Teacher-Student Rapport:
Investigating its Impact on the Dropout Rate in Physical and Health Education

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Abstract

This study was an investigation into whether strong teacher-student rapport relates to the drop-out rates of students in grade 9 and 10 health and physical education (HPE). In the study, One hundred and thirty-six grade 9 students from five high schools in Ontario participated in this study. Findings of whether or not rapport related to students' decision to take an additional HPE credit beyond grade 9 did not prove conclusive. A significant multivariate interaction effect was not found; however, tests of between-subject effects on sex and grade 10 dropouts showed some interesting trends. More research is needed to further illuminate the link between teacher-student rapport and students' enrollment in optional HPE classes.

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CHAPTER ONE: INTRODUCTION

Over the last several years, there has been much research indicating the deteriorating health of our society. Statistics Canada (2003) released findings from the *Canadian Community Health Survey of 2000/01,* which reported that approximately one out of every two Canadian adults is overweight, and one in seven is obese. Young Canadians follow closely behind. The rates of childhood and adolescent obesity have dramatically increased, and are reaching unprecedented levels. In the position paper entitled *An ounce of prevention or a ton of trouble: Is there an epidemic of obesity in children,* The Ontario Medical Association (2005) stated, "we are very concerned that we may be raising the first generation of children who will not outlive their parents. Obesity is indeed a public health problem" (p. 1). Healthy Active Kids Canada (2008) released a *Report Card on Physical Activity for Children and Youth*, which described that 90% of Canadian children and youth do not meet the physical activity guidelines set by the Public Health Agency of Canada. This is disheartening given the amount of research stating the health benefits of physical activity, such as reducing the risk of cardiovascular disease, obesity, some types of cancer, osteoporosis, diabetes, high blood pressure, stress and depression (Biddle, Bower, & Stensel, 2004; Higgins, Gaul, Gibbons, & Van Gyn, 2003).

Health and physical education (HPE) curricula from Grades 1 to 12 teaches students how to become physically and health literate, however, the drop out rate of high school students from Grade 9 to Grade 10 is a major concern. In the province of Ontario, students are required to obtain one HPE credit in order to

graduate. Although they can take any HPE credit, many students take their one required credit in Grade 9. Dwyer, Allison, LeMoine, Adlaf, Goodman, Faulkner & Lysy (2006b) found that physical education participation rates in Ontario decreased from Grades 9 to 12. More specifically, in Grade 9, 97.9% of students took HPE, yet from Grades 10 to 12 the numbers dropped to 49.6%, 43.3%, and 35.9%, respectively (Dwyer et al., 2006b). With such high drop out rates, it will become increasing difficult for physical educators to play a major role in increasing health and physical literacy in high school students. The benefits of physical education (PE) have been shown to help decrease acquired health risks associated with premature death. Datar and Sturm (2004) and Perez (2003) state that daily PE has a positive impact on obesity, as it decreases the prevalence of children at risk for becoming overweight, and has long-term benefits on overweight/obese children's physical activity levels. Shephard and Trudeau (2000) found that female students who received a Quality Daily Physical Education (QDPE) program are more likely to be active and healthy twenty years later.

Studies conducted with university students found the relationship students have with their teacher directly impacts their success and desire to be in their class (Lowman 1995; Benson, Cohen, & Buskist, 2005). Some of the teacher behaviours that students identified as being important to them include: being positive role models; helping all students reach their potential; and being willing to develop strong personal relationships that are grounded in trust, cohesiveness, care and respect (Borman & Overman 2008; Brooks 2006; Johnson, 1997; Voelp,

2005). Unfortunately, there is limited research on the type of student who elects to take HPE beyond the one mandatory high school credit.

It is important to investigate the factors that impact a student's decision to take HPE courses beyond the one mandatory high school credit. I arrived at this realization both from the literature I have reviewed to date, as well as from a personal and professional perspective.

It is important to note that the following perspective is my own and not a part of the literature review. I provide my perspective as insight into what led me to investigate HPE teacher-student rapport and its relationship to the drop out rate of boys and girls from Grade 9 to 10.

Personal Perspective

My parents emigrated from Greece and were married in Toronto, Ontario in 1958. My brother was born in 1962 and me in 1964; we were one grade year apart. My mother stayed home to raise us, and my father tried various jobs while taking classes at Ryerson College (now Ryerson University) to learn how to speak English.

By the time my brother and I stated school, my father had settled into buying and selling restaurants in Toronto, Ontario; Thessaloniki, Greece; and various cities in Florida, USA. We relocated homes frequently, attending five elementary schools in six years, including one in Thessaloniki, Greece. When we moved to Greece, I was entering Grade 2. It didn't take long for my teacher to realize that my lack of homework completion was not from a lack of trying, rather, a lack of reading and writing skills for the average student in Grade 2.

Three months later, because of my weak progress, I was moved to the Grade 1 class. Once I was removed from the Grade 2 class, none of my former Grade 2 classmates wanted to be my friend. Some of them made fun of me during recess and after school, resorting to name calling and teasing of my lack of fluency in the Greek language. As the weeks passed my situation did not improve, so I decided to skip school, electing to hide in an abandoned construction site until the school day was over and it was time to go home. Thankfully, we moved back to Toronto shortly after the school contacted my parents about my absenteeism. To the best of my recollection, special education programs did not exist to help struggling students. I remember feeling inadequate, excluded and alone.

Changing schools proved to be very difficult for my brother and me as academically we were behind, especially in reading, writing and math. Reflecting back now, it was difficult to get used to the various teaching styles and very hard for teachers to develop rapport with us. Once I entered junior high school, we had stopped our frequent relocation. To get caught up, my brother and I were placed in special education programs for reading, writing and math. It was in junior high school where I met several teachers who would change the course of my life. Mr. P was my Grade 7 English teacher who taught me an appreciation for reading. He did this by allowing me to read books that were relevant to my life. In most cases, these books were not required readings from the curriculum. He knew my previous experience with school and introduced me to stories that were similar to my life experiences. The first book I ever finished was *The Story of Jackie Robinson*. I found many parallels between Jackie's life and mine. Admittedly, his

challenges greatly overshadowed mine, but I could relate to being picked on and unwanted by my peers. Mr. P. made learning relevant to me, and as a result I began to read more. To this day, I only read non-fiction books.

In the same year, I was fortunate to have Mr. T for HPE class. Before becoming a HPE teacher, Mr. T played professional football, basketball and baseball, and was Canada's only three-sport professional athlete. Knowing my past, he also took a special interest in me, and quickly introduced me to all the intramural programs in the school. I was four-feet, six-inches tall when I was in Grade 7, and was not athletically inclined. I worked hard in HPE class and never missed an intramural. Mr. T made learning fun and challenging, and instilled in us the drive to chase our dreams as athletes and students. In Grade 8, I made the school teams for volleyball, basketball, soccer, and track and field. After my Grade 7 year, I realized that the teachers who could help me become a better student and athlete were the ones who really cared about me as an individual.

Once I got to high school, I tried to be placed in classes with teachers who had a reputation for making learning fun, who had a sense of humour, and who would go the 'extra mile' to help me succeed. I found such teachers through the experience of my older brother and his friends. I was in the 'general stream', which meant that I could not apply to universities, as only students in the 'advanced stream' could do so. I learned this information from my Grade 10 HPE teacher, Mr. R, who had many of the same personality traits as Mr. T, but did not have, in his own words, "an athletic bone in his body". Mr. R was a science teacher who took additional qualification courses to become a HPE teacher. He

did this because he loved teaching students who did not see themselves as 'athletic'. He instilled in these students the belief that you did not have to be an 'athlete' to do well in HPE. From Grades 10 to 12 I sought out teachers with the aforementioned characteristics to help me get into Grade 13, which would then enable me to attend university and pursue my goal of becoming a HPE teacher. After three years of day, night, and summer school, I entered Grade 13.

Upon reflection, I realize my teachers made learning relevant, fun, and engaging for me. These teachers made me feel included, and pushed me to become a better student, person and athlete. In short, they had great rapport-building qualities. I owe my love for teaching HPE to the exceptional HPE teachers I was fortunate to be educated by. When the East York Board of Education hired me, they asked why I wanted to become a HPE teacher. My reply was, "I want to connect with students, and to show them the positive impact HPE can have in every aspect of their lives; just as my HPE teachers did for me."

Professional Perspective

In my 21 years of teaching at the high school level, it's been my experience that there are two types of students who continue to take additional high school HPE credits. The first type of student is one who is good at sports, or who has an affinity for physical activity. These students are usually referred to as 'athletes', and are often on school representative sports teams, as well as representative teams outside of school. This type of student seems to have a high level of self-efficacy as it relates to physical activity and skill acquisition. The second type of student is one who has a strong rapport with their teacher. These

students may not initially have an affinity for PE, but because their teacher makes them feel comfortable, included, valued and treated the same as the "athletes", they want to be there. I believe that we have to make all students feel comfortable in HPE regardless of athletic ability, race, or religious background. This means that HPE teachers must develop positive rapport with all of their students in order to make more students want to take HPE beyond the one mandatory credit. This is the type of teacher I constantly strive to become, and past personal and professional experience has taken me on this journey.

To help more students succeed in HPE, I seek out professional development opportunities to help me communicate more effectively with all my students and their parents. My goal is to help them understand the importance of taking HPE beyond the one mandatory high school credit. I am not suggesting that teacher-student rapport is the only factor that affects HPE dropout rates; I am suggesting, however, that teacher-student rapport is a factor that we as health and physical educators can develop in the hopes of keeping more students in HPE throughout high school.

Background to the Problem

A construct that has been relatively under-studied in PE is teacher-student rapport. This construct has been suggested to have an important influence on students' motivation and learning (Downey, 2008; Johnson, 2008; Gran & Cothran, 2006). When students perceive teachers as being there to help them succeed, to make class fun, and to help them understand that what they are learning impacts their life, students are less likely to get bored or disengage with

the teacher or subject (Downey, 2008; Gibbons & Humbert, 2008; Graham, 1995; Johnson, 2008). When students feel that their teacher cares about them, the greater their chances of success are in that course (Graham, 2005). Graham (1995) argues that the best teachers truly understand their students. These teachers have the innate ability to place themselves in the 'shoes' of the students they teach, and to connect with them on an emotional level. Graham concludes that when teachers do not connect with students on an emotional level, students become less interested in what is being taught, and may fail to connect with the content and its relevance to their lives.

A possible solution to student dropout is to offer inclusive programs where all learners can succeed regardless of varying personalities, physical skill, or fitness level. If we can keep our students in HPE programs throughout high school, we might be able to teach them the benefits of leading a healthy active lifestyle, thus teaching them the skills and tools they need to stay healthy for life.

