



Girls Getting Active: Exploring a Physical Education Program Tailored to Young Women

L'activité physique au féminin – Un programme d'éducation physique sur mesure pour les jeunes femmes

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Adolescent girls are insufficiently active to achieve the health benefits associated with physical activity (PA). Physical education (PE) classes can provide part of the solution, yet most girls opt out when it is no longer mandatory. This qualitative case study used Self-Determination Theory (SDT) as a framework to explore female students' motivation towards PA in one elective PE 10-12 course tailored to meet their interests and needs. A secondary objective determined if the pre-requisites and outcomes of their motivation were consistent with SDT constructs. Emerging themes reflected the elements of SDT. The students expressed their needs were supported through the PE course content and learning environment. Students felt motivated because they now enjoyed PE. Positive outcomes included PA participation, positive affect towards PE and PA, meaningful learning, and a sense of well-being. This study provides physical educators with insight to improve PA motivation and participation of girls in elective PE.

Les adolescentes ne sont pas assez actives pour profiter pleinement des bienfaits possibles de l'activité physique (AP) sur la santé. Même si les cours d'éducation physique (EP) offrent une solution partielle à ce problème, les filles tendent à les abandonner dès qu'ils ne sont plus obligatoires. Cette étude de cas qualitative s'inspire de la théorie de l'autodétermination pour explorer l'attitude des filles envers l'activité physique dans le cadre d'un cours facultatif d'éducation physique 10-12 conçu sur mesure pour répondre à leurs intérêts et besoins. Un objectif secondaire consiste à déterminer si les prérequis et les résultats de leur motivation sont conformes aux prémisses qui sous-tendent la théorie de l'autodétermination. Des thématiques émergentes reflètent les prémisses de la théorie de l'autodétermination. Les élèves disent que le contenu du cours d'éducation physique et le contexte d'apprentissage répondent à leurs besoins. Elles se sentent motivées parce qu'elles aiment maintenant l'éducation physique. Entre autres résultats positifs, mentionnons la participation à l'activité physique,

une attitude positive envers l'éducation physique et l'activité physique, un apprentissage valable et un sentiment de bien-être. Cette étude propose aux enseignants des façons d'améliorer la motivation des élèves à l'égard de l'activité physique et la participation des filles aux cours d'éducation physique facultatifs.

Introduction

School based physical education (PE) programs in Canadian schools are well-situated to help children and youth realize many of the health benefits associated with physical activity (PA). For example, the aim of the British Columbia¹ (BC) curriculum for PE is to enable students to develop “knowledge, movement skills, and positive attitudes and behaviours that contribute to a healthy active lifestyle” (BC Ministry of Education, 2008). Given this intention, PE is a potential venue for adolescent girls to realize both the immediate and long term benefits of PA. Yet the majority of adolescent girls develop an aversion to PE, often starting as early as middle school (Gibbons & Humbert, 2008), and tend to opt out of PE when it is no longer mandatory (Dwyer et al., 2006; Pate, Ward, O’Neill, & Dowda, 2007).

Understanding young women’s motivation in PE

Understanding the motivational processes of young women in PE, such as the factors affecting their choice to engage in PE, may provide some solution to the problem of declining activity levels. To gain insight into adolescent girls’ motivation in secondary school PE, this study was grounded in Self-Determination Theory (SDT) (Deci & Ryan, 1985). SDT examines the links between social factors and psychological mediators that precede motivation to engage in a particular behaviour. This, in combination with the resulting outcome variables, such as well-being and PA behaviours, provides a promising framework to investigate female student motivation and the corresponding outcomes in PE (Deci & Ryan, 2000).

Ryan and Deci (2000) suggest that people have three basic psychological needs that must be satisfied in order to achieve intrinsic motivation, which involves engaging in behaviours out of pure enjoyment. The need for autonomy refers to having a sense of choice, the need for competence involves feeling a sense of efficacy, and the relatedness need entails a sense of social attachment and belonging. The extent of need fulfillment will determine if an individual is motivated internally or externally, or is amotivated. The type of motivation experienced as a result of the level of need satisfaction will govern certain outcomes, including an individual’s well-being, affect, behaviour, and learning. For example, a social environment like a PE class can impact the participants’ motivation and resulting outcomes depending on the degree to which the three psychological needs are met.

The outcomes of Self-Determination Theory demonstrate how meeting the needs of young women can motivate them intrinsically to participate, enjoy, and achieve meaningful learning in PE (Ntoumanis, 2005; Ommundsen & Kvalø, 2007). The purpose of this study was to examine a new elective PE course that has successfully attracted and maintained a high enrolment of adolescent females by addressing their interests and needs. There is a need to examine such PE

programs using a theoretical framework as this has been lacking in previous literature.

Literature Review

Significant research has addressed the low participation levels of high school girls in PE and their loss of interest. Team sports tend to make up the bulk of typical PE programs, while lifetime activities with greater likelihood of carrying over into adulthood are often ignored (Fairclough, Stratton, & Baldwin, 2006; Gibbons, Wharf Higgins, Gaul, & Van Gyn, 1999). Both middle school and high school girls identified a dislike of competitive team sports, particularly when they felt unskilled (Brooks & Magnusson, 2006; Couturier, Chepko, & Coughlin, 2007; Gibbons & Humbert, 2008; Ntoumanis, Pensgaard, Martin, & Pipe, 2004; Olafson, 2002). The public nature of a typical PE class contributed to their negative affect as adolescent girls felt uncomfortable when performing skills in front of their classmates (Brooks & Magnusson, 2006; Gibbons & Humbert, 2008; Ntoumanis et al., 2004; Olafson, 2002). Young women identified feeling self-conscious about their abilities and their looks while dressing in athletic gear for PE (Couturier et al., 2007; Ntoumanis et al., 2004; Olafson, 2002). The lack of choice in activities and insufficient practice time to improve skills also contributed to girls' lack of motivation for and enrolment in PE (Gibbons & Humbert, 2008; Gibbons et al., 1999; Ntoumanis et al., 2004; Smith, Green, & Thurston, 2009). Many of these factors contributing to the girls' dislike for PE appeared by the early middle school grades.

Researchers asked young women how to make PE better and incorporated their ideas in the re-design of several PE courses. Adolescent girls have identified that having choice and a variety of meaningful activities, such as lifestyle or fitness activities, would improve PE class (Brooks & Magnusson, 2006; Gibbons & Gaul, 2004; Gibbons, 2009; Smith et al., 2009). Providing students with opportunities to feel success and self-improvement has also been identified as a way to enhance PE (Brooks & Magnusson, 2006; Gibbons & Gaul, 2004; Gibbons, 2009). Common guidelines for building new PE programs include a supportive learning environment, creating a sense of personal accomplishment or self-efficacy, and promoting active lifestyles (Brooks & Magnusson, 2006; Gibbons & Gaul, 2004; Gibbons, 2009; Felton, Saunders, Ward, Dishman, Dowda, & Pate, 2005).

