for certain sports, like Touch. Sport specificity and experience in different sports emerged as a frequent theme for participants determining their sporting ability level.

Ross            It depends what sport. I'm a real good Hockey player, but Hockey isn't one of the sports in the thing [curriculum].

With the perception that ability is largely sport specific, and increases or decreases with experience and knowledge of individual sports and physical activities, it could be assumed that Senior Physical Education assesses only the general ability of participants unless they are already experienced within the particular physical activity studied.

### *5.3 The Coed School: Natural Socialisation*

Since the opening of the Coed school in 1979, students had called teachers by their first name, fostering the school's culture of openness and approachability between staff and students. The Coed school was a Catholic coeducational, preschool to year 12 day school located in the outer suburbs of the regional city it was situated in. The school consisted of two campuses, one for the primary school from preschool to year 4, and the second for the upper primary and secondary school.

The Coed school's Principal was based on the secondary campus with Deputy Principals at both the primary and secondary campus. The principal at the time of data collection had taken the position that year, having transferred from the Girls' school. The two campuses were within walking distance, separated by sporting fields. The secondary school had, within its 15 hectare campus, three ovals, an undercover court area, three basketball courts covered by shade sails, and one uncovered basketball court.

At the time of data collection the total school population was 1757, with 845 students attending the year 8 to 12 secondary section of the school. Of the secondary total there were 417 boys, and 428 girls. There was one year 12 Senior Physical Education class of 23 students (13 boys and 10 girls). There were two year 11 Senior Physical Education classes; Coed-1 and Coed-2. Coed-1 had 28 students, including 17 boys and 11 girls. Coed-2 had 20 students, including 12 boys and 8 girls.

In the two compulsory year 8 Core physical education subjects a wide variety of physical activities were covered, including Netball, Athletics, Softball, Soccer, Volleyball, Touch, Hockey, Aquatics and Gymnastics. The sports made available in the curriculum depended to some degree on teacher expertise, class size and structure and variables such as the budget. At the Coed school, in years 9 and 10 the subjects were

changed each semester. Each HPE subject aimed at catering for different physical activities so they were not repeated in the different subjects over the two years.

**Table 13**

*Coed school HPE subject selection*

Area 1	- Basic Anatomy and Physiology, Basic Fitness Testing, Sociology of Sport - Touch, Weight Training/Gymnastics, Hockey/Basketball/softball
Area 2	- Skill Acquisition, Assessment and Training Principles, Sport and Physical Activity in Australian Society - Volleyball, Athletics, Netball
Area 3	- Basic Biomechanics, Lifestyle diseases, Sociology of Sport - Squash, Archery/Dance/Golf, Soccer/Oz Tag
Area 4	- Lifestyle Diseases, Nutrition, Baby Alive Program - No practical physical activity in this unit
Area 5	- Diets for different lifestyles - Linked to different physical activities, not pre-determined

There were five physical education elective subject choices for year 9 and 10, all covering differing theoretical and practical subject matter (refer to Table 13). The physical activities in both the core and elective Junior physical education strands reflected those of Senior Physical Education with the intention that students had some exposure to the Senior Physical Education curriculum if they later elected to study the subject.

The four physical activities that were the focus of the Senior Physical Education program at the time of data collection were Volleyball, Athletics, Touch and Netball. There had been a new program written which had made provision for a selection of sports; Athletics or Swimming or Golf, Netball or Basketball, Touch or Soccer. The wider selection of sports allowed for greater diversity and helped to cater for a wider range of students, their interests and abilities.

There was an attempt in the Coed school to link the theory and practical aspects, as shown in the elective Junior physical education subjects, however this was often dependent on the individual teacher and time allocation. The Senior Physical Education

work program's integration of theory into practical was evident in the written assignment for the Touch unit, which was the focus of this research. There was a degree of integration between the Junior physical education subjects and the Senior Physical Education program. The level of integration however relied on a variety of factors including class dynamics, clientele and student ability in both practical and theoretical aspects.

The Junior curriculum content was determined at end of year meetings which allowed for reflection of the success of work units during that year. The Head of Department made the final decision on curriculum content after group discussions. The Senior Physical Education content had been selected by the previous Head of Department when the program was first written. This was changed slightly when the new program was written in 2004. The new physical activities were added to the Senior Physical Education program after physical education department discussions and were jointly decided upon after consideration of teacher expertise, available resources and current students' talents and strengths.

The Head of Department wrote the Senior Physical Education work program, seeking the input of interested physical education staff and the whole department met to finalise the program. Assessment instruments were determined following syllabus requirements with the theory element integrated into the practical aspect of the subject. The timing of assessment was also considered, for example the final piece of assessment was an exam as this benefited both teaching staff and students.

During the data collection period, the Coed school had six staff teaching mainly physical education and two other staff members who each taught one physical education class. Of the eight staff teaching physical education subjects, only four were actually physical education trained. A number of non-physical education staff coached the Coed school's sporting teams, though the majority of coaching was done by the physical education staff. Sport was well supported by the school's administration and as mentioned, the secondary Deputy Principal had a physical education background and coached the school Basketball team. The Principal introduced team breakfasts before major sporting carnivals, which she attended, addressing the students prior to departure.

The Coed school had only been classified as an A grade school since 2000 and tended to come mid-field at interschool sporting carnivals that incorporated eight participating schools, including both the Boys' and Girls' schools featured in this study. As a B grade school, the Coed school had won all of the major sporting carnivals. In

other team sports the school had done well and there had been several teams which progressed through to the after-school season undefeated. A variety of the Coed school staff acted as officials, managers and coaches at sporting carnivals, however it was predominately physical education staff who shouldered responsibility for the planning and running of carnivals.

The school had teams in the after-school sports programs including; Touch, Netball, Basketball, Cricket, Soccer, Rugby League, Rugby Union, Australian Rules Football and Indoor Cricket. During the school year the Coed school also competed in a range of Touch carnivals, and for the previous three years the school team had travelled to Brisbane for the All Schools Touch carnival. The Junior Indoor Cricket team had also travelled to Brisbane for competition in the State Regional finals. Every two years an overseas sporting trip was organised. In 2004, the Coed school Soccer teams (Boys' and Girls') went to the UK and Europe, resulting in a rise in Soccer participation for the school. Previously, both Netball and Rugby Union teams had travelled to the UK for competition.

Teams for the Coed school's Interschool sporting carnivals were formed after interhouse carnivals within the school. Other school sport teams were selected on a nomination basis and, if necessary due to large numbers, on a selection basis. The coaches and managers of the teams were any staff who had particular expertise in the sport and who were willing to give their time and knowledge.

It was felt by the physical education staff that students benefited from being involved in sport and by attending sporting trips. It was however considered that students did need to be organised and have time management skills to fit the range of activities in their schedule. It was also deemed more difficult in Senior, particularly if a student was aiming for a high Overall Position (OP).

### *5.3.0 Socialising a habitus: Co-1*

The Co-1 class, taught by Sue, the Coed school's Head of Department for physical education, was made up of 28 participants. Of the 28, 10 of the participants were girls and 18 were boys. The majority 96.4 per cent of Co-1 participants had studied elective Junior HPE prior to enrolment in Senior Physical Education. The only participant (3.6%) who had not studied elective Junior HPE was Sally, who had transferred from another school prior to starting year 11 at the Coed school. Previous

participation in elective physical education may have contributed to the participants' higher overall perception of sporting ability.

The Co-1 participants' perceptions of their sporting level was divided equally with 50.0 per cent perceiving themselves to be of a high sporting level and the remaining half perceiving themselves to be of average sporting level. No Co-1 participants perceived themselves to be of a low sporting ability. The girls' perceptions of sporting level revealed 30.0 per cent perceived themselves to be of high sporting level and 70.0 per cent to be of average sporting level. The majority perception of average sporting level may be reflective of the reported sport participation of the girls. Representative level sports participation was reported by three female participants; two in Equestrian and the other in Touch. Both school and club participation was reported for those two sports plus Rugby Union, Volleyball, Netball, Tennis and Soccer. Only three female participants reported no current sport or physical activity participation and this was due to having moved to the school that year, and injury.

Two male participants reported no current sporting or physical activity participation due to other outside interests. Compared to their female counterparts, the boys reported a wider range of physical activities that they currently participated in. Refereeing for both Soccer and Rugby League and Motor-X were physical activities participated in as well the sports of Boxing, Surf Lifesaving, Triathlons, Soccer, Golf and Australian Rules Football. The reports of representation in Basketball, Indoor Cricket, Touch, Athletics at the State level and Swimming at the National level could be seen to contribute to a high sporting self-concept (Manktelow et al., 2001).

The boys' perceptions of sporting level differed to the girls' in that a majority of 61.1 per cent perceived themselves to be of a high sporting level and only 38.9 per cent to be of an average sporting level. Boys' higher self-concept of sporting ability compared to girls has also been reported in previous research (Asci et al., 2001; Clifton & Gill, 1994; Hayes et al., 1999; McKiddie & Maynard, 1997).

The Co-1 means for the PSPP subscales were distributed around the mathematical mean of the range, 16 (see Table 14). The mathematical mean for the females and males were 15 and 17 respectively. The subscale means for the Co-1 girls were above those of Fox's (1990) female sample with the exception of the Strength subscale for which the Co-1 girls' score was below. The Co-1 boys' scores were also above Fox's sample and differed with the Co-1 boys highest score for PSW compared to Sport for Fox's sample, and the lowest score for Strength compared to Body for



Fox's sample. The Co-1 boys' subscale mean scores were all higher than those of the Co-1 girls sample, correlating to Fox's samples. Both Co-1 groups shared the same subscales, Strength and PSW, respectively, for the lowest and highest mean scores. The quantitative PSPP results can be explained through the qualitative data.

**Table 14**

*Co-1 gender comparison of PSPP subscale means*

	Valid		Sport	Condition	Body	Strength	PSW
	N	Percent					
<b>Co-1 Girls</b>	11	100.0%	15.18	15.73	14.64	14.00	15.91
<b>Co-1 Boys</b>	17	100.0%	17.53	17.59	15.88	15.65	18.94
<b>Co-1 Total</b>	28	100.0%	16.61	16.86	15.39	15.00	17.75

Interview data revealed that self-perception of sporting ability was determined by a number of factors including participation and experience, comparison to others and grades achieved in the subject. A number of participants, including the higher ability participants, revealed that they used their grades to determine their sporting level.

Maddie            Oh it's the grades I get. Definitely the grades I get. I never compare myself to others. Oh well I do sometimes think I'm alright in the class. I normally go by my marks, because everybody could be at the low end and if the teacher's marking us and we're all at the low end then we mustn't be very good. So kind of a bit of both.

Bandura (1999) suggested that grades offered comparative information however it appeared that comparisons to classmates were not limited to grades, but also occurred with participants comparing themselves to fellow participants as Maddie suggested. Simon, another high ability participant, compared himself to classmates because there were others in the habitus that also played Touch. Participants of all levels used comparisons within the class habitus as well as the wider school habitus to determine their sporting level.

Doug            There's people that are high at a sport level, and there's people that are low, and I'm between that.

Researcher    Is that just people in your class?

Doug            No, the grade.

Higher ability participants looked wider than the education habitus to assess sporting level. Rebecca, one of the two high ability female participants along with Maddie, reflected that she looked outside of the class to elite athletes for comparative information on her level of ability. This may be due to Rebecca's high ability and a limited high ability female demographic in the Co-1 habitus to compare to. It was revealed that comparisons and ranking within the class were not openly discussed but was an element of the habitus that was known.

Dustin           Like you know the ones who're going to get the good grades and things like that, the athletic people... I mean you know who's good and who's just ordinary.

There was some indication that a participant's sporting level was linked to experience in a particular sport or physical activity. Marcus perceived himself to be an average ability participant, based on his participation in sport and his selection for school sports. Participants revealed that prior sporting excellence established an expectation of ability, which may or may not be real for all physical activities.

Dustin           Like you get Rebecca. You know she is a good athlete right, I won't take anything away from her there, but before she even does it she's expected to be up on the A level... Like you think 'oh Rebecca, she's got to be good'.

The perception of Rebecca relying on her past achievements extended outside the class habitus to include athletic aspects of the wider school habitus.

Maddie           She [Rebecca] didn't even show up for that day [Coed school Cross-country race]... She still got selected in the Cross-country team to go out of school. Like that's how it

works. The teachers think she's great, she's got to be on the team.

Regardless of ability, it was perceived that participation was an important issue in the Co-1 habitus. Through the curriculum and the structuring of assessment, participants were given an independent choice of the manner in which they were to complete the required Touch training program and analysis. Participants, able to choose from three training levels from 3 (highest) to 1 (lowest), were given lesson times to use as training sessions, which also included games. The high ability participants including Maddie and Rebecca, the only two girls in the high ability group, chose Level 3. It was observed that the Level 3 group were largely self-directed, immediately starting the program and organising themselves within their group. Participants from that group also acknowledged the self-motivation that was required.

Simon            We had to train together... Yeah you had to do it yourself.

The Level 2 and 1 groups were slower to start and needed more support from Sue to get organised. Despite the reported competitiveness of the majority (75%) of participants, the Co-1 higher ability participants were more likely to participate and to exert effort in the physical activities as reported by Whitehead and Corbin (1997).

Maddie            There's the people that want to do the sport or are good at the sport, they basically participate a lot more.

The same participation opportunities were available to everyone in the Co-1 habitus. Rebecca perceived it as a personal choice whether participants took part in the class or not.

Rebecca            If they want to they could, but some people are just rude and can't be bothered. Lazy!

Other participants were not as harsh in their assessment and attributed differences in participation, in part, to ability.

Simon            It's just, some people are made for sport and some don't just... If people tried to, some of those guys, like Marcus and all of that, they just don't try so... But they could try and they could do a lot better.

The SPPPECE mean totals for the Ability construct was just under halfway at 14.18. The girls' Ability mean total (16.45) was three points higher than the boys' mean total (12.62). The greater overall experience in Touch for the boys compared to the girls could explain the girls' dissatisfaction with ability in the Co-1 habitus and may have attributed to participation patterns. Kasey, a middle ability skilled participant however, disregarded ability as a factor affecting participation and noted that the opportunity was present for all participants to be involved 'but whether they actually do it is another thing'. Regardless of ability and gender, preference was shown for those who put in effort in participation.

Simon            Oh I'd rather play with, yeah Rebecca's good to play with. She like knows what she's doing. Maddie's alright to play with. Renee and Michelle and that, they're not like, they don't want to participate which sort of like influences it.

Researcher      They're the extremes of wanting to and not wanting to play, what about Emma and Kasey?

Simon            Oh yeah they're good to play with but they don't, they could inject themselves more.

Whilst a high ability student like Simon was confident in participating in a sport he played competitively, Kasey said in her interview that when her own group chose not to participate, she didn't feel comfortable playing with the high ability group.

Kasey            I didn't really want to go out there because I didn't have anybody to talk to or laugh with or anything about my mistakes... Sometimes I did go and sit out because I felt out of place in the other team [high ability].

Danielle agreed that she ‘didn’t feel comfortable going into other groups’ because of their higher ability. Research (Derry, 2002; Drummond, 2003) has shown that less skilled males and females are affected in physical education environments, however they also have an affect on the physical education habitus. Discussion with the Co-1 teacher, Sue, revealed that she was aware there were a number of students in the class whose lack of participation negatively impacted on the class habitus. She felt that ‘this would be a good group without them’, and expressed the hope that they would change out of the subject at the end of the semester, the start of the new school year.

Marcus, one of the participants that Sue was referring to, admitted that sometimes he didn’t like participating even though he had said he liked Senior Physical Education. Other lower ability participants made similar comments. In particular, Renee, one of the girls identified as consistently not participating, stated that she did not want to choose the subject and so did not participate.