Purpose of Study

A literature review identified studies that suggested strong teacher-student rapport leads to increased motivation to learn, participate, and develop a deeper understanding of the subject matter (Benson, Cohen, & Buskist, 2005; Borman & Overman, 2004; Downey, 2008; Figley, 1985; Humbert, 2006; Johnson, 2008; Luke & Sinclair, 1991; Voelp, 2005). It has been argued that students seek out teachers with whom they develop rapport, and take additional courses offered by the same teachers (Voelp, 2005). Strong teacher-student rapport has also been shown to increase student success despite personal adversity and vulnerabilities

(Borman & Overman, 2004; Brooks, 2006; Downey, 2008). The purpose of this study was to investigate whether strong teacher-student rapport can make a difference in the HPE drop out rate of males and females from Grade 9 to Grade 10. For the purpose of this study, a "drop out" is defined as a student who chooses not to take an additional HPE course beyond the one credit that is mandatory for graduation. It is hoped that this study will strengthen the literature on teacher-student rapport.

Chapter two consists of a review of literature on the topics under investigation. Chapter two begins with a review of the literature on HPE drop out rates and reasons why students drop out of HPE, characteristics of rapport, and the importance of building rapport. The chapter ends with a rationale for the development of the Instrument of Students' Teacher Rapport (ITSRap). The relationship between teacher-student rapport and HPE dropout rates will also be explored. Chapter three is a discussion of how the ITSRap was developed. Chapter four is a report of the methodology and results of the study. Lastly, chapter five is a discussion of both the development of the ITSRap and the findings of the study.

CHAPTER TWO: LITERATURE REVIEW

HPE Dropout Rates

Currently in Ontario, only one high school HPE credit is required in order to graduate (Ontario Ministry of Education & Training, 1999). Many school boards in Ontario recommend that Grade 9 HPE is the one required course that students should take. After the single credit has been achieved, individuals are not required to further their participation in HPE unless they choose to do so (Allison & Adlaf, 2000). Once HPE becomes an elective credit, optional enrolment decreases significantly, with the decrease more prominent for females than males (Cameron, Wolfe, & Craig, 2007; Craig & Cameron, 2004; Deacon, 2001; Spence, Mandigo, Poon, & Mummary, 2001).

Dwyer et al. (2006b) found that HPE participation rates in Ontario decreased from Grades 9 to12. More specifically, Dwyer et al. found that in Grade 9, 97.9% of students took HPE, and from Grades 10 through 12 the numbers dropped to 49.6%, 43.3%, and 35.9%, respectively. Dwyer et al. suggest that the reason for the dramatic drop off from Grade 9 to Grade 10 HPE is because there is only a single required credit needed for graduation in Ontario, thus students do not feel it is important to take it further. According to Dwyer et al., this drop off has been happening steadily for a number of years. In 1998, 63% of Grade 10 students were taking a HPE course, by 2004 that percentage dropped to 50%. According to the Ontario School Information System (2010), in 2009-2010 the total number of students taking the Grade 9 HPE course (PPL 1-Open) was 176,832. The number of students who took PPL courses after Grade 9 are as follows: 44% (n= 65,982) of the students who took HPE in Grade 9 took Grade 10

HPE; 35% (n= 51,896) of the students who took HPE in Grade 9 took Grade 11 HPE; and 25% (n= 37,370) of the students who took HPE in Grade 9 took Grade 12 HPE. Grade 9 HPE has the second highest enrollment numbers of any subject in high school, and follows closely behind Grade 10 civics and careers, which has 100% of students enrolling in this mandatory course (OnSIS, 2010). Of particular concern is that of the dropout rate of girls. Many more girls than boys will opt out of HPE after their single credit has been achieved (Craig, Cameron, Russell, & Beaulieu, 2001). According to Pepler, Craig, Yuille, and Connolly (2006), over 50% of females will drop out of HPE after they have achieved the single HPE credit needed to graduate. There is a steep decline in HPE participation throughout high school, particularly among adolescent and teenage girls (Allison et al., 2000; Craig et al., 2001). Students who receive QDPE programs feel more confident and are able to move with competence in a wide variety of physical activities (Mandigo, Francis, Lodewyk, & Lopez, 2009). More so then ever, we need to find ways to keep our youth in QDPE programs.

Reasons Students Drop Out of PE

Carlson (1995) studied the feelings and actions of middle and high school students who felt alienated from PE, and identified three key themes as to why students drop out of PE. Carlson discovered that there were three basic emotion categories which lead students to feelings of alienation: (a) “no personal meaning” - students who identified PE as having little to no personal significance in their lives (p. 469); (b) “lack of control” - those that feel they have no say in what happens in PE class (p. 470); and (c) “isolation” - students that have feelings of

withdraw, disconnect with their peers, and a sense of feeling alone (p. 471). Most of these alienated students expressed that they would rather be anywhere else but PE class (Carlson, 1995). The theme of "no personal meaning" appears in many studies where students have expressed a disassociation with what is being taught in PE and how it translates into everyday life (Humbert, 2006; Olafson 2002; Ryan, Fleming, & Maina, 2003). This is troublesome, especially for females, as research shows that they are significantly less active than males (Higgins, Gaul, Gibbons, & Van Gyn, 2003). Thompson, Humbert, and Mirwald (2003) conducted one-on-one in-depth interviews with 16 men and 15 women, and then followed up with an investigation 25 years later with the same individuals. Many of the participants in that study did not have positive experiences in their high school PE classes, and some even reported the experience to be humiliating. One individual commented:

> The system where they [teachers] appointed a captain and they [classmates] would pick teams. And I found it humiliating if you weren't picked…I just thought it was very demeaning…maybe that is what kept me away from team sports or something. (p. 368)

Humbert et al. (2008) examined intrapersonal, social, and environmental factors influencing physical activity behaviors in youth. Humbert et al. found "fun" to be a consistent theme throughout all the grades studied (p. 163). Students placed "fun" as the top intrapersonal and social factor that must be present in their PE class (p.163). Humbert et al. also reported that the characteristics students sought in a PE teacher were "young, responsible, fair and involved (i.e., an active

participant within the activity). We need someone in their twenties–not too old but young enough to have fun and play with us" (p. 165). It is clearly stated throughout Humbert et al.'s report that students are looking for teachers who make them feel included and who make the activities fun. Having a teacher who makes class fun and participates with his or her students is very important to students (Garn & Cothran, 2006; Olafson, 2002; Ryan, et al., 2003).

Students from all educational levels have been found to have more positive attitudes toward PE if they have good rapport with their teachers (Figley, 1985; Humbert 2006; Luke & Sinclair 1991). Students like to personally interact with their teachers. Humbert (2006) found that interacting with teachers was one of the most likable aspects of PE in her sample of high school females, especially teachers who treated the participants like the players on the teams they coached. Humbert (2006) states:

> The gap that exists between the needs and desires of students and their experiences in physical education classes may be one of the reasons that the majority of high school students in Canada choose not to take physical education classes when they are no longer compulsory. (p. 3)

Humbert (2006) arrives at this conclusion based on interviews with high school students. In Humbert's study, students reflected on why they dropped out of PE once it was no longer compulsory. Students, like Eva, who stopped taking HPE the moment it was no longer compulsory stated "I got out of there as soon as

I could" (Humbert, 2006, p. 5). She expressed further what she thought PE should be:

> I wish that everyone could go to phys-ed, do the best they can, and have fun and feel comfortable. I know that sounds like a dream, but I think that feeling comfortable is so important. If you don't feel comfortable, you can't be yourself, you can't do as well. It is almost like you need to feel like you belong in phys-ed, like it's OK for you to be there. It seems like most of the time only the good people get that feeling. (p. 5)

Dwyer et al. (2006a) explain that many females in their study believed that PE teachers favour the student-athletes in their class, the ones who excel at physical activity, and those who play on a school sports team. Thus, the individuals in Dwyer et al.'s study reported feelings of inadequacy because they were not as athletic as their fellow classmates, particularly the ones on school sports teams.

The students in Dwyer et al.'s (2006a) study identified the characteristics they would like their PE teacher to have, such as being approachable and understanding, and treating them the same as those students they coach on school teams. Students want PE teachers who support and encourage their efforts, who make them feel included, who give them a sense of belonging, who make the class fun, and who are motivational (Dwyer et al., 2006a). The characteristics that these students identified are cornerstones in great teacher–student rapport building, and support the assumption that if teachers possess or learn how to

develop great teacher–student rapport, more students would take HPE classes beyond the one compulsory high-school credit.

Rapport

The American Heritage Dictionary (1991) defines rapport as "a relationship; especially one of mutual trust or emotional affinity" (p.1026), and The Random House Dictionary (1987) defines it as "a relation; connection; an especially harmonious or sympathetic relation" (p. 160). Simply stated, it is when two people 'click', or 'connect' on various levels to form a harmonious relationship based on "chemistry" or a connectedness to each other (Faranda & Clarke 2004; Tickle-Degnan & Rosenthal, 1990). Jorgenson (1992) states that rapport is an interrelated experience that both parties accomplish together. Tickle-Degnan and Rosenthal, (1990) propose a three-component definition of rapport. The first component is "mutual attentiveness", being interested in what the other participant is saying or doing (Tickle-Degnan & Rosenthal, 1990, p. 286). Secondly, "positivity", which is characterized by friendliness and caring about how the other person feels and thinks (Tickle-Degnan & Rosenthal, 1990, p. 286). And lastly, "coordination", which is characterised by balance, harmonious and synchronized actions of the persons involved (Tickle-Degnan & Rosenthal, 1990, p. 286). A relationship is said to have good rapport when it is harmonious, open, caring, coordinated and nurtured over time; when all parties feel respected (Granitz, Koering & Harich, 2009).

Characteristics of Rapport

Discovering what students believe to be rapport building qualities would help teachers better connect with their students. Benson et al. (2005) surveyed

university students and found that the rapport building qualities these students looked for in their teachers were words of encouragement, open-mindedness, creativity, being interesting, being accessible, happiness, a good personality, promoting class discussion, approachability, concern for students, and fairness. Downey (2008) studied kindergarten to Grade 12 educational programs and teachers who worked with at-risk students and found that good teacher-student rapport is characterised by: building strong interpersonal relationships; communicating, setting and maintaining high realistic academic expectations; and, promoting self-esteem by focusing on the students' strengths. More specifically, Downey explains that healthy interpersonal relationships are characterised by mutual respect, trust, caring, and cohesiveness. Communicating high realistic academic expectations are said to consist of the teacher having a "can-do" attitude with an emphasis on effort and success, and the teacher as the cornerstone of support for the student to succeed (Downey, 2008, p. 58). And finally, positive self-esteem in students is built by focusing on student strengths', unique abilities, and personal achievements; and by providing feedback that is direct and honest.

In 2009, Granitz, Koering and Harich examined what university professors considered to be the factors that lead to good rapport between faculty and students. Granitz et al. identified that rapport can be characterised into three main categories: approach, personality factors, and homophily. The items that make up approach include respect, trust, patience, "keeping it real," and approachability (Granitz et al., 2009, p. 56). Personality factors include caring, being positive, and

displaying empathy. Homophily is characterised by having similar goals, values, and attitudes; in short, these individuals "speak each other's language" (Granitz et al., 2009, p. 56). The university professors considered the characteristic of approach to be the most important factor in building rapport, followed by personality, and then homophily (Granitz et al., 2009). A point of interest in the aforementioned Benson et al. (2005), Downey (2008), and Granitz, et al. (2009) studies is that both students and teachers/professors identify similar characteristics of rapport.