Broad-based school-wide PA interventions have demonstrated success in increasing the participation of adolescent females in PE class. For instance, the Lifestyle Education for Activity Program (LEAP) (Felton et al., 2005) altered the school and community environment to encourage PA participation by advocating a female-focused curriculum. Felton et al. (2005) used these guidelines in a "girl-friendly" PE format, which provided opportunities for students to participate in a girls' only, non-competitive environment, and to engage in lifestyle activities. In all studies, choice and the opportunity for input into activities were highly valued by the participants. Creating a fun environment was accomplished by having a variety of activities to prevent boredom. In addition, the opportunity for the participants to build social relationships was crucial in attracting and motivating participants (Brooks & Magnusson, 2006; Gibbons & Gaul, 2004; Felton et al., 2005). Outcomes of these programs designed to meet students' needs included increased PA levels and feelings of self-confidence. An emphasis on positive and

enjoyable PE experiences can motivate adolescent girls to change their attitudes about PA and take responsibility for their health by increasing their activity levels.

It is evident that carefully designed PE programs can meet the needs of young women and can actively engage female students in meaningful learning. Factors that motivated adolescent girls in PE, such as choice and variety, personal accomplishment, and social support, parallel the antecedents of autonomy, competence, and relatedness in Self-Determination Theory.

The purpose of this study was to examine a new elective PE course that has successfully attracted and maintained a high enrolment of adolescent females by addressing their interests and needs. Insight was sought into the features of the course and whether they paralleled the antecedents of motivation identified in Self-Determination Theory and if the elements impacted the students' perceptions of PA. A secondary purpose was to explore the links between motivation and the outcomes of Self-Determination Theory, including students' attitudes towards PE, their perceived well-being, and their PA behaviour.

Method

This case study was built around one elective PE course for female students in grades ten through twelve, called Girls Getting Active (GGA) that occurred during the fall 2008 semester in British Columbia. GGA was designed for young women as an alternative to the traditional co-educational PE courses for grades 11 and 12 offered at the school, which had low female enrolment. The teacher designed the course because she saw a need for it at her school. This third year teacher made a considerable effort to incorporate input from participants into the content of the PE course while adhering to the BC curriculum. The focus of this course was to encourage young women to be active by participating in activities they enjoy, and many of the activities selected were lifestyle based. This was the second year the course had been offered and it had attracted and maintained a large enrolment of high school girls, setting it apart from other elective PE classes in BC with low female student enrolment. The participants in grades eleven and twelve had the choice to enrol in this optional class, as PE in BC is no longer mandatory after grade ten. Grade ten students had the choice to enrol in GGA or in regular co-educational PE 10. The majority of the participants chose to enrol in GGA, while a small number were placed into the class by the school administration (n=2). GGA was implemented in a public secondary school for grades nine through twelve with approximately 700 students. The school was located in a rural community, a forty-minute drive from a larger urban center.

Upon human ethics approval at the affiliated university, school board and teacher approval, participants in GGA were issued parent consent letters. Each student in the class was invited to participate in the study and all agreed to participate (N=32). The study was limited to the participants enrolled in GGA who had written parental consent to participate (N=23). Of these participants, four students were in grade ten and grade twelve respectively, and fifteen students were in grade eleven.

Data Collection

Data was collected from several sources to ensure triangulation and trustworthy data. This case study used focus groups, personal journal entries, participant observation, and document analysis to collect data.

Focus groups. Five focus groups were conducted near the end of the term, each approximately forty-five minutes in duration to fit into regular class time, and involved four to six participants per group. Participants were assigned numbers for identification, which provided anonymity. An audio recorder was used with the participants' permission, and data recorded was supported with notes taken during the focus group meeting. Upon completion, focus group data was transcribed and members of each group received a copy of the transcript. Each participant read and signed the transcript, signaling that they agreed their responses during the focus groups were correct. At this time the participants had the opportunity to clarify any statements made. They were also provided opportunities to clarify and add to their original comments during the last personal journal session.

Personal journals. With permission from the teacher, the participants wrote in their journals on a bi-weekly basis, describing how they felt about the class, PA in general, and their well-being. Six out of the seven journal topics were predetermined by the researcher to help address the research questions. The following is an example of a journal topic, "Describe how you were feeling in GGA this week. What contributed to your attitude toward GGA?" The final journal entry was used to clarify the participants' previous responses, including any questions arising from the focus groups. This type of member check meant that journal entry seven was personalized to most students. Participants received a typed question and responded in the same journal each session. Writing took place during the last fifteen minutes of class, after the participants changed out of their activity clothing. The journals were collected and transcribed after each entry.

Participant observations. Daly (2007) suggested that by becoming a part of the course, the researcher can learn how the participants move and interact in their social environment. Participant observation commenced approximately three weeks into the term and continued randomly, at minimum one class per week and approximately one observation per activity, until the semester came to an end. Sixteen participant observation sessions were completed to examine the participants' behaviours and how they navigated the social environment of GGA. An observation guide was created for this study with a list of features to record specific observable behaviours pre-determined in relation to the research questions. Examples of observable behaviours included recording the participants' level of effort, and how often they were on task. Other behaviours included whether the participants were laughing, smiling, and sometimes shrieking in excitement, and also if they had positive or negative comments during the lesson. To make the observations as unobtrusive as possible the investigator developed a relationship of trust and goodwill with the participants by blending into the participants' routine, by helping out the teacher, and by being friendly and showing interest in the participants' activity. Field notes were completed immediately after the observations session and later transcribed.

Document analysis. The course outline and other materials, such as assessment rubrics, assignments, and handouts, assisted the researchers in gaining

insight into the course content, and contributed to answers to the research questions. Often used in an educational context, public documents such as course outlines and lesson plans can provide information about a program.

Data Analysis

Qualitative content analysis was used to identify patterns in the data set. The content of documents, memos, transcripts, and field notes were reviewed for categories and themes (Merriam, 1998). Data was imported into NVivo 2.0 qualitative software to conduct thematic analysis. Data was read and re-read, while the researcher reflected and made notes in the margins of the text near any pieces of data that were potentially relevant, interesting, and important to the study. The researcher looked over the comments and grouped the items that fit together, describing any tentative or speculative themes, hunches, and ideas to pursue (Merriam, 1998). Data was continually analyzed as it was collected. Coding started after the first few observation sessions to function as a foundation for further data collection and analysis (Corbin & Strauss, 2008). Each document was coded separately.

