

**Gender Bias in Physical Education Assessment and Evaluation  
Review of Literature**

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EDUC 521 Current Research in Physical Education  
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**Purpose.**

The purpose of this literature review is to determine the current state of academic literature regarding the grading practices and related gender bias that may be present in the assessment and evaluation of elementary school students by their Physical Education Teachers. It is critical for physical education teachers to treat Physical Education (PE) like all other academic programs with regard to their grading practices. By using best practices for grading in PE, teachers bring credibility to their program, demonstrate accountability, reward student learning, and communicate student achievement to the parents (Darst & Pangranzi, 2002; Pangrazi & Beighle, 2010). Moreover, through the use of best practices teachers should be unbiased in their assessment and evaluation of students in PE. Finally, will the sex of Physical Education Teachers (PETs) play any role in the assessment and evaluation of students and do male and female PETs assess male and female students differently due to the institutional privilege afforded male students through the traditions of Physical Education.

**Background.**

The privilege afforded male students in PE can be traced back to the origins of the PE programs. Robinson (2013) mentions the beginnings of PE being paramilitary programs that developed a student's character and discipline and that the program not only promoted physical training but likely led to joyless calisthenics. The idea of PE being a joyless activity, for those in the profession, can be a tough concept to grasp. As students that likely thrived in the traditional, "old school" PE environment, today's PE teachers need to reflect and consider those students in their classes that are not similar to themselves in regard to their enjoyment of PE and their perceived ability in PE. Both of these factors, when considered with gender, both of the teacher

and the students, are critical factors to keep in mind when planning, teaching and grading PE programs.

Male privilege in Physical Education has been propagated throughout the last century. It can be seen in the team sport based, competitive and game focused style of PE that has prevailed in gymnasiums throughout the last few decades and even continues in some classrooms today. Female enjoyment and interests take a backseat to the males in past curriculum development, teacher lessons, unit and yearly planning, teaching practice, and also grading practices.

With the creation of the newest Nova Scotia P-6 Physical Education Curriculum a move to a more holistic approach to PE is happening. There is now more focus on dance, gymnastics and other “female” focused programs in the curriculum. However, the teachers that are being assigned to provide these programs remain the same teachers that have, in many cases, spent years teaching and assessing their PE students in a less than ideal manner. Best practices in planning, teaching, and grading PE need to develop with the new curriculum and a move to be more effective, credible, accountable and above all, unbiased needs to happen.

### **Assumptions.**

The reviewer has been a physical education teacher for 13 years, 11 of which have been at the elementary level, and has used a variety of assessment and evaluation practices in his career. The reviewer is a teacher who strongly believes in staying up to date on best practice in physical education, personal reflection on practice and social justice in education. As an educator who has always favored the students at the lower end of the athletic spectrum and focused instruction and programs for their benefit while attempting to diminish the institutional bias toward males, the new direction programs are taking is refreshing.

It is the reviewer's assumption that research into elementary physical education teachers grading practices is limited in regard to gender bias. Both the teacher's gender and how that affects their personal gender bias regarding their students as well as the historical and institutional bias of physical education as a subject as it pertains to the gender of the students.

### **Definitions.**

**Assessment:** the methods a teacher used to find out what students know and can do in relation to the standards (Graham et al., 2004).

**Best practice:** "serious, thoughtful, informed, responsible, state-of-the-art teaching" (Zemelman, Daniels, & Hyde, 1998, p. viii).

**Elementary school:** school for grades primary through five or six.

**Evaluation:** measuring a student's skills, knowledge, and attitudes taught in physical education (Darst & Pangrazi, 2002).

**Evaluation practices:** the teacher interprets the data from student assessments and, if required, assigns a grade (Mohnsen, 2009).

**Formative assessment:** assessment that provides direction for improvement during student learning (O'Connor, 2002).

**Gender:** The state of being male or female (typically used with reference to social and cultural differences rather than biological ones) (Oxford Dictionary)

**Gender Bias:** Inclination towards or prejudice against one gender. (Oxford Dictionary)

**Grade:** cumulative score or symbol that includes the data the teacher has gathered during the evaluation process (Darst & Pangrazi, 2002).