Buskist and Saville (2001) suggest that in order to develop rapport with one's students, professors should try to: learn students' names, hobbies, or interests; arrive to class early and stay late to answer questions; be available for extra help; be enthusiastic and passionate about how and what is taught; have a sense of humour; be respectful; and smile a lot.

Lowman (1994) divided the qualities of effective college professors into two categories: "intellectual excitement and interpersonal rapport" (p. 29). Intellectual excitement is described as the extent to which students find their instructors' teaching style interesting and welcoming (Lowman, 1994). Lowman states that students view instructors who create high levels of interpersonal rapport as "extremely warm and open, highly student-centered, and predictable" (Lowman, 1994, p. 29). These professors really know "who they [students] are and care about them and their learning a great deal" (Lowman, 1994, p. 29).

Care and Rapport

Care has been identified as a major ingredient in teacher-student rapport, especially in the case of at-risk students (Downey, 2008). In Downey's (2008) study, experienced teachers stated that at-risk "students don't care how much you know, until they know how much you care" (p. 57). The teachers in Downey's study suggest that the closer teachers can get to their at-risk students the better; students will work hard for teachers who care for them. For at-risk students, teachers can be the most consistent, reliable adult role models (Downey, 2008). The teachers in Downey's study also reported that students need to be cared for and respected to reach their full potential, and that caring is a key factor in a teacher's daily work. Furthermore, students know which teachers truly care and which ones are faking it. One teacher in Downey's study stated that:

> Kids know if you care, and if you do, respect and trust will follow…I don't believe students will care what you know until they know that you care. When they feel cared about, they will go that extra mile and not give up or shut down'. (p. 57)

Larson and Silverman's (2005) study entitled *Rationales and Practices Used by Caring Physical Education Teachers* suggests that PE teachers have several opportunities to demonstrate caring teaching that leads to the growth of caring relationships between teachers and students. When the teachers in Larson and Silverman's study were asked about why caring teaching is important in PE they all "…spoke of loving to teach physical education and considering it their (professional) calling, holding physical education in high regard, having fun

teaching, and seeking to create an inclusive and engaging class environment" (p. 183). Larson and Silverman share teacher quotations that indicate that these teachers feel it is part of their job to care about all their students:

> 'It is my job to care for the students from the moment they walk in to the moment they leave'…and for each to be happy and as 'comfortable as they can when they are with you'…these efforts create an environment that makes learning comfortable, and increases the likelihood that each will develop an enjoyment of physical activity and cultivate life-long habits. Ali does not 'know how you can do the job without caring* honestly, I really don't',… Ali states 'the most important thing is that the kids know you care about them. As teachers, we have to really work to show the kids that we care about them.' (p. 184).

Larson's (2006) study, entitled *Student Perceptions of Caring Physical Education Teaching,* examined the perspectives of elementary and secondary school students in the United States. The results suggest that students see caring teaching behaviors as critical to their success. These behaviours were clustered into three sub-categories: "(a) recognize me; (b) help me learn; and (c) trust/respect me" (Larson, 2006, p. 345). The "recognize me" sub-category dealt with behaviours that recognized the students' individuality, such as catching the student doing something well in class and complimenting them (Larson, 2006). The "help me learn" sub-category included behaviours that helped students stay

motivated, re-focusing them on the task at hand and providing extra help (Larson, 2006). The final sub-category ("trust/respect me") included behaviours that made students feel like their voice was heard; examples include, allowing students to have input on how and what was being taught, and allowing the use of PE equipment or weight room during non-PE time (Larson, 2006). PE students identified caring teaching behaviours to be the promotion of positive experiences in class, nurturing learning, and supporting their learning (Larson, 2006).

The Importance of Building Rapport

A common theme in the literature is the importance of rapport building, especially in the contexts of the educational resiliency of at-risk students. Downey (2008) defines at-risk students as those failing academically and living in difficult environments, such as poverty and family disruption. Several studies have found that when strong rapport has been developed with at-risk students, student success increases. Educational resilience, as defined by Wang, Haertel, and Walberg (1997), is "the heightened likelihood of educational success despite personal vulnerabilities and adversities brought about by environmental conditions and experiences" (p.56). Strong teacher-student rapport is associated with greater motivation to learn and improved academic performance (Benson, et al., 2005; Borman & Overman, 2004; Downey, 2008; Johnson, 2008).

According to Borman and Overman (2008), the importance of teacher-student relationships cannot be overstated. More specifically, Borman and Overman found that at-risk students who achieve academic success do so because they have at least one teacher who acts as a role model and believes in them.

Brooks (2006) suggests that at risk students need teachers who are willing to develop strong personal relationships that are grounded in trust, cohesiveness, care and respect. Forming strong meaningful connections to teachers, according to Johnson (1997), is what contributes most to high academic achievement of at-risk students.

Johnson (2008) describes the findings of a longitudinal study on the types of teacher-student relationships that promote resilience. In this study, Johnson talked to 130 randomly selected nine to twelve year old students, tracked them over a five-year period, and then again four years later. Over the observed period of their lives, many students credited their success in life to teachers (Johnson, 2008). These students stated that the teachers who truly cared for them had a positive effect on their sense of well-being and coping capacities (Johnson, 2008). Several students said that they did not like going to their guidance councillors for help regarding school or personal matters because they did not know them (Johnson, 2008). According to Luthar and Zelazo (2003), the most proximal relationships are the most nurturing and enduring relationships, thus students seek out teachers with whom they have developed rapport.

Johnson (2008) states that to be a successful teacher in the eyes of at-risk students teachers must make themselves available; truly listen to concerns and worries; help students master reading, writing and numeracy skills that promote independent learning; and provide a safe, challenging, fun and engaging environment for learning to occur. Similarly, Downey (2008) emphasizes that positive teacher-student relationships make a significant impact on students who

are at-risk of academic failure. More specifically, Downey recommends that at-risk students need teachers to: (a) build healthy interpersonal relationships with them; (b) set and communicate high realistic expectations for academic performance; and, (c) use students' strengths to promote positive self-esteem. Moreover, Voelp (2005) surveyed 90 sixteen-year-old co-ed students about their relationships with their teachers. Voelp found that students' relationship with their teacher directly impacted student academic success and overall learning. Also, all the students Voelp surveyed perceived that a positive connection with their teacher increases their desire to learn and to take ownership in their learning.

Limitations of the Existing Literature

Further research on teacher-student rapport in PE can enrich the body of knowledge that currently exists. Most of the existing research in this area focuses on students in elementary and middle school and university/college, with limited research on what high school students believe are rapport-building qualities that they seek out in teachers. Studies have been conducted on students' attitudes toward PE, but there are no studies specifically targeting the relationship between rapport and dropout rates among high school students (Adams, 1963; Rice, 1988; Ryan et al., 2003). Furthermore, most of the studies on this topic used instruments that were ten to forty-five years old. According to Silverman and Subramaniam (1999), previous research instruments used to examine students' attitudes in PE have failed to follow proper instrument validation. Thus using such tools in whole or part can be problematic. Since the Instrument for Teacher Student Rapport

(ITSRap) adapted some of these dated instruments, I decided to develop a new psychometrically sound instrument.

Potential Teacher-Student Rapport Instruments

A literature review was conducted to find a psychometrically sound self-report instrument that provides information on students' perceptions of teacher-student rapport. A review of the literature was the primary source of item development, and the key words and phrases that were searched for included: teacher-student rapport, teacher-student relationships, teacher-student connectedness, at-risk students, student resilience, and student attitudes toward teachers. Two important criteria for a successful instrument that measures teacher-student rapport included: (a) currency, the instrument had to be10 years old or less, and (b) appropriateness for high school students (Subramaiam & Silverman, 1999). A short list of potential teacher-student rapport instruments were discovered and reviewed to determine whether or not they could be used for this study.

The first instrument reviewed was that used in Rice's (1988) study. At the time of that study there was limited research regarding high school students' opinions, attitudes, and values towards PE. In this study, Rice (1988) used a 73-item questionnaire that was given to 602 high school students from Grades 9 to 12 in the mid-southern United States. The classroom PE teacher administered the questionnaire and the researcher was not present. Therefore, if the students needed clarification at any time during the survey they could not ask the researcher. This could lead to potential errors in the students' interpretation of questions.

Furthermore, students may not have felt comfortable answering the questions honestly because there was no mention in the study whether the presiding teacher knew or did not know of the topic or purpose of the survey. The students were guaranteed anonymity, however, how that anonymity was ensured was not reported. Students responded to the questions using a Likert scale by checking strongly agree (SA), agree (A), undecided (U), disagree (D) or strongly disagree (SD). The breakdown of the questions were as follows: seven questions dealt with general demographics, 10 related to personal health and fitness level of students, 13 pertained to curriculum, 21 dealt with likes/dislikes about the PE program, and 24 dealt with the likes/dislikes about their PE teacher. One week following the initial test, a test-retest analysis was performed to determine test reliability revealing a Pearson-product-moment-correlation of .96.

Some of the items used in Rice's (1988) questionnaire were relevant to this study. Of particular relevance were the items under the "Qualities I like about my high school physical education teacher" category. Some examples include "They have a sense of humour…They allow the class to help plan activities…They take a personal interest in students" (Rice, 1988). One of the limitations in Rice's instrument is the wording of some items. Today's high school students may not understand some of the words in such phrases as "they (teacher) use cutting remarks" or "I dislike dressing-out".

Several years later, Ryan et al. (2003) modified Rice's (1988) attitudinal questionnaire for their study entitled *Attitudes of Middle School Students Toward Their Physical Education Teachers and Classes*. Ryan et al. focused solely on the

attitudes middle school students have toward their teacher(s) and PE classes. Ryan et al. surveyed American students in Grades 6 to 8, using a 40-item questionnaire modified from Rice's (1988) questionnaire. Two questions dealt with demographics, sixteen related to the PE program in their school, twenty-one dealt with likes and dislikes about their PE class and twenty-two dealt with likes and dislikes about their teacher. The survey was reviewed and approved for use in middle schools by a panel of three experts in the field of middle school PE. Based on the panel's recommendations, the authors changed the wording of "cutting remarks" to "offensive remarks". Similarly to Rice, Ryan et al. used a 5-point Likert scale ranging from 1 strongly agree (SA) to 5 strongly disagree (SD). To examine reliability, a test-retest method was used with one class from each of the three schools (n=98), with a correlation of .84. There are several distinct differences between Rice's (1988) study and the Ryan et al. study. In Ryan et al.'s study, both the researcher and the teacher administered the survey. The PE teacher was never informed about the survey topic and never saw the data. There was also a cover sheet that instructed students not to put their names on the survey to ensure anonymity. Furthermore, if students needed clarification at any point during the survey, could not answer a question, or just had a question in general, they could ask the researcher for help. The researcher collected the surveys once all the students had finished.