Once all the data were collected, the researcher organized and refined categories and subcategories that supported the purpose of the study. Triangulation of each data source was done to determine if the patterns and codes were consistently found in each data source. Categories were established in all of the data and were grouped together into recurring themes. This analysis provided a rich, detailed description of the participants' perceptions in the context of the case (Creswell, 1998). The final assertions were discussed in terms of the constructs of Self-Determination Theory. Common themes were organized into a table where all bits of data fit under one of the constructs. For each construct, broad theme names were identified using language similar to that of the participants, and comments and observations were grouped within these themes.

Findings

Findings were organized based on the constructs from Deci and Ryan's (1985) SDT. Each theme provides insight into the course content and learning environment of GGA, and how this helped to meet the participants' interests and needs. Each theme is discussed in terms of the SDT construct it parallels. Table 1 displays the four distinct themes emerging from the data sources and their corresponding construct from SDT.

Table 1
Recurring Themes from Qualitative Data Analysis

Self-Determination Theory construct	Theme
Autonomy support and satisfaction	Theme 1: My say, my way: how having choices means doing what I like
Competence support and satisfaction	Theme 2: Optimal challenge for optimal participation
Relatedness support and satisfaction	Theme 3: Comfort, cooperation, and confidence: when it's just girls it's just fun
Outcomes of motivation	Theme 4: New skills, new friends, new attitudes: How I learned to be healthy in PE

Theme 1: My Say, My Way: How Having Choices Means Doing What I Like:

The participants' comments about choice resembled aspects of autonomy satisfaction. Theme one highlights the different ways the participants' autonomy was supported throughout the semester. Most participants could choose to enrol in GGA, as it was an elective PE course. They felt GGA was a good alternative to regular co-ed PE for grades ten-twelve.

In grade 9 you have to do co-ed, but not now because of this new class. But after 10, grades 11 and 12 you can choose and it's just a really nice alternative.

The teacher, Ms. Smithⁱⁱ encouraged student choice throughout the term. According to the Participants, and content analysis of a survey document, Ms. Smith actively sought student input into the course content. Each student was surveyed at the beginning of the term where they could choose what activities they wanted to do throughout the semester and what music they wanted to hear in class.

In the beginning of the course Ms. Smith hands out sheets that had the selection [of possible course activities] and you each choose a certain amount from each, from the dance unit you chose some out, the indoor unit you choose some out, and then she puts them all together and she chooses the highest.

Using input from all students encouraged the participants to feel in control over their PE experience and also exposed them to a wide variety of activities. The participants expressed how they enjoyed being able to choose their activities because it meant that they generally were able to do activities they liked. Participating in activities they liked, in turn, motivated them because it made the class more fun.

Having an input motivates me because I can look forward to doing the activities because I chose them, which means that I like the activity. Also, having the other girls' input is nice to know too, because I get to try things that I haven't tried before, or that I never thought of trying.

Participants could also make other choices, including their PE attire. The course outline stated that during active classes, participants had to wear "lace-up athletic shoes and a comfortable, active outfit." Students could choose their attire as long as it fit those guidelines. The teacher also incorporated activities into her lesson that provided opportunities for participants to choose their own working groups.

Sometimes you have the option [to do individual activities], like with the dance. Yesterday a couple kids did it by themselves, but most people are going to group up anyway. It's pretty much an option, she notices that we're going to group up if we have the option.

As described above, the participants felt having choices made the class more fun which was motivating. Deci and Ryan (1985) suggested that participating because the activity is fun parallels feeling intrinsically motivated, as intrinsic motivation means engaging in behaviours out of sheer enjoyment. However there were a few instances where participants in GGA did not get their choice, resulting in decreased motivation. For example, a small number of participants did not choose to enrol in GGA (N=2) and were placed in the class by the school administration because it was the only class that fit their schedule. Some participants also felt that their preferred activities were often not selected.

However because they did get their choice on occasion, this seemed to compensate for the occasions where they did not get their choice.

It's easy to get motivated over something you enjoy rather than something you don't. Sometimes my choice doesn't get chosen and I just put up with it. I'm generally just bored then.

The majority of the evidence in this case study points out how choice was a major contributor to meeting the need for autonomy.

Theme 2: Optimal Challenge for Optimal Participation:

Theme Two describes how the participants' need for competence was supported by their teacher through a class environment that provided optimal challenges. Ms. Smith fostered competence by planning lessons full of inclusive games that were new to all students. One of the many examples occurred during the soccer unit. Ms. Smith planned a lesson that used skills all students could do to teach the concept of moving to an open space as reflected in this observation comment:

The modified soccer games were meant to encourage everyone to participate equally because they had to pass the ball down the field and could not dribble, putting players on a more level playing field.

Many activities were new to all students, which meant less comparison between classmates because they were all doing something for the first time. Participants discussed how Ms. Smith planned activities that were unique which made them more fun.

Ms. Smith always comes up with some different way of doing the activities. Ways you've never really seen before. It's not passing a ball back and forth; it's passing a ball back and forth blindfolded while spinning backwards...

The participants described feelings of competence and improved participation because the class was the right level of difficulty. Most participants in GGA found the class challenging without being too competitive or too easy. Participants with less perceived competence enjoyed the relaxed atmosphere. These participants expressed how they felt more confident in their abilities and participated more because there was less pressure to be the best and more focus on overall effort and improvement. The following comments reflected these sentiments.

Normally like playing soccer, I hate soccer because I can't do anything, but in this class when we play it doesn't feel like there's any pressure, at all.

A sense of competence was also created through the teacher's assessment. Grades were not based solely on skill testing or skill comparison between classmates, but rather on individual effort and participation. The participants appreciated this and it motivated them to put in greater effort, as described in the following focus group conversation.

In the other classes they usually mark you based on well this person's the best so you're compared to them, but I always try and do my best, and I never did that great. Usually I end up with a C or something, but in this class... You're marked more individually so everybody works their hardest.

Ms. Smith also supported competence by demonstrating skills and participating with her students. The students responded well to Ms. Smith's participation and revealed how seeing her do something made the participants

less afraid to try something new and motivated them to try harder. Ms. Smith also got involved by providing verbal encouragement, which boosted the girls' confidence and also motivated them to participate.

She doesn't just stand there, she participates with us. She doesn't stand there marking us, just judging us.

