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AN INVESTIGATION INTO HIGH SCHOOL TEACHERS' UNDERSTANDING OF 10TH GRADE STUDENTS' ATTITUDES AND VALUES TOWARD PHYSICAL ACTIVITY AS A FACTOR IN PHYSICAL EDUCATION DROP OUT RATES AND ADOLESCENT OBESITY

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Standardized interviews were deployed to investigate 10th grade teachers' understanding of students' attitudes and values toward physical education and physical activity as a factor in students' likelihood of dropping physical education, and adolescent obesity. When asked how school-based physical education could help combat the problem of students' opting out of physical education, teachers suggested providing a greater range of choices amongst activities, and providing further opportunity for positive experiences in physical education. Furthermore, teachers stated that the greatest barriers to students who are overweight and/or poorly skilled from enjoying physical education were their feelings of being humiliated, ridiculed, embarrassed, and discriminated against. Teachers demonstrated a clear understanding of students' attitudes and values, in addition to some of the more attenuating barriers to increasing physical activity. Notwithstanding, if physical educators are to provide a safe and encouraging environment, there must be an acknowledgement that what they do, or choose not to do, may have an enduring impact on students. While teachers are unable to do much about extra-curricular physical activity, they can do something about the physical education offered in schools. Results of the study suggest that there must be a greater range of activities to choose from including sports which do not demand highly developed motor skills, but emphasize fitness and health.

Keywords: Students' attitudes, Physical education dropout, Adolescent obesity.

Introduction

Child and youth obesity rates are enormously high and continue to increase at an alarming rate (Kim & Lee, 2009). According to Hedley, Ogden, Johnson, Carroll, Curtin, and Flegal (2004), approximately 30% of American adolescents are overweight, and the *International Journal of Paediatric Obesity* predicts that this will escalate to include half the population of North American teens by 2020 (Wang & Lobstein, 2006). On a global scale, the World Health Organization (WHO) International Obesity Task Force estimates that 30 to 45 million children are currently obese, and nearly 155 million are overweight (Barnes, Copeland, & Trembley, 2005). Unfortunately, without proper intervention the trend of increasing child obesity rates will continue (Dollman, Norton, & Norton, 2005). This is of particular concern because youth who are overweight are at a much greater risk of becoming adults with a weight problem (Must, &

Straus, 1993). Indeed, Freedman et al. (2005) confirm that children who are overweight are 4 times more likely to become overweight later in life.

Although the prevalence of youth who are overweight in Canada is not as high as the United States (24% amongst Canadians compared to 34% in the United States), the situation is still undesirable and has continued to rise significantly over the past few decades (Wong & Leatherdale, 2009). Current statistics imply that the incidence of overweight amongst Canadians is 70% greater than it was thirty years ago, and that obesity rates are 2.5 times higher now than they were in 1978/79 (Shields, 2006). Excessive weight is associated with a greater risk of developing cardiovascular disease, stroke, type 2 diabetes, and certain types of cancer (Colditz, Sellers, & Trapido, 2006). Consequently, child and youth obesity also embody indirect costs - namely the economic burden associated with treating, caring for and rehabilitating the range of obesity-related illnesses (Larissa & Donaldson, 2004). The comprehensive cost of obesity-related health expenditures in Canada is estimated to be $4.3 billion dollars per year (Katzmarzyk & Janssen, 2004), and approximately one billion dollars annually in British Columbia (BC Legislative Assembly, 2006). Furthermore, this number is expected to increase 50% in British Columbia within the next decade (Sin, 2008). Not surprisingly, conclusions from the British Columbia Select Standing Committee on Health confirm that unless deliberate and abrupt actions are taken, British Columbia's children may be the first generation to have a shorter life span than their parents (BC Legislative Assembly, 2006). Clearly Canada, along with many other countries across the globe, is failing its adolescents and youth.

While obesity is typically attributed to improper diet and insufficient exercise, the condition is actually much more complex and diverse (Australia Standing Committee on Health and Ageing, 2009). One of the difficulties in combating the problem is that although there are numerous interrelated factors, treatment approaches have traditionally focused almost exclusively on diet and exercise alone. These types of approaches commonly amalgamate conventional exercise programs with restrictions in caloric intake and typically yield disappointing results (Israel, Guile, Baker, & Silverman, 1994). Ebbeling, Pawlak, and Ludwig (2002) suggest that the less than favorable outcomes all too common with intervention programs designed for children and adolescents who are obese could in part be due to environmental and behavioral factors. Consequently, what children and youth who are struggling with obesity do not need is another 'new' diet to experiment with. What they do need is a new paradigm (Katan, 2009). To date, there has been relatively little inquiry into the role of 'environmental and behavioral factors' on children who are obese. This work aims to address the current gap in literature by examining how teachers' understanding of students' attitudes and values in physical education impact on their curriculum delivery which influences students' lifestyle and activity choices, ultimately effecting their bodyweight and fatness.