One of the most robust instruments previously used to measure students' attitudes is the Adams Scale (Set I) (Adams, 1963). Adams designed the Adams Scale specifically to measure participants' attitudes toward PE classes. Although

not mentioned in the reports of Rice (1998) and Ryan et al. (2003), it appears that some of the questions on the Adams scale were used in both of these studies. In 2004, Stelzer, Ernest, Fenster, and Langford used the Adams scale to measure attitudes toward PE of high school students from four countries—Austria, the Czech Republic, England, and the USA. The scale had 16-items and uses a 7-point Likert rating that ranges from "very strongly disagree" (VSD) to "very strongly agree" (VSA). The Adam's Scale was tested for reliability using Cronbach's alpha internal consistency coefficient and scored .89. A reliability analysis yielded an alpha internal consistency coefficient of .82 for the Stelzer et al. study. More specifically, Stelzer et al. surveyed 1,107 students from six high schools: two from the Czech Republic (n=487), two from England (n=217), one from Austria (n=100), and one from the USA (n=303), with an average student age of 16.8 years, and 90% of students being between the ages of 16 to 18.

All the questions in Stelzer et al.'s (2004) Adams Scale referred to attitudes participants have toward PE; this instrument did not have any questions that addressed teacher-student rapport. On the other hand, some of the questions were used to assess the context of student attitude toward PE.

Benson et al. (2005) offer one of the more promising rapport instruments discovered. Benson et al.'s study was entitled, *Rapport: Its Relation to Students' Attitudes and Behaviors Toward Teachers and Classes*, and surveyed undergraduates at Auburn University in the United States. This survey included questions such as; "In a class where rapport has been established, how likely are you to attend class?" and "In a class where rapport has been established, how

likely are you to take another course from that instructor (if available?)" (Benson et al., 2005, p. 238). The survey began by stating two dictionary definitions of rapport so that students could conceptualize what rapport meant in the context of the study; that is, "a relationship; especially one of mutual trust or emotional affinity" (American Heritage Dictionary, 1991, p.1026) and, "a relation; connection; an especially harmonious or sympathetic relation" (Random House Dictionary, 1987, p. 160). A 24-item Likert scale ranging from (1) strongly disagree to (5) strongly agree was used, along with three multiple choice questions that dealt with class size, year of course taken, and type of class they were in (i.e., general or major). Two short-answer questions were asked, one that asked students to list the top 10 qualities and behaviours the instructor exhibited that led the student to establish rapport with the instructor, and another that asked students to describe how good rapport with an instructor affects attitudes about the instructor, the course, and learning in general. Benson et al. surveyed 202 students who were enrolled in an introductory psychology course. The average age of the students in the study was 20.05 years. Thirty-six students reported "no rapport" with any instructor, and were excluded from the study; thus, reducing the sample size to 166. The authors found that students who had "good rapport" with their teachers were more likely to attend class, pay attention, and enjoy the subject matter. The presence of rapport also increased the likelihood of students taking another course from that teacher.

The purpose of this portion of the literature review was to discover which previously student-teacher rapport instruments could be used. While no existing

instruments addressed all the questions that the researcher of the present study wanted to ask, some provided a framework from which to start. The next step, I decided with my advisor, was to develop a new instrument that could be used in this study to address the research question examining the relationship between teacher-student rapport and intentions to take HPE after Grade 9.

Research Question

The purpose of this research is to investigate whether strong teacher rapport with students can make a difference in student dropout from HPE. Would boys and girls who bond successfully with their teacher be more inclined to take an additional HPE course(s)? It is hypothesized that students who develop strong rapport with their Grade 9 HPE teachers will be more likely to take HPE in Grade 10.

CHAPTER THREE: INSTRUMENT DEVELOPMENT

This chapter explains how the Instrument for Teacher-Student Rapport (ITSRap) was developed.

Development of the ITSRap

Due to the absence of a psychometrically sound self-report instrument that measures students' perceptions of teacher-student rapport, items for a new self-report instrument were developed. A review of the literature was the primary source of item development. Key words and phrases searched for included teacher-student rapport, teacher-student relationships, teacher-student connectedness, at-risk students, student resilience, and student attitudes toward teachers. Studies were selected from these searches that used instruments that measured teacher-student rapport, either partially or fully (Benson, et al., 2005; Rice, 1988; Ryan et al., 2003; Stelzer et al., 2004). This information helped to develop a preliminary draft of the ITSRap.

Downey's (2008) research on student resilience was used as the theoretical framework to guide the development of the three pillars of teacher-student rapport. Downey conducted extensive research in the area of educational resilience in kindergarten to Grade 12 students. Educational resilience, as defined by Wang, Haertel, and Walberg, 1997, is "the heightened likelihood of educational success despite personal vulnerabilities and adversities brought about by environmental conditions and experiences" (p.56). Downey organized the key findings of his research on educational resilience into the following four clusters: (a) teacher–student rapport; (b) classroom climate; (c) instructional strategies; and

(d) student skills. Of particular interest to the present research is the teacher-student rapport cluster. The cluster of teacher-student rapport was organized as: (a) healthy interpersonal relationships with students [IR] - defined as strong, positive, personal relationships with students that are characterised by respect, trust, caring, and cohesiveness; (b) set and communicate high realistic expectations for academic performance [EX] - defined as maintaining a can-do attitude, emphasizing effort and success, and providing support for academic success; (c) use of students' strengths to promote positive self-esteem [SE] - defined as building the students' self-esteem by focusing on personal achievements and strengths.

The items generated from Downey (2008) were then examined by the lead researcher of the present study. The items were examined for appropriate readability for high school students aged 14-15 years of age. Potential 'double barrelled' items were screened out to ensure items addressed only one idea. All double-negative terms were reworded to reflect a positive tone and to avoid confusion. The items were then reviewed by a group of colleagues to ensure item relevance to the construct of teacher-student rapport as outlined by Downey (2008).

Reviewers of the ITSRap

A total of 17 colleagues who had either a teaching and/or research background in the area of physical education, and who themselves thought they had good student rapport, were asked to review an initial version of the questionnaire in order to determine its face and content validity. All reviewers

were either: (a) current physical education teachers or consultants, who work or had worked with Grade 9 students; (b) researchers who had taught in high school and/or were currently teaching HPE teacher candidates; or (c) current HPE teachers with a minimum of 10 years of teaching experience.

Reviewer Ratings of Item Content Relevance

To help facilitate feedback from the reviewers, colleagues were asked to rate the relevance of the items using the Item Content Relevance Form (ICRF). The ICRF used by the reviewers can be seen in Appendix A. The ICRF requires each reviewer to evaluate the relevance of each item to each content area using a five-point Likert-type scale (1 = poor match; 5 = excellent match) (Dunn, Bouffard & Rogers, 1999). For example, a reviewer would evaluate how well one item matches the content area of either: healthy interpersonal relationships with students; set and communicate high realistic expectations for academic performance; and use students' strength to promote positive self-esteem. An item was deemed relevant if reviewers provided a high-match rating. Reviewers were encouraged to provide written comments when they felt it was necessary.

Once the reviewers' responses were collected, mean item content-relevance ratings were calculated, specifically Aiken's (1985) content-validity coefficient (*V*) and Cohen's (1977) effect size (ES) index for dependent means. These calculations determine the relevance of the items across the three content areas: (a) building healthy interpersonal relationships with students; (b) setting and communicating high realistic expectations for academic performance; and (c) using students' strengths to promote positive self-esteem. Aiken's (1985) *V*

coefficient determines the significance of reviewers' ratings for the content area that each item was designed to measure. According to Aiken (1985) the *V* coefficient can range from 0 to 1. A value of 1.0 signifies the highest score, while a value of 0 signifies the lowest score.

Results of Reviewers' Ratings

Cohen's (1977) Effect Size (ES) index for dependent means (d_z') was computed. This index determines whether items intended for one subscale were viewed as relevant for the content areas they were intended to measure, compared to items intended for a different subscale. According to Cohen's (1977) guidelines, a d_z' of .80 or greater indicates a large ES while a d_z' of .50 to .79 represents a moderate ES. For the purpose of this study, an ES of .60 or higher was used as it represents a moderate effect size according to Cohen's (1977) guidelines. After both the d_z' and *V* coefficients were calculated, 23 out of the 33 items met the criterion of .60 or higher. Table 1 in Appendix B presents the mean keyed response (i.e., the item is part of the intended content area) and corresponding standard deviation for each item. The d_z' for all the items is presented in Table 2 in Appendix C

Reviewers were encouraged to provide comments regarding their thoughts on the items. A general comment that most reviewers expressed was that all the items should start with "My physical education teacher…" rather than the collective "They". The majority of comments arose from keyed items that reviewers rated as low. For example, three reviewers raised concern about item 14 [They are enthusiastic] that was included in the SE content area. Three reviewers

were concerned about the wording and requested that “enthusiastic” be replaced with “passionate”. Other items where wording was a concern include, item 13 [they set a good example] now reads, “My physical education teacher sets a good example to lead a healthy active life”. Also, item 15 [They favour skilled students] now reads, “My physical education teacher favours students who are on school teams”. Eleven items scored low on both the *V* coefficient and the ES. As a result, items 2, 3, 7, 10-12, 15-18 and 28 were removed from the survey upon consultation between the lead researcher and his advisor.

The final version of the ITSRap contained 23 items. Nine items relate to building healthy interpersonal relationships with students (IR). For example, “My physical education teacher takes a personal interest in me,” “My physical education teacher has a sense of humour,” and “My physical education teacher makes class fun.” Eight items pertained to setting and communicating high realistic expectations for academic performance (EX). For example, “My physical education teacher allows the class to help plan activities,” “My physical education teacher set a good example to lead a healthy active life,” and “My physical education teacher makes me feel included.” Six items assessed teachers’ use of students’ strengths to promote positive self-esteem (SE). For example, “My physical education teacher knows the subject matter” and “My physical education teacher makes class challenging”. Students rate each question on a Likert scale from “strongly agree, agree, not sure, disagree” and “strongly disagree”. See Appendix D for the complete teacher-student rapport survey.

Research on teacher-student rapport in PE can enrich the body of

knowledge that currently exists. Most of the existing research in this area focuses on elementary and middle school students with limited research on high schools students. The knowledge gained from this study adds value in developing validation evidence for a self-reporting teacher-student rapport instrument intended for high school students. Asking experts of PE to rate the relevance of items provides an indication of their content validity. According to Silverman and Subramaniam (1999), an instrument is said to have validity when the items adequately sample the intended content of the construct. Thus, the feedback provided by the reviewers was positive considering that the majority of the items were deemed effective for the construct they were intended to measure.

CHAPTER FOUR: METHOD

This chapter outlines how the ITSRap was used to survey 15 Grade 9 HPE classes in a medium sized public school board in Southwestern Ontario.