If she thinks I can do it I feel better about it and try a bit harder. She's a great teacher too so I want her to be happy about what I can do.

Despite Ms. Smith's effort to build inclusive lessons, a few participants felt the class was not optimally challenging. This small group of participants were highly competitive and had more advanced skills than their classmates, particularly in team sports. Often the same few girls who did not choose to enrol in GGA wanted more competition. A few of these young women were placed into the class by the school administration, while the others enrolled in GGA because their friends were also enrolled. For these participants, the lack of optimal challenge affected their motivation and enjoyment of GGA.

I prefer regular PE because I like hard core sports. This class is too easy.

In the few instances, some of the more competitive girls missed having boys in the class, but having their friends to participate with seemed to balance the cases where some participants wanted boys or more skilled classmates to compete against.

I play well with the guys, like I can keep up to them, so that was always fun because it's like a challenge. Here in GGA I find it not very hard at all. To be honest, I see it as a class for girls who don't want to go on a run and harder things like that, like a slack class...I didn't choose to be in this class I just got put in. BUT I have all four of my best friends in this class so it's a blast and all the games are really fun.

Aside from these few participants, the majority expressed feelings of competence and optimal challenge because of the non-judgmental and inclusive environment, which in turn motivated them to participate in class.

Theme 3: Comfort, Cooperation, and Confidence. When It's Just Girls, It's Just Fun:

The participants' comments reflected a sense of belonging in their PE class, indicating fulfillment of relatedness. Several factors contributed to this need satisfaction, including belonging to an exclusive, all girls' class, having an understanding teacher, and participating in group activities with friends. Having a girls' only class allowed the participants to feel comfortable and less self-conscious when participating in PA. Some girls felt the female only environment was motivating and they could participate without fear of being judged.

I don't feel pressure since it's an all girls PE and there are no guys trying to show off or something like that. Now I feel comfortable participating in PE.

The participants' sense of belonging was supported by the effort Ms. Smith put into making the class feel special. GGA felt exclusive because the girls were allowed privileges, including weekly field trips, guest instructors, special equipment, and longer time to change out of their PE clothes and get ready for their next class. The following focus group conversation described how the girls felt about Ms. Smith's effort to make GGA special.

She bought ribbons and she buys like extra, what the school doesn't provide she buys extra just for GGA... She buys blindfolds for partner activities.

Aside from the all girls' environment and exclusive aspects of the course, Ms. Smith supported relatedness by listening and understanding their needs and concerns. The participants felt she understood them, appreciated them, and felt they belonged in the class. It was apparent from listening to the girls that because Ms. Smith went out of her way to care about them and the class, the girls could relate to her, which in turn led to positive PE experiences.

It makes you want to try harder because [she] like appreciates you and you feel like you're appreciated...She notices who gets along so she pairs people according to working together and attitudes and all that, so it makes participating easier and you feel really comfortable.

Ms. Smith fostered feelings of relatedness by planning mainly group activities, including weekly team building lessons, where students could be with their friends and make new friends. The participants enjoyed making up their own groups without restrictions in terms of the number of members in each group which ensured no one was left out.

She always makes it fair, it's usually like us as a group because we're mostly friends, and she'll say that amount of people, like if there's 4 of us there she'll never say like make a group of 3 people.

The participants enjoyed having opportunities to work with their friends. Engaging in group activities with their friends and relating to their classmates motivated them to participate willingly in class. The girls mentioned how being with their friends allowed them to participate without fear of being judged, which made them feel more comfortable and confident.

My motivation to participate in GGA is so much higher, it is hard to calculate. I enjoy every class and can't wait to come. There can be easy class discussions where everyone feels safe to express their feelings because we will have almost all experienced similar things. Being able to relate to each other changes the atmosphere completely.

The participants expressed feelings consistent with the relatedness construct. Belonging to an all girls' class, participating with friends, and making new friends were motivating and fun for the participants.

Theme 4: New Skills, New Friends, New Attitudes. How I Learned to be Healthy in PE:

Ryan and Deci (1985) argued that if needs are satisfied in PE, participants will be intrinsically motivated and engage in PA behaviour. Positive outcomes discussed in SDT also include affect, cognition, and well-being. These outcomes were congruent with this case study's findings. Some participants revealed how they used to avoid PE, and were more active in GGA because they now attended and participated in PE class. Others felt that the class allowed them opportunities to be active during school, which was particularly important for those who felt they had little time to be active after school due to a part time job or home work. Girls who were already active continued to be active during the class and felt like they got a good work out. They felt they were exposed to new and different activities. The following comment reflects how GGA has affected their PA levels.

I actually noticed something this year. Mostly in physical stuff I wouldn't really feel my muscles working. But in this class I'll like actually come to

school all sore and feel like I actually worked out and stuff. So it was a great change.

I started [GGA] last year, and ever since I started that I've been doing stuff outside of school. I've been trying different styles of yoga and going on walks regularly and stuff like that.

In addition to the PA behaviour outcome, a change in the participants' affect was also discussed. Many participants' attitudes towards PE and PA shifted from negative to positive. Participants indicated that their positive affect was caused by elements in the course content and in the learning environment, such as having enjoyable alternatives to running. Girls who previously enjoyed PE continued to have positive attitudes during GGA. All but one participant in the case study expressed they enjoyed the class and had fun engaging in PA.

My motivation and attitude towards being physically active has changed. I see being active as having fun instead of a chore, all the field trips helped me in finding fun ways to be active.

A third outcome identified in SDT is cognition (Deci & Ryan, 1985). The authors suggested that meaningful learning involves being intrinsically motivated to learn, often when the material is presented in a way that is interesting and of personal value to the students. The participants' comments were consistent with this outcome, as they felt they had experienced meaningful learning over the term.

Many participants discussed how they had improved different skills, including social skills and sport specific skills. Most participants felt that they had learned new skills and activities they could take with them after the semester was over.

I learned a lot of things this term. One thing I learned was Pilates, I've never done them before yesterday. I also learned the basics of soccer and some rules in badminton that I had forgotten.

I've learned to trust my classmates more with the Monday team building.

Deci and Ryan (1985) noted also that outcomes of intrinsic motivation include broader areas of development, such as a sense of psychological well-being. The participants discussed how being a member of this class affected their well-being. Their statements reflected a sense of overall well-being, as participating in GGA made them feel energetic, happy, and self-confident.

If I have a really tired day, then we'll do it [GGA] and it'll like wake me up for the rest of the day, and then next semester if I have a tired day I'll just be tired all day because I don't have anything active going on, just sitting in a desk.

