GENERALIST TEACHERS' PERCEIVED COMPETENCE TO DELIVER THE DAILY PHYSICAL ACTIVITY PROGRAM

By

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A THESIS PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE

UNIVERSITY OF FLORIDA

2012

I dedicate this to my family and beloved fiancée for their time spent providing me with the adequate atmosphere conducive to the creation of a masterpiece.

ACKNOWLEDGMENTS

The completion of my thesis has been one of the most fulfilling journeys of my life. It has been a two and a half-year journey of personal and professional growth and I cherish the time I have been given to devote to completing the task. I wanted to thank my parents, sister, and brother-in-law for their wisdom, support and genuine love. I would also like to thank my loving fiancée for her patience, encouragement, and willingness to tolerate me in moments of frustration. Her wisdom and love are at the center of my success. I am very grateful to have such a loving family and without them, and the support of god, my success would not have been possible.

My most gracious thanks go to Dr. Holly Donohoe for being such an outstanding advisor and committee chair. As committee chair, I feel Dr. Holly Donohoe offered exemplary mentorship to me which my success would not have been possible if it was not for her direction, motivation and relentless encouragement. I am delighted for her willingness to be my mentor. Dr. Holly Donohoe not only reduced my stress through her positive attitude, but also helped me develop a working level of self-confidence to be successful in all facets of life.

Lastly, my special thanks and appreciation go to my committee members, Dr. Bertha Cato and Dr. Christine Stopka for their support and expertise. The combination of their perspectives allowed me to not only crystalize my research purpose and objectives, but also grow as an agent of change with perception based research in the area of health and leisure education at the elementary school level.

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Abstract of Thesis Presented to the Graduate School of the University of Florida in Partial Fulfillment of the
Requirements for the Degree of Master of Science

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By

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December 2012

Chair: Holly Donohoe
Major: Recreation, Parks and Tourism

In 2005, the Ministry of Education in Ontario, Canada mandated a policy requiring daily physical activity (DPA) for all Ontario elementary students in grades one through eight. The purpose of this study was to examine the perceived competency of generalist teachers to implement this policy. Ford's Motivation Systems Theory components were used to examine teacher's perceived competency. The research questions sought to investigate (1) what the relationship is between generalist teacher motivation and perceived competency to deliver the DPA Program, (2) what the relationship is between generalist teacher skills and perceived competency to deliver the DPA Program, and (3) what the relationship between generalist teacher school environment and perceived competency to deliver the DPA Program. An e-survey was circulated to teachers in the Simcoe-Muskoka Catholic School Board in Ontario and 121 generalist teachers participated. Descriptive and inferential statistical analysis revealed that a large portion of schools do not have an active DPA Program. Additionally, this study found that there is a statistically significant relationship between teachers DPA skills, motivation, and perceived competency to deliver DPA. The relationship suggests that the majority of teachers in the SMCDSB lack specific DPA training and motivation

to teach the DPA Program. The results enhance understanding of the teacher-based competency preconditions for the successful implementation of Ontario's DPA.

CHAPTER 1
INTRODUCTION

Research Problem Statement

The World Health Organization (WHO, 2011) identifies that childhood obesity is one of the most serious public health challenges of the 21st century. Although the definition of obesity has changed over time (Kuczmarski & Flegal, 2007), the literature indicates a general consensus that it can be defined as a medical condition that is caused by an energy imbalance when intake of calories exceeds the expenditure of calories and the surplus of energy is stored as body weight (International Association for the Study of Obesity, 2010, p.1). To quantify childhood obesity, several measures have been proposed including the most widely accepted – the Body Mass Index (BMI). BMI is calculated using a child's weight and height (Dehghan, Danesh, & Merchant, 2005; CDC, 2000). BMI does not measure body fat directly, but it is a reasonable indicator of body fatness for most children and teens from ages 2 to 19 (WHO, 2011).

The scale, scope, and magnitude of childhood obesity is alarming. During the last two decades, the prevalence of childhood obesity in the 5–17 age groups has increased by 0.5% per year in the United States and Brazil, and by almost 1% per year in Canada, Australia, and the United Kingdom (Lobstein, Baur, & Uauy, 2004). In the United States, the prevalence of obesity among children aged 6–11 years has more than doubled since the 1960s (WHO, 2011). In Canada in 1981, 11% of boys and 13% of girls were overweight or obese and these figures have grown exponentially to 33% and 27% respectively in 20 years (Lobstein et al., 2004). Worldwide, over 200 million school-age children (5-17) are overweight, making this generation the first predicted to have a shorter lifespan than their parents (International Association for the Study of

Obesity 2011). This creates not only alarming concern for government officials and health care providers alike, it also challenges the framework of our society with rapidly rising health care costs and it poses a serious threat to the health and well-being of future generations (American Association for Physical Activity and Recreation, 2011).

In Canada, approximately 26% of children ages 5-17 years old are currently overweight or obese (Childhood Obesity Foundation, 2011). When comparing this figure (and the relevant Statistics Canada survey data) with the 2004 Canadian Health Survey BMI data and the Canada Health Measurement Survey of 1978/79 (which also assessed height and weight using objective measurement), Tremblay, Inman, and Willms, (2010) found that the prevalence of overweight Canadian children and youth increased from 12% to 18% while the prevalence of obesity increased from 3% to 8% (Figure 1). The most dramatic change across all age groups has been in the prevalence of obesity and most notably, the tripling of childhood obesity rates among 12-17 year olds (Tremblay et al., 2010). The prevalence of obesity and overweight children in Ontario is higher than the Canadian average (Figure 2). Although this geographical difference was not statistically significant, these figures strongly support the trend of rising childhood obesity rates in all Canadian provinces and territories.

The WHO (2011) identified two main contributing factors with the rise in childhood obesity worldwide: (1) a shift in diet towards increased intake of energy-dense foods that are high in fat and sugars but low in vitamins, minerals and other healthy micronutrients, and (2) a trend towards decreased levels of physical activity. Deckelbaum and Williams (2001) and others have identified a strong link between childhood obesity and an increased risk for a wide range of chronic diseases including

but limited to: elevated blood pressure, respiratory disease, type 2 diabetes, hypertension, and coronary heart disease. Global statistics reveal that increased BMI alone was estimated to account for 2.8 million deaths, while the combined total with physical inactivity was 6.0 million (WHO, 2011) – surpassing the excess mortality associated with tobacco, and approaching that of high blood pressure, the top risk factor for death (IASO, 2010).

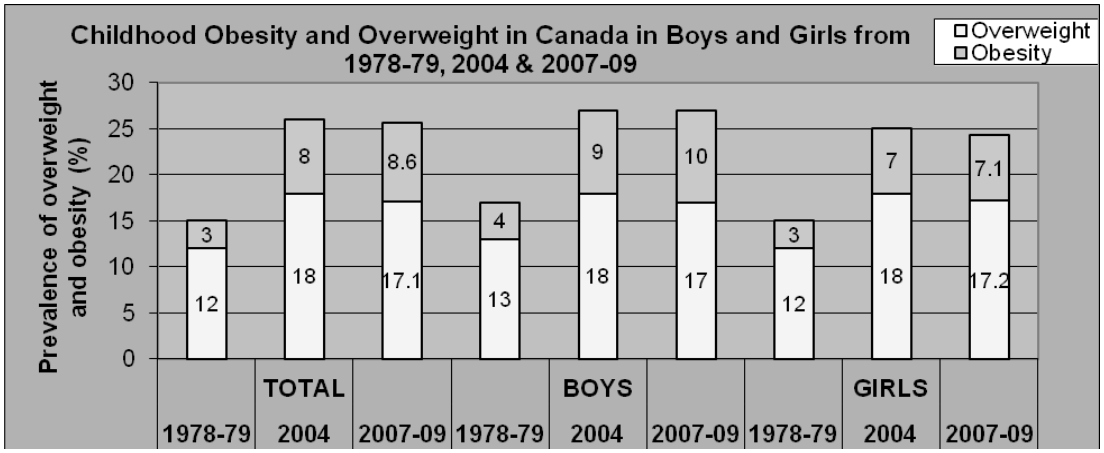

Figure 1-1. Prevelance of Childhood Overweight and Obesity in Canada, classified using BMI, by sex, ages 2-17 years, 1978-79, 2004, and 2007-09. (Statistics Canada, 2009).

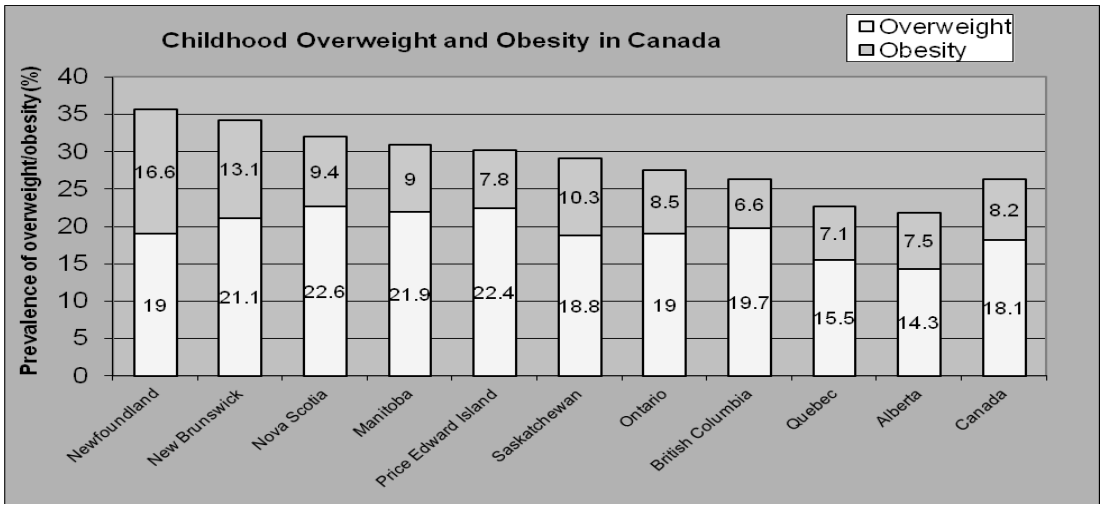

Figure 1-2. Prevalence of childhood overweight and obesity (BMI), Canada and provinces, ages 2-17 years, 2009. (Statistics Canada, 2009)

Although the WHO correlates obesity with the trend towards decreased physical activity and unhealthy eating, obesity is not a simple equation. Obsesity is a complex problem that is deeply imbedded in social and economic development patterns as well as policies in the areas of agriculture, transport, urban planning, the environment, food processing, distribution and marketing, as well as education (WHO, 2011). In Canada and in countries around the world, the complexity of the problem demands a multi-faceted approach to reducing childhood obesity so that the health and wellbeing of children can be restored. In order to do so, stakeholders at all levels including inter-governmental agencies, national, state/province, and local-level governments, non-governmental organizations, educational institutions, and the general public must be involved.

A Canadian Perspective

In 2004, the Public Health Agency of Canada (PHAC) endorsed the World Health Organization (WHO) Global Strategy on Diet, Physical Activity and Health. The overall goal of the WHO Strategy (2011, p.5) is to "promote and protect health by guiding the development of an enabling environment for sustainable actions at individual, community, national and global levels that, when taken together, will lead to reduced disease and death rates related to unhealthy diet and physical inactivity." The Strategy provides recommendations for WHO Member States, international partners, private sector, civil society and non-governmental organizations for the promotion of healthy diets and regular physical activity for the prevention of non-communicable diseases including obesity (WHO, 2011). PHAC (2010, p.3) is using the WHO Strategy to address obesity as a "serious issue that calls for a sustained, multi-sectoral response involving the public, private, health professional and non-governmental sectors." PHAC

and other Canadian government agencies are promoting healthy eating and physical activity through initiatives such as: Canada's Food Guide, Children's Fitness Tax Credit, Summer Active, and the Canada Physical Activity Guide. Concomitantly, a Federal, Provincial and Territorial Framework for action entitled 'Curbing Childhood Obesity' has been established to promote healthy weights. The framework is based on three policy priorities areas (Curbing Childhood Obesity, 2010, p.4):

- Supportive environments: making social and physical environments where children live, learn and play more supportive of physical activity and healthy eating;
- Early Action: identifying the risk of overweight and obesity in children and addressing it early; and,
- Nutritious Foods: looking at ways to increase the availability and accessibility of nutritious foods and decrease the marketing of foods and beverages high in fat, sugar and/or sodium to children

This framework represents a concerted effort on behalf of the federal and provincial/territorial governments to address and take action towards reducing obesity in Canadians. However, it does not specifically address the unique circumstances and needs of Canadian children. The increasing prevalence of childhood obesity and its associated health risks justifies widespread efforts toward prevention (Goran, Reynolds, & Lindquist, 1999). Although both diet and physical activity have been emphasized as appropriate interventions, children's levels of physical activity are highly variable, and may be influenced by a multitude of factors including physiological, psychological, socio-cultural and environmental determinants (Goran et al., 1999).

The Public Health Agency of Canada has also developed the Canadian Physical Activity Guide (CPAG) to establish and promote physical activity standards and healthy diet approaches through structured and unstructured programs within communities.

Addressing children specifically, CPAG (2001) establishes that children aged 5-11 should accumulate at least 60 minutes of moderate to vigorous physical activity daily. The CPAG (2001) guidelines and standards emphasize that Canadians should meet or exceed the minimum activity thresholds as the greater the variety, intensity and duration of the physical activity; the greater the health benefits. This standard is however, difficult to measure. According to French, Story and Jeffery (2001), any empirical research available on physical activity is often difficult to interpret with respect to national guidelines or in comparison across studies, due to the number of disparities in the way physical education is measured, and because of the continuous changes in national physical activity guidelines. Nevertheless, the CPAG has responded to the aforementioned policy deficiency by focusing on the physical needs of children generally and participation in structured and unstructured activities and implementation of 'healthy snack' choices in school cafeterias and vending machines nationwide specifically.

At the provincial level, the Ontario Ministry of Education (OME) mandated Memorandum No. 138 requiring daily physical activity (DPA) for Ontario elementary students in grades one through eight. The policy requires that a standard 'twenty minutes of physical activity a day' be integrated into the curriculum. The policy states that physical activity is likely to have an impact on student's achievement, readiness to learn, behavior, and self-esteem (OME, 2005). The policy links positive experiences with physical activity and it seeks to lay a foundation for healthy and productive lives for children from a young age. This policy also provides the foundation for moving forward in ensuring children are receiving sufficient amounts of daily physical activity, and by

extension, the policy is addressing the childhood obesity problem in Ontario. The following illustrates a breakdown of the DPA Framework:

Policy Requirement:

- The Ministry of Education supports and promotes the participation of students in daily physical activity. Consequently, school boards must ensure that all elementary students, including students with special needs, have a minimum of twenty minutes of sustained moderate to vigorous physical activity each school day during instructional time. The goal of daily physical activity is to enable all elementary students to improve or maintain their physical fitness and their overall health and wellness, and to enhance their learning opportunities.