**Grading practice:** how teachers grade student performance and how student learning is reported.

**Hidden Curriculum:** content students are learning in class that is not a part of the formal curriculum. (Beasley, 2013)

**Institutional Bias:** a tendency for the procedures and practices of particular institutions to operate in ways which result in certain social groups being advantaged or favoured and others being disadvantaged or devalued. (Oxford Reference)

**Second Generation Gender Bias:** refers to practices that may appear neutral or non-sexist, in that they apply to everyone, but which discriminate against women because they reflect the values of the men who created or developed the setting, usually a workplace. It is contrasted with first-generation bias, which is deliberate, usually involving intentional exclusion. (Wikipedia)

**Sex:** Either of the two main categories (male and female) into which humans and most other living things are divided on the basis of their reproductive functions. (Oxford Dictionary)

**Stereotype threat:** occurs when people perform worse at a task due to the pressure of a negative stereotype of their group's performance. (Hively & El-Alayli, 2014)

**Summative assessment:** assessment that provides information to make judgments about student achievement at the end of a unit or period of instruction (O'Connor, 2002).

## **Review of the Literature.**

In reviewing the literature on the topic of grading practices and gender bias in elementary physical education a number of general themes emerged. This review will first address and describe these themes, and then will summarize some of the best practices for

teachers to recognize, reflect on and incorporate into their daily practice so as to avoid gender bias in their physical education classes, their teaching, their interactions, and their student assessments.

**Perceived Ability and Enjoyment of PE/PA.** Beasley (2013) sites four articles defending the idea that female students perceive themselves to be less skilled in coed physical education compared with males and report lower self-perceptions of ability and competence (Klomsten et al., 2005; Lee, 2009). She goes on to say that students (both male and female) tend to avoid participating in activities in which they do not feel competent (Brown & Rich, 2002), and if females perceive themselves as less competent than males in the class, their engagement will be negatively affected.

Cairney, Kwan, Velduizen, Hay, Bray, and Faught (2012) looked at the level of enjoyment of students from physical activity with regard to two perspectives: gender and perceived athletic ability. Unsurprisingly they found that both male and female students who perceived their athletic ability to be high enjoyed physical education and physical activity. “However, differences emerged among children with lower levels of perceived competence, where boys reported low but stable levels of PE enjoyment over time, while girls (who) began with lower levels of PE enjoyment that continued to decline further over time.” (p.6)

The interaction between gender, competence and enjoyment should be a key consideration in planning the content and delivery of PE. With that in mind best practices for teachers should be to review the curriculum and look for ways to modify and adapt so that gender bias is eliminated. Some examples of ways this can be done are:

- Teachers can alter activities by modifying equipment and rules to promote feelings of competence among all students.

- Teachers can choose to use different equipment that would equalize skill level among all students.
- Teachers can implement additional rules
- Teachers can introduce novel and unique games that students have not previously played
- Teachers can use small-sided games (e.g., 3 vs. 3) to promote maximum participation.
- Teachers can structure the environment and class activities to create a sense of equality when it comes to skill and ability (Beasley, 2013)

**Teacher Attention and Interactions.** Gender bias in education can have significant impacts on student's learning, development and self-image. Van Daalen found her subjects experienced gender and racial bias at the hands of their teachers, greatly affecting the girls' already fragile self-esteem. As a result the participants hated having male PE teachers. (2005)

Over the past 20 years, research has indicated that boys have typically received more teacher attention than girls. Nicaise, Coggerino, Fairclough, Bois, & Davis (2006) discussed the history of research into gender differences in PE with regard to teacher and student interactions citing eight studies from 1977-2003 that showed male students received more praise, corrective feedback, were asked more questions and had more teacher initiated interactions.

In the 2006 study *Teacher feedback and interactions in physical education: Effects of student gender and physical activities*, Nicaise et al. discuss results that "showed that the frequency of teacher-initiated interactions was gender differentiated according to the type of activity being taught. Boys received more feedback in (circuit weight training, CWT), whereas girls received more feedback in badminton. Moreover, the boys received more praise, technical

information, encouragement, criticism, organization and misbehaviour feedback in CWT, while the girls received more technical information and encouragement in badminton.” (p. 331)

In their study, *Teacher-Student Interaction: An Exploration of Gender Differences in Elementary Physical Education* (2000) Weiller and Doyle believe that their results appear to suggest that traditional attitudes toward both boys and girls in elementary physical education are shifting. They found that the initiation of statements by girls to either male or female teachers was significantly higher than expected and essentially equal between male and female teachers with 46 female to male student initiated interactions (SII) and 48 female to female SII (Table 2, p45). Also discovered in their research was that teachers initiated interactions with the opposite sex students more often than the same sex students. (Weiller & Doyle, 2000). However, these results appear to be outlying from the consensus of limited research on student initiated interactions.