- Renee            I hate Touch. I don’t like PE.  
Kasey            Then why did you do it?  
Renee            There was nothing else on the line to choose.  
Danielle        Yeah they were bad choices.

The high ability participants preferred to be grouped with those of a similar ability largely due to the fact they were more likely to participate with effort. Average and lower ability participants were included, dependent on effort they put in.

- Dustin            I mean, if they’re bad and giving it a go, like you’re not going to get up them or anything. But if they’re just standing around you get annoyed with it.

Participation and effort were reinforced as mediating factors for inclusion with the high ability group.

- Maddie            If they’re there and they’re willing to try and willing to learn then that’s fine. I’d more than welcome them.

Higher ability participants showed acceptance of each other regardless of gender, reflecting the previous findings of Wright (1996) and Derry (2002). The high ability girls stated a preference for participating with the same level boys due to the competition they derived from it.

Rebecca        Boys are competitive and I'm that 'cause my brothers were, and I've just been brought up like that.

The high ability boys showed equal acceptance of participating with the girls of the same ability, namely Maddie and Rebecca. It was observed that groupings within the habitus commonly occurred on an ability divide. Other participants also recognised the acceptance of higher ability participants for each other.

Doug            The people who are fit or are very good at the sports tend to like other people who are fairly similar to be in their team.

Groupings based on ability were seen favourably across the range of abilities as both high and lower ability groups appeared to limit each other's participation. As previously noted, the higher ability group preferred the competition and level of participation derived from being grouped together. The middle and lower abilities also expressed a preference for grouping together as they perceived less interference than when grouped with the higher levels.

Renee          They'd pass the ball to each other and not pass it out to the wing where we always had to go.

However, prior history, which created the habitus and informed the participants also influenced behaviour.

Dustin         I don't want to go picking on anyone, but Renee right, when you're playing Touch or something like that, she really annoys me because she just doesn't want to play...

She gets on the field and she doesn't do anything, just stands in a corner or just walks around.

Possibly based on previous history of participation, high ability participants acknowledged that exclusion occurred to improve their own game.

Simon            The class was kind of harsh 'cause yeah, a lot of higher players wanted to have a fluent game.

The forming of groups for games was inherent to the habitus. It was not discussed nor purposefully divided through ability, yet it was a known and accepted method for groups to be formed.

Danielle            We automatically knew who was going to be with who. Because all the people who like Touch, well not like Touch, who think they're good, will go over on the other field.

The division of the habitus, based on ability, was an equity issue within the Co-1 class. The SPPPECE Equity construct mean total of 17.55 revealed a perception that the Co-1 habitus was not an equitable environment. The Equity total mean for the girls', at 17.82, was similarly high to the boy's at 17.37. Issues of equity that emerged included not only the aspects of ability, grouping and participation that have already been discussed, but included aspects of teacher attention. The perception that Sue grouped participants according to ability was apparent to all ability levels.

Simon            Highs in the high, medium medium medium, low low low [indicating three separate groups with his hands]. She put like all the highs in separate groups... They would have to be an idiot if they didn't [recognise groups were based on ability].

Other high ability participants agreed that Sue based the groups on ability, but that her time was spent between the groups in an equitable manner.

Maddie She groups them on ability. But I don't think that's a bad thing. In Touch it's not a bad thing because... we all played Touch and we all knew what we were doing. And the other group didn't really know what they were doing and had loads of fun doing, just as that group. Sue was showing them a few techniques and stuff like that, so that's why I think it worked well like that.

The lower ability participants however did not feel that Sue's time was spent equitably. Specifically, Danielle and Renee believed that they were not given as much attention due to their lower ability in Touch and those with ability received more of Sue's attention.

Danielle Because they know what they're doing... It almost seems as though Sue didn't want to waste her time with us.

Renee Yeah definitely.

Danielle She [Sue] just wanted to play.

Renee Play with all of them [high ability group].

Danielle Yeah, play with the ones who already played.

Marcus also perceived that Sue gave more attention to 'the really sporty people', and attributed this to her links to participants in other school activities, like Touch. The middle and high level participants recognised that Sue was prepared to invest her time in those who participated.

Dustin With Sue you go out there and you don't have to be great. If she sees you are putting it in she will give you the time.

Kasey agreed that it was fair that participants who put in more effort and participated received more teacher attention.

Kasey Yes in a way. Like if the people that do actually try and participate will then have a teacher to help them more often.



When confronted with her participation levels, Renee agreed that if she had participated, Sue would have spent more time with her. However Danielle perceived that different groupings and participation opportunities could have had a positive impact on lower ability level performances.

Danielle        Our grades are not that good because Sue is too interested in the people who can perform and play Touch at a higher level than everyone else. If we had more opportunities to play with the ‘good’ group then our performances may have improved.

Grouping also affected the level of challenge experienced. The SPPPECE Challenge construct mean total was 13.89. The boys’ mean total at 14.56 revealed a degree of dissatisfaction with the level of challenge in the Co-1 habitus probably due to the large group of higher ability male participants. The small number of high ability girls in the habitus, and the greater proportion of middle and lower ability girls may have contributed to the lower Challenge construct mean total of 12.91, indicating the Co-1 girls were more satisfied with the level of challenge. Lower ability participants expressed that they wanted to be grouped with more experienced and higher ability players.

Kasey            Probably a set amount of good people throughout the teams, because then you actually improve... ‘Cause if you’re only with people at your standard you can’t really move forward.

Another middle level participant, Angela, agreed that playing with others of a higher ability pushed her to improve her own skills so that she could play at a higher level. Even though he was part of the high ability group, Dustin reported that a lack of experience in Touch resulted in challenge being felt when playing games. Both less experienced and high ability participants both perceived the level of challenge to decrease with repetition.

Kasey            The start of the program definitely, but then I did the drills more frequently and more in number and it started to ease out... The repetition kind of got boring after a while 'cause it was like, 'yeah I've done this, I know I can do it, I don't want to do it again'. You'd get kind of lazy [laughing].

More complexity was perceived as a solution to increasing the level of challenge in the Co-1 habitus. Doug reasoned that 'if the challenges were harder, the skills would be harder'.

Rebecca        Well we could have been given...a game to play. Actually been set out moves and stuff we had to complete in the game... Yeah like an actual game play that we had to follow, instead of just doing what we wanted.

Simon described more knowledge in the other participants as being necessary to increase the level of challenge he experienced because of his high ability. Doug, a middle ability level participant agreed. However, Rebecca perceived that ability groupings would be beneficial not only within the class habitus, but also in the school habitus.

Rebecca        I think the class, as in whatever grade you're in, should be split up based on a level. Like the A students should be in one class. Because... like that challenge thing you'd probably get more challenge because you're against people that have played. And the C students can be against them [other C students].

Rebecca did acknowledge the complexity of organising streamed classes.

Rebecca        But the thing would be trying to split them up in the first place. There'd be a lot of debate with other kids and stuff.

### 5.3.1 *Another social habitus: Co-2*

The Co-2 class had a total of 21 participants, with 8 girls and 13 boys. One male participant chose not to participate in the study leaving a total 20 participants. Of the total, 90.0 per cent had participated in a Junior elective HPE subject. From the female participants, 75.0 per cent had previously been enrolled in a Junior HPE elective subject, with two participants not having done so. All eight female participants played competitive sport with Regional representation in Netball and Touch and at the State level in Soccer and Hockey. Only three of the female participants, Amy, Bridget and Tracey, were not members of the Coed school Senior Girls' Touch team. Erika had started playing Touch at the beginning of year 11, influenced by her friends.

All of the male participants had been previously enrolled in an elective Junior HPE subject. Most of the boys in the Co-2 class played sport competitively, with the exception of Andrew and Steve. Andrew had not played competitive sports since his move from Brisbane at the start of the year, and Steve had stopped playing sport due to injury. Participation was reported for Cricket, Tennis, Rugby League and representation in Touch, Australian Rules Football, Soccer and Futsal. Craig, having been accelerated academically two years, was selected in the Queensland Under 14's Soccer team that year, and Nelson was a current member of the Australian Under 19's Futsal team.

Overall the Co-2 class had a high level of sporting ability, however participants perceptions of their sporting level varied (see Table 15). Forty-five per cent perceived themselves to be of a high sporting level, 40.0 per cent perceived themselves to be of an average sporting level, and 15.0 per cent perceived themselves to be of a low sporting level.

**Table 15**

*Co-2 gender comparison of participant perception of sporting level*

	Valid		High		Average		Low	
	N	Percent	No.	Percent	No.	Percent	No.	Percent
<b>Co-2 Girls</b>	8	100.0%	3	37.5%	4	50.0%	1	12.5%
<b>Co-2 Boys</b>	12	100.0%	6	50.0%	4	33.3%	2	16.7%
<b>Total Co-2</b>	20	100.0%	9	45.0%	8	40.0%	3	15.0%

The majority of the Co-2 girls perceived themselves to be of average sporting level with the boy's perceptions higher with the majority 50.0 per cent perceiving themselves to be of high sporting level. It was revealed that in the physical domain males tended to have a higher perceived competence than females (Asci et al., 2001; Hayes et al., 1999).

Both the Co-2 girls' and boys' PSPP subscale means were around 16, the mathematical mean of the range (see Table 16). The Co-2 boys' subscale means were higher than Fox's (1990) samples means, with the exception of the Strength subscale for which Fox's group was higher. The Co-2 girls' subscales differed greatly from Fox's female sample, exhibiting a maximum 5 point difference and a minimum 1 point difference in mean scores.

**Table 16**

*Co-2 gender comparison of PSPP subscale means*

	Valid		Sport	Condition	Body	Strength	PSW
	N	Percent					
<b>Co-2 Girls</b>	8	100.0%	17.25	19.00	14.63	15.25	18.13
<b>Co-2 Boys</b>	12	100.0%	17.58	17.33	16.17	15.50	18.00
<b>Co-2 Total</b>	20	100.0%	17.45	18.00	15.55	15.40	18.05

The Co-2 girls' score for Condition was 5 points above that of Fox's sample. Both the Co-2 girls and the females from Fox's study showed the same pattern with the lowest subscale mean to be for Body, with the Co-2 girls mean only 1 point higher for that subscale. The Co-2 girls' mean for the Condition subscale was also higher than the Co-2 boys and Fox's male sample. Other subscale means that were higher for the Co-2 girls compared to the male sample in Fox's study were the Sport and PSW subscales, with similar scores for the Body and Strength subscales. Compared to the Co-2 boys, the Co-2 girls exhibited similar subscale means for PSW, Sport and Strength, with the biggest difference being for the Body subscale for which the girls' mean was over 1 point lower than the boys' mean.

The high self-perception of sporting competence correlated with the participants' high level competitive involvement (see Hoge & Renzulli, 1993; Manktelow et al., 2001). There was evidence that most participants were not inclined to advertise their achievements. Speaking to Nelson about his inclusion on the National

Futsal team he reported that he did not tell everyone about it because he said it ‘sounds like you’re up yourself’. This feeling was mutual with the female participants who had also achieved representation in their sport and only reported an average sporting level on the Participant Information Questionnaire.

Bridget        ‘Cause yeah people ask ‘How good are you at soccer?’.  
                     ‘Cause like they know my achievements and stuff but I  
                     don’t want to go ‘oh I think I’m the best’ and all that sort  
                     of stuff. So that’s why I sort of keep it like that I’m ok. I  
                     didn’t want to sound up myself.

Those participants that were more open to advertising their perception of their ability were the brunt of comments and observations by fellow classmates.

Steve            Adam needs to get over himself. If he got over himself  
                     he’d be alright.

Brendan        Yeah.

Steve            Look at him. He’s jumping around. Jump, jump, jump.  
                     [breaks into pop song] Jump, jump, jump up and get  
                     down.

Brendan        He [Adam] doesn’t even go forward.

Lee              He’s [Adam] so crap but he thinks he’s really good. He  
                     runs around in circles.

Keith            He tells everyone to pass straight away but he never does.

Lee              He runs about 300 metres but he doesn’t actually go  
                     anywhere.

Keith            He should get a D for dickhead.

Other instances of discussion concerning the ability level of participants and ranking within the habitus were observed on a number of separate occasions. Participants standing on sidelines waiting to sub on, or working in a group because they were unable to participate in practical activities due to injury, would openly comment on other participants. In such a discussion about who they perceived to be best in class

they arrived at Nelson being the best in the class followed by the girls, Jamie, Anna and Sacha.

- Lee Sacha's complete lack of ball skills totally out does her being a better player [than Anna].
- Tracey Sacha has got ball skills.
- Nelson But she [Sacha] drops it a lot.
- Erica Do you reckon Anna is better 'cause she talks a lot?
- Lee She [Anna] knows the game.
- Nelson Natalie's not good but she thinks she is. Robbie's bloody good if he tries.
- Erica Darren is better than Adam!

Discussions such as this indicated that participants did rank each other, however it was not recognised as being common to the Co-2 habitus.

- Craig We don't like... We already know people who are awesome. Like you know Robbie? ... He's like good at pretty much everything. But we don't like all get together and say 'oh that person's not very good or that person's not very good'... You can just tell sort of.

Jamie confirmed that ranking was not an obvious aspect of the habitus, but rather it was known.

- Jamie Oh yeah it's not said like 'oh like he's bad or she's good' or whatever. You just like know.

The SPPPECE Ability construct total mean for the Co-2 habitus was 13.75 indicating that the expected level of ability was not too high for participants. Both the boys' and girls' total mean scores of 13.92 and 13.50, respectively, were similar possibly due to the high sporting level in the habitus. Bandura (1999) noted that comparative information on self-perception of ability was gained from sporting experiences, grades, and comparison to others, as participants in this study also

reported. A majority of participants reported such a combination of factors impacting on their sporting self-perception.

Brendan        I don't find many activities hard and I can get fairly good grades easily. My grades and performance compared to other students is at a higher level.

The Co-2 girls also reported similarly.

Anna            Activities are fairly easy, grades are good and I perform in the top half of the class.

Grades were used to give information about how participants were ranked in the class.

Jamie           Just like you can tell who's going to get an A and who's going to get a C... Oh yeah well if you look around you can see who you're better than or if someone's unco [uncoordinated] or something [laughing].

Comparison to other participants was useful in gauging how the participants performed within the habitus. However, comparisons were also made during participation in other sports.

Bridget        So at Soccer and stuff I'll probably judge my performance by the team that I play with and against.

Perception of ability in sports was also determined by how easily skills were picked up, as well as being sport dependant.

Craig           Well at most sports I can like get the sport pretty well and perform it and stuff, but I don't really excel at any sport other than Soccer.

It was also perceived that ability increased with experience in the physical activity.

Lee            Like once I got used to Touch I was pretty good at it.

Possibly due to the high sporting level in the Co-2 habitus, self-consciousness of ability was not reported as a significant factor of the habitus.

Craig            Yeah well everybody that picked this is like kind of high ability, but yeah, I think that friends [in the class] is pretty important as well.

The Co-2 habitus was unique in that the class was largely made up of a social group of friends. The smaller friendship groups within the habitus were part of a wider social group in the Coed school's year 11 class.

Amy            Because this [school] is preschool to 12, a lot of people have been with each other since preschool and you're comfortable and close to everybody.

The Co-2 habitus reflected the friendships of participants.

Jamie            It's [Senior Physical Education] just the funnest [most fun] subject because like all of my friends are in there. That's probably because all of my friends play sport.

Having transferred into the class at the start of the Touch unit, Andrew identified the friendly atmosphere of the habitus.

Andrew            There were some people in the class that I hadn't met before. But I know them now... I like it how we're with our friends and everything like that...

Despite the friendly atmosphere within the habitus, there were instances of interference between participants. Interference, in the form of comments in particular, emerged as common to games in the habitus.