- Daily physical activity may include walking, active games, dance, aquatics, sports, and fitness and recreational activities (where facilities permit).

Policy Implementation:

- Daily physical activity may be incorporated into the instructional day in a variety of ways. For instance, twenty minutes or more of physical activity during a scheduled health and physical education class would meet the daily physical activity requirement. Since physical activity is only one component of a complete health and physical education program, there will be days when a health and physical education class does not include physical activity. On these days and on days when no health and physical education class is scheduled, other opportunities for at least twenty minutes of physical activity during the instructional day will need to be provided. Integrating physical activity into other curriculum areas is one appropriate strategy.

- All activities must be adapted, as appropriate, to ensure that students with special needs can participate in them. Such adaptations must be consistent with the accommodations and/or modifications that are typically found in a student's Individual Education Plan.

- Since individual classes may be at different stages of implementation, daily physical activity may initially occur in several short sessions (a minimum of ten minutes each) over the course of the school day. Elementary school principals will make their best effort to ensure that students are receiving at least twenty minutes of sustained moderate to vigorous daily physical activity during instructional time.

Safety

- Providing physical and social environments that encourage and enable students to engage in safe and enjoyable physical activities will continue to be important.
- As indicated in The Ontario Curriculum, Grades 1-8: Health and Physical Education, 1998, procedures must be developed to ensure the highest level of safety, while allowing students to engage in a broad range of activities.

Reporting and Accountability

- School boards will monitor the implementation of the policy on daily physical activity to ensure that all elementary students are provided with the opportunity to be active for at least twenty minutes each day during instructional time.
- School boards and principals should also take appropriate action to ensure that parents are kept informed of their children's participation in activities.

(Source: Ontario Ministry of Education, 2005.)

Under this policy framework, a series of Daily Physical Activity in Schools Guides (DPASG) have been made available in schools and on the internet to assist school principals and teachers with implementation. For example, the guides provide an overview of the policy, it identifies the role of school boards, principals, teachers, students, parents, and community partners in increasing physical activity, it summarizes the benefits of physical activity, and it provides activity suggestions and checklists for principals and teachers. The Ontario Physical Health Education Association (OPHEA) is partnering with schools to help promote and implement the Daily Physical Activity in Elementary Schools Program. This organization "exists to support schools and communities through quality programs and supports partnerships and advocacy to enable children and youth to lead healthy active lives" (OPHEA, 2011, p.1). Based on this community-based support, it could be argued that those schools that are supported by OPHEA (i.e. funding, resources, workshops) are those who are more likely to ensure Daily Physical Activity (DPA) minimum requirements are met.

The challenge of implementing this program however, is related to the role of the generalist teacher in delivering physical education. As is the case in many countries, elementary – level physical education is most often delivered by a generalist teacher (i.e., an individual who has not undertaken extensive training in physical education) (Chunlei & De Lisio 2009). The literature contains examples and general concern about the limited competency of generalist teachers to deliver physical education (DeCorby, Halas, Dixon, Wintrup, & Janzen, 2005). As a further challenge, inadequate and inappropriate training has been identified as a major barrier for an elementary generalist teacher to deliver physical education as prescribed by the curriculum (Deacon, 2001; Janzen, Halas, Dixon, DeCorby, Booke, & Wintrup 2003; Tremblay, Pella, & Taylor 1996). Martin and Brown (2008) confirm that many generalist teachers do not feel competent to teach physical education because they did not receive specialized training in physical education and/or health sciences when attending teacher's college. Unlike a specialist teacher, a generalist will not have undergone intensive physical education teacher training and as a result, they will likely lack a certain sense of self-assurance and embodied understanding of physical education (Chunlei & De Lisio 2009). Chunlei and De Lisio (2009) argues that an individual would not be deemed qualified to teach music based on his or her appreciation for music, and the same holds true for any other specialized subject such as visual arts, drama or physical education. In Ontario, very little is known about the competency of generalist teachers to implement the Daily Physical Activity Policy. In fact, Anderson and Butcher (2006) point out that there have been few longitudinal and cross-sectional studies on the competency of teachers for the promotion of physical education in Canada. In this regard, understanding teacher's

perceptions and competency is critical for informing policy, program, and curriculum development, as well as teacher training programs and resources. It is imperative to enhance understanding of the operationalization of this provincial physical education policy investment so as to better understand the benefits and limitations of physical activity programs and their value in the context of the childhood obesity epidemic.

To summarize the research problem, obesity is a growing and highly complex problem in countries around the world. During the past twenty-five years, obesity rates among Canadian children have increased substantially, with the result being that a large number of children face the risk of developing such serious illnesses such as heart disease and type 2 diabetes. The literature indicates that a healthy and balanced diet and daily physical activity are the core components for maintaining healthy weight in both adults and children. However, physical inactivity has become a serious health and social issue for children and youth and research indicates that activity levels for the majority of children and youth are not sufficient for healthy growth and development. It also suggests that many young people do not have an opportunity to be physically active every day (Ontario Ministry of Health and Long Term Care, Ontario, 2004). In this context, Ontario's Chief Medical Officer, has called on all levels of government, the health sector, the food industries, workplaces, schools, families and individuals to become part of a comprehensive province-wide effort to change all the factors that contribute to unhealthy weight. "We must act now to create communities that promote healthy eating and regular physical activity" (Chief Medical Officer of Health, 2004, p.3).

DPA is one strategy among many that is crucial for the positive development of school-aged children and the mitigation of the rising prevalence of childhood obesity

and illnesses linked to physical inactivity (Public Health Agency of Canada, 2008a; World Health Organization, 2010). In the province of Ontario, Canada, the Ministry of Education is committed to supporting a healthy school environment where physical activity is an essential component for the growth and development of children and youth. The Daily Physical Activity Framework (Table 1) is providing elementary students with opportunities to be physically active and by extension; it is meant to support positive impacts on their physical, mental, and social well-being.

The development, implementation, and evaluation of such policies play an important role in promoting health behaviors such as physical activity and healthy eating. The success of physical education programs such as Ontario's Daily Physical Activity Framework requires teachers who are competent to implement the program. However, very little is known about the competency of generalist teachers to deliver physical education programs. In this regard, understanding teacher perceived competency is imperative for enhancing understanding of the implementation and outcomes of Ontario's DPA so as to better understand the benefits and limitations of physical activity programs and their value in the context of childhood obesity epidemic.

Theoretical Framework

Ford's Motivation Systems Theory (MST) provides a framework that helps us to understand teachers' perceived competency in delivering health and physical education programs. In MST, motivation is defined as "the organized patterning of three psychological functions that serve to direct, energize, and regulate goal-directed activity: personal goals, emotional arousal processes, and personal agency beliefs" (Ford, 1992, p.3). That is, motivation results from the interplay of goals, emotions, and the person's sense of personal agency, whereas motivation becomes the foundation for competence.

In contrast, Haney (2002) suggests that competence in any given area (e.g. physical education) is a combination of a person's motivation, skill, and environment and that motivation is composed of an individual's goals, emotions, and personal agency beliefs (Figure 3). Furthermore, this theory identifies two types of beliefs that are critical for a person's effective functioning: capability and context. Capability beliefs include an individual's perception of whether he or she possesses the personal skills needed to function effectively (Haney, 2002). Perceptions of one's skill strengths and weaknesses may shape their ability to deliver an effective health and physical education program. Context beliefs include an individual's perceptions about how responsive the environment (external factors and/or people) will be in supporting effective functioning (Haney, 2002). Teachers perceptions of their curriculum guidelines and course requirements, disciplinary, and school contexts may differ, Ford (1992) suggests each might influence the delivery of a health and physical education program. Interactions between capability and context beliefs yield personal agency belief patterns (Ford, 1992). A person with positive capability and context beliefs, for example, is likely to have a robust pattern characterized by a strong sense of purpose and optimistic outlook. In contrast, one with negative capability and context beliefs is unlikely to have much expectation of success (Colbeck & Weaver, 2008). Often overlooked, is the interaction between teachers' skills and knowledge and their beliefs (Graham, Harris, Fink, & MacArthur, 2001). Additionally, teacher efficacy will be a particularly powerful variable when evaluating teachers' perceived competency. Bandura (1997) suggests that teachers' beliefs about their ability to perform a task (perceived competence), is often referred to as teacher self-efficacy. Under the umbrella of MST, this study will

utilize teachers' efficacy as an underpinning factor in determining the motivation and beliefs teachers' have towards physical education, specifically towards the DPA initiative.

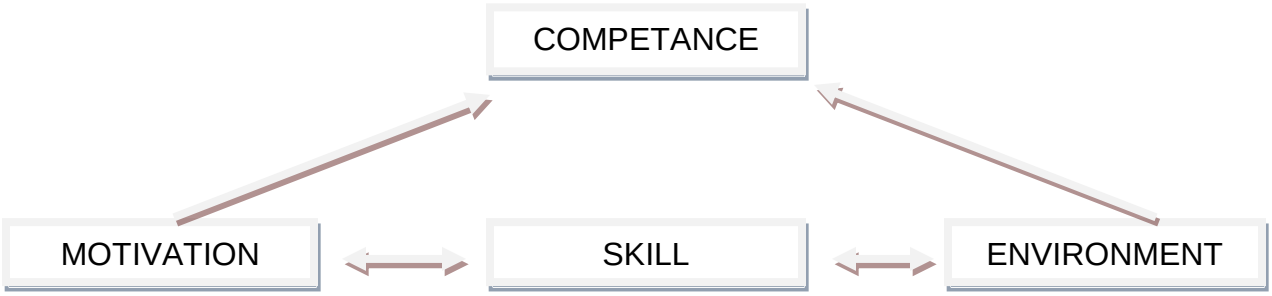

Figure 1-3. Motivation Systems Theory Model: the interaction between teacher motivation, skill, environment and competency.

Research Purpose Statement and Research Questions

Using Motivation Systems Theory, the purpose of this study is to assess generalist teachers' perceived competency to deliver Ontario's Daily Physical Activity Program. Specifically, this study explores the relationship between motivation, skill, and environment – the key components of Ford's theory, and how they influence a generalist teacher's perceived competency. Three research questions guide the research:

- What is the relationship between generalist teacher motivation and perceived competency to deliver the Daily Physical Activity Program?
- What is the relationship between generalist teacher skill and perceived competency to deliver the Daily Physical Activity Program?
- What is the relationship between generalist teacher environment and perceived competency to deliver the Daily Physical Activity Program?

CHAPTER 2
LITERATURE REVIEW

Operational Definitions

The concepts listed below (Table 2) are important in determining teacher's perceived competency to deliver the DPA Program in Ontario. The Ontario Ministry of Education (OME) mandated Memorandum No. 138 requires twenty minutes of daily physical activity (DPA) for Ontario elementary students in grades one through eight. The policy requires that a standard twenty minutes of physical activity a day' be integrated into the curriculum. In this regard, a generalist teacher (i.e., an individual who has not undertaken extensive training in physical education) who is required to provide 20 minutes of DPA to their children daily, was asked specific questions related to motivation, environment, skills and the impact each can have on their perceived competence to teach the DPA Program. The application of the scales shown in Table 2 helped facilitate the research questions that most closely relate to teacher's motivation, school environment, skills and overall competence.

In September 2006, Ontario was the second Canadian province to introduce a DPA initiative requiring students in grades 1-8 to participate in at least twenty-minutes of consecutive moderate to vigorous daily physical activity. Additionally, DPA in Ontario must be scheduled during instructional time and not during lunch, recess, or other breaks in the school day (Chroney, 2009). Many stakeholders understand the significance of creating a healthy school environment and see the DPA initiative as an opportunity to advocate for quality physical education programming, possibly even quality daily physical education. However, follow-up and accountability must be improved if these initiatives are to be taken seriously and ultimately proven worthwhile.

Chorney (2009:1) suggests, “if, at a bare minimum, all provinces can guarantee that every student is currently receiving the provincial requirements of physical education programming, then the DPA initiative may contribute to fostering both healthier bodies and minds as a parallel component to a student’s overall daily education”. Some of the most commonly identified issues with the DPA program in Ontario and nationwide is the possible dilemma of time allocation and planning in an already tight and—in some cases—rigid school program (Chorney, 2009). Chroney (2009) argues that the quality of learning experiences for all students is a concern given that the level of knowledge required by the teachers responsible for implementing this initiative may not be to a standard deemed worthy of quality instruction. A generalist teacher’s competency level can largely be influenced by how independently motivated they are to teach a subject, how much support they have from their surrounding environment, and the skills, or lack thereof to teach a subject. After teachers college, teachers are left to update their skills and broaden their knowledge of the subjects they are expected to teach. It is speculated that some generalist teachers may be resistant to teach PE based on a number of reasons, however, for the purpose of this study, teacher’s motivation, school environment and individual skills was evaluated based on self-reporting of their perceived competency to teach the Ontario DPA Program.

Table 2-1. Operational Definitions

Construct Item	Definition	Measurement Scale
Motivation	A process that activates, orients, reinforces and maintains the behaviour of individuals towards the achievement of intended objectives (Roussel, 2000)	Physical Education Teachers’ Physical Activity Self-efficacy Scale (PETPAS) The Experience of Recurring Affective Episodes Scale

Table 2-1. Continued.

Construct Item	Definition	Measurement Scale
School Environment	A variety of activities including formal pedagogy, after-school programs, caretaking activities (e.g., feeding, providing a safe environment) as well as the informal social environment created by students and staff on a daily basis" (Marin & Brown, 2008)	Classroom Appraisal of Resources and Demands (CARD) (a measure of a teacher's perception of both the classroom demands and the contributing factors that contribute to teacher stress and school-provided resources)
Teacher Skills	How a teacher handles conflictual elements in the role, cultivating warm personal relationships with children and the school, while managing some problems of control with more authoritarian techniques (Woods, 1990)	Subject Knowledge Expertise Rating Scale (SKERS)
Perceived Competence	The ability to teach children the necessary knowledge, fundamental skill set, and attitude needed to cultivate a healthy lifestyle at an early age thereby providing them with healthy practices which can later be refined and carried through to adulthood (Kirk, 2005)	Dependent variable

Teacher Motivation

When it comes to work motivation, many theoretical strands have been put forward to explain the relationship between individual motivation, job satisfaction and performance at work (Muller, Alliata & Benninghoff, 2009). The breadth and depth of motivation research has evolved substantially through the literature. Vallerand and Thill (1993, p.18) summarize the concept of motivation as a "hypothetical construct that is used to describe internal and/or external forces that generate the kickoff, the direction, the intensity, and the persistence of behaviour". As a result, motivation can be defined as "a process that activates orients, reinforces and maintains the behaviour of individuals towards the achievement of intended objectives" (Roussel, 2000, p.5). Ryan

and Deci's (2000a:54) definition of motivation underlines this process-oriented concept: "to be motivated means to be moved to do something. A person who feels no drive or inspiration to act is thus characterized as unmotivated, whereas someone who is energized or activated toward an end is considered motivated".