While quantitative gender differences of feedback may exist, qualitative gender differences in the form of praise, technical instruction, encouragement, criticism, questioning, organization and misbehaviour feedback may also be present. Differences in the type of feedback were found by Nicaise, Cogerino, Fairclough, Bois, & Davis in their 2006 research *Teacher feedback and interactions in physical education: Effects of student gender and physical activities*. In keeping with other researchers, the boys received more misbehaviour feedback, or negative feedback, than the girls, while there was no higher proportion of praise, technical information, encouragement and questions.

Few studies appear to focus their research on the teacher gender as it pertains to the interactions with students. Though in their 2007 study, Nicaise et al discussed four previous studies that found teacher gender provided a significant variable within the hidden curriculum,

giving rise to differential teaching behaviours and interaction patterns. Essentially, these studies found that female teachers initiated more interactions with boys while the male teachers initiated more interactions with the girls.

**Stereotype Threat in PE and Sport.** Having a coed environment in the gymnasium has both advocates and opponents. The opponents to coed PE would site the threat of the opposite gender as one of the reasons for single sex PE. In his action research from 2013, Dan Robinson found that the girls interviewed described instances within PE that showed the boys as threats to their enjoyment and learning in PE. The treat experienced by the girls ranged from physical (scared due to rough play), too social (uncomfortable being watched) too emotional (name calling and mocking comments regarding ability). Similar and even more profound results were reported in a 2005 research article by Cheryl van Daalen RN, PhD. In *Girls Experiences in Physical Education: Competition, Evaluation & Degradation* seven common reasons were found for why girls drop PE, of these seven all represent threats to the girls physically, emotionally and socially. Perceived athletic ability, feeling and emotions associated with PE, sexuality and sexism, and body image harassment by both peers and teachers led the participants in this study to opt out of any further physical education classes. The gender bias prevalent in the experiences of these students existed both overtly and covertly.

Hively and El-Alayli (2014) in their paper “You throw like a girl”... researched the effects of threat from the opposite sex on performance in sport. Their findings support what Robinson found in his interviews; that the presence of males in a sport or physical activity setting will have a negative effect on the performance of the female athletes (students) when those females are aware of gender issues within that environment. They “concluded that one minor

comment regarding a very specific athletic task may sometimes impair task performance and alter gender stereotypes of athleticism among women” (p.48)

This indicates that the female students, unintentionally on their teacher’s part, are learning outside the curriculum, and that learning is negatively affecting their ability to enjoy and perform in PE class. An awareness of this hidden curriculum (content students are learning in class that is not a part of the formal curriculum) can enable teachers to create a more equitable and accepting atmosphere for their students. (Beasley, 2013)

### **Assessment, Grading Bias.**

Assessment is the methods a teacher uses to find out what students know and can do in relation to the standards (Graham et al., 2004). There are two main types of assessment, formative and summative. Formative assessment provides direction for improvement during student learning, while summative assessment provides information to make judgments about student achievement at the end of a unit or period of instruction (O'Connor, 2002). Within the realm of physical education many educators find assessment a challenge. Pangrazi and Beighle (2010) suggested assessments for grading take too much time and many physical educators see their classes once or twice a week, therefore, grading reduced the physical educator's instructional time. This challenge results in many physical education teachers use subjective, rather than objective, factors to determine a student's grade for physical education (Miller, 2002) This use of subjective factors can lead to an educator’s personal beliefs and values affecting their professional judgement regarding students and their performance in the gymnasium. This is where the gender bias of the PET can come into play. As Chalabaev, Sarrazin, Trouilloud, and Jussim (2009) discuss that teacher expectations were found to be based on personal

characteristics of the students: performance, perceived competence and motivation, past experience in PE and sport. However, the results of their experiment suggest that sex stereotypes biased teacher expectations do in fact exist. As well their research also reveals a small, but continuing obstacle: teachers' small but systematic tendency to see girls' athletic performance as not as good (compared to boys) as it really is. Chalabaev et al (2009) suggest that future research should examine whether these sex-biased teacher expectations prevent girls from performing as well as they could.