Some participants felt better about themselves after taking GGA, whether it was from becoming more self-confident in their abilities or by feeling healthier.

My confidence grew and my enjoyment of being physically active. I love this class and how it has made me feel, both physically and mentally.

Discussion

The purpose of this study was to examine features of a new elective PE course that has successfully attracted and maintained a high enrolment of adolescent females. Findings from this investigation revealed that features of the course paralleled the antecedents of motivation identified in Self-Determination

Theory and the elements impacted the students' perceptions of PA. The participants expressed having their teacher's support, choices, optimal challenges, and interaction with friends in class, motivated them in PE. The girls' motivation to attend and participate in class allowed them opportunities for enjoyable physical activity and they learned different ways to be active outside of school. The features of this class also affected their well-being by improving their self-confidence and making them feel more energetic.

Theme 1 *My Say, My Way: How Having Choices Means Doing What I Like* provided insight into the teacher's autonomy-supporting behaviours, such as using student input to design the course content. This sense of choice helped satisfy the students' need for autonomy and fostered intrinsic motivation. Deci and Ryan (1985) proposed that an autonomy-supportive social environment, like a PE class where one chooses their behaviour according to their preferences and interests, can satisfy individuals' needs for autonomy and in turn foster intrinsic motivation. Autonomy-supportive teachers allow students to work according to their own volition by encouraging them to make decisions, by providing informative feedback, and by avoiding the control of their students' behaviour through the use of external rewards, punishments, and pressure. Studies have shown that perceived autonomy support in PE predicted autonomy satisfaction, and that positive relationships existed between autonomy satisfaction and intrinsic, or self-determined, motivation (Ntoumanis, 2005; Standage & Gillison, 2007; Ommundsen & Kvalø, 2007).

Theme 1 explored how having input was intrinsically motivating because it made the class enjoyable. Deci and Ryan (2000) stated that intrinsic motivation involves freely engaging in activities individuals find interesting, enjoyable, and new. The participants commented that they found the activities interesting and fun, which motivated them to participate in class, reflecting a sense of intrinsic motivation. Other researchers have examined the impact student choice had on their motivation in PE. Ward, Wilkinson, Vincent Graser, and Prusak (2008) and Prusak, Treasure, Darst, and Pangrazi (2004) found that when offered choices in PE activities, students responded with greater levels of intrinsic motivation. Researchers examining the re-design of PE for young women also found that having choices made the class meaningful and enjoyable (Felton et al., 2005; Gibbons & Gaul, 2004). Choice and the opportunity for student involvement in class development was found to be a common feature of PE classes across British Columbia with a high enrolment of high school girls (Gibbons, 2009). This is consistent with the BC Ministry of Education's aim of the PE 11/12 curriculum (1997), that students should be able to focus their learning on areas of personal interest and work with teachers to develop their PE program.

There was some evidence that not all the participants in this study felt their autonomy was satisfied. This was the case for two participants who did not choose to enrol in GGA; rather they were placed in the class by the school administration. This small number of students expressed that they felt forced to participate in certain activities and they generally felt bored and unmotivated. These feelings reflected a sense of dissatisfaction and extrinsic motivation.

Extrinsic motivation involves engaging in behaviour controlled by external reasons, such as to avoid punishment or to avoid poor grades, and can often result in boredom or distress (Deci & Ryan, 2000). It appeared that for this small group of girls the lack of autonomy when choosing to enrol in the class and choosing

course activities negatively affected their motivation. It would appear that other needs, mainly relatedness, made up for the lack of autonomy, as some participants commented that having their friends around made up for not always getting their choice. Deci and Ryan (2000) proposed that while fulfilling the need for competence and relatedness may be sufficient to satisfy more controlled motivation and behaviour, the need for autonomy must also be satisfied to truly achieve intrinsic motivation and acquire optimal outcomes. Perhaps other autonomy supportive strategies could have been used to alleviate these negative outcomes, such as communicating a meaningful rationale as to why an activity was important to learn, as suggested by Reeve (2006).

Theme 2 *Optimal Challenge for Optimal Participation* reflected how the participants felt their need for competence was satisfied and supported by the teacher's careful planning of inclusive, effort oriented, and challenging lessons. The construct of competence, described by Deci and Ryan (1985) as a need for efficacy, is satisfied in an optimally challenging environment where one is "exercising and extending one's capabilities" (p. 27).

The participants in GGA felt there was less pressure and competition, and they were able to try harder in class and enjoy PE. Improving their skills also motivated them to try harder, making the class more enjoyable. Similarly, Cox and Williams (2008) found a mastery climate had a direct positive relationship to perceived competence and self-determined motivation. According to the authors, mastery climates emphasize learning and improvement, in contrast to performance climates, where students are evaluated on their skill performance. This focus allows students more opportunities to feel competent which in turn fosters intrinsic motivation. The learning environment in GGA was mastery oriented, as students felt that they received good grades and positive feedback when they participated with their best effort, rather than based on performance. Less external pressure was placed on the girls to have the best skills, and they were motivated and confident to participate.

Deci and Ryan (1985) argued that one is truly intrinsically motivated when she feels free from pressures, such as contingencies resting on her performance. Feedback provides students with meaningful information, in the absence of pressure or control, which enhances perceived competence, feelings of self-worth, and intrinsic motivation. The teacher in GGA provided positive feedback to her students, whether it was verbal praise or a high five when they worked together to score a goal, which fostered feelings of competence and motivated them to try harder in class. It appears that PE teachers can help support students' sense of competence by encouraging effort and participation.

Adolescent girls have frequently commented that they disliked competitive PE activities in favour of more recreational, lifestyle activities (Fraser-Thomas & Beaudoin, 2004; Gibbons et al., 1999). Some participants in GGA revealed that they disliked their previous PE and occasionally would skip out because they felt unskilled and because their class was too competitive. Deci and Ryan (1985) argued that direct competition has been shown to decrease intrinsic motivation, particularly among females, because the goal is to win rather than master the activity. Winning is controlled by being better than someone else, which undermines intrinsic motivation regardless of the outcome, because one is not doing the activity for the simple satisfaction of engaging in the behaviour. If one receives negative feedback in the form of losing, and the task greatly exceeds

one's capacities, she is less likely to return to the competitive activity. This nature of competitive sport, often a focus in traditional PE, may lead to low competence and truly be amotivating for those who experienced the negative feedback of losing.