Earlier research by Landolfi (2012) investigated 114 male and female 10^{th} grade high school students' attitudes and values to physical education and physical activity as a variable in obesity amongst adolescents through the use of a survey-based questionnaire. 10^{th} grade students were specifically selected as this is the final grade level in which physical education must be successfully completed to meet the minimum requirements for a high school graduation diploma in British Columbia (British Columbia Legislative Assembly, 2006). Moreover, both male and female adolescents are less physically active than younger children and a more thorough understanding of this phenomenon is imperative to ameliorating the present obesity crisis amongst adolescents who are obese (Active Healthy Kids Canada, 2012). Results from the 'Health Behavior in School-Aged Children' survey (Boyce, 2004), as well as the Canadian Fitness and Lifestyle Research Institute 'Kids CAN PLAY' (2009) study and the 'Tell Them

From Me' survey (TTFM, 2008-2009) confirm that the frequency and duration of physical activity levels are lowest in 10th grade students. Discouragingly, participation in school-based sports also decreases during high school (Willms & Flanagan, 2007).

Body Mass Index (defined as 'weight in kilograms divided by height in meters squared') was used to determine participants' obesity levels (Canadian Society for Exercise Physiology, 2003). Although Body Mass Index has often been condemned as a less than ideal means of assessing an individual's level of obesity, it is a pragmatic method for determining obesity levels amongst larger populations (Australia Standing Committee on Health and Ageing, 2009). This is in accordance with the International Obesity Task Force's approach to measuring obesity amongst adolescents. In addition, these methods are identical to those deployed during the most recent Canadian Community Health Survey (2004), and are also sensitive to the timing of puberty amongst adolescents (Roblin, 2007).

In this current investigation, 10th grade Teachers' understanding of students' attitudes and values toward physical education in schools and physical activity (in general) were examined through standardized interviews. Please refer to the 'methods' section of this article for a more detailed account of precisely '*how*' teachers' understandings were measured. For the intentions of this particular study physical activity included, but was not limited to, school (regular 'curricular-based' gym class instruction, as well as intramural and after-school sports or programs) and 'extra-curricular' physical activities which students might engage in on their own time such as programs offered through fitness facilities, recreation centers, and community-based sports clubs, etc. Extra-curricular physical activities encompassed both formal programs which require pre-registration and are heavily structured and supervised, as well as less formal 'pick-up' type activities. Although it was beyond the scope of this project to investigate 'all' factors which could potentially contribute to students' activity patterns, it was anticipated that a deeper comprehension of 10th grade physical education teachers' understanding of students' attitudes and values would provide critical insight into potentially viable interventions which could conceivably assist in the development and delivery of successful obesity prevention and retention programs. The investigation hypothesized that 10th grade teachers ' understanding of students' attitudes and values toward physical education in schools and physical activity (in general) directly influence (through teachers' curriculum delivery) students' physical activity experiences and behavior patterns. To date, there are limited quality data in this area.

Significance of the Study to the Current State of Adolescent Obesity

Children who dislike physical activity are less likely to engage in exercise on a regular basis (Hastie, 2003). For those students, school-based physical education classes are often associated with feelings of hatred or animosity. As Frank (1988, p. A 4) states: "the distinct impression is that physical education and fun are not synonymous, and as such, should be avoided at all costs." Consequently, those most in need of regular exercise are least likely to engage in it. They are typically unmotivated, see little or no value in physical activity, and are either left standing knock-kneed on the sidelines during school-based physical education or drop the program altogether when it becomes optional after the 10th grade (British Columbia Legislative Assembly, 2006). Although the causes of obesity are complex and diverse, physical activity has been identified as a key intervention applied to obesity prevention and reduction amongst adolescents, and can play a significant role in enhancing health (Hollins, 2009). According to Griffin (2006), no single factor is more frequently responsible for obesity than lack of physical activity. The World Health Organization (2004) champions this assertion and endorses daily