For the purpose of this study, teacher motivation was measured by using items from different scales found in the education literature that most closely pertain to elementary school teachers. Motivation was measured by asking participants modified questions from different scales to determine if there is a relationship between motivation, and perceived competency to deliver the Ontario mandated DPA program. In motivation research, a distinction has been made between motivated behaviour and motivational factors (Thoonen, Sleegers, Oort, Peetsma, & Geijsel, 2011). Motivated behaviour, including professional learning and teaching behaviour, is positively influenced by motivational factors (Maehr & Braskamp, 1986; Roede, 1989). Motivational factors typically comprise three components: expectancy, value, and affective components (Peetsma, Hascher, Van der Veen, & Roede, 2005: Pintrich, McKeachie, & Lin, 1987). The expectancy component of motivation has been conceptualized in a variety of ways in the motivational literature (e.g., perceived competence, self-efficacy, attributional style, and control beliefs), but the basic construct involves teachers' beliefs about their ability to perform a task, often referred to as teacher self-efficacy (Bandura, 1997). Self-efficacy is a belief about the level of competence that a person expects he or she will display in a given situation. Items and subscales from the Physical Education Teachers' Physical Activity Self-efficacy Scale (PETPAS) was borrowed from the work of Gencay (2009). Similar to Gencay (2009),

student, space, time, and institution subscales will be used to help determine teacher motivation and self-efficacy to teach the DPA Program. The student factor was used to help determine teachers' efficacy for teaching physically active lessons that their students did not enjoy, value, or want to participate in classes with a great deal of physical activity. The time factor was used to assess teachers' efficacy based on time during individual lessons, or across the week or semester, to adequately teach lessons with high levels of physical activity. The space factor was used to reflect teachers' efficacy perceptions and if they have difficulty teaching physically active lessons due to lack of space, small facilities, or too many students. Finally, the institution factor was composed of questions that represent teachers' beliefs regarding lack of funds, equipment, and collegial support, which may be seen as obstacles to their ability to teach physically active lessons (Martin & Kulinna, 2003). Bandura (1997) hypothesized that self-efficacy beliefs remain relatively stable once established, researchers have noted that "little evidence exists about how (teachers') efficacy beliefs change or solidify across stages of a career" (Tschannen-Moran, Woolfolk & Hoy, 2001, p.785). Furthermore, research has shown that teacher efficacy positively influences teachers' engagement in professional learning activities and subsequently enhances the quality of the instruction (Geijsel, Sleegers, Van Den Berg, & Kelchtermans 2009; Goddard, Hoy, & Hoy, 2000; Smylie, 1988; Tschannen-Moran & Woolfolk Hoy, 2001). Therefore, through the use of self-efficacy related questions, researchers were able to make tangible connections as to how and why generalist teachers are, or are not motivated to teach the DPA Program.

Ford (1992, p.16) suggests that “motivation provides the psychological foundation for the development in human competence in everyday life”. Based on this understanding, this study will look at how teachers become motivated by assessing some of their goal-related perceptions towards the DPA initiative. Thoonen et al., (2011) suggests that teachers’ goals for doing a task and the importance and interest attributed to the task can be linked to their motivation levels. Motivational processes are a function of one’s personal goals and of beliefs about one’s capacities and context (Bandura, 1986; Ford, 1992). Research on teacher commitment to change has suggested that a strong belief in, and acceptance of the organization’s goals and values is an element of teacher motivation (Geijsel et al., 2009; Leithwood, Jantzi, & Steinbach, 1999). In order to measure teacher goals and values towards the DPA Program, certain items were adopted from the Motivated Strategies for Learning Questionnaire (MSLQ). Although this scale has been most commonly used for students, the items are powerful and will be tailored to a teaching context. For example, teachers were asked questions such as “during DPA, I prefer to teach course material that really challenges my students so they can learn new things?” and “during DPA, I prefer course material that arouses my curiosity, even if it is difficult to teach?” These questions are slightly modified but resemble the same style of MSLQ questions for students. These goal and value related questions will be created to report teacher’s perception of the effectiveness of the DPA program along with the goal-oriented measures they are taking to implement physical activity based lessons in the classroom.

A bulk of motivation literature goes to great lengths to document the reasons why people enter teaching—as well as on the important factors influencing teacher

retention—but gives very little information on the influences that sustain teachers on a daily basis (Morgan, Ludlow, Kitching, O'Leary & Clarke 2010). There is considerable evidence from the US that teachers enter teaching for reasons to do with the intrinsic nature of the work: including making a difference, doing work they will enjoy, and enhancing lives of children (Shipp, 1999). With regard to teacher retention, US data indicate that the absence of support structures (Johnson & Birkeland, 2003), low influence on their work and poor leadership (Stockhard & Lehman, 2004) and low earnings (Guarino, Santibanez & Daley, 2006) are important factors in attrition. While recognising that many teachers have entered teaching 'to make a difference…to change the world or…improve the human condition' (Cochran-Smith, 2003, p.374), over the long-haul, teachers need other sustaining factors including 'school conditions where they are successful and supported, opportunities to work with other educators in professional communities, differentiated leadership and advancement prospects and good pay for what they do' (Cochran-Smith, 2004, p.391). In Canada, depending on the jurisdiction, an entry level salary can range from $36,305 to $58,980 annually, while the maximum salary level can range from $53,545 to $83,158 annually (Canadian Teachers Federation, 2011). In comparison to the United States, these numbers represent a much higher income; therefore, financial motivation was excluded in the discussion. Specifically, this study sought to contextualize the specific perceptions related to feelings or emotional behaviors that underpin generalist teacher motivations to teach the DPA program in Ontario. To attempt to map the kinds of occurrences that keep teachers motivated and to say why some kinds of events are more important than others, this study will make an effort to conceptualize the everyday routine of a

generalist to see how well tuned their motivation towards PE can influence their perceived competence to deliver the DPA program. To categorize how teachers perceive the usefulness of DPA program, it is important to measure their feelings of emotional behaviours. This study utilized the affective component of motivation, which refers to teachers' feelings or emotional reactions to curriculum guidelines, a specific task, or the school in general (Thoonen et al., 2011). Although researchers stress the importance of analyzing teachers' emotions, systematic research on the role teachers' emotions play in promoting teachers' learning and reform processes is still missing, and very little research has examined teachers' emotions in relation to the current reforms (Spillane, Reiser, & Reimer, (2002). Morgan and Hansen (2007) elaborate on this idea by suggesting how reform agendas, school re-structuring, accountability, high-stakes testing and other macro-movements translate to teachers' routine experiences.

Additional research suggests that teachers may feel a concern for their well-being, often resulting in feelings of uncertainty (Van Veen & Sleegers, 2008). Sorrentino and Short (1986) suggest that the way teachers deal with uncertain situations, often caused by policy initiatives fostering educational change, depends on the tolerance of uncertainty. Uncertain teachers are more prone to working in a routine way, avoiding risks, and maintaining their present attitudes, whereas more certain teachers search for new information, are more flexible in their approaches (Lortie, 1975) and are more willing to engage in professional learning activities (Geijsel, 2001; Van Veen & Sleegers, 2008). Although the level of certainty can be linked to teacher engagement in events inside or outside the classroom, Nieto (2003) progresses this thought by suggesting how the mix of negative emotions like anger, desperation and

fear with positive feelings of elation, pride and satisfaction are common among the most committed teachers, and has been well documented. This dichotomy leads to the question whether teachers lose motivation because of the undermining effects of negative events or because of the absence of sustaining positive experiences. Some items from the Experience of Recurring Affective Episodes Scale was adopted to measure the frequency and affective intensity of everyday events in teachers' professional lives. Respondents will be asked to make two judgements with regard to classroom, school and PE workshop related environments based on a frequency and an affective rating. For example, ("how frequently do your kids participate in PE?") or, ("do your colleagues engage one another with new ideas?"), or, ("have you attended a PE workshop, if so, how frequently?"). Under the umbrella of motivation, expectancy, value, and affective are sub-components that have helped determine why and how teachers operate the way they do, and how their perception can be related to their perceived competency to deliver the DPA program.

School Environment

Adolescents spend a large proportion of their day in school or pursuing school-related activities (Marin & Brown 2008), and it is a result the environment plays a critical role for influencing children's habits, behaviours, and lifestyles. While the primary purpose of school is the academic development of students, Marin and Brown (2008) suggest its effects on adolescents are far broader, also encompassing their physical and mental health, safety, civic engagement, and social development. School environment can be defined as the "effects on all these outcomes which are produced through a variety of activities including formal pedagogy, after-school programs, caretaking activities (e.g., feeding, providing a safe environment) as well as the informal

social environment created by students and staff on a daily basis" (Marin & Brown, 2008, p.1).

Research suggests that there are various environmental factors that can influence the behaviour and choices of teaching a physical education program. Hill and Cleven (2004) discuss how availability of equipment, facilities, expertise, and stress of the physical education teachers can all influence the success of a physical education program. DuFour and Berkey (1995) discuss their research on the principals' role to nurture and develop teachers' professional growth as part of the school culture. Years later this idea still holds true when classifying an effective teaching environment. The author's message reminds administrators to create consensus, promote shared values, ensure systematic collaboration, encourage experimentation, model commitment, provide one-on-one staff development, ensure resources are provided to their staff, offer purposeful staff development programs, promote self-efficacy, and monitor the sustained effort (DuFour & Berkey, 1995). Out of these important features of effective development lies a dominant explanation for a decrease in motivation for school is the lack of person–environment, that is, poor integration of students' personal world into the school environment (Eccles & Midgley 1989). A school environment that is not well tuned to the interests, needs and values of students will adversely affect their identification with school and, as a consequence, will lead to a decrease in their motivation and efforts in the long run (Thoonen et al., 2011)

Though scholars have recognised the supportive role of teachers as part of the school environment, researchers in educational psychology have concentrated mostly on the role of students' goals and self-concepts (Vedder, Boekaerts, & Seegers 2005).

According to Goodlad (1975), teachers are a critical part of school community, and described community as the “optimal unit for educational change” (p. 175). In describing the relationships among primary participants in the community (e.g., teachers and administrators) he states that “the interactions of these people, the language they use, the traditions they uphold, the beliefs to which they subscribe, and so forth, make up the culture of the school” (Goodlad, 1997, p.175).

Furthermore, Grossman (1990) and Tschannen-Moran (2001) found that trust, encouragement, collaboration, and support from administration can be conceptualized as subcomponents of teacher community. Similarly, having a sense of community in schools has been deemed crucial to the shared vision, affect, and motivational beliefs of teaching faculty (Dewey, 1938; Noddings, 1992). A strong sense of community in schools, reflected by shared expectations and supportive relationships among teachers and administration, may not only facilitate teachers’ instructional efforts, but also their personal well-being and job satisfaction (Irwin & Farr, 2004). It has been said that community is a component that is prominently missing from school change, possibly the result of its sharp contrast with standards-based evaluation. In light of the Ontario mandated Daily Physical Activity Program, teacher environment, or sense of community, may have great importance to the motivation and classroom practices of teachers.

Additionally, stress and coping have been shown to be closely related to school environment in education literature. One potentially powerful paradigm for better understanding teacher stress and coping is the transactional model proposed by Lazarus and Folkman (1984). They suggested that when a person encounters life

demands, a cognitive process is triggered in which perceived demands of the event are weighted against a person's perceived capabilities for coping with those demands. When this transaction results in a perception that one is facing demands that exceed the resources one has for coping, the stress response ensues (Sapolsky, 1998). McCarthy, Lambert, O'Donnell and Melendres (2009) suggest that teachers who experience excessive demand levels in respect to their environment resources are at risk for the negative effects of stress, which can include health problems and psychological burnout. In fact, teachers are the largest homogenous occupational group investigated in burnout research, comprising 22% of all samples (Schaufeli & Enzmann, 1998).

Although transactional models of stress and coping emphasize the importance of subjective evaluations of situational demands and perceived resources in determining whether demands are experienced as stressors (Matheny, Aycock, Pugh, Curlette, & Canella, 1986), most stress research continues to treat stress as a single construct rather than the difference between two distinct constructs: resources and demands (McCarthy, Lambert, O'Donnell, & Melendres, 2009). This study is designed to use school environment as a key component to provide validity evidence for the Classroom Appraisal of Resources and Demands (CARD; Lambert et al., 2007), a measure of a teacher's cognitive appraisals of both the classroom demands and the contributing factors that contribute to teacher stress and school-provided resources. The CARD is based theoretically on transactional models of stress, but focuses specifically on the demands of the classroom environment and the material resources available to teachers to meet those demands. The CARD takes into account the unique demands

faced by teachers today, who sometimes struggle with ever-increasing pressures both inside and outside of the classroom (Lambert & McCarthy, 2006). McCarthy et al. (2009) noted that investigations of stress in teachers of young children have identified the following demands: teaching children with problem behaviors (Pratt, 1978), larger class sizes, administrative or policy-related issues, excessive paperwork requirements, workload and time constraints, and pressure from administrators, specifically those related to mandated curricula and instructional strategies (French, 1993). In order to properly measure these items, four subscales were adopted from the CARD scale. The Administrative Demands subscale will be used to addresses demands associated with meetings, paperwork, assessments, and various non-instructional duties. The Availability of Instructional Materials subscale will be used to look at demands associated with access to materials and supplies. The Children with Problem Behaviours subscale will be adopted to addresses the demands associated with behaviour management and interactions with children who disrupt the learning environment. Finally, The General Program Resources subscale will allow the teachers to rate how helpful they find administrators, other teachers, general instructional materials, and staff development opportunities. A study by Lambert et al., (2007) found sample-specific reliabilities for both the Demands scale score (Cronbach's alpha = .92) as well as the Resources scale score (α = .95).

Although these demands and stressors have consistently appeared in the teacher stress research literature for more than 40 years (Kyriacou, 2000), working conditions for teachers have become more difficult in recent years in several significant ways. Students in Canada may come to school less ready to learn than they did in

previous generations. They arrive at school with fewer hours of sleep, less structure in their homes, and more exposure to electronic entertainment (Lambert & McCarthy, 2006). In addition, a cultural shift has taken place over the last generation whereby parents have moved away from support for and recognition of the authority of educators to a posture of advocacy for their children. All of these factors have combined to make teaching a more stressful occupation than it has ever been (McCarthy & Lambert, 2006), thus, school environment needs to be addressed by accounting for of these subcomponents that were measured in this study.