Implementation of the ITSRap

Permission to access Grade 9 HPE classes was obtained through the ethical approval process. Approval to conduct the study was granted by both the Brock University Research Ethics Board (file # 11-037) and a school board in Ontario, Canada. Three high schools agreed to participate in the study. Two weeks after approval, the lead researcher visited all three schools and invited 15 Grade 9 HPE classes to participate in the study. A recruitment letter, (Appendix E) was read to the students in each class and questions from the students were addressed after reading the letter. Each HPE teacher was present when the letter was read to the students. Students were then given a package to take home to their parents/care-providers that contained, the Student Invitation Letter (Appendix F), and an Informed Consent Letter (Appendix G) for students and parents/caregivers to sign. School “A” had four HPE classes, school “B” had six, and school “C” had five.

Interestingly, one school had all co-educational HPE classes. I asked of the department head why they decided to have co-educational classes as opposed to segregated classes. The department head explained that after trying segregated classes a couple of times in the past, the feedback from the students was that they did not like it. The department head said this environment really pushed the girls to try harder. They also mentioned that most of these students came from very

small urban kindergarten to Grade 8 schools. As a result, this is how it has always been for these students, as reflected in this comment from the department head, “This is the way it’s always been for them, they have grown up together and are a very close bunch”.

If students had questions after the researcher had departed they could still ask the researcher by contacting the lead researcher by email or cell phone through their HPE teacher or their parents. Students were given two weeks to return their permission forms to their HPE teachers. A total of 400 invitation packages were handed out to the students. The researcher and the various HPE teachers were in contact every few days to monitor the number of the forms being handed in. Of the 15 classes invited to participate in the study, one hundred and thirty-six consent forms were handed in. Three weeks after the consent forms were handed in, the study was conducted by the lead researcher and the presiding HPE teachers over a three-day period.

Administration of the ITSRap

The students were surveyed either at the beginning or end of their PE class, with the survey taking 20 minutes. The teachers were present during the entire administration of the survey. Half of the surveyed classes completed the questionnaire on the gymnasium floor, approximately 3 meters apart from their classmates, while the other half of classes completed the questionnaire in their classroom or portable. The reason for this was that half of the classes were scheduled to be in the gymnasium doing their various physical educations units, and the other half were scheduled to be in health

class. The common practice in Ontario schools is for the health portion of the HPE curriculum to take place in a classroom or portable. Before handing out the questionnaire, students were asked if they had any questions. The most common question was “how long will this take, again?” I told them no more than 20 minutes, and that I would read them the procedure of the survey where they would hear the amount of time again. It was made clear to the students that if they wished to ask any questions after I read the instructions of the survey that would be fine, I assured them that there is no such thing as a ‘silly question’. I read key points from the Student Invitation Letter which addressed: Why I am here? Why I am doing this study?, Who will know that you are in the study?, and Will your mark be affected by this study? I emphasised that their marks will not be affected in any way because of their participation. They were once again asked if they had any questions. I thanked students in advance for participating in the study as some classes were free to either continue their HPE class with their teacher or leave to get changed in preparation for their next class. Students were given pencils, a copy of the survey, and an envelope, which were all handed out by the researcher. Once students were finished the survey they placed it in the envelope, sealed it, and handed it to the researcher. A total of one hundred and thirty-six surveys were collected.

Content of the ITSRap

The first part of the questionnaire obtained personal information about the students (e.g., sex; whether they had been on a school sports team like volleyball,

tennis, track and field, cricket, football, or field hockey that year; and, whether they played/participated outside of school on representative club teams). The second part of the survey was adapted from Hurley and Mandigo's (2010) "Grade 9 Survey", and seeks to determine if students plan on taking HPE beyond Grade 9. For the purposes of this study, a "dropout" was defined as someone who did not plan to, or did not want to, take HPE beyond Grade 9. The third and final part of the questionnaire contained 23 items representing the three subscales of the ITSrap (i.e., IR: healthy interpersonal relationships with students, EX: set and communicate high realistic expectations for academic performance, and SE: use students' strengths to promote positive self-esteem).

Participants

A total of one hundred and thirty-six Grade 9 students completed the survey. As previously mentioned, the first part of the survey asked questions related to sex, and involvement (or lack thereof) with school sports teams and community representative sports teams. Of theone hundred and thirty-six students surveyed, 86 identified themselves as male and 50 as female. Forty-two percent reported playing on school sports teams and 58.1% did not, while 72.1% reported playing on community sports teams and 27.9% did not. Eighty five percent reported that they wished to take Grade 10 HPE (PPL20), while 15.4% did not. This study did not differentiate based on race, religion or sex as it relates to teacher-student rapport. However, it is important to note that the majority of students in the schools surveyed were Caucasian. All the HPE teachers that were

recruited to participate in the study were also Caucasian. There were very few visible minorities, and none of the participants had visible disabilities.

CHAPTER FIVE: RESULTS

The purpose of this study was to investigate whether strong teacher rapport with students makes a difference in the dropout rate of boys and girls from Grade 9 to Grade 10 HPE. The hypothesis was that students who have strong rapport with their Grade 9 HPE teacher would be more likely to take HPE in Grade 10.

The first part of this chapter will show the reliability of the ITSRap that was developed in chapter three, and the second part will show the results of the study conducted with 15 Grade 9 HPE classes.

Reliability of the ITSRap

Reliability coefficients of the items in the ITSRap were analyzed using Cronbach's Alpha from the student surveys collected. Of the three rapport variables used in this study (healthy interpersonal relationships with students [IR], set and communicate high realistic expectations for academic performance [EX], and use students' strength to promote positive self esteem [SE]), only one item in the EX variable fell below the acceptable level of reliability coefficient of .70, as recommended by DeVellis (1991). The analysis revealed that when item #9, "My physical education teacher favours students who are on school teams", was included in the EX variable, the reliability coefficient dropped to .67. When item #9 was removed, the Cronbach alpha coefficient increased to .74. Thus, item #9 was removed from all future analysis and renamed EX2. Reliability coefficients for the SE and IR variables were .78 and .85 respectively, falling within acceptable reliability scores.

Results of the ITSRap

The following results were calculated from the one hundred and thirty-six surveys collected from students. Table 3,4, 5, and 6 describes the descriptive results for each of the three rapport variables.

Table 3

Descriptive Statistics

Rapport Variable	N	Minimum	Maximum	Mean	Std. Deviation
Healthy Interpersonal Relationships (IR)	136	1.56	5.00	4.14	.59
Setting and Communicating High Realistic Expectations in Academic Performance (SE)	136	2.14	5.00	4.10	.53
Use students' strength to promote positive self esteem (EX)	135	2.00	5.00	4.30	.51
Valid N (listwise)	135				

Quantitative Data

A 2 (sex) x 2 (Grade 10 Dropout) Multivariate Analysis of Variance (MANOVA) was conducted to examine potential mean differences in rapport based upon sex and intention to dropout of HPE. A significant multivariate interaction effect was not found [ג (3, 130) = .965; $p > .05$, *eta2* = .035]. In addition there was no significant multivariate effect for sex [ג (3, 130) = .965; $p > .05$, *eta2* = .035] or Grade 10 dropout [ג (3, 130) = .971; $p > .05$, *eta2* = .029]. A summary of the findings is listed in Table 4.

Table 4

Summary of MANOVA Results

Effect		Value	F	Hypothesis df	Error df	Sig
Sex	Wilks' Lamda	.965	1.571[a]	3.000	130.000	.200
Grade 10 Dropouts	Wilks' Lamda	.971	1.295[a]	3.000	130.000	.279
Sex and Dropouts combined	Wilks' Lamda	.965	1.580[a]	3.000	130.000	.197

Tests of between-subject effects were conducted on sex and dropouts (students who did not want to take, or plan to take physical education in Grade 10) to see their impact on IR, SE and EX. Results showed no significant ($p > .05$) sex or intention to drop out differences on any of the rapport variables. However, as indicated in Table 6 results for the dropout group showed that while the differences were not significant, they were approaching significance: IR (*p =.067),* SE (*p =.064),* and EX (*p=.189).*

Table 5

Summary of Tests of Between-Subjects Effects for Sex

Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Means	
						M	F
Healthy Interpersonal Relationships	.775	1	.775	2.333	.129	3.97	4.18
Use students' strength to promote positive self esteem	.039	1	.039	.139	.710	3.95	4.00
EX2: Set and communicate high realistic expectations for academic performance	.078	1	.078	.318	.574	4.20	4.27

Table 6

Summary of Tests of Between-Subjects Effects for Intention to Take PE

Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Means	
						Yes	No
Healthy Interpersonal Relationships	1.130	1	1.130	3.403	.067	3.95	4.20
Use students' strength to promote positive self esteem	.976	1	.976	3.497	.064	3.85	4.10
EX2: Set and communicate high realistic expectations for academic performance	.426	1	.426	1.745	.189	4.15	4.32

Qualitative Data

The last question in the survey asked students to comment on any characteristics that they felt were important for HPE teachers to have in order to foster rapport. Answers were separated for students who identified a wish to take Grade 10 HPE, and for those who did not wish to take Grade 10 HPE. Answers were grouped through a deductive analysis using the predetermined coded themes in three rapport variables (IR, SE, EX) identified by Downey (2008). Restated they include: (a) healthy interpersonal relationships with students [IR] - defined as strong, positive, personal relationships with students that are characterised by respect, trust, caring, and cohesiveness; (b) set and communicate high realistic expectations for academic performance [EX] - defined as maintaining a can-do attitude, emphasizing effort and success and providing support for academic success, (c) Use of students' strength to promote positive self esteem [SE] - defined as building the students' self-esteem by focusing on personal achievements and strengths.

Of the one hundred and thirty-six students surveyed, 115 reported that they plan on taking, or would like to take, Grade 10 HPE. Of these students, 40 responded to the open-ended question. Interestingly, all of their written responses used the same characteristics that were mentioned on the student questionnaire. For example, many students reported, "make class fun" even though it was covered in item 11 of the survey. This could have been the students way of stressing the importance of these characteristics, or that they may have misread the item on the survey.

It should be noted that the following percentages will not add up to 100 because some of the students' responses included characteristics that fell into more than one variable. Seventy two percent of the time, students identified characteristics that fell within the IR rapport variable. They reported that having a sense of humour and being compassionate and caring were important characteristics. For example, students reported, "they [teachers] should be compassionate, funny and interesting," "they [teachers] should be nice, funny, understanding and don't yell," "I think it's important for a phys. ed teacher to bring humour into the class especially when we have to be awkward in trying new activities," "they [teachers] should care about each individual student," and, "JST BE FUNNY AND DON'T BE TO STRICT OR UP TIGHT." Comments fell into the SE variable 42% of the time, (e.g., "makes it easy to learn things," and "makes me want to do better") and 30% of the responses included characteristics that fell into the EX variable (e.g., "they [teachers] should be open-minded about anything and they should be assertive," "they [teachers] should be able to provide athletic students with more challenge," and, "they [teachers] should take suggestions from students").

Of the one hundred and thirty-six students surveyed, 21 reported that they do not plan on taking Grade 10 HPE. Six of these students responded to the open-ended question. Three students comments reflected teacher characteristics in the IR variable, such as "FRIENDLY, FUNNY, NICE, CARRING, UNDERSTANDING," "JOKES AROUND MAKES FUN OF PEOPLE IN A NICE WAY TO ENTICE THEM TO TRY HARDER," and "Awesome". One

student reported on a characteristic that fell within the EX variable, “THEY HAVE TO PUSH YOU INTO DOING BETTER.” And one student’s comment fell into both the EX and SE variables, “a physical education teacher should help us learn new sports or new things that can help us lead a healthy active life.”