Lee            There's been a few jokes about someone who's not the best. And there's always comments about someone who does something repetitively so it makes them not very good.

There was the perception that comments were good natured, but ability was considered a factor in how comments were perceived.

Jamie            Yeah and I don't care if someone makes fun. 'Oh you dropped the ball'. Like I know it's a joke, it doesn't matter. Because I know I can do it, it was just a mistake. But I don't know if people who can't do it, they may feel bad that they dropped the ball or something like that.

Bridget, inexperienced in Touch, considered it inevitable that interference occurred, and noted that it was a part of team sports and physical activities.

Bridget            I mean in a game how can you stand there and not give instructions. You have to talk.

In interviews, it emerged that participants were aware that the more experienced players controlled the ball more during games. Directed play by participants was observed, with talking and instructions used by the experienced Touch players to direct play.

Robbie            Oh Anna and Natalie because they think they're a bit, like they're a lot better than us.

It was observed that, overall, participants were able to work together regardless of ability or perception of others ability, though there was a serious current to games.

Andrew            Well I don't care if anyone's good or bad. It doesn't bother me. Like other people take it much more seriously, more than a game. Like you have to win and you have to

be good and that. And then you get criticised by other people for dropping the ball and that.

The competitive habitus that Andrew indicated during his interview was reported by 90.0 per cent of participants. All of the female participants, and 83.3 per cent of the male participants perceived themselves to be competitive. The perception of competitiveness by participants was reflected in the reported high level of participation in competitive sport outside of school. Amy stated her dislike for participating in Touch in the Co-2 habitus was due to the 'competitiveness of games' and this was obvious in different preferences for team groupings.

To create an even competition, there was overall preference for teams to be divided with a similar spread of ability in the manner that Gary, the Co-2 teacher, organised teams.

Bridget            Probably how he [Gary] does it. 'Cause it wouldn't be fair if all the good players played the crap players. It wouldn't be fair at all... 'Cause if you've got like Natalie, Anna, Jamie versus me and Tracy who play Soccer and have no idea [shrugging shoulders].

Gary also attempted to form teams with even numbers of boys and girls as well as dividing participants based on ability.

Andrew            Yeah he like goes through the guys and girls and says you there, you there [indicating two different groups]. I don't know if he does it randomly or he does it by skill levels to make the teams even.

It was perceived that the boys and girls in the Co-2 habitus participated well together.

Lee                Yep. Mainly. Except there's some boys that are really stubborn and the girls like to argue a lot. And those things sort of don't tend to mix.

However, there were also requests for teams to be single-sex.

Amy            Well in Touch it was girls verse boys but I think that was chosen by the class just to see how good they were.

On a number of occasions it was observed that the boys requested to be grouped together in teams. The girls also asked to be grouped together to compete against the boys. Preferences for single-sex groupings were particularly voiced by the female participants, especially when given the opportunity to group themselves.

Jamie            How do we group ourselves? Um pretty much all the girls go together [laughing].

Researcher    Is that because you are all friends?

Jamie            Yeah. I think so. We know we're going to have fun with them. And also you go with who you know is good at the sport.

Ability, as well as friendship, emerged as a decisive factor in forming teams.

Craig            Oh well, all the chicks [girls] like all play Touch and stuff so they're all on the same team.

It was apparent that the Co-2 habitus was competitive and that teams were an important aspect revealing that competitiveness.

Adam            Like you don't pick a crap team. You want to pick good people on the team.

A high level of ability on teams and an even competition helped to create an element of challenge in the Co-2 habitus. The Challenge construct total mean SPPPECE result of 14.10 indicated that participants were not dissatisfied with the level of challenge. Neither the boys (14.00) nor the girls (14.25) showed a lack of acceptance for the level of challenge, perhaps due to the overall high ability of participants. Lack of experience in Touch was the common cause for challenge to be felt.

Lee            It was pretty [more] towards that it was just the rules I didn't know. Because AFL [Australian Rules Football], it's a similar shaped ball and I had ball handling skills and I had all the ability like agility and stuff... Yeah and all the things that made it different from other games. Like they call things different names like darts, I had no idea what that was.

The overall high ability level of the habitus contributed to the level of challenge experienced by participants who had not previously played Touch.

Craig            Yeah and also the fact that all the Touch players were in there as well. So they were playing at a pretty high level as well.

The experienced Touch players also perceived that playing with higher ability players would be more challenging for them.

Jamie            I think like the only thing probably that would have been more challenging would be having people that were, probably that were of a higher Touch level against you. So that made it harder like for you to defend or harder for you to attack them. Like you would have had to think of things to do or whatever. Because it was the same old people and stuff and you didn't really need to do much to challenge yourself.

It was observed that certain plays were already incorporated into regular game play in the Co-2 habitus, and self-imposed handicaps were perceived as a possible way to increase challenge.

Brendan            Having to use new tactics and ways of playing the game. Setting goals for ourselves and recording our progress would be more challenging.

The use of complex plays during games was observed to be commonplace during games, largely due to the experienced players in the habitus. Having experienced, high ability players was challenging for the less experienced.

Bridget        Yeah and being around such experienced players. The expectation was pretty high.

The high expectation was perceived as a motivator, even for low ability participants like Amy.

Amy             You're always going to step up in a better team I find...it does make you want to. I mean you can only go as far as [pause].

Participants were observed to participate fully and were completely involved in the class activities when they were motivated. Perhaps due to the friendship aspect of the habitus there was a very social atmosphere that influenced participation at times.

Jamie            Because we are with all our friends in the group, it becomes like a big muck around session or whatever. So if we're not forced to we'll sit around. But we will participate if we're forced to.

Personal choice was involved in participation with participants electing their own level of involvement. On five separate occasions Gary told the class that their lack of participation was not acceptable and they would revert to theory classes if they could not organise themselves for the practical classes.

Craig            Gary likes us to participate and stuff but if we don't, we can just not really try and stuff. Like some people don't really try or anything.

Amy was the only participant of the Co-2 habitus who purposefully did not want to participate in the Touch unit. Other participants accepted her lack of participation and

the history of it informed the habitus. On an occasion when Gary made her play in a game, Amy's participation was peripheral and she stood along the sideline. Other participants, informed by the habitus, ignored Amy's participation and even told her to get out of the way.

Natalie [yelling] What are you doing? Get off the field you dickhead! [pushes Amy off the field]  
Amy [yelling] I'm on your team!

Amy's lack of participation was not perceived to inhibit other participants, however there were other instances where participants' behaviour impacted on others.

Lee Well if we were doing drills and someone's messing around and the ball gets kicked away then we have to wait around until they get it.

Behaviour management was not observed to impact greatly on participants other than those on the receiving end. The same male participants commonly misbehaved and received physical penalties, running around the oval, as punishment. Both male and female participants perceived the boys to misbehave more than the girls, which affected the amount of attention participants received from Gary.

Robbie Oh it depends on our attitude too. 'Cause the boys I think misbehave more than the girls. And the boys, Gary sort of pushed to the side and concentrated on the girls.

The girls however perceived that participants received more attention from the teacher for differing reasons.

Jamie Yes for different reasons. The boys, some people for behaviour. Some people 'cause maybe they're more dominant or whatever. They're asking the questions and stuff, whereas other people just sit down and don't worry about it.

Gary giving more attention to certain individuals was also perceived as being a positive aspect of the habitus.

Bridget        If it's probably their chosen sport Gary would look for help. I know that in Netball he doesn't really know the rules as well as Erica does so he might ask Erica if it's right or not.

The different aspects of interference between participants, team selection and differences in teacher attention may have attributed to the SPPPECE Equity construct total mean score of 16.45 for the Co-2 habitus. The boys and girls scores of 16.08 and 17.0 respectively, though showing a one point difference, both indicated slight dissatisfaction with equity in the Co-2 habitus, however it was not a significantly negative result for the habitus.

#### *5.4 Habitus Explored*

This chapter reported the triangulated qualitative and quantitative results describing the five habitus studied. A comparison of the habitus surrounding the intended and emergent themes focussed on gender, ability, challenge, equity and the teacher. The school, the teacher, the participants, and the practices they engaged in created the class habitus unique to those individual aspects that informed it. No two habitus could be exactly alike due to the individual qualities participants brought to it, and the resulting individual practices that produced the histories of the habitus and which informed all future practices.

The individuality of each habitus was largely dependent on the aspects of ability and challenge, the focus of this research, as well as issues such as the teacher and equity that emerged through the research process. Despite the individuality of each habitus, familiar themes emerged in the data surrounding the focal aspects of challenge, gender and ability, and the emergent issues of equity and the teacher. The similarities and differences between each of the habitus, specifically in regard to the identified and emergent themes, are reported and discussed in chapter 6.

## Chapter 6: Habitual Similarities and Differences

### 6.0 Comparing the Different Similarities

The most distinctive result from the analysis of the five different habitus studied was their individual uniqueness. There were apparent similarities between the habitus, however their clear differences were also demonstrated, and both were established through Chapter 5. Central to each class habitus were the theoretical framework themes of ability, individual and environment, which incorporated aspects of challenge and gender. Further significant themes that emerged from the data included equity and the teacher. It is the purpose of this chapter to present an analysis of the similarities and differences between the five habitus, specific to the identified themes. Differences were seen to have originated with the individual demographics (refer to Appendix F) of the five habitus.

### 6.1 Demographically Speaking

Perhaps due to the variables of Senior Physical Education being an elective, OP subject, the size of the schools, and available teaching and physical resources, the classes contained less than 30 students which has been reported as significant in comparing research findings (Caplice, 1994; Harris, 1986; Woodward et al., 1999). The Co-1 class had the largest  $n = 28$ , with participants revealing that choices were constrained in that grouping of subjects, resulting in more participants selecting Senior Physical Education.

**Table 17**

*Student Participation in Junior HPE*

	Valid		Did Junior HPE		Did not do Junior HPE	
	N	Percent	No.	Percent	No.	Percent
<b>SG-1</b>	20	100.0%	10	50.0%	10	50.0%
<b>Co-1</b>	28	100.0%	27	96.4%	1	3.6%
<b>Co-2</b>	20	100.0%	18	90.0%	2	10.0%
<b>SB-1</b>	21	100.0%	19	90.5%	2	9.5%
<b>SB-2</b>	27	100.0%	25	92.6%	2	7.4%



The reported number of participants who had been previously enrolled in a Junior HPE subject (see Table 17) was similar across the Coed school and Boys' school classes. A minority in each of the four classes reported not having participated in any elective Junior HPE subject. The Girls' school results however reported an equal distribution indicating that previous elective physical education participation was not a feature of the SG-1 habitus.

More consistency across the different habitus was shown through the participants' self-perception of sporting level (see Table 18). The majority of participants perceived themselves to be of either high or average sporting level which may be linked to the elective nature of the Senior Physical Education subject.

**Table 18**

*Participant perception of sporting level*

	Valid		High		Average		Low	
	N	Percent	No.	Percent	No.	Percent	No.	Percent
<b>SG-1</b>	20	100.0%	7	35.0%	12	60.0%	1	5.0%
<b>Co-1</b>	28	100.0%	14	50.0%	14	50.0%	0	0.0%
<b>Co-2</b>	20	100.0%	9	45.0%	8	40.0%	3	15.0%
<b>SB-1</b>	21	100.0%	11	52.4%	9	42.8%	1	4.8%
<b>SB-2</b>	27	100.0%	12	44.4%	15	55.6%	0	0.0%

The majority perception of competitiveness could also be linked to the subject, as well as the reported levels of participation in competitive sports (see Table 19). Each habitus reported participant involvement in competitive sports from local club level to representation at Regional, State and National levels. The Co-2 and both Boys' school habitus reported a self-perception of non-competitiveness of 10 per cent or less.

**Table 19**

*Participant perception of being competitive or non-competitive*

	Valid		Competitive		Non-competitive	
	N	Percent	No.	Percent	No.	Percent
<b>SG-1</b>	20	100.0%	14	70.0%	6	30.0%
<b>Co-1</b>	28	100.0%	21	75.0%	7	25.0%
<b>Co-2</b>	20	100.0%	18	90.0%	2	10.0%
<b>SB-1</b>	21	100.0%	19	90.5%	2	9.5%
<b>SB-2</b>	27	100.0%	25	92.6%	2	7.4%

The difference could have been explained by gender as competitiveness has previously been defined as a male characteristic (Chepyator-Thomson & Ennis, 1997; Lantz & Schroeder, 1999), however the Co-2 habitus also contained girls, none of whom reported perceiving themselves as being non-competitive (see Table 20).

**Table 20**

*Gender comparison of participant competitiveness*

	Valid		Competitive		Non-competitive	
	N	Percent	No.	Percent	No.	Percent
<b>SG-1</b>	20	100.0%	14	70.0%	6	30.0%
<b>Co-1 Girls</b>	10	100.0%	6	60.0%	4	40.0%
<b>Co-2 Girls</b>	8	100.0%	8	100.0%	0	0.0%
<b>Co-1 Boys</b>	18	100.0%	15	83.3%	3	16.7%
<b>Co-2 Boys</b>	12	100.0%	10	83.3%	2	16.7%
<b>SB-1</b>	21	100.0%	19	90.5%	2	9.5%
<b>SB-2</b>	27	100.0%	25	92.6%	2	7.4%
<b>Total Girls</b>	38	100.0%	28	73.7%	10	26.3%
<b>Total Boys</b>	78	100.0%	69	88.5%	9	11.5%

Comparing the single-sex classes, SG-1, SB-1 and SB-2 would indicate boys to be more competitive than girls. Comparison of the Coed school classes however refutes this assertion to some extent, limiting gender as the defining factor.

## 6.2 Questioning Gender

It could have been assumed that gender would only be a significant aspect of the Coed school classes as both the Girls' school and Boys' school classes had traditionally been tailored to the specific needs and interests of its students (Caplice, 1994; Jones et al., 1987). This was evident in the selection of physical activities for the Senior Physical Education curriculum in both single-sex schools. However, individualisation of the curriculum was also evident for the Coed school as required by the syllabus (QSA, 2004).

The most notable aspect of the analysis of the gender theme was its irrelevance as a significant issue in any of the habitus. Important as it is in the definition of the methodological concept of the Individual, gender was only significant in defining

participants in terms of the biological sense of the word, in terms of male and female. Gender was a descriptive aspect of the individual and failed to emerge as an important issue in the Senior Physical Education learning environments of this research, perhaps, a reflection of the changing hegemonic culture of sport and of Australian society in general (Elliot, 1998; Koivula, 2001).

Rather the changes in hegemonic culture and how this impacts on traditional concepts of masculine and feminine traits which, previously were ascribed as creating problems in sport participation (Miner, 1993), may need further investigation. Literature regarding the area of physical education, both in Australia and internationally has focussed on gender as a key research area (see for example those cited in Chapter 2, Chepyator-Thomson et al., 2000; Davison, 2000; Derry, 2002; Greenwood et al., 2001; Papaioannou, 1998; Trost et al., 1996). However, the overall results of this research revealed that gender might not be as predominant an educational issue of concern as it has previously been deemed, particularly in the area of physical education. This research did acknowledge gender differences, specifically for the quantitative results.

Demographic data on participants' perception of sporting level (see Table 21) revealed that in accordance with previous research (Asci et al., 2001; Clifton & Gill, 1994; Hayes et al., 1999; McKiddie & Maynard, 1997), overall the male participants' self-perception of ability was higher than the female participants.