Furthermore, McCarthy et al. (2009) collected stress and burnout data from 451 teachers and used hierarchical linear modeling of teachers within 13 elementary schools. Although there was little between-school variance in reported burnout symptoms, each of the individual teacher-level CARD variables was associated in the predicted direction with burnout symptoms (McCarthy et al., 2009). The authors discuss how these findings were interpreted as supporting transactional models of stress as individual differences among teachers within schools in perceptions of demands and resources were predictive of burnout symptoms whereas differences in school context were not. This study demonstrated that the CARD is sensitive to between-teacher differences, within the same school, in perceptions of both the classroom environment and school climate.

Understanding the importance of teacher perceptions of demands and resources seems especially relevant to examine in an educational context, where perceptions of both resources and demands can vary considerably depending on classroom characteristics, teacher background, and school environment (Lambert & McCarthy,

2006). Furthermore, experts in the field of teacher stress research have called for measures that consider each teacher's unique classroom conditions, particularly their perceptions of excessive administrative demands, teacher–child interactions, and classroom climate (Kyriacou, 2001). The CARD goes beyond the typical measures of management climate to help identify specific sources of teacher stress and stress levels and therefore more closely target specific sources of teacher stress when working with educational administrators. The purpose of adopting some items from the CARD scale was to address whether there is a relationship between teacher stress, classroom or school environment and perceived competency to deliver the DPA program. For the purpose of this study, the CARD scale was implemented to compare and contrast whether demands are greater than resources, resources greater than demands, or resources equal to demands.

Teacher Skills

Physical education is one of the more difficult subjects in the curriculum for generalist classroom teachers in primary schools to incorporate confidently into their teaching (Quay & Peters, 2008). In many primary schools, the generalist classroom teacher defers to a physical education specialist. Quay and Peters (2008), suggest that this situation has both positive and negative features. This section looked at the skill component of Ford's Motivation System Theory and how it can be aligned with physical education teaching and the strengths of the generalist classroom teachers based on their understanding of creative planning and implementing. Acknowledging the generalist classroom teacher as a significant provider of physical education raises questions about not only the pre-service education of teachers in physical education, but also the ways in which physical education is itself conceived and taught. Colleges of

education are under unprecedented scrutiny to produce highly qualified teachers (Sheeler, Ruhl, & McAfee, 2004). School administrators are under pressure to ensure that all of their teachers are highly qualified in the subject areas they teach (Understanding the No Child Left Behind, 2002). Furthermore, numerous researchers have indicated that there is an obvious need to prepare teachers at the pre-service level to generalize newly acquired teaching skills across time and settings has been well established (Boudah, Logan, & Greenwood, 2001; Bowles and Nelson 1976; Engelmann 1988; Gersten, Morvant, & Brengleman, 1995; Greenwood and Abbot 2001; Noell, Witt, Gilbertson, Ranier, & Freeland, 1997; Rose and Church 1998; Scruggs and Mastropieri 1994; Vaughn, Klingner, & Hughes, (2000). Researchers express concerns about generalizing behaviour modification techniques from workshop training sessions to classrooms in the early 1970s (Altman & Linton 1971; Bowles & Nelson, 1976). Engelmann (1988) found that less than 30% of what was practiced among teachers in training settings transferred to actual teaching settings and that more experienced teachers, teachers who taught for more than 2 years before receiving instruction (in direct instruction), had even more problems transferring newly acquired skills than new teachers. Han and Weiss (2005) concluded that teacher training alone might not be sufficient to support program implementation over time even when the program was a school-wide initiative. Rutherford and Nelson (1988) stated that even though there are a variety of ways to promote the transfer of training, there is still much work needed to be done in demonstrating successful behavioural maintenance and generalization effects in schools today. Twenty years later this statement is still true. Even when pre-

service teachers learn effective teaching techniques they may or may not transfer those skills into their own classrooms (Sheeler et al., 2004).

The potential of school-based interventions to improve physical education and physical activity is promising (Harper, 2010), but implementing new curricular programs is not easy for teachers (Hargreaves, 1998). Teachers' interpersonal and emotional lives influence the process (Hargreaves, 1998), as well as the requirement to develop new curricular and instructional knowledge and skills (Cothran, Hodges-Kulinna, & Garn, 2010). In 1968, Baer, Wolf, and Risley set forth the goals of applied behaviour analysis. One of these goals was that applied research can produce changes in behaviour that generalize to a variety of environments, spread to a variety of relevant behaviours, and are maintained after an intervention has terminated. In their 20-year review of the goals of applied behaviour analysis, Baer et al., (1987) again pointed to the importance of generalization as "crucial ... to the maximal effectiveness... of the discipline" (p. 321). There are many hypotheses provided in the literature for the limited development of a generalization literature related to teaching techniques and for resistance to transfer itself including compassion, neglect, lack of preparation, and/or resistance to change (Gersten et al. 1995). Lindsley (1992) suggested that a possible explanation for why effective teaching tools are not widely adopted is because academic learning (as with physical exercise) requires discipline, practice, and adequate training. Rose and Church (1998) reviewed 49 studies on effects of pre-service and in-service training on maintenance of teaching skills. In both cases, feedback emerged as the variable producing the strongest training effect and in both studies the researchers recommended practice with feedback as a necessary

component of any training program that is implemented to change teacher behaviour in the classroom. Based on the research on generalization and maintenance of teaching skills by teachers and research on programming for generalization by teacher educators, Rose and Church (1998) discussed four factors which emerged as highly likely to support the improvement of teaching skills. These factors are: (a) using immediate feedback to promote efficient and effective acquisition of new skills (Coulter and Grossen 1997; O'Reilly, Renzaglia, & Lee, 1994; Scheeler, Ruhl, & McAfee, 2004), (b) training to mastery on specific teaching skills (Engelmann 1988; Rose and Church 1998), (c) effective programming (Epps and Lane 1987; Scruggs and Mastropieri 1994; Stokes and Baer 1977; Stokes and Osnes 1989), and (d) providing performance feedback in classroom settings (Noell et., al 1997; Leach and Conto 1999). With respect to these factors, educational scholars have been particularly keen to understand the role and influence of expertise in teachers' knowledge, cognition and actions, and the knowledge most necessary to teach well.

In 1986, Shulman developed a concept that looked at how teachers translate their understanding of a subject matter into classroom practise. The definitional use of Pedagogical Content Knowledge (PCK) has been slightly altered over time, but Grossman's (1990) interpretation most clearly illustrates how the term can be applied to teacher's knowledge of physical education. Grossman (1990) suggests that PCK is composed of four factors: (a) knowledge of students' conceptions of the content, (b) curriculum, (c) teaching strategies, and (d) purposes for teaching. Furthermore, PCK embodies the working knowledge teachers use to plan, organize, and guide their teaching (Schempp, Tan, Fincher, 1998). Based on these factors, generalist teacher's

skills and knowledge of DPA will be looked at by using the Subject Knowledge Expertise Rating Scale (SKERS). Informed from the work of Schempp et al., (1998), the SKERS was applied to assess teacher's expertise (knowledge and skills) in a variety of physical education content areas. Based on the Ontario DPA Framework, teachers will be asked to rate their expertise (skills) in four content areas: Policy Requirement, Policy Implementation, Safety, and Reporting Accountability. It is possible that teacher's familiarity of this DPA Framework can influence their skills and expertise to teach DPA, therefore, asking a general question related to these four components enabled researchers to isolate whether there is a relationship between teacher's skills/expertise and perceived competency to deliver the DPA program.

Teaching Competency

It is clear from the research that teachers play a critical role as change agents in schools through the shared responsibility of program implementation and practices that relate to pressing health issues. School effectiveness research has shown that student outcomes depend highly on the quality of instruction (Scheerens, 2008). Given these teaching effects, fostering the professional development of teachers seems to be a key challenge for governments, local politicians, and school managers to improve the quality of education (Thoonen, 2011). In the context of physical education, Kirk (2005) suggests it is critical that teaching effectiveness of physical education at the elementary school level is fostered so children develop the necessary knowledge, fundamental skill set, and attitude needed to cultivate a healthy lifestyle at an early age thereby providing them with healthy practices which can later be refined and carried through to adulthood. Furthermore, the sustainability of school-based health interventions in Canada and international contexts depends on the extent to which teachers and other key change

agents (e.g., principals) continue the implementation effort with fidelity (Dusenbury, Brannigan, Falco, & Hansen, 2003; Rohrbach, Graham, & Hansen, 1993). Therefore, identifying the underpinning factors which assist teachers' approach tendencies toward evolving ideologies and government mandates for best practices in education is a necessary step in understanding and orchestrating the school change process.

Despite the call for classroom teachers to assume roles in schools as PA activists, little research has examined the feasibility of current recommendations (Webster, Monsma, & Erwin 2010). The present study used the lens of generalist teachers' motivation, environment and skills to better understand the role of school-based health promotion. Perceived competency related questions will focus on the how teacher's perception of their individual motivation, environment and skills influence their ability to teach the DPA program. For example, 'do you feel that your personal motivation towards PE influences your competency to deliver the DPA program'? Another competency related question will ask – 'do you feel that your classroom/school environment influence your competency to deliver the DPA program'? This approach helped the researcher distinguish which variables are more or less likely to influence teacher's perceived competence.

The majority of research conducted has been exclusively about PE teaching, given concerns about how well prepared and willing classroom teachers are to teach PE in schools where there is no specialist (i.e., certified physical education teacher) (Rink, Hall, & Webster, 2008). For example, Morgan and Bourke (2008) found pre-service classroom teachers' and in-service classroom teachers' personal PE experiences were associated with confidence to teach PE. In addition, Morgan, Ludlow, Kitching, O'Leary

& Clarke (2010) found personal PE experiences and sport participation experiences were associated with teachers' attitudes and motivation toward teaching PE. Furthermore, Parks, Solmon, & Lee, (2007) investigated elementary classroom teachers' willingness and efficacy to integrate PA into the academic classroom setting. Contrary to findings about PE teaching, the authors reported that current personal involvement in PA was not related to participants' efficacy to implement PA. However, Webster and colleagues (2010) suggest that historical aspects of personal PA participation may be a more prominent link to classroom teachers' competencies and perceptions of promoting PA at school. Cothran, Hodges, Kulinna, & Garn, (2010) interviewed 23 elementary classroom teachers about a project in which PA was integrated into the school day. Findings indicated that teachers' motivation and competency to engage in PA integration was related to participants' personal wellness histories, including physically active behaviour and a healthful diet. Cothran et al., (2010) reported that correlational analyses highlighted age, body mass index (BMI), year in school and satisfaction with K-12 PE experiences as important factors in participants' perceived competence and attitudes. Specifically, results from their study showed that age was negatively correlated with PE teaching competence, BMI was negatively correlated with PE teaching competence and extracurricular competence, year in school was positively correlated with classroom/ recess competence and PE teaching competence, and satisfaction with K-12 PE experiences was positively correlated with competence in all three SPAP contexts as well as with attitudes. Furthermore, Cothran et al., (2010) found that hierarchical regression analysis revealed that participants' PA competence (how physically active and fit participants perceived

themselves) accounted for 12% of the variance in attitudes. Based on these findings, Webster et al., (2011) suggested that school-based physical activity promotion may be less likely for generalist teachers' who are older, have higher BMIs, are at earlier rather than later stages of a program, report less favourable PE experiences, and/or have lower perceived PA competence than their program peers (Webster, 2011). In regards to these findings, teaching PE can be strongly linked to an individual's self-identify, such as the beliefs they have about themselves and overall competency to deliver an effective PE program.

Ashy and Humphries (2000) found that PE teachers enrolled in a course, which included teaching experiences, peer observation, self-reports and instructor feedback, developed a better understanding of and more positive attitudes toward PE. In addition, Xiang, Lowy, & McBride, (2002) found that completing a field-based PE methods course, particularly teaching and observation experiences, enhanced generalists teacher beliefs regarding the value and purpose of elementary PE. Consistent with these studies, Hart (2005) found that giving generalist teacher's instruction related to fundamental movement skills as part of a course increased participants' ability to correctly identify such skills and justify their importance in motor learning. These studies identify a range of experiences that might prompt PE teachers to value PE, understand its purpose and even develop basic movement and analysis skills (Webster et al., 2010). Based on these findings, PE training can help to lay the foundation for and ensure developmental readiness for learning about how to teach the DPA program in Ontario. In addition, Webster and company (2010) found that the increase in perceived competence for PE teaching is important should any teacher be called on to lead PE

experiences for children. Despite the research suggesting PE should be taught by licensed specialists (Faucette & Hillidge, 1989; Faucette & Patterson, 1989; Lawson, Lawson, & Stevens, 1982; Morgan & Hansen, 2007), most Ontario elementary schools require a generalist classroom teachers to teach elementary PE, therefore, they must be motivated, and prepared with the proper skills and resources to teacher the Ontario mandated DPA program.

CHAPTER 3
METHODOLOGY

Based on the components of Ford's Motivation Systems Theory, the purpose of this study is to assess generalist teachers' perceived competency to deliver Ontario's Daily Physical Activity Program. Specifically, this study explores the relationship between motivation, skill, and environment, and how they influence a generalist teacher's perceived competency. Three:The following research questions and hypotheses guided the research.

RQ1: What is the relationship between generalist teachers' perceived motivation and perceived competency to deliver the DPA Program?

Ho: There is no relationship between generalist teachers' perceived motivation and perceived competency to deliver the DPA Program

H1: There is a relationship between generalist teachers' perceived motivation and perceived competency to deliver the DPA Program

RQ2: What is the relationship between generalist teachers' perceived skills and perceived competency to deliver the DPA Program?

Ho: There is no relationship between generalist teachers' perceived skills and perceived competency to deliver the DPA Program

H2: There is a relationship between generalist teachers' perceived skills and perceived competency to deliver the DPA Program

RQ3: What is the relationship between generalist teachers' perceived school environment and perceived competency to deliver the DPA Program?

Ho: There is no relationship between generalist teachers' perceived environment and perceived competency to deliver the DPA Program

H3: There is a relationship between generalist teachers' perceived environment and perceived competency to deliver the DPA Program

Research Design

This study used an e-based survey to collect data from a sample population of elementary teachers working in the Simcoe-Muskoka Catholic District School Board in

Ontario, Canada. Lefever (2007) suggests that one advantage of e-survey research is that it takes advantage of the ability of the internet to provide access to groups and individuals who would be difficult, if not impossible to reach through other channels. The literature suggests that online surveys provide a way to conduct studies when it is impractical or financially unfeasible to access certain populations (Couper, Traugott & Lamias, 2001; Sheehan & McMillan, 1999). Additionally, they are very cost effective, as the costs per response decrease as sample size increases (Watt, 1999). Mertler (2003) suggests that it is beneficial to use email for direct contact with participants. He emphasizes that being able to publisize an e-survey and to encourage participation through email enables the researcher to determine the response rate with a possibility of an increased confidence in the generalizability of the research results (Mertler, 2002). Given the context of this study and the distance from the study area (approximately 1000 miles), it was noted that teacher's access email regularly, thus, this data collection method was judged to be most suitable.