Although all of the student comments reflected aspects that were evident in the survey items, it was interesting that they repeated them in the open-ended question, which could suggest that they find these characteristics to be especially important.

CHAPTER SIX: DISCUSSION & CONCLUSION

The purpose of this study was to investigate whether strong teacher rapport with students can make a difference in the drop out rate of boys and girls from Grade 9 to Grade 10 HPE.

Major Findings

Major findings on the creation of the ITSRap revealed the development of an instrument with validity and reliability evidence that can now be used to measure teacher-student rapport. Content validity was evident through the reviewers' ratings, and reliability was evident through the satisfactory Cronbach alpha scores. The development of the ITSRap offers HPE teachers a credible instrument that can be used to survey HPE classes to help them discover strength and weaknesses in their rapport qualities with current students. It is hoped that with this information HPE teachers can work on and or seek professional development opportunities that can help them develop comprehensive rapport building characteristics. The ITSRap can help provide insight on what character/personality traits students identify with most in a PE teacher. For administrators such as principals, knowing what characteristics students value in HPE teachers could provide valuable information that could be applied when interviewing potential HPE teacher candidates. Further research is needed to examine other sources of construct validity evidence of the ITSRap.

In this study, the finding of whether or not rapport had an influence on students' decision to take an additional HPE credit beyond the mandatory one credit did not prove conclusive. On the surface it would appear that rapport has no

effect on whether or not students wish to drop out of HPE. A significant multivariate interaction effect was not found. However, tests of between-subject effects on sex and Grade 10 dropouts showed some interesting trends. Even though it is not statistically significant, it is clear that those who plan to, or would like to, take HPE in Grade 10 have better rapport with their teachers than those who do not want to, or plan to, take Grade 10 HPE. This was especially true in the case of the IR rapport variable, which dealt with personality traits such as making class fun, participating with the students, and taking a personal interest in their students' lives. These findings are consistent with previous research (e.g., Garn & Cothran, 2006; Olafson, 2002; Ryan et al., 2003), which highlighted the importance of having a teacher who makes class fun and who participates with his or her students. The findings of this study also support previous studies that have indicated various components of rapport and their importance to students (e.g. Figley, 1985; Garn & Cothran, 2006; Humbert, et al., 2008; Humbert 2006; Luke & Sinclair 1991; Olafson, 2002; Ryan et al., 2003). Students from all educational levels have been found to have more positive attitudes toward PE if they have good rapport with their teachers (Figley, 1985; Humbert 2006; Luke & Sinclair 1991). Students also like to personally interact with their teachers. Humbert (2006) found that interacting with the teacher was one of the most likable aspects of PE for her sample of high school girls. Although this study did not investigate the effect of rapport on academic performance or at-risk students, it has been shown that strong teacher-student rapport is associated with greater motivation to learn as well as improved academic performance (Benson, et al., 2005; Borman &

Overman, 2004; Downey, 2008; Johnson, 2008). Voelp (2005) found that the relationship students have with their teacher directly impacted academic success and overall learning. All students surveyed perceived that a positive connection with their teacher increases their desire to learn and to take ownership in their learning. Borman and Overman (2008) found that at-risk students who achieve academic success do so because they have at least one teacher who acts as a role model and believes in them. Brooks (2006) suggests that at-risk students need teachers that are willing to develop strong personal relationships that are grounded in trust, cohesiveness, care and respect. Forming strong meaningful connections to teachers, according to Johnson (1997), is what contributes most to high academic achievement of at-risk students. Perhaps the impact of rapport on academics and at-risk students can be the subject of future studies in HPE.

The findings of this study differ from the previously stated high HPE dropout rates from Grade 9 to 10 in Dwyer et al. (2006b). Dwyer et al. (2006b) found that HPE participation rates in Ontario decreased from Grades 9 to 12 significantly. In Grade 9, 97.9% of students took HPE and from Grades 10 through 12 the numbers dropped to 49.6%, 43.3%, and 35.9%, respectively (Dwyer et al., 2006; OnSIS 2010;). Contrastingly, in this study's sample, 84.6% of students reported that they wanted to take an additional HPE credit after Grade 9. Further contradictions were found between this study's results and the high HPE dropout rates of girls reported in previous studies (Allison et al., 2000; Craig et al., 2001; Higgins, Gaul, Gibbons, & Van Gyn, 2003; Pepler et al., 2006). In this study, 84.9% of boys and 84% of girls reported wanting to take HPE in Grade

10. One possible explanation for this disparity is that the sample used in this study was relatively homogeneous, meaning that many students expressed their intention to take HPE again; 84.6% of the students reported that they would like to take HPE in Grade 10. As well, this study measured intention and desire to take Grade 10 HPE, while Dwyer et al. (2006a) measured actual numbers of students enrolled. A recommendation for future study would be to use a sample that is more heterogeneous, and to track the students to see if their intentions and desires match their behavior.

Humbert et al. (2008) examined intrapersonal, social and environmental factors influencing physical activity behaviours in youth. Humbert et al. found "fun" to be a consistent theme throughout all the grades studied (p. 163). Students placed fun as the top intrapersonal and social factor that must be present in their PE class. The findings in this study support the findings of Humbert et al., as the word "fun" was used most frequently in students' responses when they were asked to "Please list any other characteristics that you feel are important for physical education teachers to possess that were not mentioned above" in question 24 of the ITSRap.

Limitations

Some of the limitations in this study were as follows. The sample used was relatively homogeneous, 84.6% of the students stated that they wished to take HPE in Grade 10, 42% of them played on a school sports team, and 72% played on a community representative sports team. The purpose of this study was to investigate whether strong teacher rapport with students differs as a function of

the drop out rate of boys and girls from Grade 9 to Grade 10 HPE. From this homogeneous sample it is difficult to determine the extent to which rapport influenced their decision to take HPE in Grade 10. Given such a high percentage it is difficult to determine whether or not students intended to take Grade 10 HPE because of the rapport they had with their teacher, or because they had an affinity for HPE. Secondly, during the administration of the survey, many of the students from the various high schools surveyed had questions pertaining to the intention to take HPE beyond Grade 9 form (see Appendix L). The most common question was "do I put an 'x' in the box if I want to take that course or do I leave it blank if I want to take the course?", another common question was "how do I know I'm going to have a conflict?" I was concerned as to whether or not their questions were addressed appropriately. As a high school health and physical educator for the past 21 years, it is a question I always ask myself. Experience has taught me that when students say they understand after you answered their questions, they often say they do when in fact they do not, out of fear of not understanding the teacher's response in front of their classmates. Furthermore, even though student responses were confidential and anonymous, students may have felt uncomfortable being asked to answer questions about their teacher with other students present.

Conclusion

Overall, what can be deduced from this study is that rapport played a small role in whether or not students take HPE in Grade 10. The students in this study who wanted to take HPE scored higher (though not statistically significant) in all three of the rapport variables than those who did not want to take HPE. Furthermore, reliability scores for the ITSRap showed a high relevance in two (IR and SE) of the three variables; the other EX, was adjusted as recommended by the analysis, thus producing an instrument with good reliability. A psychometrically sound instrument that measures teacher-student rapport can be an invaluable tool, providing insight on what character/personality traits students identify with the most in a PE teacher. It is hypothesized that this insight will not only help more students succeed in PE, but could also make principals aware of the characteristics students are looking for in HPE teachers. It is hoped that the results of this study have laid the ground-work for the development of such an age-appropriate self-reporting instrument. Helping teachers better connect with their students will bring us one step closer to helping our youth gain the physical literacy skills they will need to live healthy active lives.

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APPENDIX A

Item Content Review Form (ICRF)

The following is a list of questions was generated after conducting an extensive literature review in the area of teacher-student rapport. Some of the items listed will eventually be used as a part of a qualitative study with HPE students in grade 9 to examine to what extent they have bonded with their HPE teacher.

My research topic focuses on the factors that contribute to the drop-out rate of boys and girls in HPE classes from Grades 9 to 10. Specifically, I am interested in investigating whether strong teacher rapport with students can make a difference. Would boys and girls who bond successfully with their health and physical education teacher be more inclined to take an additional HPE course(s) if the same teacher taught it?

Downey (2008) had conducted extensive research in the area of *educational resilience* in kindergarten to Grade 12 students. Educational resilience is "the heightened likelihood of educational success despite personal vulnerabilities and adversities brought about by environmental conditions and experiences." Downey organized the key findings of his research of educational resilience into four clusters. Of particular interest to my research is the "teacher-student rapport" cluster. There are three subdivisions under this cluster:

1. Building healthy interpersonal relationships with students
2. Setting and communicating high realistic expectations for academic performance

3. Using students' strengths to promote positive self esteem

Based on the extensive literature review I conducted on rapport instruments, I would like to insert the various questions asked in previous studies into the three subdivisions that Downey has identified. Some of the questions listed will be used as a part of a qualitative study with students in Grade 9 to examine whether they have bonded with their HPE teacher.

The purpose of these questions is to provide a measure of participants' perceptions of rapport with their H&PE teacher. The questions will be answered by students aged 13 - 14 years. The three subdivisions that Downey identified in his 2008 research include:

1) Healthy interpersonal relationships with students: To have strong, positive, personal relationships with students, which are characterized by respect, trust, caring, and cohesiveness.

2) Set and communicate high realistic expectations for academic performance: To maintain a can-do attitude, emphasizing effort and success and providing support for academic success.

3) Use students' strengths to promote positive self esteem: To build the students' self-esteem by focusing on personal achievements and strengths.

Rating Your Response

For each question, please rate the degree to which you feel the question belongs in the subdivisions that are described below. The definitions are provided on the following page. Feel free to make any comments in the space provided about the relevance of each item.

Please feel free to ask any questions. You have the right to withdraw from this study at any time without consequence; please inform Ted Temertzoglou of this intention. To ensure confidentiality, a code number has been placed at the top of your rating form. Only the principal investigator will have access to the names of individuals corresponding to the codes.

When you have completed rating each item, please email, fax, or send the completed form to Ted Temertzoglou as soon as possible (by August 17, 2009).

Thank you for taking the time out of your busy schedule for your participation.

Description of Content Areas

1) **Healthy interpersonal relationships with students:** defined as strong, positive, personal relationships with students that are characterized by respect, trust, caring, and cohesiveness.
2) **Set and communicate high realistic expectations for academic performance:** defined as maintaining a can-do attitude, emphasizing effort and success and providing support for academic success.
3) **Use students' strengths to promote positive self esteem:** defined as building the students' self-esteem by focusing on personal achievements and strengths.

Rating Scales:
Please indicate the degree to which you feel each question listed below is a **Poor Match, Fair Match, Good Match, Very Good Match**, or **Excellent Match** for each of the three content areas defined above. Please feel free to add any additional comments where necessary.