**Table 21**

*Gender comparison of participant perception of sporting level*

	<b>Valid</b>		<b>High</b>		<b>Average</b>		<b>Low</b>	
	<i>N</i>	Percent	No.	Percent	No.	Percent	No.	Percent
<b>SG-1</b>	20	100.0%	7	35.0%	12	60.0%	1	5.0%
<b>Co-1 Girls</b>	10	100.0%	3	30.0%	7	70.0%	0	0.0%
<b>Co-2 Girls</b>	8	100.0%	3	37.5%	4	50.0%	1	1.25%
<b>Co-1 Boys</b>	18	100.0%	11	61.1%	7	38.9%	0	0.0%
<b>Co-2 Boys</b>	12	100.0%	6	50.0%	4	33.3%	2	16.7%
<b>SB-1</b>	21	100.0%	11	52.4%	9	42.8%	1	4.8%
<b>SB-2</b>	27	100.0%	12	44.4%	15	55.6%	0	0.0%
<b>Total Girls</b>	38	100.0%	13	34.2%	23	60.5%	2	5.3%
<b>Total Boys</b>	78	100.0%	40	51.3%	35	44.9%	3	3.8%

The veracity of such a quantitative finding is questionable, for qualitative evidence of participant ability did not match the self-professed ability levels, nor was it confirmed by using a test to measure actual ability. Interview data also revealed both male and female participants from all three schools as not wanting to ‘sound up themselves’ by admitting to their actual high level of ability. The collective quantitative results indicated more strongly that aspects of ability, and not gender were more deeply related to reported differences in the habitus. Wright’s (2001) flexible definition of gender due to changing social and cultural groups appeared to be more applicable to the current Senior Physical Education habitus researched in this study than previous notions of femininity and masculinity.

There were reported and observed incidences of male participants displaying the defined masculine traits of competitiveness and domination of team games, and of female participants displaying cooperative and affiliative behaviour (Chepyator – Thomson & Ennis 1997; Lirgg, 1994). However, the boys also displayed cooperative and affiliative behaviour, and there was also a lot of evidence of competitive and dominating behaviour by the girls, in both the Coed and Girls’ school environments. Positive aspects of gender behaviour were also confirmed in this study, such as the acceptance of high ability girls by the boys and vice versa, as reported by Wright (1996) and Derry (2002). However, this was less a gender issue and more strongly related to differing aspects of ability and the participants’ self-perception of ability.

### *6.3 Focusing on Ability*

The study’s PSPP results (see Table 22) showed both similarities and contradictions to the results of Fox’s (1990) samples. Scores from Fox’s sample were lower across both genders and for all subscales, possibly due to the sport specific group of this research compared to Fox’s more general sample. Similarity to Fox’s sample was found in the lower score for the female groups compared to the male groups for the Body subscale. There was direct contrast with the Co-2 girls’ Condition subscale mean score being the highest of all the groups, possibly as a result of their sporting participation at a high competitive level.

The consistent low results for the Co-1 girls compared to the other groups could be a result of the general low ability of the group. Research has shown that low ability

girls have exhibited self-consciousness performing in a coeducational environment due to harassment from high ability males (Derry, 2002).

**Table 22**

*Gender comparison of PSPP subscale means*

	Valid		Sport	Condition	Body	Strength	PSW
	N	Percent					
<b>SG-1</b>	20	100.0%	17.05	17.15	14.10	16.05	15.65
<b>Co-1 Girls</b>	11	100.0%	15.18	15.73	14.64	14.00	15.91
<b>Co-2 Girls</b>	8	100.0%	17.25	19.00	14.63	15.25	18.13
<b>Co-1 Boys</b>	17	100.0%	17.53	17.59	15.88	15.65	18.94
<b>Co-2 Boys</b>	12	100.0%	17.58	17.33	16.17	15.50	18.00
<b>SB-1</b>	22	100.0%	18.14	18.45	17.82	16.27	18.09
<b>SB-2</b>	27	100.0%	17.56	18.07	15.74	15.74	17.15
<b>Total Girls</b>	39	100.0%	16.49	17.29	14.46	15.10	16.56
<b>Total Boys</b>	78	100.0%	17.70	17.86	16.40	15.79	18.04

Interference and comments indicated in the data were attributed more to lack of participation and negative attitude rather than to ability in the Co-1 habitus. Comments across all of the habitus were often viewed as ‘good natured’ and a ‘joking matter’ rather than being derisive or ridiculing in nature. Similar to Wright’s (1996) findings, in all five habitus evidence was reported for the inclusion of participants of all abilities, dependent on their willingness to participate.

Participation and not ability was the determinant factor for inclusion in groups and activities, though it was common practice for all teachers to divide students in such a manner that spread a mixture of ability levels through the groups. There was acceptance in each habitus for this method of grouping, though there were specific comments from a number of participants who revealed a preference for streamed groupings. Participants from both the Girls’ school and Coed school reported a preference for grouping with similar ability which they felt would enhance learning, and offer more challenge. Perception of challenge was linked to ability throughout the qualitative data and supported the evidence attained from the quantitative data.

A hierarchical multiple regression was applied to the data to examine how much variance in the dependent variable of Ability was explained by the independent

variables of Equity, Gender and Challenge. Regression was also used to give an indication of the relative contribution each of the independent variables made, and the significance of each (Pallant, 2001; Tabachnick & Fidell, 2001).

The significance of the independent variables of Equity and Challenge in predicting Ability are reported in Table 23. Both the Equity and Challenge variables reported as significant contributions, with an ANOVA significance reported at .001 and the R Square revealing that 11.9 per cent of the model was predicted by this model.

**Table 23**

*Ability regression with equity, challenge, gender and class as predictors*

	<b>R. Square</b>	<b>ANOVA Sig.</b>	<b>Independent Variable Sig.</b>
<b>Ability (Dependent Variable)</b>	11.9	.001	
<b>Equity</b>			.004
<b>Challenge</b>			.009
<b>Gender</b>			.934
<b>Class</b>			.893

Gender was not a predictor of Ability in this model, further reinforcing the decreasing importance of the theme in this research. Nor did Class report any significance as a predictor of Ability indicating that ability was independent of the learning environment.

The quantitative results indicated the significance of ability as a defining characteristic of the Senior Physical Education habitus studied, complementing the reported qualitative data. Of particular focus in this research through the methodological framework, ability, both actual and perceived, was also a determining aspect of participant's perceptions of challenge in the habitus.

#### *6.4 Developing Challenge*

Challenge as the dependent variable, with Equity, Gender and Ability as independent variables in the hierarchical multiple regression further indicated the relationship between Ability and Challenge. R Square was .086 with a Significance F Change value of .042 (see Table 24). The significance of the independent variables of Ability, Gender, Class and Equity show that Ability, with a significance of .009, was

the only variable significant in predicting Challenge. The learning environment, or habitus, was not a significant predictor of challenge, nor was gender.

**Table 24**

*Challenge regression with ability, equity, gender and class as predictors*

	<b>R Square</b>	<b>Sig. F Change</b>	<b>Independent Variable Sig.</b>
<b>Challenge (Dependent Variable)</b>	.086	.042	
<b>Ability</b>			.009
<b>Equity</b>			.483
<b>Gender</b>			.651
<b>Class</b>			.369

It can be inferred that a curriculum not geared to individual ability could reduce the level of challenge that participants experience and feel. Evidence from the qualitative data of this study reinforced the significance of ability as a factor in participants' perception of challenge in their habitus. A familiar finding across the five habitus was that aspects of sporting experience, repetition of learning experiences and the progressive attainment of skills reduced the perceived level of challenge experienced. Those findings indicated that learning experiences through the planned curriculum did not result in challenging experiences for the majority of participants.

If the learning experiences of the habitus were not appropriate to the ability of participants a challenge-skills imbalance would occur (Jackson & Csikszentmihalyi, 1999), which was evident to some degree across each of the habitus. Rogers (2002) reported that high ability learners require some form of ability grouping in order to provide challenging and extended curricula, a request made by high ability participants from both the SG-1 and Co-1 habitus. The Co-2 habitus, perhaps due to its overall high level of ability and experience in the physical activity, reported the least dissatisfaction regarding challenge.

Various participants from each habitus offered the solutions of introducing more complex skills and participation with and against similar or higher ability levels to increase challenge. Providing a challenge-skills balance appropriate to every individual participant in the habitus is an issue of equity, so that every participant is provided with the same opportunity.

### 6.5 Equitable Provision

It was revealed that in each habitus participants were provided with the same opportunities and access to learning experiences. It was the individual choice made by participants whether or not those opportunities were taken. There were however instances of inequity which the quantitative data revealed were related to the learning environment, both school and class habitus, and aspects of ability within the habitus. There was a common perception by middle or lower ability participants in each habitus that higher ability participants were given more opportunity, and at times more teacher attention.

The hierarchical regression analysis of the dependent variable Equity with the predictors Ability, Challenge, Gender, Class and School reported an R Square of 15.1. Table 25 reports the ANOVA significance as .002, with School, Ability and Class as significant predictors. Neither Gender nor Challenge was revealed as significant in the prediction of Equity. Ability was a fundamental contributor to the habitus, both school and class, and so was revealed as a major contributor to equity within the habitus. Whilst the opportunity for equity in the habitus was provided by the teacher, research has reported (Fiedler et al., 2002) that equality does not require all students to have exactly the same experiences. At the same time, it was the practices of participants that were reported to produce instances of inequity.

**Table 25**

*Equity regression with ability, challenge, gender, class and school as predictors*

	R Square	ANOVA Sig.	Independent Variable Sig.
<b>Equity</b> <b>(Dependent Variable)</b>	15.1	.002	
<b>Ability</b>			.008
<b>Challenge</b>			.483
<b>Gender</b>			.901
<b>Class</b>			.038
<b>School</b>			.001

Ability was determined as the major factor that limited participants' opportunity in the class. Particularly, the Co-1 class reported the highest SPPPECE Equity construct mean total, perhaps due to the broad range of abilities in that habitus. Participation also



emerged in that habitus as an equity aspect that affected all ability levels. Though participants were a strong determinant of equity in the habitus, the teacher was central to the provision and maintenance of an equitable habitus.

### *6.6 Teacher Influence*

The underlying factor that emerged through all of the themes, and across each of the habitus, was the significance of the role of the teacher in shaping the habitus. Such a significant role could be assumed considering that responsibility for the development and implementation of curriculum belongs to the teacher. Teachers are expected to provide an equitable Senior Physical Education learning environment that provides learning experiences suited to the individual ability, interests and needs of the students (QSA, 2004). Professional role aside, the personality, expectations, practices and moods of a teacher shape and inform the habitus.

It emerged that in each of the habitus, the teacher was instrumental in setting the tone of the habitus. Participants, whilst maintaining a good rapport with Mr Braithwaite, recognised his strict expectation in the SB-1 habitus. Mr Miller, Millsy, was known for his humour and storytelling in the SB-2 habitus. It was perceived that Mrs D had high expectations of her students in the SG-1 habitus. The Co-1 class realised that Sue put more effort into those who put effort into the class. Gary expected everyone to be involved and participate in the Co-2 habitus.

The teacher emerged through the data as a central theme to the Senior Physical Education habitus. Through aspects of curriculum planning and delivery, grouping of participants, and behaviour management the methodological themes of ability, individual and environment were influenced by the practices, and personality of the teacher. Whilst not an initial focus of this research, the teacher emerged as an important theme for future research exploring Senior Physical Education habitus.

### *6.7 Comparative Habitus*

The individual class habitus were analysed and reported in Chapter 5 with the resulting similarities and differences for each of the identified and emergent themes established in this chapter. Despite the uniqueness of each of the habitus and the resulting differences between them, there was also familiarity between the five habitus.

Similar issues regarding the themes were apparent across the habitus despite demographic differences.

In the analyses of the habitus it became apparent that ability was an important theme, impacting on the other themes challenge, equity and even the teacher. The lack of importance of gender in each of the habitus, compared to the importance of ability adds a new perspective to Senior Physical Education learning environments. The results of the research have significant implications for North Queensland Senior Physical Education learning environments, and these will be discussed in the concluding Chapter 7.

## Chapter 7: Concluding Ability and Implying Challenge

### *7.0 The Challenge of Ability and Gender*

This final chapter of the thesis concludes the research study undertaken. It embodies the analysis of the results reported and discussed in Chapters 5 and 6 in response to the research questions and hypothesis presented in Chapter 1. Both agreement and disagreement emerged through the findings in relation to the research questions and literature, and these are discussed in the analysis of the findings. A concise summary of the research and the steps taken in the research process precedes the presentation of the conclusions, implications and recommendations of the study.

### *7.1 Senior Physical Education Habitus Research Summarised*

The literature pertaining to previous research in physical education, as reviewed in Chapter 2, has historically focussed on the gender issues of single-sex and coeducation. It was shown that discussion of ability has been included in educational research to a lesser extent, and largely focussed on the extremes of gifted and talented, and low ability students in the core subject areas of mathematics, science and literacy. It was significant that such educational research concentrated on the middle and lower schooling years, rather than Senior education, and had not yet extended far into the subject area of physical education. This research solely addressed the senior years of schooling and dealt specifically with various practical Senior Physical Education environments.

The themes of ability, challenge and gender were identified and incorporated into the study's multidimensional methodological framework using the dimensions of ability, individual and environment, as detailed in Chapter 1. The accepted considerations of gender differences in learning styles and how they influence learning environments were incorporated in this study with the inclusion of both single-sex and coeducational environments. The individual aspects of male and female participants were acknowledged within those homogeneous groupings. The literature was lacking in the examination of challenge, and the term was often interchanged with competition whilst ability has been researched in terms of gifted and talented or learning difficulties.

This study has addressed areas that have not been extensively researched within the traditional educational themes, and contributes new knowledge and understanding

of these themes whilst introducing new themes. The Multidimensional Framework of Student Differentiation embraced the themes of ability, challenge and gender that were explored in physical education habitus through a case study methodology using both qualitative and quantitative data collection techniques. Quantitative instruments were trialled in the Pilot study, detailed in Chapter 3, and were found to be appropriate for use in the case study methodology as described in Chapter 4.

The findings from the data analysis reported in Chapter 5 and the comparison in Chapter 6, revealed implications for the Senior Queensland Physical Education habitus researched, which may have some applicability to other Senior Physical Education habitus. The results and analysis of the research also contribute to the body of knowledge regarding understandings of Senior Physical Education learning environments. As specific as the situations involved in this research were, the fundamental nature of the recommendations arising from the study may well be applied to all Senior Physical Education habitus. This study's arising implications and resultant recommendations follow a summation of the research findings in regards to the study's research questions.

### *7.2 Finding Challenge in Ability*

The research questions hypothesised that within the practical Senior Physical Education habitus gender, ability and learning environment, either single-sex or coeducation, would have an affect on an individual's experiences, perceptions and sense of level of challenge. The findings of the qualitative and quantitative data demonstrated both agreement and disagreement in the findings regarding the hypothesis, and which can be understood in answer to the research questions.

1. Do student perceptions and experiences differ in regard to learning environment, ability and gender in Queensland Senior Physical Education subjects?

Gender did not emerge as a significant contributor to perceptions and experiences, as hypothesised. In that regard, neither was the learning environment, single-sex nor coeducation, a significant contributor as hypothesised. More so it was ability within the individual habitus that demonstrated the most impact on participants'

perceptions and experiences, regardless of a single-sex or coeducational learning environment. Each of the five habitus was unique because of the characteristics of the participants, their experiences and abilities, the teacher, and the practices and histories that resulted. The different classes within the same school habitus also revealed subtle habitus differences. However, similarities across the five habitus emerged regarding both identified and emergent themes. This was particularly evident with a similarity in perceptions becoming apparent from participants of similar ability across each of the habitus.

Ability was reported in each habitus to be dependent on participants' experience in the physical activity, their general sporting level which was revealed through the ease with which they picked up skills, and in comparison to their peers abilities. The theme of ability emerged as being influential with regard to how participants perceived their individual habitus and this was shown to be influential in aspects of participation and interaction within the habitus. In each habitus participants of varying ability levels differed in their experiences and perception of the Senior Physical Education habitus with similar themes and findings revealed for each habitus. Of major significance was the extent to which aspects of participation and interaction contributed to perceptions of equity.