A total of 20 questions were developed to assess the relationship between the independent variables – motivation, environment, skill (Table 2), and the dependent variable – competency. Items and subscales from the Physical Education Teachers' Physical Activity Self-efficacy Scale (PETPAS) were borrowed from the work of Gencay (2009). Similar to Gencay (2009), this study used items from the student, space, time, and institution subscales to help determine teacher motivation and self-efficacy to teach the DPA Program. According to Gencay (2009), PETPAS has a strong internal consistency and reliability with a Chronbach's Alpha of .86. When measuring the goals and values of teachers towards the DPA Program, some items from the Motivated

Strategies for Learning Questionnaire (MSLQ) were adopted. Pintrich, McKeachie, and Lin, (1987) reported a Chronbach's Alpha of .74 for the MSLQ. Informed by the work of Van Veen and Sleegers (2009), the Experience of Recurring Affective Episodes Scale will be adopted to measure uncertainty and the frequency and affective intensity of everyday events in teachers' professional lives. In order to measure teacher environment (i.e. resources and demands), items from the Classroom Appraisal of Resources and Demands (CARD) were adopted. A previous study by Lambert, McCarthy, O'Donnell and Melendres (2007) found sample specific reliabilities for both Demands and scale score (Cronbach's Alpha = .92) as well as Resources scale score of .95. To measure teacher's self-reported competency to teach in diverse settings, various questions were developed to link each independent variables (motivation, environment, skill) to the dependent variable, perceived competency. For example, 'do you feel your school environment allows you to be competent in teaching the DPA program?' Another competency related question was 'do you feel that your motivation towards physical education determines your level of competence to deliver the DPA program?' Motivation is composed of an individual's goals, emotions, and personal agency beliefs; therefore, self-efficacy was an important construct to measure. Teachers' sense of efficacy or their confidence that they can perform the actions that lead to student learning is a particularly powerful construct, as it is one of the few teacher characteristics that reliability predicts teacher practice and student outcomes (Tshchannen-Moran et al., 2001). The survey instrument is included in Appendix B of this thesis.

Sampling Method

The SMCDSB houses 44 elementary schools with more than 4,000 permanent, part-time and occasional employees and approximately 22,000 students. There are no middle schools in this region and high schools are not required to teach DPA. A total of 20 schools were asked to participate in the study and the preferred sample size was 120 participants. The sample size was judged to be appropriate due to its statistical significance as well as the study's time, money and access constraints. In order to capture a representative sample of generalist teachers who are responsible for facilitating the DPA Program in the SMCDSB, a stratified random sampling method was applied. It is expected that some schools may lack the financial, human or physical resources; therefore, using this method helped ensure that some of the smaller more rural schools were be represented in the sample. The purpose of this sampling method was to ensure representativeness from each group. In stratified random sampling, the population is divided into subpopulations (strata) based on one or more classification criteria (Dufusco, & Pinto, 2007). Two strata's were created to represent both rural and urban schools. In this case, simple random samples were drawn from each stratum [smaller schools with less than 20 teachers vs. larger schools with more than 20 teachers], proportional to the relative size of each in the population. The sample was pooled to form a stratified random sample where the smaller more rural schools were offset by the larger sample of inner-city schools. The stratified random sampling method was operationalized using a 3:1 ratio - larger to smaller schools. Therefore, for every 3 schools that were selected from an urban region, 1 school was selected from a smaller rural region. This process involved the assistance of the Superintendent - (chair) of the school board. The objective was to obtain information with respect to

demographic variables, current practices, beliefs and opinions of teachers (participants) in regard to the DPA Program.

The Simcoe-Muskoka region is of particular significance due to its geographical location as it offers an abundance of natural settings that teachers can take advantage of to promote physical activity outside the school walls (Figure 4). Some of these inexpensive activities include, but not limited to, cross-country and downhill skiing, mountain biking, rowing, snow shoeing, hiking and camping. It is important to mention that these activities can take up more than the required 20 minutes of DPA, however, some teachers incorporate educational lessons into outdoor activities making the activity both a learning experience and a tool to engage their students in physical activity. Notwithstanding the amount of activities available for outdoor fitness, childhood obesity is still a problem, therefore, this study targeted teacher's perception of the DPA Program and how specifically their perceived motivation, school environment and skills can impact their perceived competency to teach DPA on a daily basis.

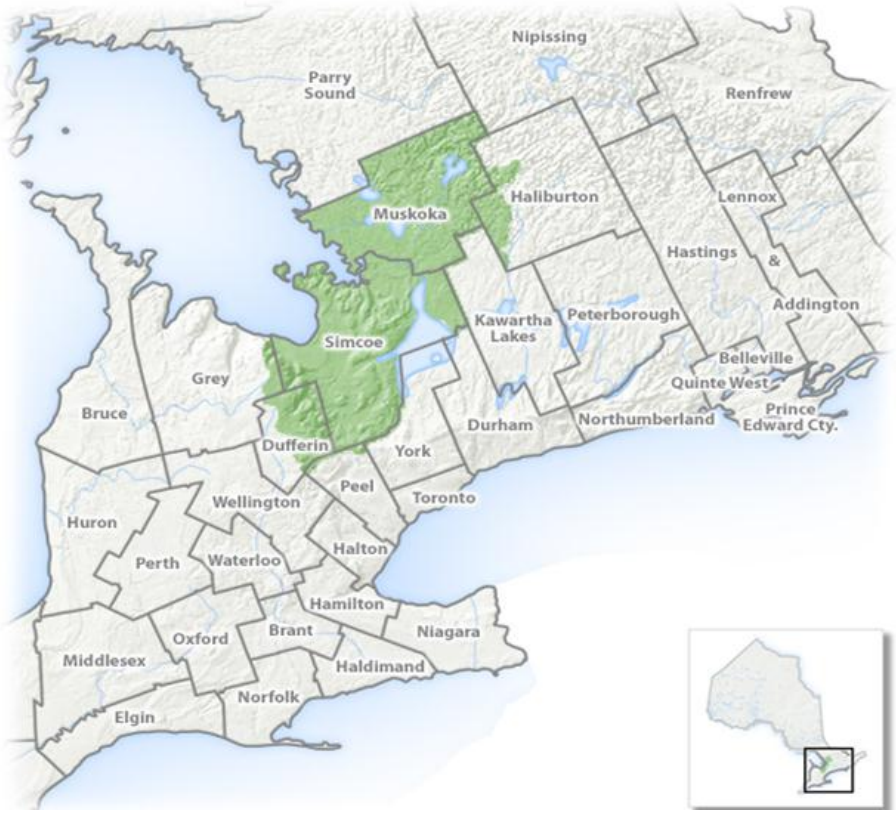

Figure 3-1. Simcoe-Muskoka Catholic District School Board (Ontario Ministry of Natural Resources, 2012)

CHAPTER 4
DATA COLLECTION AND ANALYSIS

Data collection was initiated in the spring of 2012. All elementary teachers (JK-grade 8) employed by the Simcoe-Muskoka Catholic District School Board (SMCDSB) were asked to participate in an e-survey. Since SMCDSB teachers email accounts cannot be accessed publically, invitations and a URL link to the e-survey were distributed by the elementary program coordinator who forwarded the invitation to principals at each school. The principals then distributed the survey and original invitation to all eligible full-time teachers in their schools. The e-survey link was also posted on the teacher's online bulletin.

Approval for this study was granted by the Behavioral/Non-Medical Internal Review Board at the University of Florida. This research involved no more than minimal risk to consenting adult participants and therefore it qualified for IRB02 review and approval. A copy of the approval notice can be found in the appendix.

Regression analysis was used to measure which among the independent variables are related to the dependent variable, and to explore the directionality of these relationships. A two-step-approach was taken to test the research hypotheses and uncover any underlying relationships amongst each variable. This process involved computing grand means for each of the independent variables, running the analysis and making observations based on significance levels, correlations and ANOVA scores. Descriptive statistics were used for general analysis purposes.

Demographic Characteristics

A total of 216 generalist teachers received invitations; and the sample response rate was 69% (n=136) with 7% (n=15) of surveys being incomplete. One hundred and

twenty one (121) surveys were completed in full and completed surveys [only] were used for analysis. Teachers responded and answered a series of questions reflecting various demographic variables, their own current practices, beliefs and personal opinions of the DPA Program (see Appendix B). From the 121 generalist teachers who responded to the survey, 71% were from schools with less than 20 teachers (n=86) and 29% were from schools with more than 20 teachers (n=35). Overall, 72% of teachers indicated that they had approximately 21-20 students in their class which suggests this was the average class size in the school board. Respondents were also asked to state how many years they have been teaching. Self-reported responses indicate that a majority of respondents (92%, n=111) have been teaching for more than six years and only 8% (n=10) said they have been teaching for less than 6 years. Figure 4-1 illustrates the distribution of school grades that the participating teachers are responsible for teaching.

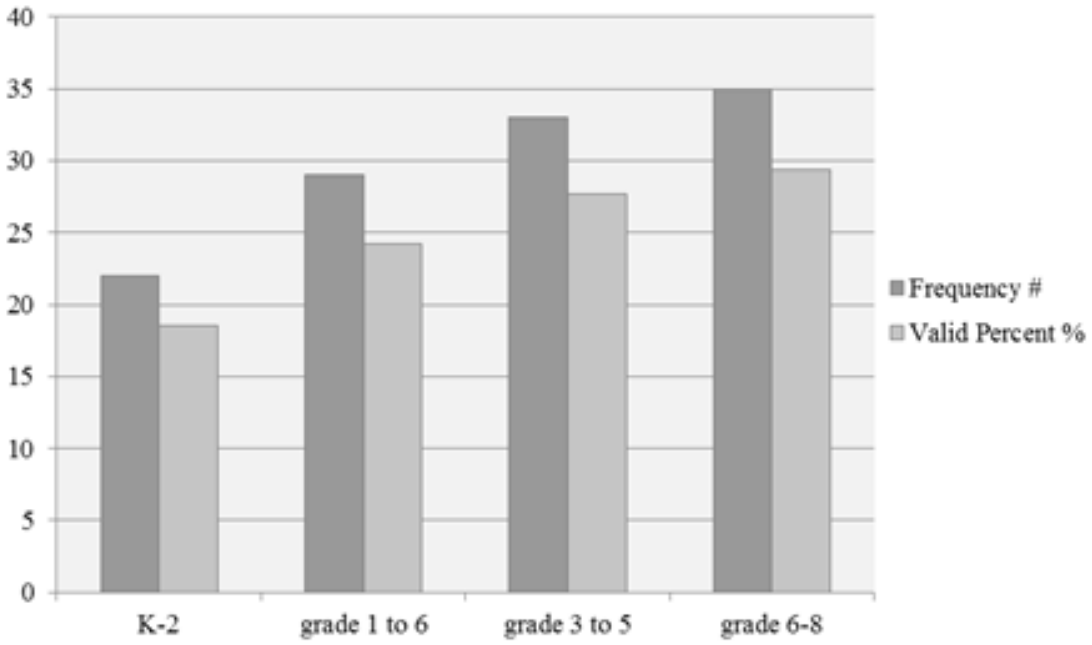

Figure 4-1. Distribution of teachers responsible for teaching each grade

Daily Physical Activity Program Compliance

In order to assess the operationalization of the DPA program in schools and by individual teachers, the survey participants were asked if their school had an active DPA program and if they follow the DPA guidelines. Teachers report that the DPA is active in 54% (n=65) of schools surveyed. Concomitantly, the program is not active in 46% of the schools and a majority of the participants (60%, n=72) indicated that they do not follow the DPA Guidelines (Figure 6). These results were not anticipated and are perhaps, the most significant finding of this research.

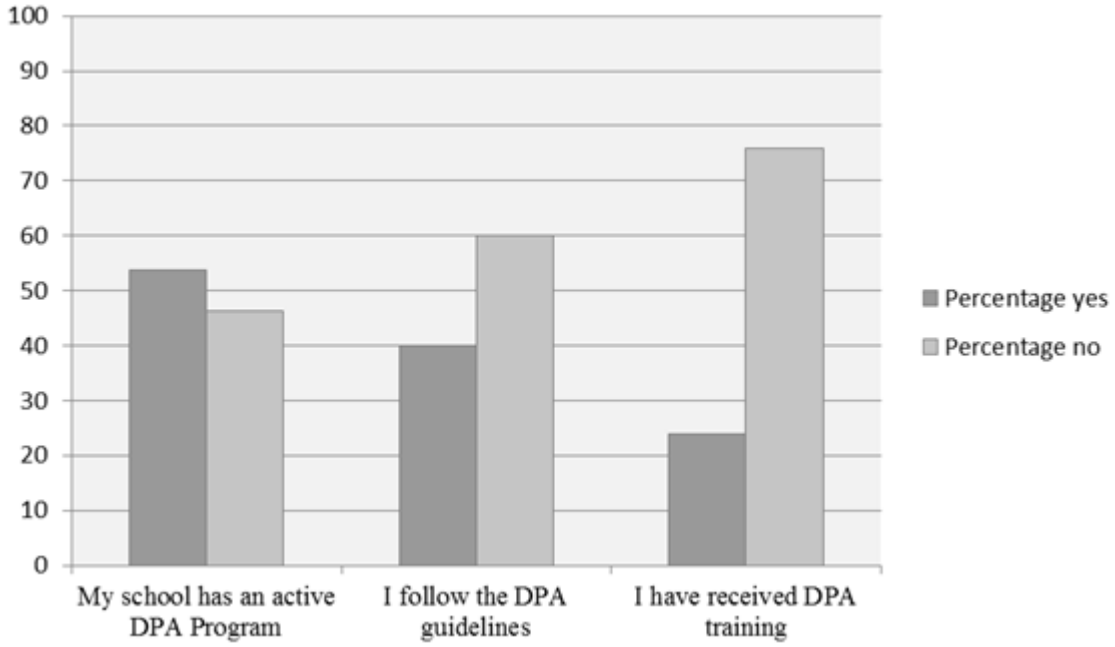

Figure 4-2. DPA Compliance

Analysis of Teacher Motivation, Skills and Environment

Teachers Perceived Motivation

Teachers were asked to rate a series of questions in order to determine if there was a correlation between perceived motivation and perceived competency when delivering the DPA program. From the schools that have a structured DPA program in place, 27% (μ=4.29) of participants agreed that during DPA time, they are more likely to

teach course material that challenges their students to learn new things Table 4-1. Inversely, only 7% of teacher's from schools with no active DPA program agreed with the same statement. A comparison of means revealed that 43% (μ=5.33) of teachers are motivated to "teach activities that improve their students motor skills and balance skills" while 39% (μ=3.63) had a low preference to use course material that arouses their curiosity. When asked directly about their motivation to deliver the DPA program, 52% of teachers from schools that practice DPA either agreed or strongly agreed that they are motivated to learn and enhance their DPA leadership while only 30% of teachers from schools that do not have an active DPA Program agreed with the same statement. It is possible that this difference is evident because of the independent nature of individual schools and the influence their values and beliefs have on their curriculum agendas. Motivation to teach the DPA Program may be lacking in some areas and childhood habits may have changed over the years, however, student motivation towards physical education remains high. When asked their perception of student's motivation towards physical education, only 11% of respondents disagreed with the statement suggesting "my students do not value physical education".