Contrary to the traditional PE paradigm, GGA was mastery oriented and generally focused on effort and improvement rather than on winning the game, and therefore avoided the detrimental effects of competition. The same girls who disliked the competitive aspect of their previous PE now felt more motivated and enjoyed PE because they could do activities they were good at, or could improve on, without feeling embarrassed if they messed up. Competence satisfaction has been shown to predict intrinsic motivation towards PE (Ommundsen & Kvalø, 2007; Standage, Gillison, & Treasure, 2007). This was reflected by the participants in GGA, as those who used to avoid participating due to a lack of competence now were motivated to participate because of the low pressure and supportive class environment. Students who were already competent in PE also maintained their motivation because they enjoyed using their skills and improving.

A few noteworthy instances occurred where a small group of girls expressed their need for competence was not fully satisfied. These participants were quite skilled in PE, had a preference for competitive activities, and felt the level of challenge in the class was not sufficient to keep them motivated or engaged. This reflected the constructs in SDT, as Deci and Ryan (1985) proposed that not feeling optimally challenged, where tasks are overly familiar or repetitive, result in boredom and do not facilitate competence or intrinsic motivation. Deci and Ryan (2000) suggested that a strong desire to be competitive could result from the need for competence being thwarted. It is possible that these girls were used to being competitive when they were in a traditional PE environment, more oriented towards competitive team sports, and that now the lack of competition thwarted their need. It was often the same girls who were placed in GGA by administration that wanted more competitive sport indicating that external factors were controlling their enrolment and thwarted their needs for autonomy and competence, leading to decreased motivation. If competition enhanced their motivation, it is likely because they were used to receiving the positive competence feedback from winning.

The SDT construct of relatedness support and satisfaction was supported by Theme 3 *Comfort, Cooperation, and Confidence: When It's Just Girls It's Just Fun*. The all-girls PE environment and the teacher's planning created positive PE experiences and a sense of belonging, which paralleled Deci and Ryan's (1985) relatedness construct.

Many participants enjoyed the all-female environment because it allowed them more opportunities to participate and they felt more comfortable without boys in the class. This finding was similar to comments from participants in other all-female PE classes (Felton et al., 2005; Fraser-Thomas & Beaudoin, 2004). Having an all-girls class provided the young women in GGA with greater opportunities to participate. As one participant noted, "girls actually pass the ball, not like boys." This finding has been supported by Hannon and Ratliffe (2007) who found that female students were more active in an all-girls PE class compared to females in a co-educational PE class, and the teacher had greater

interaction with girls in the segregated class compared to the girls grouped with boys.

It was not surprising that the participants enjoyed and felt more comfortable in the all-female environment. It has been well documented that girls struggle to navigate the co-educational environment of PE due to prevailing hegemonic beliefs about masculinity and physical activity. Connell and Messerschmidt (2005) defined hegemonic masculinity as the normative identity for men, including a set of expectations for men, which ultimately reinforce the stereotype of male dominance and the subordination of women in society. Cockburn and Clarke (2002) found that young women struggled in PE because the nature of being physically active went against the feminine identity created for them by society, particularly in male dominated activities. Implications of these gender orders included non-participation for some young women, due to feeling uncomfortable being active in front of others, particularly in front of boys. An all-girls PE environment may therefore decrease feelings of self-consciousness or embarrassment among female students.

The participants of GGA also discussed how they had more opportunities to engage in different activities, including some not necessarily regarded as feminine, such as kickboxing, which the participants discussed as one of the most enjoyable activities of the semester. The all-female aspect of GGA provided a place to combat these stereotypical discourses, and resulted in a sense of relatedness and greater motivation to be physically active.

Other factors contributed to the participants' sense of relatedness, including having an understanding teacher who appreciated her students. Similar to Gibbons and Gaul (2004) participants in GGA appreciated a supportive atmosphere from their teacher and classmates, making them feel valued and comfortable. Opportunities to work in groups with their friends motivated the participants in GGA, as being with their friends made the class more enjoyable. Group work and being with friends in PE were important facilitators to girls' PA participation in the LEAP intervention (Felton et al., 2005) and was a consistent factor in young women's motivation, found in recent cross-Canada interviews with adolescent girls (Gibbons, 2009).

The relatedness factor may be so important for this population because it made up for low competence satisfaction or intrinsic motivation. Cox and Williams (2008) argued that perceived relatedness might be more important in the development of self-determined motivation, particularly for those students not inherently interested in the activity. Even when a few of the more competitive participants in the class discussed how they felt unchallenged in GGA, having their friends in class seemed to compensate for this and motivated them to keep attending class and participate once there, indicating that relatedness may be as important as competence or autonomy in facilitating intrinsic motivation for this population.

Although Deci and Ryan (2000) have stated that the relatedness construct may play a more distal role in maintaining intrinsic motivation, it appears that this may not be the case with adolescent girls. Ntoumanis (2005) found that PE teachers who supported their students' need for relatedness positively predicted relatedness satisfaction. An interesting finding in his study was that the female participants who enrolled in optional PE scored higher relatedness satisfaction than their male classmates. The girls in GGA discussed the notion of group work

and friends being highly motivating, and it is evident from this case study that fulfilling adolescent girls' need for relatedness is crucial to their motivation.

According to the participants, the learning environment and course content satisfied their needs and motivated them to participate in PE. Deci and Ryan (2000) proposed that intrinsic motivation is associated with positive, desirable outcomes, including better performance, maintained behaviour, increased learning, and well-being.

Theme 4 *New Skills, New Friends, New Attitudes: How I Learned to be Healthy in PE* discussed the participants' perspectives on PA. The young women felt the positive experience of belonging to GGA provided them with opportunities to be physically active during school hours and exposed them to different types of activities they could do during leisure time. This was particularly important to those participants who had previously been PE avoiders and now were actively engaged. One participant in GGA described how she "used to skip out on PE so I had almost no PA at all, [but] now I have so much more energy now that I'm actually enjoying it." Her enjoyment of PE reflected intrinsic motivation, and her participation in class reflected the behaviour outcome. This is in accordance with the BC grade 11 and 12 PE curricular aim that students should be provided with meaningful and enjoyable PE experiences to facilitate lifelong PA participation (BC Ministry of Education, 1997). Lifestyle physical activities were of particular interest to the participants in GGA who had developed a dislike of competitive team sports from their previous PE experiences. Other re-designed PE programs with lifestyle physical activities had similar findings (Brooks & Magnusson, 2006; Felton et al., 2005).