The emergence of equity as a significant issue in the habitus was found to be also largely based on participants' ability levels, and their perceived ability levels. The level of participation and interaction between participants, and with the teacher were indicative of equity concerns in all of the habitus. Issues of equity surrounding the teacher were also considered from an ability perspective. In each Senior Physical Education habitus the teacher was revealed to be a major influence in the formation and practices of the habitus.

It was found that whilst student perceptions and experiences did differ within each Senior Physical Education habitus in regard to ability, gender and the single-sex and coeducation learning environments were not shown to be significant, however both equity and the teacher emerged as important themes. The finding that ability was a significant factor in the practical Senior Physical Education habitus was more fully illustrated through questioning of how it affected participant's actual and perceived level of challenge.

2. How do a Queensland Senior Physical Education student's ability level and gender affect their perception of the level of challenge in their practical physical education environment?

As previously identified, gender did not appear to have an affect on the participants' perceptions and similarly was not demonstrated to be a factor that affected the level of challenge experienced in the practical Senior Physical Education learning environment. Ability however was found to have a significant effect on participants' perceived level of challenge in the practical Senior Physical Education environment. Common to all five habitus was the fact that higher ability participants, or those experienced in the physical activity studied were not challenged by repetitive curriculum activities. Neither did the middle nor lower ability groupings perceive repetitive activities to be challenging after an initial degree of mastery of the skills had been achieved.

What was perceived to be challenging for all ability groupings across each of the habitus was to play with and against players of a higher ability level. It was commonly perceived that playing with and against a high ability level was both challenging and important for increasing knowledge and skill. The participants of high ability perceived that playing with similar and higher abilities was, or could be beneficial, and conversely felt that playing with lower ability groups was not conducive to producing challenge or increasing skill level.

The manner in which teams and groups were formed also affected participants' perception of challenge and their capacity to experience challenge at an appropriate level. Mixed ability groupings were used by the teachers in all five habitus to provide an equitable learning environment, however this was not perceived to be equitable, specifically by the higher ability levels who felt their level of challenge was reduced. Rather, they revealed a preference for ability based groupings, either by their own choosing, or by the teachers. The implications of such concepts as ability based groupings in Senior Physical Education classes have administrative and demographic limitations.

### *7.3 The Implications of Challenging Ability*

At the outset of this study it was hypothesised that gender was an important factor in students' perceptions of the practical Senior Physical Education environment. This emanated from the significance previously reported in relevant education and physical education literature as explored in Chapter 2 (see James, 1999; Jones et al., 1987; Lee et al., 1994; LePore & Warren, 1997; Lirgg, 1993; Mael, 1998; Woodward et al., 1999; Wright, 2001). The analysis of the data in this study however, implied that in the learning environments studied, gender was not of import compared to ability. To further test the hypothesised shift in gender focus would require research in physical education and other education areas to gain an understanding of the changes that have occurred, and the reason they have occurred. Gender as a determinant of the structure of educational environments may be a misplaced or perhaps overstated focus for the needs and wants of physical education students.

The argument for single-sex schooling being tailored to the needs of a homogenous gender group (Caplice, 1994; Jones et al., 1987; Mael, 1998) conflicted with the findings of this research which did not reveal gender as being significant in the Senior Physical Education learning environment. Ability however, did prove to be a significant factor within the same learning environments with the implication that current groupings do not meet the preferences or the needs of all students. The choice between single-sex and coeducation was provided to give the same equitable choices to both genders (Department of Education, 2003). It could be implied that both streamed and mixed ability environments should be provided to give an equitable choice to students, depending on their individual preference and needs (Zevenbergen, 2002). The implication that students are not challenged in current groupings due to differing ability levels requires further investigation and questions current educational policy regarding grouping in education environments (Penney & Chandler, 2000).

The implication of ensuring that participants are appropriately challenged in the practical Senior Physical Education learning environment falls largely to the teacher. The flexibility of the Senior Physical Education Syllabus (QSA, 2004) allows for the work program to be tailored to the individuality of each group of students. Even so, the curriculum activities planned and delivered by teachers need to be re-evaluated to ensure that they provide a challenge-skills balance appropriate to the students (Jackson & Csikszentmihalyi, 1999).

#### *7.4 Challenging Recommendations*

The lack of emphasis of gender that resulted from this analysis of the Senior Physical Education learning environments lends itself to the recommendation of a new focus in research that could question the place and importance of gender in educational terms in current learning environments. It is questioned whether gender is still a significant educational issue for physical education, and other subject areas. The possible replacement of gender as a significant educational focus by the issue of ability questions prior understandings of equitable learning environments, and calls for further research into education groupings based on both gender and ability.

Research exploring differences in streamed and non-streamed learning environments has largely focussed on the core academic subjects, with limited research in physical education (see Clinkenbeard, 2000; Dai, 200; Holloway, 2001; Imison, 2001; Zevenbergen, 2002). The findings of this current research indicated that further research into aspects of ability within physical education is warranted. Specific focus of ability groupings in learning environments in relation to participation, student interaction and challenge are also recommended. Previous research has focussed, as already mentioned, on the extremes of ability, either high or low (see Carlson, 1995; Clinkenbeard, 199; Stanley & Baines, 2002; Zevenbergen, 2002).

In this study it was shown that perception of the learning environment in regards to ability, participation, student interactions, the teacher and equity varied according to differing ability levels, high, medium, low and everything in between. Those reported differences suggest that experiences within the Senior Physical Education learning environment need further exploration to determine the needs of a homogenous group of students even within homogeneous groupings (Gilbert and Gilbert, 1998; Power, 2001; Wright, 2001).

It is desirable that teachers reflect on the nature of activities planned for students and assess their appropriateness in terms of challenging students at all levels of ability, particularly in the currently dominant mixed ability learning environments (Stanley & Baines, 2002). The analysis showed that incorporating a progression in complexity of skill was identified as an area that could increase the level of challenge experienced by students of all abilities. It is recommended that teachers identify the ability of students and plan a curriculum that challenges and engages them accordingly (Bandura, 1999; Jackson & Csikszentmihalyi, 1999; Whipp, 2001).



The purpose of such a curriculum would be to ensure that students from all ability levels were provided with equal and equitable opportunity to learn and perform at a level appropriate to their individual needs. This task is not easily achieved in the current educational climate where large classes and an array of abilities are the norm, which begs the question as to whether the job teachers are charged with is realistic and equitable in its asking.

Whilst teachers might intend or set out to be equitable in their practices, students were found to be not entirely equitable in their interactions with each other. Investigating equity in physical education environments and addressing the reasons for the occurrence of inequity is recommended so that such instances of inequity can be reduced to ensure that opportunities to perform and excel are available to all students (White, 1997). The findings of this study suggest that further research of equity issues specific to ability and participation in practical physical education learning environments is necessary.

The overall implications of the findings of this research led to recommendations of continuing and further research in order to explore the questions and contradictions raised. Whilst answering the initial research questions and hypotheses, this research appears to raise more questions and issues than it was able to answer. The generic recommendation is for further research within practical physical education learning environments focusing on aspects of ability, equity and the teacher.

### *7.5 Concluding Ability, Gender and Challenge*

The research findings of the study revealed that each class habitus analysed was unique in its histories and practices due to the individual qualities the participants and teacher contributed to it. There were however similarities reported between the five class habitus in regard to ability and challenge, as became apparent in answer to the research questions and discussion of the hypothesis. The implications of the research findings recommend that further research of the subject of Senior Physical Education, and other physical education subjects, as well as the examination of current teaching and learning practices in the various teaching environments be undertaken.

The literature suggested that gender is, and has been, an important focus of physical education research. However, this study of regional North Queensland Senior Physical Education habitus showed that homogeneous gender issues may not actually

be as important an issue as was once believed. The research undertaken in this study illustrates that understandings of homogenous groups of students, particularly with regard to ability and its effect upon challenge, were found to be more relevant causal factors, which it would appear to be a solid foundation for further research.

## References

- Alloway, N., & Gilbert, P. (1997). Boys and literacy: Lessons from Australia. *Gender & Education, 9*(1), 49-58.
- Alreck, P. L., & Settle, R. B. (1995). *The survey research handbook* (2<sup>nd</sup> ed.). Chicago: Irwin.
- Anderson, K. L. (1999). Snowboarding: The construction of gender in an emerging sport. *Journal of Sport & Social Issues, 23*(1), 55-79.
- Asci, F. H., Kosar, S. N., & Isler, A. K. (2001). The relationship of self-concept and perceived athletic competence to physical activity level and gender among Turkish early adolescents. *Adolescence, 36*(143), 499-508.
- Asraf, R. M., & Brewer, J. K. (2004). Conducting tests of hypotheses: The need for an adequate sample size. *Australian Educational Researcher, 3*(1), 79-94.
- Aulin, K. P. (1995). Gender-specific issues. *Journal of Sports Sciences, 13*, S35-S39.
- Australian Sports Commission (ASC). (1992). *Towards gender equity in sport: A practical guide for sporting organizations in developing a gender equity action plan*. Canberra: Australian Government Publishing Service.
- Azzarito, L., & Solomon, M. A. (2005). A reconceptualization of physical education: The intersection of gender/race/social class. *Sport, Education and Society, 10*(1), 25-47.
- Bandura, A. (1999). *Self-efficacy: The exercise of control*. New York: W.H. Freeman and Company.
- Bechervaise, N. E. (1996, 25-29 November). *A comparison of teacher and teacher educator attitudes toward provision for the education of gifted and talented children in schools*. Paper presented at the Joint Conference of Educational Research Association, Singapore and Australian Association for Research in Education, Singapore.
- Beveridge, S., & Scruggs, P. (2000). TLC for better PE: Girls and elementary physical education. *Journal of Physical Education, Recreation and Dance, 71*(8), 22-27.
- Bhambhani, Y., & Maikala, R. (2000). Gender differences during treadmill walking with graded loads: Biomechanical and physiological comparisons. *European Journal of Applied Physiology, 81*, 75-83.
- Biddulph, S. (1998). *Raising boys: Why boys are different – and how to help them become happy and well-balanced men*. Lane Cove, NSW: Finch Publishing.

- Bourdieu, P. (1977). *Outline of a theory of practice* (R. Nice, Trans.). Cambridge: Cambridge University Press.
- Bourdieu, P. (1990a). *In other words: Essays toward a reflexive sociology* (M. Adamson, Trans.). Stanford: Stanford University Press.
- Bourdieu, P. (1990b). *The logic of practice* (R. Nice, Trans.). Cambridge: Polity Press.
- Bourdieu, P. (1993). *Sociology in question* (R. Nice, Trans.). London: SAGE Publications.
- Bourdieu, P. (1998). *Practical reason: On theory of action*. Stanford: Stanford University Press.
- Brady, L., & Kennedy, K. (1999). *Curriculum construction*. Sydney: Prentice Hall.
- Bremner, K. (2002). Gender, sexuality and sport. *Canadian Woman Studies*, 21(3), 6-7.
- Burns, R. B. (2000). *Introduction to research methods* (4<sup>th</sup> ed.). Frenchs Forest, NSW: Longman.
- Burroughs, A. (2001). Women, femininity and sport: The contribution of the 'New Woman' to nationhood. In R. Cashman, J. O'Hara & A. Honey (Eds.), *Sport, Federation, Nation*. Sydney: Walla Walla Press.
- Burrows, L. (2000). Old games in new rompers? Gender issues in New Zealand physical education. *Journal of Physical Education New Zealand*, 33(2), 30-42.
- Buysse, J. A. M., & Embser-Herbert, M. S. (2004). Constructions of gender in sport: An analysis of intercollegiate media guide cover photographs. *Gender & Society*, 18(1), 66-81.
- Caplice, K. S. (1994). The case for public single-sex education. *Harvard Journal of Law and Public Policy*, 18(1), 227-292.
- Carlson, T. (1995). "Now, I think I can.": The reaction of eight low-skilled students to sport education. *The ACHPER Healthy Lifestyles Journal*, 42(4), 6-8.
- Cashman, R. (1995). *Paradise of Sport*. Melbourne: Oxford University Press.
- Cashman, R. (2002). *Sport in the national imagination: Australian sport in the federation decades*. Sydney: Walla Walla Press.
- Cashmore, E. (1990). *Making sense of sport*. London: Routledge.
- Chase, M. A. (2001). Children's self-efficacy, motivational intentions, and attributions in physical education and sport. *Research Quarterly for Exercise and Sport*, 72(1), 47-63.

- Chase, M. A., & Dummer, G. A. (1992). The role of sports as a social status determinant for children. *Research Quarterly for Exercise and Sport*, 63(4), 418-424.
- Chatterjee, S., & Laudato, M. (1995). Gender and performance in athletics. *Social Biology*, 42, 1-2.
- Chepyator-Thomson, J. R., & Ennis, C. D. (1997). Reproduction and resistance to the culture of femininity and masculinity in secondary school physical education. *Research Quarterly for Exercise and Sport*, 68(1), 89-99.
- Chepyator-Thomson, J. R., You, J., & Hardin, B. (2000). Issues and perspectives on gender in physical education. *Women in Sport & Physical Activity Journal*, 9(2), 99-116.
- Clifton, R. T., & Gill, D. L. (1994). Gender differences in self-confidence on a feminine-typed task. *Journal of Sport & Exercise Psychology*, 16(2), 150-162.
- Clinkenbeard, P. R. (1991). Unfair expectations: A pilot study of middle school students' comparisons of gifted and regular classes. *Journal of the Education of the Gifted*, 15(1), 56-63.
- Costa, D. M., & Guthrie, S. R. (Eds.). (1994). *Women and sport: Interdisciplinary perspectives*. Champaign, IL: Human Kinetics.
- Cotton, T. (2002, 11-14 September). *Young, gifted and excluded*. Paper presented at the European Conference on Education Research, Lisbon.
- Craven, R. G., Marsh, H. W., & Print, M. (2000). Gifted, streamed and mixed-ability programs for gifted students: Impact on self-concept, motivation, and achievement. *Australian Journal of Education*, 44(1), 51-75.
- Cury, F., Fonesca, D. D., & Rufo, M. (2002). Perceptions of competence, implicit theory of ability, perception of motivational climate, and achievement goals: A test of the trichotomous conceptualization of endorsement of achievement motivation in the physical education setting. *Perceptual and Motor Skills*, 95, 233-244.
- Dai, D. Y. (2000). "To be or not to be (challenged), that is the question" Task and ego orientations among high-ability, high achieving adolescents. *The Journal of Experimental Education*, 68(4), 311-336.
- Dale, R. R. (1971). *Mixed or single-sex school?* (Vol. II). London: Routledge & Kegan Paul.