Table 4-1. Summary of motivation items and corresponding results

Statistic	During DPA, I prefer to teach course material that challenges my students so they can learn new things.	During DPA, I prefer to use course material that arouses my curiosity, even if it is difficult to teach.	When I have the opportunity, I teach activities that improve my students motor and balance skills.	My teaching philosophy motivates me to teach at least 20 minutes of DPA daily.	I am motivated to learn and to enhance my DPA leadership.
Min Value	1	1	1	1	1
Max Value	7	7	7	7	7
Mean	4.29	3.63	5.33	4.00	4.57
Variance	2.93	2.44	2.51	3.72	3.37
Standard Deviation	1.71	1.56	1.58	1.93	1.84

Table 4-1. (continued)

Total Responses	121	121	121	121	121

There was a significant difference between teachers who have a strong preference towards making time for DPA and those who are less motivated to teach the program. As such, 60% of teachers from schools that have an active DPA program felt their teaching philosophy motivated them to teach at least 20 minutes of DPA daily while only 15% felt the same at schools with an inactive DPA program. All participants were reluctant to teach unfamiliar and challenging physical activities to their students.

ANOVA was computed to determine the relationship between teacher motivation and their likelihood to participate in DPA specific professional development opportunities. Table 4-2 provides a visual comparison of groups who stated they are motivated to participate in DPA professional development in the future, and those who are not. The ANOVA resulted in f=2.789 with 19 and 84 degrees of freedom. F was significant at less than .001 level for between groups. This suggests that the likeliness of teachers to participate in professional development programs in the future can, in some cases, depend on their motivation to teach DPA.

Multiple regression analysis was performed to determine whether there was a relationship between teachers' perceived motivation towards the DPA Program and perceived competency. Regression analysis revealed that there is a positive relationship between teachers perceived motivation and perceived competency (correlation coefficient .324, <.001). Model testing will be discussed in further detail in the following section.

Table 4-2. ANOVA Analysis of teacher's perceived motivation to participate in future professional development opportunities

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	165.255	19	8.698	2.789	.001
Within Groups	261.966	84	3.119		
Total	427.221	103			

Teachers Perceived Working Environment

In terms of school environment, 46% of respondents from schools with an active DPA program felt that their colleagues, in general, are supportive of the DPA Program. Comparatively, only 33% of respondents from schools with an inactive DPA program felt the same. This difference may or may not be indicative of the support schools receive from their principals and school administrators. Some of the most revealing descriptive information obtained from the school environment analysis was the overall awareness of the learning opportunities provided by the school board. A majority of respondents (78%) from schools with an inactive DPA program disagreed that the SMCDSB provides training opportunities to enhance DPA related teaching. In comparison, 47% of teacher's from active DPA schools felt the same. This difference was statistically significant and clearly indicates that program support and general awareness of training opportunities is inconsistent throughout the region. What was also evident from the analysis of teachers' perceived working environment was the lack of time to deliver the DPA Program. Forty-two percent of teachers felt they do not have enough time in a day to teach DPA and only 26% felt that their school supports the use of classroom time to deliver the DPA Program.

School environment was suspected to be a strong indicator of perceived competence; however, regression analysis showed this was not as strongly correlated

as the other independent variables. Regression analysis revealed that there was no relationship between teachers perceived working environment and perceived competency (correlation coefficient -.114, >.005).

Teachers Perceived Skills

Teachers perceived their skills to be very important in delivering DPA but in general, they reported that they have very little knowledge of the program and confidence to deliver it. Only 6% of respondents considered themselves experts with full confidence in their ability to lead DPA. Only 29% of respondents report previous training in health and physical education and 67% report that they have received no professional development in this area (Table 4-3). Only 30% of respondents who had training felt they are competent to deliver DPA while 46% who have not received training felt the same.

Table 4-3. Relationship between previous health and physical education training and perceived competence to deliver the DPA Program

Previous training in health / physical ed.	Perceived Competence to Deliver DPA (I feel that I am competence to deliver DPA)							
	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	TOTAL
Yes	0	0	0	5	5	16	14	35
No	4	10	8	6	14	36	3	81
Total	4	10	8	6	19	52	17	121

Multiple regression analysis was performed to determine whether there was a relationship between teachers' perceived skills to deliver the DPA Program and perceived competency. Regression analysis revealed that there was a positive relationship between teachers perceived skills and perceived competency (correlation coefficient .862, <.001). This relationship was the strongest with a high correlation

coefficient from the model test. A detailed description of model testing is outlined in the following section:

Multiple Linear Regression Analysis

Hypothesis tests were conducted to ascertain whether perceived competency is related to one or more of the independent variables. Multiple linear regression (MLR) was used to establish model-fit and the prediction of participants' perceived competence (dependent variable) to deliver DPA based on their motivation, school environment and skills (independent variables). A two-step-approach was taken to test the research hypotheses and uncover any underlying relationships between variables. This process involved computing grand means for each of the independent variables, running the analysis and making observations based on significance levels, correlations, and ANOVA scores (Table 4-4 and Table 4-5).

A significant regression equation was found ($F(3,97) = 31.159$, $p < .001$), with an R2 of .491. Participants' predicted perceived competence is equal to 2.375 - .114(environ_3_mean) + .131(teamotive_3_mean) + .862(skills_2_mean) where each score was based on calculated averages from the independent variables. Model testing showed that 49.1% of the variation in perceived competence can be explained by difference in teacher motivation towards DPA, school environment and their personal DPA skills. The ANOVA resulted in $F=31.159$ with 3 and 97 degrees of freedom. F is significant at less than .001 levels.

Table 4-4. Overview of grand mean scores from perceived motivation, perceived skills and perceived working environment scales

MODEL		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.375	.510		4.655	.000
	Q11_Teamotive_1_mean	.131	.129	.099	1.022	.309
	Q13_skills_2_mean	.862	.111	.673	7.783	.000
	Q15_environ_3_mean	-.114	.146	-.071	-.779	.438

a. Dependent Variable: Q16_COMPET_1

Table 4-5. Model characteristics and summary

MODEL	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.701a	.491	.475	1.208	.491	31.159	3	97	.000

a. Predictors: (Constant), Q15_environ_3_mean, Q13_skills_2_mean, Q11_Teamotive_1_mean
b. Dependent Variable: Q16_COMPET_1

Based on observations from this study, the teacher skills component held the most strength in explaining perceived competency; however, a second step was needed to establish more concrete evidence of this connection. Step two involved MLR and correlation analysis in order to (1) reinforce the existing relationship, and (2), to isolate which specific items from the independent variable lists are the most useful in explaining perceived competence. Question 16 of the survey consisted of various statements such as (a) ‘I feel I am motivated to deliver the DPA Program, (b) I feel I have the skills to deliver the DPA Program and, (c) I feel I have the resources to deliver the DPA Program. Based on a self-reported evaluation of these statements, respondents were asked to rate each item on a 7-point scale. Similar to the above analysis, which looked at the grand means scores from the modified scales from the literature, each single item was analyzed to confirm the reliability of the model test. As a result, both skill and

motivation items were both statistically significant at the 0.001 level. Table 4-6 provides a visual of this representation of the scores and Table 4-7 provides a model summary.

R squared values were compared between both models revealing a change from .475 (Table 4-5) to .626 (Table 4-7). There is a close relationship when comparing perceived competence to motivation and skills to deliver the DPA Program, as indicated by the low p-value (<.001). This was confirmed by the multiple correlation coefficient obtained in the proceeding regression analysis, which was β= +.324 and β= +.848, indicating a positive relationship between the two variables (teacher motivation, teacher skills and perceived competence).

Table 4-6. Overview of grand mean scores from self-constructed single item questions

MODEL		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.173	.464		.374	.709
	Q16(i): I feel I am motivated to deliver the DPA Program	.324	.086	.324	3.773	.000
	Q16(ii): I feel I have the skills to deliver the DPA Program	.848	.076	.770	11.118	.000
	Q16(iii): I feel I have the resources to deliver the DPA Program	-.150	.072	-.164	-2.078	.041
	Q16(iv): I feel I am confident to deliver the DPA Program	-.069	.076	-.071	-.907	.367

a. Dependent Variable: Q16_COMPET_1

Table 4-7. Single item model characteristics

	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.801a	.642	.626	.978	.642	40.349	4	90	.000

a. Predictors: (Constant), Q16_COMPET_5, Q16_COMPET_3, Q16_COMPET_4, Q16_COMPET_2

The question 1 null hypothesis (Ho) is rejected and it is accepted (H1) that there is a relationship between generalist teacher motivation and perceived competency to deliver the DPA program. The null hypothesis is also rejected for question 2, and it is

accepted (H2) that there is a relationship between generalist teacher skill and perceived competency to deliver the DPA program. Conversely, it is not possible to reject the question 3 null hypothesis as this study found no evidence of a relationship between generalist teacher school environment and perceived competency to deliver the DPA program. Table 4-4 and Table 4-6 underscores this relationship with corresponding negative β scores of -.114 and -.150. Repeated regression analysis was done to unveil any item level significance of reported school environment versus perceived competency. As such, item 2 - "funding and external support for the DPA Program is insufficient" obtained a p-value of .003 indicating that this item alone has a significant relationship with teacher's perceived competency to deliver the Ontario Mandated DPA Program.

In summary, this section analyzed and summarized results of the study using descriptive and inferential statistics. Specifically, it presented and described the univariate distributions of all relevant variables from the demographic, school-based DPA, and personal biography domains from teachers in the SMCDSB. The study's key findings are as follows:

1. DPA program implementation is not consistent across schools the Simcoe-Muskoka Catholic District School Board.
    a) Nearly half (46%) of teachers surveyed report that the DPA is not active in their schools.
2. There is a statistically significant relationship between generalist teacher motivation and perceived competency to deliver the DPA program
    b) A minority report (43%) that they are motivated to teach activities that improve student motor and balance skills
    c) Teachers in schools with an active DPA program are more likely to be motivated to deliver the program than teachers working in schools with an inactive DPA program.

d) Key residual: A majority of teachers surveyed report that they are not motivated to deliver the DPA

3. There is a statistically significant relationship between generalist teacher skill and perceived competency to deliver the DPA program

   e) A minority of teachers (18%) surveyed report that they have completed workshops, courses or certifications that pertain to health and physical activity in the past five years

   f) A majority of teachers (94%) surveyed report that they do not consider themselves experts with full confidence to deliver the DPA program

   g) Key residual: A majority of teachers surveyed report that they are confident in their skills to deliver the DPA.

4. There is no statistically significant relationship between the environment and generalist teacher perceived competency to deliver the DPA program

   h) A minority of teachers (26%) surveyed report that their school supports the use of class time to deliver the DPA program

   i) A majority of teachers surveyed report that lack of funding and external affects their perceived competence to deliver the DPA

   j) Key residual: While this study found no statistically significant relationship, the data did suggest a relationship. Future research is needed to better understand this relationship

The subsequent section discusses these results in the context of the scientific literature in this area and it explores the potential implications of this study.

Recommendations for future research and DPA program management follow.

CHAPTER 5
DISCUSSION

In response to a need for a physical activity program for school aged children, the Ontario Ministry of Education (OME) mandated Memorandum No. 138 whereby "school boards must ensure that all elementary students have a minimum of twenty minutes of sustained moderate to vigorous physical activity each school day during instructional time" (2005, p. 1). This policy was developed to increase physical activity levels in elementary schools throughout Ontario. Although mandated by the OME, implementation of the DPA Program is left to individual school boards, administrators and teachers. Since its launch in 2005, there has been little-to-no evaluation of the program's implementation and outcomes despite the fact that both science and experience show that successful programs require periodic evaluation. Schmidt, Pratt, Witmer, (2006): Gerston, (2004); Hogwood &Gunn (1984) argue that successful policy development requires consistent policy implementation and evaluation - both important stages in the policy process. Furthermore, policy "implementation represents the conscious conversion of policy plans into reality" (Gerston, 2004, p. 94), while "policy evaluation assesses the effectiveness of a public policy…" (Gerston, 2004, p.119). Identifying implementation challenges during policy development and examining policy implementation are important given policy effectiveness may be determined by implementation (Levesque & Wilson, 2009; Gerston, 2004; Hogwood, Gunn, 1984). Based on the findings of this study as well as the fact that policy effectiveness can be determined by implementation, it is possible to infer that inconsistent DPA program implementation suggests that the DPA may not be effective or successful in this school board.

All elementary teachers in Ontario are required to deliver the DPA Program, regardless of their individual qualifications and physical education experience. Lu and Lodewyk (2012) suggest there are two types of teachers providing DPA instruction in Canada: (a) generalists, who are normally classroom teachers with limited to no training in physical education whereas (b) specialists have training in PE either by completing a major (first teachable subject) or minor (second teachable subject) as part of their university undergraduate degree. Usually generalists teach many subjects (e.g., arts, language, math, science, social studies, and physical education) in elementary schools. Lu and Lodewyk (2012) and Lu and De Lisio (2009) suggest that inadequate and inappropriate is identified as a major barrier for teaching staff - particularly for the generalist, to develop and implement quality PE and DPA programs in schools. Today, a wealth of evidence suggests that elementary school aged children do not receive PE every day, which is why DPA was introduced – to increase physical activity levels. Although this study represents 1 of 29 English Catholic school boards and 72 total schools boards in the province of Ontario, the inconsistent DPA implementation in SMCDSB is certainly troubling given that delivering the program is a requirement of the Government of Ontario. In the provincial context, these findings are consistent with the work of Stone, Faulkner, Zeglen-Hunt and Cowie-Bonne (2012) whose research found that less than half of children in Ontario are provided DPA. This paper by Stone et al., (2012) also provides supporting evidence that when this policy is implemented, the intended health benefits are achievable. As such, they found that children who engaged in DPA every day were significantly more active than their peers. However, notwithstanding the positive outcomes that can come from DPA, the results from Stone

et al., (2012) suggest similar insights that have come from this study – the majority of schools are not currently meeting the DPA policy requirements (Stone et al., 2012). Clearly, DPA implementation is inconsistent across the province; however, more research is needed to validate these proclamations.