physical education for all school-aged children. In addition, the United Nations Educational Scientific and Cultural Organization International Charter of Physical Education and Sport (1978) states that the practice of physical education and sport is a fundamental right for all. Furthermore, the World Health Organization (2004) proposes that regular physical activity is the most viable course of action for enhancing the health of young people. Indeed, Menschick, Ahmed, Alexander, and Blum (2008) established reductions in Body Mass Index amongst high school students who obtained increased time in quality physical education programs. Furthermore, a longitudinal study by Datar and Sturm (2004) reported similar results in Body Mass Index with overweight elementary school students. Clearly, increasing quality physical education time is an essential component of obesity prevention (Caballero, 2004). Unfortunately, physical education was graded a 'C' in the 2012 Active Healthy Kids Canada Report Card - inferring that physical education programs are succeeding with a little less than half of today's children and youth. Moreover, physical activity levels received an 'F' which suggests that very few students (approximately 7%) are physically active enough to meet Canadian guidelines of 60 minutes of physical activity per day (Active Healthy Kids Canada, 2012). Perhaps these unfavorable outcomes are the result of persistent reductions in government funding of physical education programs on a national level.

Attitudes to Physical Education and Physical Activity

According to Fishbein and Ajzen's (1975) Theory of Reasoned Action, attitudes influence a person's intention for engaging in physical activity. Clearly, people who maintain positive attitudes toward physical activity exercise more frequently and with greater intensity than those with less favorable attitudes (Mack & Shaddox, 2004). Furthermore, factors such as attitudes and beliefs play an important role in determining whether an individual decides to participate in and maintain active behavior (Cameron, Norgan & Ellison, 2006).

Parizkova and Hills (2001) ascertain that children and adolescents who are obese often demonstrate a fear of participating in sports and recreational activities, as well as in social events. This suggests that children struggling with obesity are less involved in the very type of behaviors which they could potentially benefit from most. Consequently, they are more likely to develop a negative attitude toward physical activity and less likely to engage in it. For some junior high and middle school students, physical education class remains a deplorable experience and their attitudes toward exercise progressively spiral downward through each subsequent grade (Krouscas, 1999). Moreover, adolescents who are overweight and/or obese report that physical activity is not as enjoyable or beneficial for them in comparison to their 'normal weight' peers (Bourdeaudhuij et al., 2005). Encouragingly, attitudes toward physical activity have been shown to improve over time with proper intervention (Craeynest, Crombez, Deforche, Tanghe, & Bourdeaudhuij, 2008). This is precisely why it is so important to gain deeper insight into teachers' understanding of students' attitudes and values toward physical education and physical activity. Attitudes greatly influence everything that students' either do or choose not to do, as well as whether students' experience success in a particular school subject. In addition, teachers take students' attitudes into account on a continual basis during the design and delivery of their lessons. Due to their crucial function and potential impact on students' learning experiences, a stronger grasp of teachers' understanding of students' attitudes and values could provide valuable information for curriculum design and delivery. By acquiring a clearer awareness of an individual's attitude, adjustments could be made to lessons which may possibly enhance students'

experiences and ultimately influence future participation in physical education and physical activity (Silverman & Subramaniam, 1999).

Methods

The study utilized structured interviews within a phenomenographic methodology (Marton, 1981). Phenomenography investigates different ways in which people experience or think about phenomena, and (when applied within educational research) reflects what effective educators do within their practice (Bowden, 2000; Marton, 1986). Although there is only one world in which facts or situations exist, people experience them in many different ways (Bowden, 2005). Thus, phenomenography seeks an understanding of peoples' experiences in terms of which people interpret significant aspects of reality. In addition, the method characteristically involves interviews with a small, purposive (based on the knowledge of a population and the purpose of the study) sample with the researcher attempting to gain knowledge from the interviewee's understanding of experiences (Marton & Booth, 1997). As the investigation was oriented toward teachers' understanding, a primary concern included determining different ways in which teachers' experience, perceive and conceptualize students' attitudes and values toward physical education and physical activity. Deeper insight into teachers' interpretations and understandings of students' allow the researcher to make inferences which potentially advance knowledge. Furthermore, patterns and themes which emerge from the data result in the development of principles pragmatic to the field and ultimately guide teachers' practice within physical education (Strauss & Corbin, 1990). Hence, the paradigm is well suited for understanding phenomena within their context, as well as establishing links amongst concepts and behaviors (Quinn, 2005).