- Dale, R. R. (1974). *Mixed or single-sex school?* (Vol III). London: Routledge & Kegan Paul.
- Davison, K. G. (2000). Boys' bodies in school: Physical education. *The Journal of Men's Studies*, 8(2), 255-264.
- Denscombe, M. (1998). *The good research guide: For small-scale research projects*. Buckingham: Open University Press.
- Department of Education. (2002). *The national policy for the education of girls in Australian schools: 1987 Commonwealth schools commission*. Retrieved June 24, 2003, from <http://education.qld.gov.au/students/advocacy/equity/gender-sch/action/policy-girls.html>.
- Department of Education. (2003). *Education history*. Retrieved 13 October, 2003. From [http://education.qld.gov.au/corporate/professional\\_exchange/edhistory/eq/provisional](http://education.qld.gov.au/corporate/professional_exchange/edhistory/eq/provisional).
- Derry, J. A. (2002). Single-sex and coeducation physical education: Perspectives of adolescent girls and female physical education teachers. *Melpomene Journal*, 21(3), 21-29.
- Dewar, A. M. (1987). The social constructions of gender in physical education. *Women's Studies International Forum*, 10(4), 453-465.
- Dimitrov, D. M. (1999). Gender differences in science achievement: Differential effect of ability, response format, and strands of learning outcomes. *School Science and Mathematics*, 99(8), 445-455.
- Doherty, A., & Varpalotai, A. (2000). Theory-policy interface: The case of gender equity in sport. *AVANTE*, 7(1), 32-49.
- Drew, C. J., Hardman, M. L., & Hart, A. W. (1996). *Designing and conducting research: Inquiry in education and social science*. Boston: Allyn and Bacon.
- Drummond, M. (1994). Masculinity from a feminist perspective: Or how feminism helped construct the new man. *Issues in Educational Research*, 4(2), 95-102.
- Drummond, M. (2003). The meaning of boys' bodies in physical education. *The Journal of Men's Studies*, 11(2), 131-144.
- Ebbeck, V., & Weiss, M. R. (1998). Determinants of children's self-esteem: An examination of perceived competence and affect in sport. *Pediatric Exercise Science*, 10, 285-298.
- Eitzen, D. S. (1996). *Sport in contemporary society anthology* (5<sup>th</sup> ed.). New York: St. Martins Press.

- Elliot, M. (1998, 18-20 June). *Gifted adolescent boys: Signs of neglect*. Paper presented at the Reach for the Stars: 7<sup>th</sup> Australian Association for the Education of the Gifted and Talented Conference, Hobart, Tasmania.
- Emanuelsson, I. (2002, 11-14 September). *Differentiation, special education and equality: A longitudinal study of self-concepts and school careers of students in difficulties and with or without special education support*. Paper presented at the European Conference on Education Research, Lisbon, Portugal.
- Ferguson, G. A., & Takane, Y. (1989). *Statistical analysis in psychology and education* (6<sup>th</sup> ed.). New York: McGraw-Hill Book Company.
- Fiedler, E. D., Lange, R. E., & Winebrenner, S. (2002). In search of reality: Unraveling the myths about tracking, ability grouping, and the gifted. *Roeper Review*, 24(3), 108-112.
- Fischer, I. (2001). The involvement of the Commonwealth Government in physical education. In R. Cashman, J. O'Hara & A. Honey (Eds.), *Sport, Federation, Nation*. Frenchs Forest, NSW: Walla Walla Press.
- Flintoff, A. (1997). Learning and teaching in PE: A lesson in gender? In A Tomlinson (Ed.), *Gender, sport and leisure: Continuities and challenges* (Vol 3). Aachen: Meyer & Meyer Verlag.
- Fowler, F. J. J. (1993). *Survey research methods* (2<sup>nd</sup> ed.). London: SAGE Publications.
- Fox, K. R. (1990). *The physical self-perception profile manual*. Bristol: University of Bristol.
- Fraenkel, J. R., & Wallen, N. E. (2003). *How to design and evaluate research in education* (5<sup>th</sup> ed.). New York: McGraw-Hill Higher Education.
- Fromel, K., Vasendova, J., & Krapkova, J. (2000). Esthetic aspects of physical education classes for girls. *Physical Educator*, 57(3), 146-151.
- Gall, M., Borg, W., & Gall, J. (1996). *Educational research: An introduction* (6<sup>th</sup> ed.). New York: Longman.
- Gard, M., & Meyenn, R. (2000). Boys, bodies, pleasure and pain: Interrogating contact sports in schools. *Sport, Education and Society*, 5(1), 19-35.
- Gentry, M., & Springer, P. M. (2002). Secondary student perceptions of their class activities regarding meaningfulness, challenge, choice and appeal: An initial validation. *Journal of Secondary Gifted Education*, 13(4), 192-197.
- Gilbert, R., & Gilbert, P. (1998). *Masculinity goes to school*. London: Routledge.
- Giles, D. (2003, May 25). Women, 'losers' in sport funding. *The Sunday Mail*, p. 25.

- Gillet, S. A. (1999, 29 November-2 December). *Exceptional women: exceptional schools?* Paper presented at the Joint Annual Conference of the Australian Association for Research in Education and New Zealand Association for Research in Education, Melbourne.
- Goodman, R. (1968). *Secondary education in Queensland, 1860-1960*. Canberra: Australian National University Press.
- Greenwood, M., Byars, J., & Stillwell, A. (2001). Activity preferences of middle school physical education students. *Physical Educator*, 58(1), 26-29.
- Gross, M. (1999). Inequity in equity: The paradox of gifted education in Australia. *Australian Journal of Education*, 43(1), 87-93.
- Haag, P. (2000). *K-12 single-sex education: What does the research say?* Retrieved 12 March, 2003, from [http://www.ericfacility.net/database/ERIC\\_Digests/ed444758.html](http://www.ericfacility.net/database/ERIC_Digests/ed444758.html).
- Hall, M. A. (1996). *Feminism and sporting bodies: Essays on theory and practice*. Champaign, IL: Human Kinetics.
- Hallinan, M. T. (1996). Track mobility in secondary school. *Social Forces*, 74(3), 983-1003.
- Hargreaves, J. (1993). The Victorian cult of the family and the early years of female sport. In E. G. Dunning, J. A. Maguire & R. E. Pearton (Eds.), *The sports process: A comparative and developmental approach* (pp69-83).
- Harris, M. B. (1986). Coeducation and sex roles. *Australian Journal of Education*, 30(2), 117-131.
- Hayes, S. D., Crocker, P. R. E., & Kowalski, K. C. (1999). Gender differences in physical self-perceptions, global self-esteem and physical activity: Evaluation of the physical self-perception profile model. *Journal of Sport Behavior*, 22(1), 1-13.
- Helgerud, J. (1994). Maximal oxygen uptake, anaerobic threshold and running economy in women and men with similar performance levels in marathons. *European Journal of Applied Physiology*, 68, 155-161.
- Hill, D. W., & Smith, J. C. (1993). Gender difference in anaerobic capacity: Role of aerobic contribution. *British Journal of Sports Medicine*, 27(1), 45-48.
- Hoge, R. D., & Renzulli, J. S. (1993). Exploring the link between giftedness and self-concept. *Review of Educational Research*, 63(4), 449-465.
- Holland, A., & Andre, T. (1994). Athletic participation and the social status of adolescent males and females. *Youth & Society*, 25(3), 388-407.



- Holloway, J. (2001). Grouping students for increased achievement. *Education Leadership*, 59(3), 84-85.
- Holloway, J., & Baechle, T. R. (1990). Strength training for female athletes: A review of selected aspects. *Sports Medicine*, 9(4), 216-228.
- Holthouse, H. (1975). *Looking back: The first 150 years of Queensland schools*. Brisbane: The Department of Education, Queensland.
- Hopwood, T., & Carrington, B. (1994). Physical education and femininity. *Educational Research*, 36(3), 237-246.
- Howell, M., Howell, R. A., & Brown, D. W. (1989). *The sporting image: A pictorial history of Queenslanders at play*. St Lucia, QLD: University of Queensland Press.
- Howell, R. A., & Howell, M. (1992). *The genesis of sport in Queensland: From the dreamtime to federation*. St Lucia, QLD: University of Queensland Press.
- Hult, J. S. (1994). The story of women's athletics: Manipulating a dream 1890-1985. In D. M. Costa & S. R. Guthrie (Eds.), *Women and sport: Interdisciplinary perspectives*. Champaign, IL: Human Kinetics.
- Humbert, M. L. (1996). How do girls perceive coed physical education classes? *Journal of Physical Education, Recreation & Dance*, 67(4), 4.
- Hutchinson, G. E. (1995). Gender-fair teaching in physical education. *Journal of Physical Education, Recreation & Dance*, 66(1), 42-48
- Imison, K. (2001). *The acceptance of difference: Report of the review of gifted and talented education in Queensland State schools towards 2010*. Brisbane: Department of Education, Queensland.
- Jackson, C., & Smith, I. D. (2000). Poles apart? An exploration of single-sex and mixed-sex educational environments in Australia and England. *Educational Studies*, 26(4), 409-422.
- Jackson, S., & Csikszentmihalyi, M. (1999). *Flow in sports*. Champaign, IL: Human Kinetics.
- James, K. (1999). "I feel really embarrassed in front of the guys!" Adolescent girls and informal school basketball. *The ACHPER Healthy Lifestyles Journal*, 46(4), 11-16.
- Jarvie, G., & Maguire, J. A. (1994). *Sport and leisure in social thought*. London: Routledge.

- Jones, J., Kyle, N., & Black, J. (1987). The tidy classroom: An assessment of the change from single-sex schooling to coeducation in New South Wales. *Australian Journal of Education*, 31(3), 284-302.
- Keeves, J. P. (1999). Overview of issues in educational research. In J. P. Keeves & G. Lakomski (Eds.), *Issues in educational research*. Amsterdam: Pergamon.
- Kelly, A. (1996). Comparing like with like. *Education*, January, 14-15.
- Kenway, J., & Gough, A. (1998). Gender and science education in schools: A review 'with attitude'. *Studies in Science Education*, 31, 1-30.
- Kidder, L. H. (1981). *Sellitz, Wrightsman & Cook's research methods in social relations* (4<sup>th</sup> ed.). New York: Holt, Rinehart and Winston.
- Koivula, N. (1999). Sport participation: Differences in motivation and actual participation due to gender typing. *Journal of Sport Behavior*, 22(3), 360-380.
- Koivula, N. (2001). Perceived characteristics of sports categorized as gender-neutral, feminine and masculine. *Journal of Sport Behavior*, 24(4), 377-393.
- Koutedakis, Y., & Sharp, C. (1991). Training the female competitor: Physiological aspects of fitness. *British Journal of Sports Medicine*, 25(4), 188-190.
- Lam, Y. R., Wong, K-C., & Ho, L-M. (2002). School effectiveness of a streamed-school system: A multilevel modeling of the Hong Kong secondary schools. *Australian Journal of Education*, 46(3), 287-304.
- Lantz, C. D., & Schroeder, P. J. (1999). Endorsement of masculine and feminine gender roles: Differences between participation in and identification with the athletic role. *Journal of Sport Behavior*, 22(4), 545-557.
- Lawson, R. (1973). *Brisbane in the 1890s: A study of an Australian urban society*. St Lucia, QLD: University of Queensland Press.
- Lee, V. E., Marks, H. M., & Byrd, T. (1994). Sexism in single-sex and coeducational Independent secondary school classrooms. *Sociology of Education*, 67, 92-120.
- Lenskyj, H. J. (1998). 'Inside sport' or 'On the margins'? Australian women and the sport media. *International Review for the Sociology of Sport*, 33(1), 19-32.
- LePore, P. C., & Warren, J. R. (1997). A comparison of single-sex and coeducational Catholic secondary schooling: Evidence from the National Educational Longitudinal Study of 1988. *American Educational Research Journal*, 34(3), 4485-511.

- Lirgg, C. D. (1993). Effects of same-sex versus coeducational physical education on the self-perception of middle and high school students. *Research Quarterly for Exercise and Sport*, 64(3), 324-335.
- Lirgg, C. D. (1994). Environmental perceptions of students in same-sex and coeducational physical education classes. *Journal of Educational Psychology*, 86(2), 183-192.
- Lucas, J. A. (1992). *Future of the Olympic Games*. Champaign IL: Human Kinetics.
- MacDonald, B., & Walker, R. (1975). Case study and social philosophy of educational research. *Cambridge Journal of Education*, 5(1), 2-8.
- Macdonald, D. (1989). Pupil perspectives on mixed sex physical education classes. *The ACHPER Healthy Lifestyles Journal*, 9, 4-7.
- Mael, F. A. (1998). Single-sex and coeducational schooling: Relationships to socioemotional and academic development. *Review of Educational Research*, 68(2), 101-129.
- Manios, Y., Kafatos, A., & Codrington, C. (1999). Gender differences in physical activity and physical fitness in young children in Crete. *Journal of Sports Medicine and Physical Fitness*, 39(1), 24-29.
- Manktelow, S. R., Farrell, J. M., & McAuliffe, J. E. (2001). Gender differences and participation in adolescent sport self-efficacy to initiate sports participation. *AVANTE*, 7(1), 68-74.
- Marginson, S. (1993). *Education and public policy in Australia*. Cambridge: Cambridge University Press.
- Martin, A. (2003). Enhancing the educational outcomes of boys: Findings from the ACT investigation into boys' education. *Youth Studies Australia*, 22(4), 27-37.
- Martin, L. T. (2002). Perceptions of high, average and low performance second graders about physical education and physical education teachers. *Physical Educator*, 59(4), 204-220.
- Mayhew, J. L., Bemben, D. A., Bemben, M. G., Piper, F. C., Rohrs, D. M., & Salm, P. C. (1994). Gender differences in strength and anaerobic power tests. *Journal of Human Movement Studies*, 26, 227-243.
- McDaniel, T. R. (2002). Mainstreaming the gifted: Historical perspectives on excellence and equity. *Roepers Review*, 24(3), 112-115.
- McInerney, D. M., & McInerney, V. (1998). *Educational psychology: Constructing learning* (2<sup>nd</sup> ed.). Sydney: Prentice Hall.

- McKiddie, B., & Maynard, I. W. (1997). Perceived competence of schoolchildren in physical education. *Journal of Teaching in Physical Education*, 16, 324-339.
- McPherson, B. D., Curtin, J. E., & Loy, J. W. (1989). *The social significance of sport: An introduction to the sociology of sport*. Champaign, IL: Human Kinetics.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass Publishers.
- Messner, M. A., & Sabo, D. F. (Eds.). (1990). *Sport, men, and the gender order: Critical feminist perspectives*. Champaign, IL: Human Kinetics Books.
- Miner, M. J. (1993). Women in sport: A reflection of the greater society? *Journal of Physical Education, Recreation & Dance*, 64(3), 44-48.
- Mulvihill, C., Rivers, K., & Aggleton, P. (2000). Views of young people towards physical activity: Determinants and barriers to involvement. *Health Education*, 100(5), 190-199.
- Nash, R. (1999). Bourdieu, 'habitus', and educational research: Is it all worth the candle? *British Journal of Sociology of Education*, 20(2), 175-188.
- Norusis, M. J. (2003). *SPSS 12.0 statistical procedures companion*. New Jersey: Prentice Hall.
- O'Brien, V., Martinez-Pons, M., & Kopala, M. (1999). Mathematics self-efficacy, ethnic identity, gender and career interest related to mathematics and science. *The Journal of Educational Research*, 92(4), 231-235.
- Okely, A., & Wright, J. (1997). *The gender bias in fundamental motor skills tests: A new agenda needed!* Retrieved 11 April, 2003, from <http://www.aare.edu.au/97pap/okela137.htm>.
- Page, A., Ashford, B., Fox, K. R., & Biddle, S. (1993). Evidence of cross-cultural validity for the physical self-perception profile. *Personality & Individual Differences*, 14(4), 585-590.
- Papaioannou, A. (1998). Students' perceptions of the physical education class environment for boys and girls and the perceived motivational climate. *Research Quarterly for Exercise and Sport*, 69(3), 267-276.
- Pallant, J. (2001). *SPSS survival manual*. Crows Nest, NSW: Allen & Unwin.
- Parker, L. H., & Rennie, L. J. (1997). Teachers' perceptions of the implementation of single-sex classes in coeducational schools. *Australian Journal of Education*, 41(2), 119-133.