Placing the "X"
First double click on the square; a dialogue box will open called "Check Box Form Field Options." In the "Default value" select "Checked" and an X will appear in the shaded box(es) – see the example below

Example: They take a personal interest in me	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☒
Set and communicate high realistic expectations for academic performance	☐	☐	☒	☐	☐
Use students' strengths to promote positive self-esteem	☐	☒	☐	☐	☐
Additional Comments:					

1. They take a personal interest in me	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self- esteem	☐	☐	☐	☐	☐
Additional Comments:					

2. They participate with the class	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐

Use students' strengths to promote positive self- esteem	☐	☐	☐	☐	☐
Additional Comments:					

3. They have good physical skills	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self esteem	☐	☐	☐	☐	☐
Additional Comments:					

4. They allow the class to help plan activities	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐

Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self- esteem	☐	☐	☐	☐	☐
Additional Comments:					

5. They have a sense of humour	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self esteem	☐	☐	☐	☐	☐
Additional Comments:					

6. They know the subject matter	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self esteem	☐	☐	☐	☐	☐
Additional Comments:					

7. They are a well-rounded person	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐

Additional Comments:

8. They are friendly	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

9. They are easy to talk with	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐

Use students' strengths to promote positive self- esteem	☐	☐	☐	☐	☐
Additional Comments:					

10. They are creative	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self esteem	☐	☐	☐	☐	☐
Additional Comments:					

11. They are willing to experiment	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match

Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self- esteem	☐	☐	☐	☐	☐
Additional Comments:					

12. They have a nice appearance	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

13. They set a good example	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self- esteem	☐	☐	☐	☐	☐
Additional Comments:					

14. They are enthusiastic	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐

Additional Comments:					

15. They favour skilled students	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self- esteem	☐	☐	☐	☐	☐
Additional Comments:					

16. They are prejudice towards my race	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic	☐	☐	☐	☐	☐

performance					
Use students' strengths to promote positive self- esteem	☐	☐	☐	☐	☐
Additional Comments:					

17. They are patient	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

18. They are prejudice against my sex	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships	☐	☐	☐	☐	☐

with students					
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

19. They use offensive remarks	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

20. They make class fun	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

21. They make me feel included	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐

Additional Comments:

22. They are dedicated	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

23. They are an excellent role model	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐

Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

24. They are respectful	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

25. They are trusting	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match

Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

26. They care about how well I do in class	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

27. They maintain a can-do attitude	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

28. They are easy to get along with	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐

Additional Comments:

29. They make class challenging	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

30. They make it easy to learn things	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐

Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

31. They motivate me	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

32. They make me feel comfortable	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match

Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

33. They make me want to do better	Poor Match	Fair Match	Good Match	Very Good Match	Excellent Match
Healthy interpersonal relationships with students	☐	☐	☐	☐	☐
Set and communicate high realistic expectations for academic performance	☐	☐	☐	☐	☐
Use students' strengths to promote positive self-esteem	☐	☐	☐	☐	☐
Additional Comments:					

APPENDIX B

Table 1

Mean item-content relevance ratings and V coefficient for each item based on the content domain it was originally designed to measure.

	Item Description	Content Domain	Mean	SD	*V*
1.	They take a personal interest in me	IR	4.94	0.24	*0.99*
2.	They participate with the class	IR	3.30	1.30	*0.57*
3.	They have good physical skills	EX	2.41	1.54	*0.32*
4.	They allow the class to help plan activities	SE	3.70	1.22	*0.66*
5.	They have a sense of humour	IR	4.40	1.10	*0.84*
6.	They know the subject matter	EX	4.41	0.71	*0.85*
7.	They are a well-rounded person	SE	2.40	1.32	*0.34*
8.	They are friendly	IR	4.90	0.33	*0.97*
9.	They are easy to talk with	IR	4.10	0.33	*0.97*
10.	They are creative	EX	2	1	*0.25*
11.	They are willing to experiment	SE	2.82	1.63	*0.46*
12.	They have a nice appearance	SE	1.60	1.10	*0.15*
13.	They set a good example	EX	3.94	1.30	*0.74*
14.	They are enthusiastic	SE	3.30	1.50	*0.57*
15.	They favour skilled students	EX	1.80	1.30	*0.19*
16.	They are prejudice towards my race	IR	3.24	1.82	*0.56*
17.	They are patient	SE	3.20	1.50	*0.54*
18.	They are prejudice against my sex	IR	2.94	1.92	*0.48*
19.	They use offensive remarks	IR	3.50	1.70	*0.62*
20.	They make class fun	IR	4.12	1.36	*0.78*
21.	They make me feel included	SE	4.10	1.50	*0.76*
22.	They are dedicated	EX	3.35	1.54	*0.60*
23.	They are an excellent role model	IR	3.80	1.44	*0.69*
24.	They are respectful	SE	3.12	1.60	*0.53*
25.	They are trusting	IR	4.24	1.20	*0.81*

26.	They care about how well I do in class	SE	3.53	1.74	*0.62*
27.	They maintain a can-do attitude	EX	3.82	1.30	*0.71*
28.	They are easy to get along with	SE	2.30	1.31	*0.32*
29.	They make class challenging	EX	4.6	0.51	*0.90*
30.	They make it easy to learn things	SE	3.50	1.74	*0.62*
31.	They motivate me	SE	4	1.32	*0.75*
32.	They make me feel comfortable	IR	4.41	1.10	*0.85*
33.	They make me want to do better	EX	4.40	1.10	*0.84*

NOTE: IR=Healthy interpersonal relationships with students; EX=Set and communicate high realistic expectations for academic performance; SE= Use students' strengths to promote positive self esteem

APPENDIX C

Table 2

Mean content-relevance scores and mean-difference effect sizes for ratings

Item	Mean Content Ratings			Effect Sizes for Planned Mean Contrasts	
	IR (i)	EX (ii)	SE (iii)	Contrast 1	Contrast 2
1. IR	**4.94**	2.71	3.30	[i-ii] 1.72	[i-iii] 0.85
2. IR	**3.30**	3	1.82	[i-ii] 0.16	[i-iii] 1.02
3. EX	1.90	**2.41**	1.80	[ii-i] 0.31	[ii-iii] 0.41
4. SE	3.50	3.53	**3.70**	[iii-i] 0.12	[iii-ii] 0.10
5. IR	**4.40**	1.70	2.12	[i-ii] 2.53	[i-iii] 1.63
6. EX	2.50	**4.41**	2.41	[ii-i] 1.20	[ii-iii] 1.40
7. SE	3.80	2.41	**2.40**	[iii-i] -1.20	[iii-ii] -0.10
8. IR	**4.90**	2.41	2.94	[i-ii] 1.70	[i-iii] 1.30
9. IR	**4.90**	3	3.12	[i-ii] 1.23	[i-iii] 1.13
10. EX	2.30	**2**	2.53	[i-ii] -0.24	[i-iii] -0.40
11. SE	2.30	2.60	**2.82**	[iii-i] 0.40	[iii-ii] 0.23
12. SE	2.12	1.82	**1.60**	[iii-i] -0.70	[iii-ii] -0.22
13. EX	3.70	**3.94**	3.12	[i-ii] 0.20	[i-iii] 0.44
14. SE	3.90	3.60	**3.30**	[iii-i] -0.50	[iii-ii] -0.20
15. EX	2.40	**1.80**	2.10	[ii-i] -0.44	[ii-iii] -0.25
16. IR	**3.24**	1.70	1.94	[i-ii] 0.98	[i-iii] 0.94
17. SE	4.41	3.20	**3.20**	[iii-i] -0.90	[iii-ii] 0
18. IR	**2.94**	1.80	1.90	[i-ii] 0.71	[i-iii] 0.60
19. IR	**3.50**	2	1.94	[i-ii] 0.81	[i-iii] 0.91
20. IR	4.12	**3.50**	3.20	[ii-i] 0.43	[ii-iii] 0.68
21. SE	4.80	3.50	**4.06**	[iii-i] -0.60	[iii-ii] 0.60
22. EX	3.53	**3.40**	2.5	[iii-i] -0.10	[iii-ii] 0.52
23. IR	**3.80**	3.71	2.90	[i-ii] 0.03	[i-iii] 0.71

24. SE	4.70	2.90	**3.12**	[iii-i] -1.20	[iii-ii] 0.12
25. IR	**4.24**	2.12	2.24	[i-ii]1.43	[i-iii] 1.23
26. SE	3.60	3.50	**3.53**	[iii-i] -0.03	[iii-ii] 0.03
27. EX	3.30	**3.82**	3.71	[ii-i] 0.41	[ii-iii] 0.06
28. SE	4.60	2.12	**2.30**	[iii-i] -2.14	[iii-ii] 0.21
29. EX	2.53	**4.61**	3	[ii-i] 1.60	[ii-iii] 1.10
30. SE	3	4.30	**3.50**	[iii-i] 0.24	[iii-ii] -0.50
31. SE	3.90	3.80	**4**	[iii-i] 0.081	[iii-ii] 0.16
32. IR	**4.41**	2.60	3.70	[i-ii] 1.30	[i-iii] 0.41
33. EX	3.60	**4.40**	3.90	[ii-i] 0.60	[ii-iii] 0.30

NOTE: IR=Healthy interpersonal relationships with students; EX=Set and communicate high realistic expectations for academic performance; SE= Use students' strengths to promote positive self esteem

APPENDIX D

Instrument for Teacher-Student Rapport Survey (ITSRap)

Purpose:

The purpose of this study is to identify what characteristics students value in physical education teachers. The results of this study will help physical teachers identify areas of strengths, which they can continue to develop and weakness, which they can improve upon.

Thank you for taking the time out of your physical education class to help me complete this survey.

If there is any question that your not sure of please raise your hand and I will clarify them for you.

The survey will only take 20 minutes of your time.

Part One: Personal Information

For each of the questions below please place an "X" on the appropriate line

1. I am male _____ I am female_____

2. After I finish high school I intend to:
go to college _____ go to University____ go straight to work___

3. I am on a school sports team (example: volleyball, tennis, track a & field cricket, football, field hockey, etc.)
Yes_____ No _____

4. I play/participate outside of school on: e.g., rep team(s) (volleyball, hockey, football etc) judo, mixed martial arts, dances group, rock climbing etc.
Yes_____ No _____

Intention to take Health & Physical Education Beyond Grade 9

Please check off any of the following below:

List of Health and Physical Education Courses after Grade 9	You plan on taking:	You would like to take, but cannot due to timetable conflicts:
Grade 10 Healthy Active Living Education- Open- PPL 20		
Grade 10 Personal & Fitness Activities- PAF 20		
Grade 11 Healthy Active Living Education- Open- PPL 30		
Grade 11 Personal & Fitness Activities- PAF 30		
Grade 11 Health for Life- Open- PPZ 30		
Grade 12 Healthy Active Living Education- Open- PPL 40		
Grade 12 Personal & Fitness Activities- PAF 40		
Grade 12 Recreation & Fitness Leadership- College Preparation- PFL 4C		
Grade 12 Exercise Science- University Preparation- PSE 4U		

Adapted From Hurley and Mandigo (2010).