Grading is the process of assigning values to the learning that has taken place in the classroom, grading needs to be preceded by assessment and evaluation, and is a key aspect of the modern educational scene. With teacher accountability, data collection, and evidence all key components in the evaluation of programs, schools, and teachers, the grades students receive becomes increasingly important. Unfortunately grading and reporting practices in physical education have been found to be lacking. The main reasons for poor grading practices can be attributed to a few common themes. First a lack of time with students (for example, in Nova Scotia elementary students get two 30 minute classes a week) with work by Graham et al. (2004) and Pangrazi and Beighle (2010) supporting this assertion. Pangrazi and Beighle (2010) offered a second inhibiting factor to effective grading, the large number of students a PET would see in a day or cycle. A third factor discussed by Pangrazi and Beighle's (2010) relates to the loss of learning or instructional time and related to this is the loss of physical activity or movement time when teachers are assessing or grading. All of these factors again lead to the PETs use of subjective assessments that are often based on personal values, opinions and beliefs and can easily be clouded by personal bias.

However, Melograno (2007) suggested any factors interfering with grading and reporting practices should not deter us from using assessments and using appropriate grading and reporting practices.

**Best Practices.** Elementary physical education teachers should utilize best practices when grading their students as this will bring credibility to the program, demonstrate accountability, reward student learning, and will communicate student learning to parents (Darst & Pangranzi, 2002; Johnson, 2008). Johnson (2005) listed five criteria that should guide physical educators in their assessment selections:

- a. Does the assessment assess the intended performance outcome?
- b. Is the assessment developmentally appropriate?
- c. Are there identified criteria for success?
- d. Is the assessment a part of the learning task?
- e. Is the assessment practical? (p. 46).

The one area of concern that Johnson does not address is in the criteria is bias. Is the assessment free from any bias, be it gender, cultural, racial... Without a careful consideration of bias when assessing, educators can let personal judgements overshadow actual assessment and evaluation of student performance and taint the results and grading process.

In the conclusion of Emily Beasley's 2013 article, she lists ways that a teacher can promote gender equity in PE:

- Offer unique alternatives to traditional gender stereotyped activities.
- Modify equipment, activity structure, and rules to maximize student participation.
- Incorporate a variety of cooperative activities into the curriculum.

- Structure competitive activities in such a way that all students have an equal opportunity for success.
- Focus on students' personal improvement instead of social comparison.
- Demonstrate an awareness of personal bias and the hidden curriculum.

These provide a good starting point for any professional to reflect on and incorporate into their teaching practice so that they can proactively address any possible gender bias in their teachings.

Darst and Pangrazi (2002), Miller (2002), and Mohnsen (2009) suggested physical education teachers assess and grade student learning in all three domains (psychomotor, cognitive, and affective). This can potentially allow for less effects of bias to creep into assessment and grading practices because by involving all three domains the teacher is allowing those students not as physically gifted to display their PE curriculum knowledge in a different manner. Given that gender differences often put female students in a position where they may be less involved in the class activities, opportunities to display learning in the cognitive and affective domains would not only increase these girls interest in the program but could benefit their self-esteem as well.

## **Conclusion**

The literature available on gender bias, physical education assessment and evaluation, grading practices in school, and teacher behaviours is a vast and daunting accumulation of data and opinions. What is known is that gender bias in education is an insidious problem that causes few to stand up and take notice. It is engrained in the institutional design of schooling and specifically physical education and has become a second generation for of bias that is accepted and not challenged. The victims of the bias, themselves do not necessarily see it, are passive and

silent to it and, in cases where they acknowledge it are often unwilling to stand up to it. Girls and boys are receiving a different education within the same classrooms and unless teachers take the time to reflect on their practice and be critical of their own actions the continuation of gender-role socialization will push on. Nicaise et al. (2007) believe that if teachers wish to help females develop better attitudes towards PE, they should provide increased praise for good play or effort, provide non-verbal support, spend more time with the girls when providing feedback, and be empathetic to their needs. This must be coupled with teachers receiving the support they require; training to understand gender bias, how to reflect on bias in their practice, and the methods, materials, and the resources necessary to eliminate gender-bias in their classrooms and programs. Only then will girls begin to receive an equitable education.

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