When discussing enrolment, 22 out of 23 participants said they would enrol in GGA again because of their high levels of enjoyment in the class. The links between re-enrolment in PE and motivation was supported with other research. Ntoumanis (2005) found that self-determined motivation positively predicted intention to enrol in elective PE the following year, which in turn was associated with actual enrolment. It is worthwhile to note that if students can be motivated intrinsically in PE through enjoyable experiences, it may translate to enrolment in optional PE and result in greater PA levels. Intrinsic motivation has been shown to predict leisure time PA behaviour (Ommundsen & Kvalø, 2007) as well as PA during PE class (Lonsdale, Sabiston, Raedeke, Ha, & Sum, 2009). This is essential to develop well before students are in grade 10, as this is the last year of mandatory PE in BC. The high interest in enrolling in GGA the following year implies that the elements of the course were indeed meeting the needs of the students.

Affect, the feelings and attitudes towards the desired behaviour, is another outcome of motivation identified by SDT (Deci & Ryan, 2000). Theme 4 reflected the change in the participants' self-described affect. Due to the many factors previously discussed, participants now had positive attitudes towards PE and realized engaging in PA could be enjoyable and achievable. Felton et al. (2005) found similar results as the LEAP participants enjoyed the all-girls PE environment and their attitudes changed so they now looked forward to PE.

Correlational research in SDT has found links between motivation and affect. Ntoumanis (2005), and Standage, Duda, and Ntoumanis (2005) found that self-determined motivation in secondary PE predicted positive attitudes towards PE. This is not surprising as the definition of intrinsic motivation involves

engaging in behaviour out of enjoyment and interest (Deci & Ryan, 1985), yet it is noteworthy that many girls in GGA self-reported a change from a negative affect in PE to now seeing PE as fun and enjoyable. The links between need satisfaction and affect are apparent. The participants found GGA enjoyable because they were able to do activities they chose and therefore liked that provided challenges, that they could do with friends, and that they could do in a comfortable environment created by a caring teacher. These changes in course design, including the teacher's actions, were necessary for some of the participants to have a positive PE experience.

Deci and Ryan (2000) suggest that meaningful learning can result when one is intrinsically motivated. Theme 4 revealed how the participants acquired learning of personal interest and value. These included learning social skills, such as how to trust their classmates through team building activities, and physical skills, such as experiencing improvement at certain sports or activities. For learning to occur, the course content must be relevant to the students. Traditional PE is typically focused on male dominated sports and girls may be influenced by social discourses to resist participating in such activities. Therefore they may not find PE meaningful, and consequences of this included lower participation, lower skill development, and lower importance placed on PA. Azzarito and Solmon (2009) found that girls tended to feel "pressured to participate in 'appropriate feminine' physical activities" (p. 185) and saw no value in PE, and reported lower participation in PE than their male classmates. It is important to ask the girls what they value and want to do in PE, as was done in GGA. This results in positive learning outcomes including skill improvement and an increased interest in PA.

Deci and Ryan (2000) described the final consequence of intrinsic motivation as general well-being. SDT proposes that a person experiencing need satisfaction will feel a sense of vitality, self-esteem, general health, and a personal sense of wellness. This was mirrored in Theme 4. The participants commented that belonging to GGA made them feel good, as they felt energetic, happy, and self-confident. Both Felton et al. (2005) and Brooks and Magnusson (2006) found the participants expressed enhanced self-confidence after participating in an all girls class or when receiving praise from their teacher. Similar statements were echoed in the present study. Many girls commented how they used to feel self-conscious in previous PE classes, especially around their male classmates, but after participating in GGA their "confidence grew" because as one student commented, having no boys meant she did not "have to be self-conscious...you can just focus on what you're doing." These feelings appeared to be mostly caused by a fulfilled sense of relatedness and competence. Being in an all girls, female friendly class, and learning skills created this increase in self-confidence. The importance of perceived competence to overall PA cannot be underestimated. Knowles, Niven, Fawkner, and Henretty (2009) found that longitudinal decreases in PA participation for adolescent girls were related to poor physical self-perceptions, particularly physical condition. It would appear that if adolescent girls gained confidence in their abilities and skills in PE, a likely occurrence in a need-supportive environment, they may feel an overall improvement in their physical self-perception, resulting in increases, or at least a slower decline, in PA levels. It is imperative that this need supportive

environment begins early on for young women, as Knowles et al. (2009) found this decline in PA levels by age 12.

Conclusions

Insight gained from this investigation highlighted the importance of developing a PE environment that is supportive of student choices and interests that builds their skills and confidence, and creates a sense of belonging. While GGA was not intentionally designed using SDT, aspects of the course content and learning environment paralleled the antecedents of SDT and influenced students' motivation to be physically active. Qualitative evidence provided insight into how PE motivation was linked to outcomes of SDT, including self-reported improvements in PA behaviour, positive attitudes towards PE, meaningful learning, and an improved sense of well-being. These findings supported SDT, as Deci and Ryan (1985) proposed that social factors influence psychological needs, which in turn influence the type of motivation experienced, and result in consequences for behaviour, affect, cognition, and well-being. This warrants further research to investigate causal relationships between the antecedents and consequences of motivation, and builds a strong case for using SDT to design PE programs for young women.

While this case study explained the perspectives of one group of young women in PE, the limitation of qualitative research is that the sample was not representative of the entire population and not all adolescents would respond in the same way. Further research is needed to determine if SDT could be used to design a program meeting the needs of adolescent girls in other contexts, adolescent males, or even the needs of younger students. Perhaps if examined longitudinally, results would reveal that meeting students' needs in PE early on would improve enrolment in optional PE once students reach high school.

Several practical implications for policy makers, administrators, and teachers arose from this study. Findings demonstrated how important individual tailoring of a course can be to students' motivation. A PE curriculum should encourage the use of need-supportive strategies to create a welcoming environment for young women. While the BC PE curriculum was already in place to support a program such as GGA, it remains imperative that curriculum designers allow teachers the flexibility to tailor the curriculum to meet their students' unique needs. Policy makers, such as provincial ministries of education and curriculum designers, should also allow opportunities for all-female classes if desired by the students and be well versed in the hegemonic masculinity young women may experience in PE. Options should be available for students to choose what type of PE class they'd prefer - lifestyle activities or a competitive sport environment, or a single gender or co-education class. Having this choice would go far to meeting the needs of more students and in turn would create welcoming PE environments, possibly improving PE enrolment.

This case study provided evidence that SDT constructs can be used to design PE programs in order to meet the needs and interests of all students. Meeting the needs of female students in PE can result in positive outcomes, including increased PA participation and enjoyment, and improve enrolment for young women in PE.