With respect to teacher interviews, good interviewing skills are essential to the success of this type of investigation. The sense of trust that must exist between the interviewer and respondent is paramount. Prior to each session, the interviewer (whether it was the principle investigator or the research assistant) clarified that their goal was not to evaluate respondents' as teachers', or to evaluate the success of their students', but rather to obtain a better understanding of their views on students' attitudes and values. It was extremely important to make the interviewer's objectivity known from the outset. However, objectivity did not extend to maintaining disinterest or distance from what was being discussed. Rather, the interviewer shared personal experiences with interviewees' when it was appropriate, for instance, in clarifying questions, providing examples, etc. As confirmed by Oakley (1981, p. 41): "It becomes clear that, in most cases, the goal of finding out about people through interviewing is best achieved when the relationship of interviewer and interviewee is non-hierarchical and when the interviewer is prepared to invest his or her own personal identity in the relationship." During interviews, there was also an attempt to make effective use of the following skills (Landolfi, 2002):

1) active listening- maintaining eye contact and showing interest in what the interviewee was saying, as well as not interrupting or jumping from subject to subject openness and empathy being open in posture and expression while accepting respondents' information, and avoiding value judgments based on what the interviewee says so that he/she felt free to express him/herself without fear of disapproval

2) paraphrasing and summary of content paraphrasing responses in order to recapitulate the essence of what a respondent has said. This helped ensure correct comprehension on the

interviewers part, as well as demonstrating to the respondent that he/she had the interviewers undivided attention.

Participants

In-depth standardized interviews with pre-established questions were conducted with twenty one 10th grade physical education teachers from two school boards located outside of Vancouver, British Columbia, Canada. All participants' were recruited directly by the principal investigator using purposive sampling with the goal of maximizing information. Thirteen participants were male and eight were female. The male physical education teachers ranged from one to more than 30 years of experience, and teaching experience amongst the female participants ranged from 1.5 to 25 years.

Data Collection

Structured interviews (which were audio recorded and transcribed verbatim) took place at the teacher's workplace and were conducted by either the principal investigator or a 4th year University of the Fraser Valley Kinesiology and Physical Education undergraduate student research assistant, and included a total of 12 depth-probe (for clarification, completeness and accuracy of understanding) questions which required approximately 30 to 45 minutes to complete. While all questions focused on teachers' understanding of students' 'behavior' (e.g., students' participation in school-based physical education or extra-curricular physical activity), six questions emphasized '*cognition*' (e.g., what teachers' think about students' attitudes and values toward a particular type or aspect of physical education or physical activity), and six questions pertained to '*affect*' (e.g., teachers' understanding of students' emotional attraction or feeling about a particular type or aspect of physical education or physical activity). Sub-dividing questions in this manner helped characterize the multidimensionality of physical activity (Kenyon, 1968). Along with responding to formal interview items, teachers' were also encouraged to express their own beliefs at the end of each question. This was done in an effort to help diminish the problem of overestimating responses, a general tendency which is shared by interviewers, as well as providing additional clarifying information (Aikenhead, 1988). Obtaining data of this nature may ultimately assist in structuring physical activity programs which help children make regular physical activity part of their lifestyle (Vlachopoulos & Biddle, 1997).

Data Analysis

Interview questions had absolutely no correct or incorrect answers, but measured different beliefs about teachers' understanding of students' attitudes and values toward physical education and physical activity. There were however, responses to each question which were more favorable to students' participating in school-based physical education, as well as leading a physically active lifestyle. Once all questions were answered, issues of credibility, reliability and trustworthiness were addressed through member checks which referred interpretations of data back to teachers' for correction and verification (Erickson, 1979). Credibility was further strengthened through the sense of trust established between the interviewer and respondent

(Lincoln & Guba, 1985). In addition, interview questions incorporated a tripartite model which conceptualized attitudes and values from a multidimensional perspective. This allowed for the thorough examination of cognitive, affective, and behavioral components of attitudes and values - unlike less rigorous interview methods which have traditionally deployed one-dimensional based questions.

Once transcribed, the initial stage of data analysis involved categorizing responses to interview questions according to: students' motivation; students' attitudes and values; school-based physical education; physical activity (in general); and teachers' views on obesity amongst adolescents'. While 'all' questions referred to teachers' understanding of students' 'behavior', interview items were further sub-divided amongst those which more closely focused on teachers' understanding of either students' 'affect' or 'cognition.' Following the sub-division of interview responses, a subsequent phase entailed analyzing data for recurrent statements amongst participants' as well as patterns and themes. Themes emerged from participants' detailed accounts of their experiences which provided unifying concepts related to teachers' perceptions (Bradley, Curry & Devers, 2007). Moreover, a cross-analysis was employed to locate common themes across participants.