Part Two: Questionnaire

Instructions: Please answer all of the 23 questions below. Your answers are confidential and will not be shared with your teacher. Your grade in this class will **NOT** be affected on how you answer these questions. Place an **"X"** in the box that you feel best describes your physical education teacher.

	Question	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
1.	My physical education teacher takes a personal interest in me.	5	4	3	2	1
2.	My physical education teacher allows the class to help plan activities.	5	4	3	2	1
3.	My physical education teacher has a sense of humour.	5	4	3	2	1
4.	My physical education teacher knows the subject matter.	5	4	3	2	1
5.	My physical education teacher is friendly.	5	4	3	2	1
6.	My physical education teacher is easy to talk with.	5	4	3	2	1
7.	My physical education teacher set a good example to lead a healthy active life.	5	4	3	2	1
8.	My physical education teacher is passionate.	5	4	3	2	1
9.	My physical education teacher favours students who are on school teams.	5	4	3	2	1
10.	My physical education teacher uses offensive remarks.	5	4	3	2	1
11.	My physical education teacher makes class fun.	5	4	3	2	1
12.	My physical education teacher makes me feel included.	5	4	3	2	1
13.	My physical education teacher is dedicated.	5	4	3	2	1
14.	My physical education teacher is an excellent role model.	5	4	3	2	1
15.	My physical education teacher is	5	4	3	2	1

	respectful.				
16.	My physical education teacher is trustworthy.	5	4	3	2	1
17.	My physical education teacher cares about how well I do in class.	5	4	3	2	1
18.	My physical education teacher maintains a “can-do” attitude.	5	4	3	2	1
19.	My physical education teacher makes class challenging.	5	4	3	2	1
20.	My physical education teacher makes it easy to learn things.	5	4	3	2	1
21.	My physical education teacher motivates me.	5	4	3	2	1
22.	My physical education teacher makes me feel comfortable.	5	4	3	2	1
23.	My physical education teacher makes me want to do better.	5	4	3	2	1

APPENDIX E

Student Recruitment Letter

Purpose: To make the students fully aware that this study is voluntary. The study is not a part of the health and physical education curriculum. Their marks will not be affected whether they participate in the study or not.

Principal Investigator: Dr. James Mandigo, Associate Professor, Physical Education and Kinesiology, Brock University

Student Investigator: Ted Temertzoglou, Graduate Student, Physical Education and Kinesiology, Brock University

Dear Class,

You are invited to participate in a research project entitled 'Impact of Teacher-Student Rapport in Health and Physical Education'.

The study is being conducted by myself; Ted Temertzoglou. I am a graduate student from the Department of Physical Education and Kinesiology at Brock University.

The purpose of this research project is to examine what characteristics you feel are important for health and physical education teacher to possess.

If you choose to be in the study you will be asked to complete the *Teacher-Student Rapport Survey*. The survey will take 20 minutes to complete and will be done in the gymnasium before class ends.

By participating in this study, you will have the opportunity to identify the characteristics that make you feel included, nurtured, appreciated and respected. This research will help H&PE teachers see what you feel is important.

You will not be asked for your names, or record your name on the survey. Your answers will not be seen or shared with anyone other them the principal investigator. In no way will you be be identified in the study. All personal data will be kept strictly confidential and all information will be coded so that your name is not associated with your answers**.**

You may withdraw from the study at any time and for any reason. Once all surveys have been collected you will not be able to withdraw from the study.

There is no obligation for you to answer any question/participate in any aspect of this project that you consider invasive, offensive or inappropriate. This

study is not a part of the health and physical education curriculum therefore their mark will not be affected in any way.

If you are interested in participating, please complete the Informed Consent Form with your parent and/or guardian and bring it back to your teacher as soon as possible.

Thank you for allowing me into you class to share this opportunity with you.

APPENDIX F

Students Invitation Letter

Fill Out and Send This Form Back to School

Invitation Letter,
I am going to spend a few minutes telling you about our project, and then I am going to ask you if you are interested in taking part in the project. This project is not a part of the health and physical education curriculum and your mark will not be affected in any way.

Who are we?
My name is ***Ted Temertzoglou (pronounce Tem-ertz-oh-glue)*** and I am a Master's Student at Brock University. My advisor is Dr. James Mandigo Associate Professor, Physical Education and Kinesiology, Brock University, and he is also interested in seeing what you have to say. We are both committed to helping more kids succeed in health and physical education and we would like your help.

Why are we?
We want to tell you about a study that involves students like yourself. We want to see if you would like to be in this study too.

Why are we doing this study?
We want to see what characteristics students like yourself are looking for in a health and physical education teacher. And how those characteristics determine whether or not you would take health and physical education again next year or in the years to come.

What will happen to you if you are in the study?
If you decide to take part in this study you along with your classmates will answer a survey that will take approximately 20 minutes. This survey will take place during the last 20 minutes of you health and physical education class.

Are there good things and bad things about the study?
What we find in this study will be used to help teachers better understand what students like yourself are looking for in a teacher. Being in this study will not hurt you and it will not make you feel bad.

Can I ask questions during the Survey?

Yes, I (Ted) will be there for the entire survey so if there is something you don't understand I will clarify it for you.

Who will know that you are in the study?
No one will know. You will not be required to record your name. The researchers will not let anyone other than themselves see your answers or any other information about you. Your teachers, principal, and parents will never see the answers you gave. Your mark will not be affected. The data from the study will be used in Ted's research thesis towards his Master's Degree. The data will also be shared at physical education conference and may be published in teaching journals. You will never be identified as someone who was in the study. The surveys will be kept in a locked office and destroyed five years after the study is completed.

Do you have to be in the study? You do not have to be in the study. No one will get angry or upset with you if you don't want to do this. Just tell us if you don't want to be in the study. And remember, if you decide to be in the study but later you change your mind, then you can tell us you do not want to be in the study anymore.

Will my mark be affected if I do or do not participate in the study?
No. This study is not a part of the health and physical education curriculum and you mark will not be affect whether you participate in the study or if you do not.

Do you have any questions?
You can ask questions at any time. You can ask now or you can ask later. You can talk to me or you can talk to someone else at any time during the study. Here are the telephone numbers to reach us. Ted Temertzoglou, Graduate Student, Physical Education and Kinesiology, Brock University 416-277-8096 or Dr. James Mandigo Associate Professor, Physical Education and Kinesiology, Brock University 905- 688- 5550 ext 4789.

IF YOU WANT TO BE IN THE STUDY, PRINT YOUR NAME ON THE LINE BELOW:
Your name, printed: _____Date:

_____

Name of the researcher, printed: _____

Signature of the Researcher: _____Date:

_____

APPENDIX G

Informed Consent Letter

Keep This Form

Title of Study: Impact of Teacher-Student Rapport in Health and Physical Education

Principal Investigator: Dr. James Mandigo, Associate Professor, Physical Education and Kinesiology, Brock University

Student Investigator: Ted Temertzoglou, Graduate Student, Physical Education and Kinesiology, Brock University

On behalf of Brock University I, Ted Temertzoglou, a health and physical education teacher for the past twenty-two years and a current graduate student from the Department of Physical Education and Kinesiology at Brock University, invite you to participate in a research project entitled 'Impact of Teacher-Student Rapport in Health and Physical Education'.

The purpose of this research project is to examine what characteristics students feel are important for their health and physical education teacher to possess and whether these characteristics impact their decision to take elective health and physical education (HPE) courses in the future. (i.e. if they like/connect with their HPE teacher they will continue to take HPE in the future).

As part of this research project, your son or daughter, along with other Grade nine HPE students in their class, will be asked to complete the *Teacher-Student Rapport Survey*. It would take approximately 20 minutes to fill out the survey. The survey will be given to them 20 minutes before their HPE class ends, no time would be required of your child outside of the program.

By participating in this study, students will have the opportunity to identify the characteristics that make them feel included, nurtured, appreciated and respected. This research will help HPE teachers see what students are looking for in their HPE teachers. It is also hoped that this research will provide feedback to teachers looking to develop better rapport with their students. Furthermore it will help administrators see which charactieristic students value in a teacher.

Students will not be asked for their names, and they will not be asked to record their names on the survey, their answers will not be seen or shared with anyone other them the principal investigator for the purpose of tabulating data. In no way will any of the students be identified in the study. All personal data will be kept

strictly confidential and all information will be coded so that your child's name is not associated with his/her answers**.** Only the researchers will have access to the data, which will be stored in a locked office. All data will be shredded five years after the completion of the study. Your child's participation in this study is voluntary and your child may withdraw from the study at any time and for any reason without penalty.

There is no obligation for your child to answer any question/participate in any aspect of this project that you or your child consider invasive, offensive or inappropriate. These safeguards and other previously mentioned safeguards are in place to protect the psychological health of the children. This study is not a part of the health and physical education curriculum therefore their mark will not be affected in any way.

If you agree to have your son or daughter participate in this study please fill in the form on the next page.

If you have any pertinent questions about your rights as a research participant, please contact the Brock University Research Ethics Officer (905-688-5550 ext 3035, reb@brocku.ca)

If you have any questions, please feel free to contact me.

Thank you,

Ted Temertzoglou

Student Investigator

Email: tt08om@brocku.ca

Cell number 416-277-8096

This study has been reviewed and received ethics clearance through Brock University's Research Ethics Board (file # 11-037 - MANDIGO).

****Send This Form Back to School****

Title of Study: Impact of Teacher-Student Rapport in Health and Physical Education

Principal Investigator: Dr. James Mandigo, Associate Professor, Physical Education and Kinesiology, Brock University

Co-Investigators: Ted Temertzoglou, Graduate Student, Physical Education & Brock University

I have read the Letter of Invitation concerning the research project entitled Impact of Teacher-Student Rapport in Health and Physical Education conducted by Dr. James Mandigo from the Department of Physical Education and Kinesiology at Brock University and Ted Temertzoglou, Graduate Student, Physical Education and Kinesiology, Brock University. I have had the opportunity to ask any questions and receive any additional details I wanted about the study.

I acknowledge that all information gathered on this project will be used for research purposes only and will be considered confidential. The study will be submitted for Master's Degree completion and the findings may be published in journals and/or conference presentations. The names of the students, school board or school name will never be used in publications or conference presentations.

I acknowledge that my child's name will not appear on any survey materials and that this study will not affect my child's health and physical education mark.

I am aware that permission may be withdrawn at any time without penalty by advising the researchers up until the survey is collected.

I realize that this project has been reviewed by, and received ethics clearance through Brock University's Research Ethics Board (file #11-037 - MANDIGO), and that I may contact this office if I have any comments or concerns about my son's or daughter's involvement in this study.

Child's Name: _____

Child's Age: Years_____, Months_____

Child's Signature: _____

Gender of Child: ___ Male ___ Female

Permission Decision: ____ Yes - I would like my child to participate in this study

____ No - I would not like my child to participate in this study

Name of Parent or Guardian: _____

Signature of Parent or Guardian: _____ Date: _____