- Parratt, C. (1994). From the history of women in sport to women's sport history. In D. M. Coast & S. R. Guthrie (Eds.), *Women and sport: Interdisciplinary perspectives*. Champaign, IL: Human Kinetics.
- Penney, D., & Chandler, T. (2000). Physical education: What future(s)? *Sport, Education and Society*, 5(1), 71-85.
- Pirinen, R. (1997). Catching up with men? Finnish newspaper coverage of women's entry into traditionally male sports. *International Review for the Sociology of Sport*, 32(3), 239-249.
- Power, S. (2001). Reading to mismatch: Differing perceptions of boys reading practices. *Australia Journal of Language and Literacy*, 24(1), 49-57.
- Queensland Studies Authority. (2004). *Physical Education: Senior Syllabus 2004*. Brisbane: Author.
- Ramsey, C. (1998). Subtracting sexism from the classroom: Law and policy in the debate over all-female math and science classes. *Texas Journal of Women and the Law*, 8(1), 1-49.
- Robson, C. (1993). *Real world research: A resource for social scientists and practitioner-researchers*. Oxford: Blackwell.
- Rogers, K. B. (2002). Grouping the gifted and talented: Questions and answers. *Roeper Review*, 24(3), 103-108.
- Ryska, T. A. (2002). Effects of situational self-handicapping and state self-confidence on the physical performance of young participants. *The Psychological Record*, 52(4), 461-479.
- Sarrazin, P., Roberts, G., Cury, F., Biddle, S., & Famose, J-P. (2002). Exerted effort and performance in climbing among boys: The influence of achievement goals, perceived ability and task difficulty. *Research Quarterly for Exercise and Sport*, 73(4), 425-437.
- Schachter, R. (2003). The single-sex solution: Is there a way that separate can be even better than equal? *District Administration*, 39(4), 20-24.
- Scholz, R. W., & Tietje, O. (2002). *Embedded case study methods: Integrating quantitative and qualitative knowledge*. Thousand Oaks, CA: SAGE Publications.
- Scraton, S. (1993). Equality, coeducation and physical education in secondary schooling. In J. Evans (Ed.), *Equality, education and physical education*. London: The Falmer Press.


- Shephard, R. J. (2000). Exercise and training in women, Part 1: Influence of gender on exercise and training responses. *Canadian Journal of Applied Physiology*, 25(1), 19-34.
- Shephard, R. J. (2002). Technical problems in comparing data for male and female subjects. In R. J. Shephard (Ed.), *Gender, physical activity and aging*. London: CRC Press.
- Sherman, N. W. (2000). How do adolescents perceive coeducational and same-sex physical education classes? *Journal of Physical Education, Recreation & Dance*, 71(1), 9.
- Shields, C. M. (2002). A comparison study of student attitudes and perceptions in homogenous and heterogeneous classrooms. *Roepers Review*, 24(3), 115-120.
- Silverman, S. (1999). Can girls have success in the sport education model? *Journal of Physical Education, Recreation & Dance*, 70(4), 8-10.
- Singleton, R. A., Straits, B. C., & Straits, M. M. (1993). *Approaches to social research* (2<sup>nd</sup> ed.). New York: Oxford University Press.
- Slavin, R. E. (1990). Achievement effects of ability grouping in secondary schools: A best-evidence synthesis. *Review of Educational Research*, 60(3), 471-499.
- Smith, I. D. (1995). *Empirical evidence on the coeducational/single-sex schooling debate: A follow-up study*. Paper presented at the Australian Association for Research in Education Conference, Hobart, Tasmania.
- Stake, R. (1995). *The art of case study research*. London: SAGE Publications.
- Stanley, G. K., & Baines, L. (2002). Celebrating mediocrity? How schools shortchange gifted students. *Roepers Review*, 25(1), 11-14.
- Stoddart, B. (1986). *Saturday afternoon fever: Sport in the Australian culture*. North Ryde, NSW: Angus & Robertson Publishing.
- Swalm, R. (1999). The evolution of separation. *Journal of Physical Education, Recreation & Dance*, 70(40), 7, 10.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4<sup>th</sup> ed.). Boston: Allyn and Bacon.
- Talbot, M. (1993). A gendered physical education: Equality and sexism. In J. Evans (Ed.), *Equality, education and physical education*. London: The Falmer Press.
- Tarnopolsky, M. A. (2000). Gender differences in substrate metabolism during endurance exercise. *Canadian Journal of Applied Physiology*, 25(4), 312-327.

- Theberge, N. (1998). "Same sport, different gender": A consideration of binary gender logic and sport continuum in the case of ice hockey. *Journal of Sport & Social Issues*, 22(2), 183-198.
- Thein, L. A., & Thein, J. M. (1996). The female athlete. *Journal of Sport & Physical Training*, 23(2), 134-148.
- Thomas, J. R., Michael, D., & Gallagher, J. D. (1994). Effects of training on gender differences in overhand throwing: A brief quantitative literature analysis. *Research Quarterly for Exercise and Sport*, 65(1), 67-71.
- Thomas, J. R., & Nelson, J. K. (2001). *Research methods in physical activity* (4<sup>th</sup> ed.). Champaign, IL: Human Kinetics.
- Tinning, R., Macdonald, D., Wright, J., & Hickey, C. (2001). *Becoming a physical education teacher: Contemporary and enduring issues*. Frenchs Forest, NSW: Prentice Hall.
- Toohey, K. (1997). Australian television, gender and the Olympic Games. *International Review for the Sociology of Sport*, 32(1), 19-29.
- Trost, S. G., Pate, R. R., Dowda, M., & Saunders, R. (1996). Gender differences in physical activity and determinants of physical activity in rural fifth grade children. *The Journal of School Health*, 66(4), 145-154.
- Valentini, N. C., Rudisill, M. E., & Goodway, J. D. (1999). Incorporating a mastery climate into physical education: It's developmentally appropriate! *The Journal of Physical Education, Recreation & Dance*, 70(7), 28-37.
- Walker, J. C., & Evers, C. W. (1999). Research in education: Epistemological issues. In J. P. Keeves & G. Lakomski (Eds.), *Issues in educational research*. Amsterdam: Pergamon.
- Webb, J., Schirato, T., & Danaher, G. (2002). *Understanding Bourdieu*. Crows Nest, NSW: Allen & Unwin.
- Weiller, K. H., & Doyle, E. J. (2000). Teacher-student interaction: An exploration of gender differences in elementary physical education. *Journal of Physical Education, Recreation & Dance*, 71(3), 43-45.
- Weisberg, H. F., Krosnick, J. A., & Bowen, B. D. (1996). *An introduction to survey research, polling and data analysis*. London: SAGE Publications.
- Welk, G. J., Corbin, C. B., & Lewis, L. A. (1995). Physical self-perceptions of high school athletes. *Pediatric Exercise Science*, 7, 152-161.

- Whipp, P. (2001, December). *Teaching swimming: Issues beyond drowning*. Paper presented at the Annual Conference of the Australian Association for Research in Education, Perth, WA.
- White, A. (1997). Towards gender equity in sport: An update on Sport Council policy development. In A. Tomlinson (Ed.), *Gender, sport and leisure: Continuities and challenges* (Vol. 3). Aachen: Meyer & Meyer Verlag.
- Whitehead, J. R., & Corbin, C. B. (1997). Self-esteem in children and youth: The role of sport and physical education. In K. R. Fox (Ed.), *The physical self: From motivation to well-being*. Champaign, IL: Human Kinetics.
- Wilmore, J., & Costill, D. (1999). *Physiology of sport and exercise* (2<sup>nd</sup> ed.). Champaign, IL: Human Kinetics.
- Woodward, L. J., Fergusson, D. M., & Horwood, L. J. (1999). Effects of single-sex and coeducational secondary schooling on children's academic achievement. *Australian Journal of Education*, 43(2), 142-155.
- Wright, J. (1996). The construction of complementarity in physical education. *Gender & Education*, 8(1), 61-79.
- Wright, J. (1999). Changing gendered practices in physical education: Working with teachers. *European Physical Education Review*, 5(3), 181-197.
- Wright, J. (2001). Gender reform in physical education: A poststructuralist perspective. *Journal of Physical Education New Zealand*, 34(1), 15-25.
- Xiang, P., & Lee, A. (1998). The development of self-perceptions of ability and achievement goals and their relations in physical education. *Research Quarterly for Exercise and Sport*, 69(3), 231-242.
- Yin, R. (1994). *Case study research: Design and methods* (2<sup>nd</sup> ed.). London: SAGE Publications.
- Young, K. (1997). Women, sport and physicality: Preliminary findings from a Canadian study. *International Review for the Sociology of Sport*, 32(3), 297-305.
- Zevenbergen, R. (2002). To stream or not to stream: Students' experiences of ability grouping in mathematics. *Teaching Mathematics*, 27(3), 4-10.



Appendix A

ETHICS REVIEW COMMITTEE Human Ethics Committee APPROVAL FOR RESEARCH OR TEACHING INVOLVING HUMAN SUBJECTS			
<b>PRINCIPAL INVESTIGATOR</b>		Gillian Walls	
<b>SUPERVISOR</b>		Dr Peter Horton	
<b>SCHOOL</b>		Education	
<b>PROJECT TITLE</b>		Ability, challenge and gender: Queensland Senior Physical Education	
<b>APPROVAL DATE</b>	8 Apr 2004	<b>EXPIRY DATE</b>	28 Feb 2006
		<b>CATEGORY</b>	1
This project has been allocated Ethics Approval Number with the <b>following conditions</b> :		<i>H</i>	<b>1750</b>
<ol style="list-style-type: none"> <li>1. All subsequent records and correspondence relating to this project must refer to this number.</li> <li>2. That there is <b>NO</b> departure from the approved protocols unless prior approval has been sought from the Human Ethics Committee.</li> <li>3. The Principal Investigator <b>must advise</b> the responsible Ethics Monitor appointed by the Ethics Review Committee: <ul style="list-style-type: none"> <li>▪ periodically of the progress of the project;</li> <li>▪ when the project is completed, suspended or prematurely terminated for any reason;</li> <li>▪ if serious or adverse effects on participants occur; and if any</li> <li>▪ unforeseen events occur that might affect continued ethical acceptability of the project.</li> </ul> </li> <li>4. In compliance with the National Health and Medical Research Council (NHMRC) "<i>National Statement on Ethical Conduct in Research Involving Humans</i>" (1999), it is <b>MANDATORY</b> that you provide an annual report on the progress and conduct of your project. This report must detail compliance with approvals granted and any unexpected events or serious adverse effects that may have occurred during the study.</li> </ol>			
<b>NAME OF RESPONSIBLE MONITOR</b>		Matters, Pamela	
<b>EMAIL ADDRESS:</b>		pamela.matters@jcu.edu.au	
<b>ASSESSED AT MEETING</b>		<i>Date: 25 Feb 2004</i>	
<b>APPROVED</b> 		<i>Date: 8 Apr 2004</i>	
Professor Phillip Summers <b>Chair, Ethics Review Committee</b>			
Tina Langford - Ethics Officer <b>Research Office</b> Tina.Langford@jcu.edu.au		Date: 8 Apr 2004	

## Appendix B

### STUDENT INFORMED CONSENT FORM – Pilot Study

**PRINCIPAL INVESTIGATOR:** Miss Gillian Walls

**PROJECT TITLE:** The ability of gender to challenge: Queensland senior physical education

**SCHOOL:** School of Education, James Cook University

**CONTACT DETAILS:** [gillian.walls@jcu.edu.au](mailto:gillian.walls@jcu.edu.au)  
BH) 4781 6202

#### DETAILS OF CONSENT:

The research being conducted is a component of a PhD, with the study outcomes to be used in the final Thesis; *The ability of gender to challenge: Queensland senior physical education*. The purpose of this study is to investigate student perceptions in regard to the practical physical education learning environment.

You are invited to participate in this research on a voluntary basis. If you decide to participate you may withdraw at any stage. The confidentiality of individual participants will be preserved. The actual names of the participants and participant schools will not be given in the final report.

The research will occur during a physical activity unit for the subject Senior Physical Education in Semester 1, 2004. Participants will be asked to complete two surveys; one regarding their perception of the practical physical education environment, and the other regarding their perception of their physical self. Surveys will be administered during class time and will take no more than 20 minutes each to complete.

If you require any further details, or have questions regarding the research, please contact the principal investigator on the above listed contact details.

## **Student Consent – Pilot Study**

The aims of this study have been clearly explained to me and I understand what is wanted of me. I know that taking part in this study is voluntary and I am aware that I can stop taking part in it at any time and may refuse to answer any questions.

I understand that any information I give will be kept strictly confidential and that no names will be used to identify me within this study without my approval.

**Name:** *(printed)*

**Signature:**

**Date:**

## Appendix C

### **PARENT/GUARDIAN INFORMED CONSENT FORM – Pilot Study**

**PRINCIPAL INVESTIGATOR:** Miss Gillian Walls

**PROJECT TITLE:** The ability of gender to challenge: Queensland senior physical education

**SCHOOL:** School of Education, James Cook University

**CONTACT DETAILS:** [gillian.walls@jcu.edu.au](mailto:gillian.walls@jcu.edu.au)  
BH) 4781 6202

#### **DETAILS OF CONSENT:**

The research being conducted is a component of a PhD, with the study outcomes to be used in the final Thesis; *The ability of gender to challenge: Queensland senior physical education*. The purpose of this study is to investigate student perceptions in regard to the practical physical education learning environment.

Your child is invited to participate in this research on a voluntary basis. If you decide to allow your child to participate you may withdraw your consent at any stage. The confidentiality of individual participants will be preserved. The actual names of the participants and participant schools will not be given in the final report.

The research will occur during a physical activity unit for the subject Senior Physical Education in Semester 1, 2004. Participants will be asked to complete two surveys; one regarding their perception of the practical physical education environment, and the other regarding their perception of their physical self. Surveys will be administered during class time and will take no more than 20 minutes each to complete.

If you require any further details, or have questions regarding the research, please contact the principal investigator on the above listed contact details.

## **Parent/Guardian Consent – Pilot Study**

The aims of this study have been clearly explained to me and I understand what is wanted of my child. I know that taking part in this study is voluntary and I am aware that I can withdraw my consent at any time.

I understand that any information my child gives will be kept strictly confidential and that no names will be used to identify my child within this study without my approval.

**Name:** *(printed)*

**Student Name:**

**Signature:**

**Date:**

Appendix D

**Student Perceptions of the Practical Physical Education Class  
Environment**

*Participant Information*

Please read each statement and indicate how much you agree with the statement by marking an X in the corresponding box for *strongly disagree*, *disagree*, *undecided*, *agree*, or *strongly agree*.

EXAMPLE

	<i>Item</i>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Undecided</b>	<b>Agree</b>	<b>Strongly Agree</b>
<b>1</b>	I am a very good basketball player				X	
<b>2</b>	I don't like choosing teams for sports	X				

Remember to check only ONE of the five boxes. When you have finished, please check to make sure you have answered all of the questions. Your individual answers will be kept confidential and anonymous.

	Item	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	The teacher tried to spend time with all class members each lesson					
2	It was easy for me to apply the skills and plays I learnt in games					
3	I didn't learn anything new in the classes					
4	The teacher spent more time with the students who were better players					
5	My general athletic skills are quite good					
6	Throughout the unit I was learning new skills and building on my existing skills					
7	The teacher favoured some groups of students more than others					
8	I felt that I had a high ability level in this unit					
9	I feel that my existing skills were extended during lessons					
10	Everyone in the class had the opportunity to participate in all aspects of the class					
11	My skills for this unit were quite good					
12	I found the unit boring and repetitive of skills I already possess					
13	The teacher treated everyone in the class equally					
14	I had a low ability level in this unit					
15	I found that the skills and plays I learnt challenged my own abilities					
16	Everyone on my team was included in the games					
17	My skills for this unit were bad					
18	In the classes I learnt new skills					

**Thank you.**

Appendix E

**SPPPECE Scoring Sheet**

*Participant Code:* \_\_\_\_\_

SPPPECE Item Scores (r = reverse scoring)

<b>Equity</b>		<b>Ability</b>		<b>Challenge</b>	
<b>1r</b>		<b>2r</b>		<b>3</b>	
<b>4</b>		<b>5r</b>		<b>6r</b>	
<b>7</b>		<b>8r</b>		<b>9r</b>	
<b>10r</b>		<b>11</b>		<b>12</b>	
<b>13r</b>		<b>14</b>		<b>15r</b>	
<b>16r</b>		<b>17</b>		<b>18r</b>	
<b>Total</b>		<b>Total</b>		<b>Total</b>	



## Participant Information Questionnaire

Please answer the questions on pages 2 - 6.