Of utmost importance was that data were collected, analyzed, and interpreted through teachers' eyes and in teachers' voices. As people are usually much more willing to adopt recommendations from projects for which they provide personal input, it was crucial to hear directly from those who are responsible for curriculum delivery and influence students' lifestyle and activity choices (Leeper, 1965). This assisted in amassing rich, thick, detailed information and descriptions which minimized prejudice, partiality, and subjective bias (Smith & Heshusius, 1986).

Results

Findings were reviewed with respect to what teachers' stated during interviews, and quotes taken directly from verbatim transcripts of teachers' responses were utilized to provide richer detail of results. Moreover, while 'all' questions ascertained teachers' understanding of students' 'behavior', interview findings referring to teachers' perceptions of students' attitudes and values were expressed explicitly through '*affective'* and *'cognitive'* domains. Consequently, responses to '*affective*' based questions indicate the most common theme amongst participants' (eleven of the thirteen male teachers, and all eight female teachers) understanding of students' greatest joy from 'school-based' physical education encompassed 'being able to meet and socialize with friends outside of a regular classroom setting.' One female teacher with 25 years' experience commented: "The social aspect is a really important part of it." Another female respondent with15 years' teaching experience suggested a gender disparity: "The best part of physical education for girls is being with their friends and interacting with each other. For boys, I think they like competition." In addition, gender differences were noted in one of the novice (two years' experience) female teachers' responses: "It's a social thing. I know for the girls it's pretty social, and if they're not really into competition then getting them to do social things while moving is of great benefit. It's different for boys who are usually more competitive." A male teacher with 18 years' experience also reflected on the dissimilarities between genders: "There is a social element. They like to be active with other people and I think that's a bit of a feminine quality as well. I think that with the girls – that's a big part of it for them, whereas the boys enjoy competitiveness." Moreover, seven of the male teachers', in comparison to two of the female teachers', stated that enjoyment of school-based physical education also included 'being part of a

team' – particularly for some of the more highly skilled, competitive students. Interestingly, 'meeting and socializing with friends' was an equally consistent theme in both male and female participants' responses to what students' liked most about 'physical activity' (in general) as well. Another common (five of the male teachers' and two of the female teachers') theme in response to what students' enjoyed most about 'school-based' physical education, was 'taking a break from some of the more academic subjects.' Furthermore, 'having fun' was stated as being important to students' by three of the female and two of the male interviewees'.

There was consensus amongst seven male and five female teachers' that 'working hard' is what students' enjoyed *least* about physical activity. One of the female teachers linked her response specifically to the general lack of physical conditioning amongst students: "This wasn't the case when I entered the profession 25 years ago, but today's students' are more out of shape. Movement is more taxing on them so they don't want to work hard." A male respondent with nearly 20 years of experience stated: "I would say working hard. The sustained elevated heart-rate, and the fact that it can be physically tiring along with the sore muscles is definitely what they enjoy least." With respect to 'school-based' physical education, seven male and four female teachers' made reference to the impact of 'lack of choice amongst activities' on students' experiences. A novice female teacher with two years' experience stated: "What students' enjoy least is the strict regimentation involved with always having to follow the teacher's directions. For example, I tell them this is what we are doing today and students' don't like it." In addition, a male teacher with six years' experience confirmed that students' often end up doing activities which they do not enjoy. Moreover, four respondents' (two female and two male) specifically identified running as the least enjoyable physical activity amongst students'. A female teacher with more than 10 years' experience agreed: "A lot of them don't like running. Some students' might have a particular unit they don't like, but the vast majority do not enjoy running." As confirmed by a male teacher with five years' experience: "That's an easy one – running. Most kids hate it, but it's something that we make sure we do on a regular basis to improve cardiovascular fitness. There is also the fact that it's often tied-in with testing. It's just straight-up physical exertion to see the maximum they can do, and students' generally don't like it."