Motivation

In this study, regression analysis of teachers' perceived competence to deliver the Ontario DPA Program in the SMCDSB yielded a significant finding related to teachers' perceived motivation towards DPA. Specifically, perceptions of item 5 from the motivation scale (I am motivated to learn and enhance my DPA leadership) proved to be a core tenant in evaluating perceived competence to deliver DPA. The motivation-focused regression analysis scored a p-value of .002 which implies a significant relationship and suggests this element is an important reference point for evaluators of the DPA Program.

Research continues to suggest that the development of teacher's self-efficacy is critical and is a more consistent predictor of behavioral outcomes for developing confident and competent teachers (Graham & Weiner 1996; Hoy & Spero, 2006; Pajares, 2002). Extending the existing literature of teacher's self-efficacy within the context of PE and DPA, this study addresses a possible relationship between self-efficacy beliefs and teachers actual delivery of the DPA program. This is pertinent to this study because of the correlation between DPA and PE – i.e. teachers who believe in the values of PE are more inclined to teach DPA. Evidence from this study shows that 60% of teachers from schools that have an active DPA Program felt their teaching philosophy motivated them to teach at least 20 minutes of DPA daily while only 15% felt the same from non-DPA schools.

Additionally, this study looked at teacher motivation and their likelihood to participate in DPA specific professional development opportunities. Through ANOVA testing, a significant relationship (less than .001) revealed that the likeliness of teachers participating in future professional development programs depends on their motivation, and, in some cases, is influenced by the presence of the DPA Program. These findings are, however, under-substantiated and require further explanation as to program structure, consistency, integration strategies and challenges associated with the delivery. Research suggests that the quality of learning experiences for all students is a concern given that the level of knowledge required by the teachers responsible for implementing the DPA initiative may not be to a standard deemed worthy of quality instruction (Chroney, 2009). Furthermore, research has shown that teacher efficacy positively influences teachers' engagement in professional learning activities and subsequently enhances the quality of the instruction (Geijsel, Sleegers, Van Den Berg, & Kelchtermans 2012; Goddard, Hoy, & Hoy, 2000; Smylie, 1988; Tschannen-Moran & Woolfolk Hoy, 2001). This study found that no real difference existed in the perceived motivation of teachers who follow the DPA Guidelines that those who have received any extra PE training, however, there was a significant difference between teachers who have a strong philosophy towards making time for the 20 minutes of DPA and those who do not.

Research suggests that teacher motivation and commitment is strongly correlated with their belief in, and acceptance of the organization's goals and values (Geijsel et al., 2009; Leithwood, Jantzi, & Steinbach, 1999). In this case, teachers' level of commitment to organizational goals was the most important motivational factors for

explaining teacher learning and teaching practices. However, the incidence of an active DPA program is limited; therefore, the motivation of higher level leadership must be perpetrated throughout in order for generalists to be active supporters of the DPA initiative. Furthermore, results in this study reflect similar implications by Thoonen et al. (2011), who suggest teachers' engagement in professional learning activities, in particular, experimenting and reflection, is a powerful predictor for teaching practices. Analysis of variance (ANOVA) testing in this study indicated that those teachers who are from schools that have an active DPA Program are more likely to participate in professional learning activities compared to those schools where DPA is nonexistent. Coupled with a modest amount of previous PE training that is seemingly apparent in the SMCDSB, this realization is troubling yet dichotomous to the amount of teachers who actually follow the DPA Guidelines. It is probable that school-wide training and increased monitoring of DPA implementation is suitable, however, there is limited systematic evidence available to support this claim.

To this end, this study showed that although the policy may not be effectively implemented, the presence of the initiative can be a contributor to teacher's motivation to deliver 20 minutes of daily physical activity. This also implied, and confirmed previous findings by (Barrett, 2011), that self-efficacy beliefs in teaching DPA tended to be lower for those teachers who did not have an opportunity to teach DPA or see it being taught. With the exception of Barrett (2011) and Xiang et al., (2002) study on generalist teacher's motivation to teach physical education, no research has examined the role of the teacher in program success. While this study does not attempt to evaluate the full spectrum of the relationship between the teacher and program

success, it does reveal that teachers' perceived competency plays a role in the implementation of the DPA and by extension, it has a role in successful physical education program implementation.

Skills

The second and most significant finding revealed through regression analysis was teacher's skills with regards to the DPA Program. Only 6% of respondents considered themselves experts with full confidence of teaching DPA. The amount of teachers who are not fully equipped with DPA skills is plausible because many teachers do not follow the DPA guidelines nor do they see them as effective. In addition to the previously mentioned barriers to teachers perceived competency to deliver the DPA Program, the 2008 People for Education Report (2012) suggested that 98% of school principals self-reported that DPA was being implemented. However, the perspectives of teachers in this study revealed that only 54%, (n=65) indicated that DPA was being implemented in their classrooms. There are many variables that could account for this change, including, but not limited to: updated curriculum documents; particularly physical education, enthusiasm of teachers, location and other social and demographic factors. Going forward, more in-depth analysis and evaluation for the DPA Program should be to done to not only assess the current state of the program, but to also provide more up-to-date knowledge of the current practices and perspectives of both teachers and principals regarding DPA program effectiveness. Currently, it appears that the condition of DPA in Ontario schools has not been structured effectively, as evidenced by the lack in consistency, or even the complete oversight (Barrett, 2011), as reported by full time generalist teachers from catholic elementary schools in Central Ontario.

Similar to the findings from Garrett's study in 2011, 78% of teachers in this study perceived themselves to have the skills to effectively deliver the DPA Program. Interestingly, only 15% of respondents considered themselves experts at teaching DPA. A possible explanation for this difference may be that there is a significant gap between basic DPA skill levels and those with qualifications in physical education. As a simple analysis point, teachers were asked their perception of student's motivation towards physical activity, 89% indicated that their students value its benefits and importance. Setting aside the pronounced barriers of insufficient time, equipment and space, Ontario teachers have a unique opportunity to unfold new experiences for their students. As change agents, all teachers have a duty that requires them to possess exemplary and versatile characteristics that include full knowledge of the DPA Program agenda and the supporting resources that are available to teach it.

Additional evidence from this study presents an interesting perspective on teacher's perceived expertise and knowledge of the DPA Program. This study found that only 6% of respondents considered themselves experts with full confidence of teaching the DPA Program. In terms of teacher skills towards the DPA Program, this study showed that only 30% of respondents from schools that do not have an active DPA Program in their school are motivated to learn and enhance their DPA leadership. Not accounting for the 18% of teachers that had no opinion, a corresponding 52% of respondents from DPA schools suggested they were motivated to learn and enhance their DPA leadership. DPA leadership and implementation begins with the school board and school administration (principal), before being passed along to the teachers. As highlighted in the Framework for Environment section of the DPA Policy Framework

located on page 7 of this thesis paper, “elementary school principals will make their best effort to ensure that students are receiving at least twenty minutes of sustained moderate to vigorous daily physical activity during instructional time”. Thus, DPA is no more a teacher responsibility as it is the principals. As noted by Beets, Flay, Vuchinich, Acock, Li and Allred, (2008), the influence of school administration and school culture/dynamics can affect a teacher’s beliefs and perceptions. Program fidelity, or lack thereof, is achieved through a social process whereby teachers interact with the program and pass judgment, either positively or negatively, through subjective perceptions of the social system (school), in which they are embedded (Barrett, 2011; Beets et al., 2008). Based on evidence from the literature and results from this study, the role of leadership and individual school culture clearly plays as much, if not more of an important role than the OME in providing teachers with the skills to deliver DPA. Results show that many schools in the SMCDSB do not have an active DPA Program.

School Environment

In the province of Ontario, the Ministry of Education is committed to supporting a healthy school environment where physical activity is an essential component for the growth and development of children and youth. Unlike many other provinces, which have comprehensive policies and dedicated funding to support schools’ role in bringing health, education and community services together, Ontario schools are mainly left to their own devices to do this vital work (People for Education, 2012). A study by Barrett (2011) suggests “Ontario teachers work in a paradoxical system, where the Ministry has clearly pushed health promoting policies yet has left teachers to fend for themselves when it comes to finding time and successful DPA strategies” (p. 182). In this study, item 2 from the environment scale - “funding and external support for the DPA Program

is insufficient" revealed a positive relationship with teacher's perceived competence to deliver the DPA Program. Item 2 of the environment scale obtained a p-value of .003 indicating that prevalence of funding and external support play an instrumental role in teacher's perceived competence. Levesque and Robertson-Wilson (2009) suggest that although sparse funding has been available in previous years, a long term strategy to sustain the resources and training required for continued DPA implementation is not apparent. A lack of material resources, facilities, equipment, and qualified personnel has been shown to hinder teachers' abilities to implement physical education curricula (Barroso, McCullum-Gomez, Hoelscher, Kelder, Murray, 2005; Deacon 2005). In addition to this current study, the People for Education Report (2012) revealed that DPA implementation resources may not be sufficient in Ontario.

Furthermore, this study found that 42% of teachers felt they do not have enough time in a day to teach DPA and only 26% felt that their school supports the use of classroom time to deliver the DPA Program. Although these findings are not statistically significant, they are consistent with previous findings that have observed that many teachers continue to struggle to find time to teach DPA because of a "crowded curriculum" that adversely affects preparation time, lesson quality, and the willingness to teach DPA (Barrett, 2012; Morgan & Hansen, 2008a).

CHAPTER 6
RECOMMENDATIONS AND CONCLUSIONS

In the last decade, the Ministry of Education, in view of the emerging inactivity and obesity epidemic, has demonstrated a willingness to increase funding for health and physical education specialist teachers in publicly funded elementary schools (Ministry of Education, 2005a). Despite the infusion of funding, not all elementary schools have a physical education expert and most students are still not receiving both physical education and DPA instruction from their generalist teachers (Faulkner et al., 2008).

The analysis reveals key challenges for the implementation DPA Program in the SMCDSB and this has implications on DPA Program success in Ontario. A set of recommendations are proposed for mitigating DPA Program implementation challenges – both general and teacher competency related. Although findings from this study are preliminary in nature, the following best practices should be explored in terms of strategic planning, skill development and benchmarking:

1. Make DPA a reportable subject or integrate grades in physical education grades
2. Require all teachers and administrators to take an additional DPA qualification course
3. The OME should hire physical education consultants (similar to literacy and numeracy consultants) to support and visit schools
4. Provide support and resources for teachers
5. Official program evaluation needs to be completed

Recommendations

Make DPA a Reportable (Graded) Subject or Integrate Grades in Physical Education Grades

DPA is currently a non-reportable subject, therefore, teachers may feel that time should be dedicated towards teaching reportable subjects that are of consequence to the students grade records. This study suggests that teachers are constrained by the limited time available to teach the curriculum and this constraint is magnified by the requirement to add DPA. While the Elementary Teachers' Federation of Ontario and the Ontario English Catholic Teachers Association have recently reached an agreement with the Ministry of Education that will allow them 240 minutes per week of 'prep time', this time is likely to be dedicated to preparing reportable subject lessons (ETFO, OECTA, 2012).

In order to incorporate DPA into the already tight time constraints, teachers can utilize varied instructional strategies including, cross-curricular and differentiated instruction. Cross-curricular allows teachers to integrate two or more subjects into one and differentiated instruction allows teachers to teach beyond traditional teaching methods. For instance, a teacher can choose a traditional teaching method whereby they are utilizing textbooks to teach measurements in mathematics. A differentiated approach may be to have students physically go outside and walk and/or run through various physical measurements, such as measuring the perimeter of the school or track – anything to get them active and moving while learning mathematics. Teachers may want to consider these alternative teaching approaches in order to meet the 20 minutes of DPA standards. Not all students are alike. Based on this strategy, the National Center on Accessing the General Curriculum (2010) suggests that differentiated

instruction applies an approach to teaching and learning that allows students to learn via a number of multiple intelligences, for example, linguistic, bodily kinesthetic, logical-mathematical, intrapersonal etc. This teaching theory is based on the premise that instructional approaches should be varied and adapted in relation to individual and diverse students in classrooms (Tomlinson, 2001). It is noted that this style of teaching is not exclusive to DPA instruction. DPA can also be incorporated into classroom management strategies whereby teachers provide energy release opportunities for students such as jumping jacks, wall sits and sprints in between subjects. Going forward, it may be possible that these types of solutions to DPA instruction can be served as a framework for elementary education in Ontario and abroad. Combined, these lessons would cover both health and physical education, where if properly conceived, could be a highly effective teaching strategy that would not only mitigate time constraints, but also provide students valuable education and promote physical activity standards.

Require All Teachers and Administrators to Take an Additional DPA Qualification Course

Generalist teachers are working in an environment where innovative teaching is paramount. The idea of blending subjects is one strategy that can encourage DPA. Regardless if DPA is a reportable subject or not, continued professional development is quintessential in moving forward towards successful DPA implementation. Children and youth are potentially facing the prospect of living a shorter lifespan than their parents as a result of inactivity (Granthem, 2007). For elementary generalists, they have an important responsibility since they are a major part of the solution for ensuring that Ontario students receive recommended levels of physical activity (Faulkner et al.,

2008). Previous literature consistently showed that teachers' competency i.e knowledge and skills is highly correlated with school effectiveness (Muller, 1993; Evertson, Hawley, & Zlotnik, 1985; Berg, 1988; Ball & Mc Darmid, 1990; Anderson, 1991). Teachers who are competent in their knowledge content and pedagogy will promote learning among their student and this will give impact to the schools (Ahmad, 2010). Ahmad (2010) suggests that teachers who have competencies that match with the challenges will easily acquire knowledge and be receptive to changes and thus realize organizational goals.

Going forward, it is recommended that OME implement a mandatory DPA professional development course for all teachers and principals in Ontario. Research suggests that students taught by staff trained in PE, spend more time being active, have greater improvements in fitness, and have smaller declines in academic performance (Canadian Report Card, 2010). In this regard, it would be useful for generalist teachers to have the opportunity to develop their knowledge and skills of DPA so they can exhibit alternative courses of action that reach beyond traditional teaching methods and incorporate physical activity as a fundamental part of children's learning and healthier lifestyles.

In addition to a professional development course for teachers and principals, the knowledge of teachers' perceived motivation to deliver DPA should be further explored in future studies in order to develop a greater understanding of specifics related to their motivation levels towards the program and PE at large.