References

- Azzarito, L., & Solmon, M. (2009). An investigation of students' embodied discourses in PE: A gender project. *Journal of Teaching in Physical Education*, 28, 173-191.
- BC Ministry of Education. (1997). *PE 11 and 12 integrated resource package*. Retrieved June 30, 2009, from <http://www.bced.gov.bc.ca/irp/pe1112.pdf>
- BC Ministry of Education. (2008). *PE 8 to 10 integrated resource package*. Retrieved August 10, 2008, from <http://www.bced.gov.bc.ca/irp/physicaleduc810.pdf>
- Brooks, F., & Magnusson, J. (2006). Taking part counts: Adolescents' experiences of the transition from inactivity to active participation in school-based PE. *Health Education Research*, 21(6), 872-883.
- Cockburn, C., & Clarke, G. (2002). "Everybody's looking at you!": Girls negotiating the "femininity deficit" they incur in PE. *Women's Studies International Forum*, 25(6), 651-665.
- Connell, R. W., & Messerschmidt, J. W. (2005). Hegemonic masculinity: Rethinking the concept. *Gender & Society*, 19(6), 829-859.
- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research*. Thousand Oaks: Sage Publications.
- Couturier, L. E., Chepko, S., & Coughlin, M. (2007). Whose gym is it? Gendered perspectives on middles and secondary school PE. *Physical Educator*, 62(4), 170-177.
- Cox, A., & Williams, L. (2008). The roles of perceived teacher support, motivational climate, and psychological need satisfaction in students' PE motivation. *Journal of Sport & Exercise Psychology*, 30, 222-239.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks: Sage Publications.
- Daly, K. J. (2007). *Family studies and human development*. Thousand Oaks: Sage Publications.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behaviour*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behaviour. *Psychological Inquiry*, 11, 227-268.
- Dwyer, J. J. M., Allison, K. R., LeMoine, K. N., Adlaf, E. M., Goodman, J., Falkner, G. E. J., & Lysy, D.C. (2006). A provincial study of opportunities for school-based physical activity in secondary schools. *Journal of Adolescent Health*, 39, 80-86.
- Fairclough, S., Stratton, G., & Baldwin, G. (2006). The contribution of secondary school PE to lifetime physical activity. *European Physical Education Review*, 8(1), 69-84.
- Felton, G., Saunders, R. P., Ward, D. S., Dishman, R. K., Dowda, M., & Pate, R. R. (2005). Promoting physical activity in girls: A case study of one school's success. *Journal of School Health*, 75(2), 57-62.
- Fraser-Thomas, J. L., & Beaudoin, C. (2004). Girls' appreciation of new PE curriculum classes. *Avanté*, 10(2), 45-56.
- Gibbons, S. L. (2009). Meaningful participation of girls in senior PE courses. *Canadian Journal of Education*, 32(2), 222-244.

- Gibbons, S. L., & Gaul, C. A. (2004). Making PE meaningful for young women: Case study in educational change. *Avanté*, 10(2), 1-16.
- Gibbons, S. L., & Humbert, M. L. (2008). What are middle-school girls looking for in PE? *Canadian Journal of Education*, 31(1), 1-21.
- Gibbons, S.L., Wharf Higgins, J., Gaul, C.A., & Van Gyn, G.H. (1999). Listening to female students in high school physical education, *Avanté*, 5(2), 1-20.
- Hannon, J. C., & Ratliffe, T. (2007). Opportunities to participate and teacher interactions in coed versus single-gender PE settings. *The Physical Educator*, 64(1), 11-20.
- Knowles, A., Niven, A. G., Fawcner, S. G., & Henretty, J. M. (2009). A longitudinal examination of the influence of maturation on physical self-perceptions and the relationship with physical activity in early adolescent girls. *Journal of Adolescence*, 32, 555-566.
- Lonsdale, C., Sabiston, C. M., Raedeke, T. D., Ha, A. S. C., & Sum, R. K. W. (2009). Self-determined motivation and students' physical activity during structured PE and free choice periods. *Preventive Medicine*, 48, 69-73.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.
- Ntoumanis, N. (2005). A prospective study of participation in optional school PE using a Self-Determination Theory framework. *Journal of Educational Psychology*, 97(3), 444-453.
- Ntoumanis, N., Pensgaard, A., Martin, C., & Pipe, K. (2004). An idiographic analysis of amotivation in compulsory school PE. *Journal of Sport Exercise Psychology*, 26, 197- 214.
- Olafson, L. (2002). 'I hate phys. Ed.': Adolescent girls talk about PE. *The Physical Educator*, 59(2), 67-74.
- Ommundsen, Y., & Kvalø, S. E. (2007). Autonomy-mastery, supportive or performance focused? Different teacher behaviours and pupils' outcomes in PE. *Scandinavian Journal of Educational Research*, 51(4), 385-413.
- Pate, R. R., Ward, D. S., O'Neill, J. R., & Dowda, M. (2007). Enrolment in PE is associated with overall physical activity in adolescent girls. *Research Quarterly for Exercise and Sport*, 78(4), 265-270.
- Prusak, K. A., Treasure, D. C., Darst, P. W., & Pangrazi, R. P. (2004). The effects of choice on the motivation of adolescent girls in PE. *Journal of Teaching in Physical Education*, 23, 19-29.
- Reeve, J. (2006). Teachers as facilitators: What autonomy-supportive teachers do and why their students benefit. *The Elementary School Journal*, 106(3), 221-236.
- Ryan, R. M., & Deci, E. L. (2000). Self-Determination Theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
- Smith, A., Green, K., & Thurston, M. (2009). Activity choice and PE in England and Wales. *Sport, Education and Society*, 14(2), 203-222.
- Standage, M., Duda, J. L., & Ntoumanis, N. (2005). A test of Self-Determination Theory in school PE. *British Journal of Educational Psychology*, 75(3), 411-433.

- Standage, M., & Gillison, F. (2007). Students' motivational responses toward school PE and their relationship to general self-esteem and health-related quality of life. *Psychology of Sport and Exercise*, 8(5), 704-721.
- Standage, M., Gillison, F., & Treasure, D. C. (2007). Self-determination and motivation in PE. In M. S. Hagger, & N. L. Chatzisarantis (Eds.), *Intrinsic motivation and self-determination in exercise and sport* (pp 71-83). Champaign, IL: Human Kinetics.
- Ward, J., Wilkinson, C., Vincent Graser, S., & Prusak, K. A. (2008). Effects of choice on student motivation and physical activity behaviour in PE. *Journal of Teaching in Physical Education*, 27, 385-398.

ⁱ British Columbia is a province on the west coast of Canada.

ⁱⁱ pseudonym