High level 'motor-skills' (as corroborated by five male and four female respondents') were another compelling deterrent to students' enjoyment of school-based physical education. Students' lack of motor-skills as a limiting factor to enjoying physical education elicited some of the more passionate and detailed responses to interview questions. One of the more experienced (25 years) female teachers stated: "Not being able to perform and feeling singled-out or basically ignored in a sense when no one passes the ball to them during a game. Students' need a healthy environment where they feel secure and are not afraid of taking risks, but they also need a fundamental baseline of skills to develop the confidence to take risks. Without motor-skills students' are seen in physical education as wimps, and others sort of prey on them." A male teacher with over 30 years' experience concurred: "Students' feel they are on display during class and don't want to be singled-out as not being good enough. They are worried about feeling intimidated, or embarrassing themselves. Students' have this massive fear of losing – of failure. Even the thought is absolutely devastating. It's ridiculous, but then again they've never lost. My sons played soccer and no one ever kept score. Everybody gets a trophy. This attitude carries over to school P.E. It's ridiculous. It's absolutely absurd!" Furthermore, although not a dominant theme, it is worth noting two female teachers' proposed that an overly competitive environment facilitates negative experiences for students' which may act to deter them from continuing physical education when it becomes optional.

Regarding what was most *meaningful* to students' in physical education class, teachers' stated that 'socializing, having fun, and being successful' (e.g., not feeling awkward or intimidated in physical education) were most imperative. These themes, in this specific order and as a single response to the question, were asserted by seven female and seven male interviewees.' A novice female teacher with one and half years' experience affirms: "I know how important socializing is to students' so I say the can talk as much as they want as long as it's not when I'm giving instructions. When I'm done they can talk all they like providing they are moving and it's not stopping them from participating. It's funny because they think that they're not doing anything, but they really are. They're doing lots." The value of socializing and having fun was noted by another novice (two years' experience) female teacher who also noted the importance of students' success: "Experiencing success is very important, but the teacher must ensure a safe environment where students' are more willing to participate and be active. Students' are more likely to experience success this way." One female teacher with 25 years' experience supported this view, but included: "Feeling successful is a complicated thing because everyone's different, but they should all feel secure – not threatened. This might be difficult because some kids are just not coordinated; just like some kids are not great essay writers. But students' should feel that they have excelled and moved forward in their skill development, and develop confidence. They are able to demonstrate this success by participating outside of the class on their own." A male teacher (also with 25 years' experience) elaborated on this theme: "I think they would like to get more help with being able to do things. This includes knowing how to play a game, and not feel awkward or intimidated by the whole process. I think they want to learn so they are not bullied or made fun of. They fear throwing or catching a ball. They're afraid of the ball. I don't know where they get it from, but students' believe they can't do it. I think they would like to be more comfortable so they could go out and play – you know – volleyball somewhere, but they have no self-esteem. They give up on things really easily, and then don't experience success."

In response to what *best motivates* students' to participate in physical education class and engage in physical activity after completing high school, four female and eight male respondents' gave credence to providing 'enjoyable and positive experiences in school physical education' which they maintained was largely influenced by the teachers' attitude and ability to encourage students.' One of the female novice teachers with two years' experience stated: "I think the teacher is a big motivational tool. If teachers' are passionate then it really comes across. Myself, I like to role-model so I participate with them and find that students' are more likely to be engaged because you're in there doing it; I think that carries over. If students' have a positive experience in Phys. Ed. they're more likely to continue with physical activity once school's out." A male teacher with five years' experience also stated: "Teacher involvement is one of the biggest things. Being enthusiastic and acting as a role-model is huge – getting up there with some energy and encouraging students'. I also tell them my story of not being particularly athletic when I was younger and how I was overweight, but physical activity changed my life. This helps create an atmosphere where kids' are willing to try new things, and not feel like they will be harassed or laughed at."

Responses to '*cognitive*' based questions indicate that three female and eight male teachers' believe *students' would change* the current physical education curriculum by placing less focus on motor skills and more emphasis on play. A novice female teacher with one and a half years' experience stated: "Some of my kids would just want to play. They just like moving, and really don't like learning skills." One of the male teachers' with 18 years' experience confirmed: "They're just focused on the carrot which involves playing the game afterwards. They would just

play games." The next most commonly mentioned theme (by four female and six male teachers') encompassed increasing choices amongst the number of activities offered. A female teacher with more than 10 years' experience noted: "They would like to swim, skate and offer a number of different activities such as aerobics, kick-boxing, yoga, Pilates and step classes, but we just don't provide that kind of stuff." This was confirmed by one of the male teachers' (with six years' experience) who also added hockey, curling, skiing, golfing, hiking, boating and canoeing amongst the activities which students' had requested. One female and four male teachers' believed students' would eliminate the classroom components of physical education such as health. A male teacher with six years' experience stated: "They really don't like the health unit. We also do First Aid and a unit in the library. These involve a written component and students' don't like it. Students' would eliminate most classroom components in favor of games in the gym." Furthermore, two female and one male teacher' affirmed that students' would prefer single-sex as opposed to co-ed classes. A female teacher with 25 years' experience stated: "I think co-ed classes discourage girls' because they don't feel comfortable, and you certainly don't want them to feel uncomfortable. Co-ed classes are a real hindrance to a lot of the girls'; they can completely withdraw. I think the girls' who aren't competitive would opt for single-sex classes."