### How to fill in the questionnaire

1. Read each question carefully.
2. Most of the questions can be answered by putting a cross (X) in the box that applies to you.
3. Sometimes you might be asked to answer on a line.
4. If you are unable to answer a question, please write the reason beside the question. For example, 'don't understand', 'don't know'.
5. Questions are written on both sides of the paper so please be careful that you do not miss any.

## SECTION A

A1. Age: \_\_\_\_\_

A2. Gender:      Male               Female

A3. School: \_\_\_\_\_

A4. How many years have you attended this school? \_\_\_\_\_

A5. Did you participate in *elective* PE in grades 9 and 10?

Yes               No

## SECTION B

**B1.** Please list the sports you have participated in, which grade you started playing and stopped playing (including primary school grades), and the level/s at which you participated (recreational/leisure, social, school, club). You may need to list more than one level. Do not include PE lessons.

Sport	Grade started	Grade stopped	Recreation/leisure, Social Sport, Club Sport, School Sport, Representative

**B2.** At what sporting level do you consider yourself to be:

High

Average

Low

**B3.** In sport, do you consider yourself to be more:

Competitive

Non-competitive

**B4.** Please answer the following questions regarding sport/s you currently participate in as being mixed or male or female only, by placing a cross (X) in the column with the appropriate answer corresponding to the sport/s you list.

	Sport	Male	Mixed	Female
Compete or play on the same team				
Compete or play against				
Train with				

**B5.** Please answer the following questions regarding your friendships by placing a cross (X) in the column with the most appropriate answer.

	True	Undecided	Not True
Most of my friends attend the same school as me			
My school friends play the same sport as me			
I have friends that play the same sport but don't attend the same school as me			
Most of my friends play some form of sport			

Many thanks for taking the time to fill in this questionnaire.

Appendix G

Participant Observation Pro forma and Example Data

<b>Date:</b> 22/07/2004		<b>Class Code:</b> RB	
<b>Venue:</b> Oval 1		<b>Observation sheet:</b> #2	
<b>Lesson Structure:</b> <ul style="list-style-type: none"> <li>• Intro</li> <li>• Drills/Skills</li> <li>• Game Play</li> </ul>		<b>Absences:</b> None Absent	
<b>Activity:</b> Intro <b>1.</b> Gary speaking to students. Explained lesson format – skills, game play <b>2.</b> Gary describing drill – Run/Dump drill. Start drill – students running through - Sloppy - Perform required task with minimum effort Gary giving constant feedback Students listened at the 2 <sup>nd</sup> feedback & new instructions. - more effort - concentration on task - less talk & more focus <b>3.</b> End of Drill Gary asked Anna to set up for the next drill - touch player  Game Play <b>4.</b> All wanted to be involved in game play. Obvious enthusiasm for game compared to drill. Genders playing together cohesively. Experienced players controlling game, including non-experienced. <b>5.</b> Bell sounds. Gary whistled end of game & signalled students to come in, automatically bring cones with them.	<b>Grouping:</b> <b>1.</b> Students standing around in casual group, loosely around Gary <b>2.</b> Students formed own groups; - Friends - Very casual  Lining up behind each other without direction. Slot into their position before their turn. Take time getting back into line. Wander off to speak to someone. <b>4.</b> Gary organized teams. - Mixed gender groupings. - Mixed ability & experience in teams.	<b>Exchanges:</b> <b>1.</b> Students talking amongst selves. General chatting. B & G intermingled. <b>A.</b> Conversation with Anna Initiated while Anna is lining up for drill. [Anna mucking around shoves Nelson as she walks past] N – Oi watch the merchandise! I’m an elite athlete. A- [laughing] I can beat your butt any day. [To me]. Actually he’s awesome. O- Yeah? A – Yeah. He’s real good. & good to play with. O - What are the boys generally like to play with? A- Oh they’re OK. Sometimes they act stupid but they’re alright. They hog it sometimes too. But the girls yell at them ‘pass it pass it’. O – Do all the girls yell at the boys? A – [laughing] Nah, mainly it’s just us lot. [Gesturing to her friends – Natalie, Jamie, Erica] O- Do they tend to pass it to you girls who already play touch? A – Sometimes, but they’re usually pretty good. We make them be. [Anna moved up to her turn]	<b>Code:</b> <b>1.</b> Cu Gr IC G CH <b>A.</b> G Ab CH S P <b>2.</b> Cu CH Gr IC T BM  <b>3.</b> CH Ab <b>4.</b> Cu Gr G Ab S <b>5.</b> CH
<b>Follow up points:</b> <ul style="list-style-type: none"> <li>- There was resistance to skill/drill activity from both genders.</li> <li>- All girls except Bridget &amp; Tracy play touch for school team. Anna, Natalie &amp; Jamie play club as well. Most boys in class play either school or club sport – Andrew exception.</li> </ul>			

## Appendix H

### Semi-structured Interview Pro Forma

<i>Leading Question</i>	<i>Prompts/Following Questions</i>	<i>Initial Coding</i>
Do you like SPE?	Why? Why not? What about the subject is liked/disliked?	Cu
Do you like the four sports you do in SPE?	Why? Why not? What do is liked/disliked about the sports? Previous experience in them?	Cu S
Did you know what the sports were going to be before choosing the subject?	Why? Why not? School information practices?	Cu S
Did the sports affect your decision to choose SPE?	Encourage? Discourage? No affect? Previous experience in them?	IC Cu
How do students rate their own level of sporting ability?	On what basis? Compare to class mates? Siblings? Other sporting experiences? A numerical rating? Is it consistent? Different for different sports?	Ab CH
Do students rate each other in class?	In comparison of performance? Who is the better athlete? Who gets better grades? Depending on the sport?	Ab CH
Do students rank each other in the class?	How? Based on; ability/previous experience? Is the ranking discussed? Is it generally known? Is it implicit in the habitus?	CH Ab
Who does the ranking?	Students? Teacher? Is it an obvious thing? Is it known throughout the class?	CH Ab
How do students group themselves?	Do they group with friends? How do they decide the groups? Of the same ability? Is it different for skills and games? Does the teacher do it? What do the students prefer?	Gr IC
How does the teacher group students?	Gender? Ability? Friends? Random? Size? Different each time? Teams?	Gr T
How do you like the teams to be organised for games?	By the teacher? By the students choice?	Gr IC

	Based on; gender, friends, ability? Participation levels?	
How do you participate in the class environment?	Automatically? Being pushed by teacher? In relation to friends? Related to ability? Related to activity? Related to sport? Is it consistent? Good/Bad behaviour? Enthusiastically?	P
Do you think that students can participate in class equally?	Space? Equipment? Teacher time? Game time participation? Is there a gender difference? Is there an ability difference? Personal choice?	P E
Do some students monopolise the class?	Misbehaving? Poor ability/High ability/Average ability? Boys vs girls? Teacher's Pet? Social groups? Centre of attention?	CH P
Is there on task interaction between genders in the Coeducation environments?	Is it based on ability? Friendships? Teacher forcing it? Is it common? Sport experience?	P G
Are there socialisation opportunities during the class?	Is this a lesson focus for students? What type of socialising? Different levels for different days? Different of different subjects?	CH
Do some students participate in the class more than others?	Who? Why? Why not? Constraining factors? Encouraging factors? Personal choice?	P
Do you think that some students get more teacher attention than others?	In what respect? Bad/good behaviour? Encouragement? Good ability v's poor ability? Ask for it? Participation?	T CH
Do you think that students can participate in the class without feeling self-conscious of ability?	Why? Why not? Other student's comments? Teacher? Low self-perception? Intrinsic/Extrinsic?	P Ab
Can students participate in the class without interference from classmates?	Comments? Hogging? Being cut out? Misbehaviour? Positive interference?	CH P

Why do you perceive interference is occurring?	Lack of ability? Different social group? Favoured by teacher? Who is doing it?	P
Do you feel challenged in the class?	Why? Why not? Satisfactory? Unsatisfactory? Skills components? Game play Does it depend on ability/experience? What could make it more challenging?	C
Are your skills and game play being improved?	Each lesson? As the unit progresses? Based on initial ability/experience?	Ab Cu
Do you perceive that you are learning anything new?	Skills? Game tactics? Refereeing? Coaching? Do skills get extended?	Cu C
Do you like the way the lesson is structured?	Skills? Game play? What would you like changed? More of? Less of?	Cu
Do you enjoy the class?	Why? Why not? What specifically do they like/dislike? Sports? Lesson structure? Classmates?	IC
Do you like the way the teacher teaches?	Explanations? Mastery/Performance Orientation? Behaviour Management? Interactions with the class?	T CH
Do you like the teacher?	Why? Why not? Personality? How they interact with students? Humour? Strict? Fair?	T
Do you like the subject?	Why? Why not? What specifically do they like? What specifically do they dislike? Curriculum? Classmates? Assessment?	IC Cu

**Coding Legend:**

<i>Code</i>	<i>Theme</i>
Ab	Ability
BM	Behaviour Management
BI	Body Image
C	Challenge
CH	Class Habitus
Cu	Curriculum
E	Equity
G	Gender

<i>Code</i>	<i>Theme</i>
Gr	Groupings
IC	Independent Choice
O	Observer
P	Participation
SH	School Habitus
S	Sport
T	Teacher
U	Uniform



## Appendix I

### The Participants

Participants' assumed names are listed alphabetically in their class habitus groupings within each school. Names prefaced with an \* indicates participants interviewed.

#### *Girls' School*

<b>Habitus: SG-1</b>			
<i>Teacher: Mrs D / Mrs R</i>		<i>Participants: N = 20</i>	
*Abby	Jackie	Megan	*Rose
*Belinda	*Kristie	Penny	Sammy
Bo	Lacey	Radha	Sara
Evie	*Lara	*Ria	*Shae
*Felicity	Mandy	Rhianna	Tania

#### *Boys' School*

<b>Habitus: SB-1</b>			
<i>Teacher: Mr Braithwaite</i>		<i>Participants: N = 22</i>	
Alec	*Joseph	*Mitch	Rory
*Alistar	Justin	Ned	Tristan
Amos	Kent	*Noah	*Troy
Billy	Maice	Noel	*Zane
Dale	Max	*Pete	
*Jesse	Mick	Rick	

<b>Habitus: SB-2</b>			
<i>Teacher: Mr Miller (Millsy)</i>		<i>Participants: N = 27</i>	
Adrian	*Dean	Marco	*Ross
Alan	Derek	Matt	Rowan
Anthony	Duncan	*Micah	Sam
Ashton	Ethan	Miles	*Spencer
Boyd	*Jake	Murray	Todd
Brady	Jared	Oliver	*Tony
*Connor	Jeremy	*Reuben	

Coed School

---

**Habitus: Co-1**

---

*Teacher: Sue*

*Participants: N = 28*

Male:  $n = 17$

Brett	Dominic	Mal	Shane
Bobby	*Doug	*Marcus	*Simon
Carl	*Dustin	Martin	
Chaice	Jason	Nate	
Damien	Lance	Riley	

---

Female:  $n = 11$

Angela	*Kasey	Michelle	Sally
Danielle	Katie	*Rebecca	Sandra
Emma	*Maddie	*Renee	

---

---

**Habitus: Co-2**

---

*Teacher: Gary*

*Participants: N = 20*

Male:  $n = 12$

*Adam	*Craig	*Lee	Nelson
*Andrew	Darren	Mark	*Robbie
Brendan	Keith	Neal	Steve

---

Female:  $n = 8$

Anna	*Bridget	*Jamie	Sacha
*Amy	Erica	Natalie	Tracy

---

## Appendix J

### STUDENT INFORMED CONSENT FORM – Case Study

**PRINCIPAL INVESTIGATOR:** Miss Gillian Walls

**PROJECT TITLE:** The ability of gender to challenge: Queensland senior physical education

**SCHOOL:** School of Education, James Cook University

**CONTACT DETAILS:**  
[gillian.walls@jcu.edu.au](mailto:gillian.walls@jcu.edu.au)  
BH) 4781 6202

#### DETAILS OF CONSENT:

The research being conducted is a component of a PhD, with the study outcomes to be used in the final Thesis; *The ability of gender to challenge: Queensland senior physical education*. The purpose of this study is to investigate student perceptions in regard to the practical physical education learning environment.

You are invited to participate in this research on a voluntary basis. If you decide to participate you may withdraw at any stage. The confidentiality of individual participants will be preserved. The actual names of the participants and participant schools will not be given in the final report.

The research will occur during a physical activity unit for the subject Senior Physical Education and will be carried out during the 2004 school year, to second semester 2005. Participants will be observed during lessons. All participants will be asked to complete three surveys, two prior to the commencement of the unit, and one at the conclusion of the unit. Surveys will be administered during class time and will take no more than 20 minutes each to complete. Individual students may be asked to participate in interviews which will be recorded with participant consent. It is expected that interviews will take no longer than one hour in total, and will be conducted at the school, out of school hours.

If you require any further details, or have questions regarding the research, please contact the principal investigator on the above listed contact details.

## **Student Consent – Case Study**

The aims of this study have been clearly explained to me and I understand what is wanted of me I know that taking part in this study is voluntary and I am aware that I can stop taking part in it at any time and may refuse to answer any questions.

I understand that any information I give will be kept strictly confidential and that no names will be used to identify me within this study without my approval.

**Name:** *(printed)*

**Signature:**

**Date:**

## Appendix K

### **PARENT/GUARDIAN INFORMED CONSENT FORM - Case Study**

**PRINCIPAL INVESTIGATOR:** Miss Gillian Walls

**PROJECT TITLE:** The ability of gender to challenge: Queensland senior physical education

**SCHOOL:** School of Education, James Cook University

**CONTACT DETAILS:**  
[gillian.walls@jcu.edu.au](mailto:gillian.walls@jcu.edu.au)  
BH) 4781 6202

#### **DETAILS OF CONSENT:**

The research being conducted is a component of a PhD, with the study outcomes to be used in the final Thesis; *The ability of gender to challenge: Queensland senior physical education*. The purpose of this study is to investigate student perceptions in regard to the practical physical education learning environment.

Your child is invited to participate in this research on a voluntary basis. If you decide to allow your child to participate you may withdraw your consent at any stage. The confidentiality of individual participants will be preserved. The actual names of individual participants and participant schools will not be given in the final report.

The research will occur during a physical activity unit for the subject Senior Physical Education and will be carried out during the 2004 school year, to second semester 2005. Participants will be observed during lessons. All participants will be asked to complete three surveys, two prior to the commencement of the unit, and one at the conclusion of the unit. Surveys will be administered during class time and will take no more than 20 minutes each to complete. Individual students may be asked to participate in interviews which will be recorded with participant consent. It is expected that interviews will take no longer than one hour in total and will be conducted at the school, out of school time.

If you require any further details, or have questions regarding the research, please contact the principal investigator on the above listed contact details.

**Parent/Guardian Consent Case Study:**

The aims of this study have been clearly explained to me and I understand what is wanted of my child. I know that taking part in this study is voluntary and I am aware that I can withdraw my consent at any time.

I understand that any information my child gives will be kept strictly confidential and that no names will be used to identify my child within this study without my approval.

**Name:** *(printed)*

**Student's name:**

**Signature:**

**Date:**