When teachers' were asked what *they would change* about the current physical education curriculum, five female and five male teachers' said they would provide more options for students'. A female teacher with 25 years' experience affirmed: "I would offer much more opportunities for students' including outdoor recreational units. I would take them out on the surrounding lakes and rivers, but a lot of this is tied-in with money. In addition to more choices I would also add greater funding." One of the more novice (two years' experience) male teachers' stated: "I would provide kids with more off-campus type of activities – more alternative programs because traditional sports tend to get pretty boring for a lot of kids. The drawback is that this takes money to do." In addition, two female and one male respondent commented on providing improved gym facilities for physical education to accommodate a greater variety of choices for students'. Consequently, responses to what teachers' would change were relatively similar to what they believed students' would change.

When asked about the most effective strategies for *engaging lower-skilled students'* in physical education classes, the most common response amongst teachers' (four females and six males) involved dividing the class based on ability level and having students' participate with those of similar skills. Other suggestions included modifying activities (three female and six male teachers') which would provide a non-threatening environment, and one female as well as one male teacher recommended offering students' individual attention through peer learning. Responses were essentially reiterated by both male and female teachers' when they were asked how to best *modify activities to match students' abilities, interests and needs*.

Regarding key factors which contribute to the current increase in *adolescent obesity*, all eight female and 13 male teachers' were unanimous in their beliefs about the negative effects of screen time (e.g., time spent in front of television, computers, video games, etc.) and its relationship to increasing sedentary behavior as a fundamental causes of the obesity problem. In addition, eight female and four male teachers' stated that another significant factor included the lack of parent involvement in children's lives. A novice female teacher with two years' experience stated: "It starts with the family and how kids are brought up. Whether their parents are active and model that type of behavior. There's a lot of stuff that happens outside the school, and parents are the kids' first teachers. I think that some families don't value physical activity as much, and kids' end up spending so much time in front of either the T.V. or computer?" A male teacher with five years' experience confirmed: "We are seeing kids' spending a lot more time on

computers and video games. I think the other thing is that parents' are working more. They don't have the time to be as involved in their kids' lives. I see that type of detrimental combination."

Six female and 11 male teachers' suggested that the *greatest barriers* to overweight and/or poorly skilled students' enjoying physical education were students' feeling humiliated, ridiculed, embarrassed, and discriminated against - all of which contributed to students' developing poorer attitudes toward school-based physical education and physical activity. A novice female with two years' teaching experience asserted: "I think the greatest barrier is probably getting made fun of. It's humiliating and embarrassing to be made fun of. No one wants to be ridiculed." In addition, a male teacher with five years' experience stated: "The fear of looking bad, and being ridiculed. One of my rules is that no teasing is allowed."

Discussion

Ginott (1972) maintains that teachers' are the most significant aspect of a student's learning experience.

As a teacher I possess tremendous power to make a child's life miserable or joyous. I can be a tool of torture or an instrument of inspiration. I can humiliate or humor, hurt or heal. In all situations, it is my response that decides whether a crisis will be escalated or de-escalated, and a child humanized or de-humanized.

Strean (2009) concurs that teachers' have a tremendous function in shaping young peoples' educational experiences, and that an instructors' attitudes and behaviors impact greatly on students' physical activity choices later in life. In addition, there is consensus amongst physical educators', including those interviewed and surveyed for this study, that a teachers' attitude plays a fundamental role in influencing adolescents' physical activity patterns (Boyd & Yin, 1996). While physical education teachers' may have the best intentions, their attitudes, beliefs and practices could result in detrimental learning experiences amongst students'. Notwithstanding, negative experiences are a principal factor amongst those who choose not to engage in sport and physical activity (Cary, 2004). This view was also shared by participants' in this particular study. Consequently, examining teachers' understanding of students' attitudes and values toward physical education and physical activity remains imperative to gaining insight into physical education dropout rates and obesity amongst adolescents'. It is essential to explore teachers' beliefs about how they could best enhance students' physical activity learning experiences.

According to Sage (2003), the pursuit of a pertinent and acceptable theory of teaching has been a compelling challenge since the origins of contemporary physical education. As aims, purposes and beliefs, as well as social and educational theories, have changed over time perhaps what is needed is a significant paradigm shift in the delivery of physical education programs. While society has definitely changed, one must question whether physical and health education has adjusted appropriately (Tannehill, Romar, O'Sullivan, England and Rosenberg, 1994). Is a revamping of physical education curriculum, along with the function of physical education teachers', necessary to meet the needs of today's students' (Morey & Karp, 1998)? Clearly with the rising trend of inactivity amongst children and adolescents, in addition to corresponding increasing levels of obesity, physical educators' must ponder offering greater diversity within their programs (Segher, de Martelaer & Cardon, 2009). Regrettably, physical education has not responded to the increasing number of students' adopting sedentary behaviors (Guedes, 2007). Earlier work by Landolfi (2012), which examined students' attitudes and values toward physical activity and physical education as a variable in obesity amongst adolescents, suggests that school-based physical education is failing to make a meaningful impact on those who are most in

need of it - namely students' who are obese and/or poorly skilled and may end up dropping physical education when it becomes optional. Interestingly, Landolfi's previous (2012) study utilized students' from the identical school district employed within this current investigation of teachers'. Results of that research demonstrated that slightly more than 50% of students' (even those who's BMI was categorized as 'normal') felt they were not skilled enough in sports to fully enjoy school-based physical education. These same students' stated they were less likely to continue school-based physical education the following year (grade 11) when it becomes optional and is not required for a high school graduation diploma. How then, do teachers meet the demands of those students' who they are not reaching? Some students' report being so disinterested and withdrawn from physical education that they simply avoid physical activity and sports at all costs (Boyd & Yin, 1996). As quoted in Strean, (2009, p. 211), "Bad experiences in sport last long after the game is over." What then should the curriculum consist of, and how could it best be delivered? Furthermore, which aspects of physical education are most significant to the overall health of young people today?

Perhaps what is needed is greater emphasis on making students' experiences more enjoyable and personally meaningful. Based on participants' responses, teachers already possess a strong understanding of students' attitudes and values toward physical education and physical activity. Results also indicate congruence between what teachers' believe they are providing and what students' want. Furthermore, when teachers' and students' were asked what they would change about the curriculum, responses were not dissimilar. What remains, however, is the fundamental task of effectively translating teachers' knowledge into action. "Knowing one's students' and the best way in which to present the subject matter in relation to their diversity is arguably the most important factor in effective teaching" (Napper-Owen, Marston, Van Volkinburg, Afeman, & Brewer, 2008, p. 27). Physical education teachers' know that students' enjoy socializing and having fun, and that they least enjoy the high degree of motor skills required, as well as the lack of variety amongst activities. Moreover, results of this investigation confirm teachers' clearly understand that students' must experience success and feel competent if they are to remain physically active throughout their lives.

Conclusions

Children and youth spend a large part of their day in school. Although educators' are in a unique position to help those struggling with issues of overweight and obesity, the sad reality is that the practice of some physical education teachers may in fact be hindering students' physical activity behavior patterns (Irwin, Symons, & Kerr, 2003). Traditional physical education classes, for example, have been based heavily on calisthenics and highly competitive sports (Council on Sports Medicine and Fitness and Council on School Health, 2006). Not surprisingly, this type of program did not meet the needs of all students' - especially those struggling with obesity and/or limited motor skills - leaving a significant number of young people behind (Guedes, 2007).

Numerous investigations have suggested that teachers' understanding of students' beliefs and dispositions directly impact their curriculum delivery (Carlson, 1995). If physical educators' are to provide a safe and encouraging environment, there must be an acknowledgement that what they do, or choose not to do, may have an enduring impact on students' (Graham, 1995). Teachers' who participated in this investigation demonstrated a lucid understanding of students' attitudes and values, in addition to some of the more debilitating barriers to increasing physical activity. Factors such as 'lack of motor skills' and 'lack of choice amongst activities' impact negatively on students' experiences (Power, Bindler, Goetz & Daratha, 2010). Physical

educators' should reflect regularly on their practices, and strive to incorporate strategies for helping all students' experience joy from movement which is more likely to result in the pursuit of lifelong physical activity (Napper-Owen, et al., 2008).

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