The OME Should Hire Physical Education Consultants (Similar to Literacy and Numeracy Consultants) to Support and Visit Schools

In 2004, the OME developed a literacy and numeracy strategy to help boost student achievement. This strategy involved skilled and experienced educators (known as student achievement officers) to work directly with schools and school boards across the province to build capacity and implement strategies to improve our students' reading, writing and math skills. Currently, there is no strategy in place to do the same for DPA. While partnerships have been forged stakeholder groups (e.g. Ontario Physical Health Education Association, Ministry of Education, and Ministry of Health Promotion) and investments have been made in developing resources for the DPA program, the responsibility for program implementation has been left with individual school boards. Evidence from this study suggest that more work needs to be done in ensuring teachers are provided the necessary skills to implement DPA. Barrett (2011) suggests that in order to be "effective, the development and accountability practices of DPA should be a collaborative effort that includes teams of new and experienced teachers, administrators, curriculum specialists, discipline experts, school board senior administrators, and Ministry of Education officials" (p. 193). Although it is evident that there is some professional development opportunities are available for teachers in Ontario, results show that the DPA Program is not being consistently taught across the province. This raises questions about the programs utility as well as the amount of investment the OME has made to ensure the programs implementation and success.

Provide Support and Resources for Teachers

Evidence from this study revealed that teachers in the SMCDSB are given little professional support or feedback from peers and administrators. In every profession,

employees will learn and grow throughout their careers. Classroom teachers should be offered the same kind of support provided to business professionals. Linking all professional learning to individual, school, district, and province/state goals or initiatives is a common practice among the best-practice districts for professional development (State Education Technology Directors Association 2008). According the 2009 report by SETDA, in many cases, teacher professional development is not connected to school improvement goals and, therefore, is not a priority and lacks the resources necessary to be effective. In order for the DPA Program to be effective in the future, results from this study suggest that there needs to be more peer support for brainstorming and collaboration, goal setting with superiors, and the infrastructure, resources and tools necessary to achieve those goals within individual schools. Sixty-six percent of teachers who were formally mentored by another teacher reported that it "improved their classroom teaching a lot (US Department of Education, 2002). Classes taught by new teachers working with teacher mentors are more likely to result in positive academic gains for students (Ingersol, 2003). Currently, teachers in SMCDSB report that they are not aware of the resources available to them and they do not feel supported in their role as DPA leaders. In this regard, it would be useful for school boards and the OME to encourage coaching or mentorship within schools to provide opportunities for collaboration on planning and co-teaching to help teachers utilize new practices and resources in the future.

Official Program Evaluation

In 2005, the Ontario Ministry of Education made an active stride towards promoting the health and well-being of school-aged children whereby public health units are, and will be a valuable partner for DPA implementation. Since then, a series of

reports and journal articles have reported similar that children are still not receiving enough physical activity. Robertson-Wilson and Levesque (2009) suggest that if DPA program-related resources, training, or support are provided to schools through public health efforts, implementation and evaluation of the challenges, facilitators, and use of resources could be conducted and publicly shared with school stakeholders across the province. This type of strategy is essential going forward, however, the Ontario Ministry of Education has, and receives, little relevant information on providing DPA in Ontario schools, despite its continued funding and support for the program (Barrett, 2011).

To achieve successful DPA in Ontario, it is suggested that the Ministry of Education complete a formal evaluation. Based on the results, the Ministry could then take action to improve on the programs successes and failures.

Conclusion

The purpose of this study was to examine the perceived competency of generalist teachers to implement the Province of Ontario's Daily Physical Activity (DPA) program for elementary schools. The research questions specifically sought to explore the relationships between: (1) generalist teacher motivation and perceived competency to deliver the DPA Program; (2) generalist teacher skills and perceived competency to deliver the DPA Program; and (3) generalist teacher school environment and perceived competency to deliver the DPA Program. Throughout the research process, it became evident that teachers' perceived competency to deliver the DPA and the implementation of the DPA are inconsistent throughout the Simcoe-Muskoka Catholic District School Board. Almost half of schools in the SMCDSB do not have an active DPA Program and teachers do not perceive themselves as competent to deliver the program. Congruent

with the province-wide research of Stone et al. (2012), the research suggests that a serious situation is evolving whereby DPA Program success is at risk and by extension, so are the health benefits for the children of Ontario.

Strategies are recommended for mitigating program implementation challenges; recommendations that require the effort of all stakeholders – provincial agencies, school boards, school administrators, teachers, parents, and students. In the very least, it is recommended that a province-wide program evaluation needs to be done to assess the state of the program. This assessment can inform the enhancement of the program or the development of an alternative approach to increasing children's daily physical activity and improving their health. Research is also needed to better understand the role of teachers in DPA Program implementation as well as other factors that may be affecting implementation in SMCDSB and other areas of the province. Results from this study suggest that there needs to be more peer support for brainstorming and collaboration, goal setting with superiors, and the infrastructure, resources and tools necessary to achieve those goals within individual schools. In addition to a formal evaluation, it would be useful for school boards and the OME to encourage coaching or mentorship within schools to provide opportunities for collaboration on planning and co-teaching to help teachers utilize new DPA practices and resources in the future.

This study found that there is a statistically significant relationship between teachers DPA skills, self-efficacy, and perceived competency to deliver DPA. In this regard, it is suggested that future work include focus groups and personal interviews, along with classroom observations, to assist in supporting the results derived from this quantitative study and future examinations.

It is hoped that this study will inform both broad-based evaluation of the DPA Program and future research concerned with the DPA Program specifically, and physical education programs generally. Evidence has revealed that the current strategy has little success; therefore, continued evaluation from both scholars and the Ministry of Education in Ontario should be further explored so that successful programming can meet the diverse needs of Ontario students.

APPENDIX
SURVEY

Q1.
Are you a generalist (regular classroom teacher)?

- Yes
- No

If No Is Selected, Then Skip To End of SurveySkip Logic

Q2
What school do you teach at?

Q3
What grade(s) do you teach?

Q4
Please indicate the number of students in your class by selecting the most appropriate category.

- 11-15
- 16-20
- 21-25
- 26-30
- 30+

Q5
Please indicate the number of teachers in your school.

- Less than 20
- More than 20

Q6

Please indicate the number of years you have been teaching by selecting the most appropriate category.

- 0-5
- 6-10
- 11-15
- 15-20
- 20+

Q7

Do you have any formal training in physical activty?
E.g. Degree in physical education, personal training or coaching certification, and/or additional qualifications.

- Yes
- No

If Yes Is Selected, Then Skip To If yes, please list your formal train...Skip Logic

Q8

If yes, please list your formal training.

Q9

Is the Daily Physical Activity Program active in your school?

- Yes
- No

Q10

Do you follow the Daily Physical Activity Guidelines in your teaching practice?

- Yes
- No

Q11

The first set of questions is designed to focus on your motivation towards Daily Physical Activity.

Please evaluate your motivation towards DPA on a scale from 1 (strongly disagree) to 7 (strongly agree).

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
During DPA, I prefer to teach course material that challenges my students so they can learn new things.							
During DPA, I prefer to use course material that arouses my curiosity, even if it is difficult to teach.							
When I have the opportunity, I teach activities that improve my students motor and balance skills.							
My teaching philosophy motivates me to teach at least 20 minutes of DPA daily.							
I am motivated to learn and to enhance my DPA leadership.							

Please use this space to provide the researchers with additional comments.

Q12

The next set of questions are designed to focus on your students motivation towards Daily Physical Activity.

Please evaluate your perception of your students motivation towards DPA on a scale from 1 (strongly disagree) to 7 (strongly agree).

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Agree	Strongly Agree
My students are not concerned with being physically active.							
My students do not highly value physical education.							
My students do not enjoy participating in callisthenic activities.							
My students would prefer unstructured vs. structured physical activity.							
My students do not enjoy spending large amounts of class time being physically active.							

Please use this space to provide the researchers with additional comments.

Q13

The next set of questions is designed to focus on your Daily Physical Activity skills. Please evaluate your skills in delivering the Daily Physical Activity policy guidelines on a scale from 1 (strongly disagree) to 7 (strongly agree).

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I consider myself an expert at teaching DPA.							
I have completed workshops, courses or certifications that pertain to health, wellness or physical education in the past 5 years.							
I have completed a DPA workshop in the last 12 months.							
I am confident in my skills to deliver the DPA Program.							
My DPA teaching strategies are informed by the DPA guidelines.							

Please use this space to provide the researchers with additional comments.

Q14

The next set of questions is designed to focus on your perception of time for delivering Daily Physical Activity lessons.

Please evaluate your perception of time for delivering the Daily Physical Activity policy guidelines on a scale from 1 (strongly disagree) to 7 (strongly agree).

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Agree	Strongly Agree
My school supports the use of classroom time to deliver the DPA Program.							
I spend too much time on classroom management to deliver consistent DPA.							
I do not have enough time in a day to deliver DPA to my students.							
I spend too much time on other curriculum goals.							
My other classes are too long in duration to allow for DPA.							

Please use this space to provide the researchers with additional comments.

Q15

The next set of questions is designed to focus on your classroom/school environment. Please evaluate your classroom/school environment for delivering DPA on a scale of 1 (strongly disagree) to 7 (strongly agree).

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
My school provides the resources required to deliver the DPA Program.	○	○	○	○	○	○	○
Funding and external support for the DPA Program is insufficient.	○	○	○	○	○	○	○
There are safe and accessible space(s) available in which to deliver the DPA Program, including but not limited to the classroom, the gymnasium, and the outdoors.	○	○	○	○	○	○	○
My colleagues in general are supportive of the DPA Program.	○	○	○	○	○	○	○
My school board provides training opportunities to enhance DPA related teaching.	○	○	○	○	○	○	○

Please use this space to provide the researchers with additional comments.

Q16

The next set of questions is designed to focus on your competence in teaching Daily Physical Activity.

Please evaluate your competence in teaching DPA on a scale of 1 (strongly disagree) to 7 (strongly agree).

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I feel that I am competent to deliver the DPA Program.	○	○	○	○	○	○	○
I feel that I am motivated to deliver the DPA Program.	○	○	○	○	○	○	○
I feel that I have the skills to deliver the DPA Program.	○	○	○	○	○	○	○
I feel that I have the resources to deliver the DPA Program.	○	○	○	○	○	○	○
I feel that the DPA Program is useful and beneficial to my students.	○	○	○	○	○	○	○

Please use this space to provide the researchers with additional comments.

Q17

Given the availability of Daily Physical Activity specific professional development and training opportunities, how likely are you to participate in the future?

- ○ Very Unlikely
- ○ Unlikely
- ○ Somewhat Unlikely
- ○ Undecided
- ○ Somewhat Likely
- ○ Likely
- ◉ Very Likely

Please feel free to provide the researchers with additional comments about the Daily Physical Activity Program or any of the other themes addressed in this survey

LIST OF REFERENCES

2010 Canadian Report Card. Retrieved February 28th, 2011, from: http://www.activehealthykids.ca/ReportCard/2010ReportCardOverview.aspx

Across Canada – Ontario | PHE Canada Retrieved February 28th, 2011, from http://www.phecanada.ca/advocacy/across-canada/ontario

Ahmad, (2004). Relation of leadership, teachers' commitment, teachers' competency, best practices to school effectiveness. Institute of Educational Management and Leadership - Ministry of Education Malaysia. Retrieved October 3rd, 2012.

Altman, K.J., Linton, T.E. (1971). Operant conditioning in the classroom setting: A review of the research. *Journal of Educational Research*. 64, 277–286.

American Association for Physical Activity and Recreation: Leisure education in schools: Promoting healthy lifestyle for all children and youth. Retrieved on September 18, 2011 from: http://www.aahperd.org/aapar/news/positionpapers/upload/LEITS-position-paper.pdf.

Anderson, P.M., Butcher, K.F. (2006). Childhood obesity: Trends and potential causes. The future of children, 16(1),19-45.

Anderson, L.W. (1991). Increasing Teacher Effectiveness, UNESCO: International Institute for Educational Planning, Paris.

Ashy, M., & Humphries, C. (2000). Don't use balloons on windy days: Elementary education majors' perceptions of teaching physical education. *Action in Teacher Education*, 22(1), 59–71.

Baer, D. M., Wolf, M. M., & Risley, T. R. (1968). Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis*, 1, 91–97.

Ball, D.L., & Disarmed, G.L., (1990). The subject matter preparation of teachers. In W.R. Housten,(ed). Handbook of Research in Teacher Education, 38, 2-8

Bandura, A. (1997). Self-efficacy: The exercise of control. New York, NY: Freeman.

Barrett, J.M. (2011). Teacher Candidates' Perception s of the Daily Physical Activity Initiative and Their Emerging Self-Efficacy as Daily Physical Activity Instructors (Doctoral Dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3459116)

Barroso C.S., McCullum-Gomez C, Hoelscher D.M., Kelder S.H., Murray N.G. (2005). Self reported barriers to quality physical education by physical education specialists in Texas. *J Sch Health*. 75, 313-19.

Beets M.W, Flay B.R, Vuchinich S, Acock A.C, Li K.K, Allred C., (2008) School climate and teachers' beliefs and attitudes associated with implementation of the positive action program: A diffusion of innovations model. Society for Prevention Research. 9:264-275.

Berg, J.A. (1988). Teacher self-concept of teaching ability: Does it make a difference? Unpublished doctoral dissertation, The Ohio State University.

Boudah, D. J., Logan, K. R., & Greenwood, C. R. (2001). The research to practice projects: Lessons learned about changing teacher practice. Teacher Education and Special Education, 24, 290–303.

Bowles, P. E., & Nelson, R. O. (1976). Training teachers as mediators: Efficacy of a workshop versus the bug-in-the-ear technique. Journal of School Psychology, 14, 15–26.

Canada Teachers Federation (2011). Retrieved on September 13th, 2011 from: http://www.ctf-fce.ca/AboutUS/Default.aspx?id=625890

Centers for Disease Control and Prevention. (2000). "Promoting better health for young people through physical activity and sports: A report to the president from the secretary of health and human services and the secretary of education". Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

Centers for Disease Control and Prevention CDC. (1997). "Guidelines for school and community programs to promote lifelong physical activity among young people," Morbidity and Mortality Weekly Report, 46 (RR-6), 1-36. Retrieved October 24, 2011 from http://www.cdc.gov/mmwr/ PDF/rr/rr4606.pdf

Chief Medical Officer of Health Report: Healthy Weights Healthy Lives (2004). Retrieved on August 24, 2011 from: http://www.mhp.gov.on.ca/en/heal/healthy_weights.pdf

Childhood Obesity Foundation: Retrieved 12/14/11 from: http://www.childhoodobesityfoundation.ca/

Chorney, D., (2009). Daily physical activity initiatives across Canada: A progress report. *Physical and Health Education Journal*. 75 (3), 1-12.

Chunlei, L. U., & De Lisio, (2009). Specifics for generalists: Teaching elementary physical education. *International Electronic Journal of El*.

Cochran-Smith, M. (2003) Sometimes it's not about the money: teaching and heart, *Journal of Teacher Education*, 54, 371–375.

Cochran-Smith, M. (2004) Editorial. Stayers, leavers, lovers and dreamers: insights about teacher retention, *Journal of Teacher Education*, 55, 387–392.

Colback, S.L., & Weaver, L.D., (2008). Faculty engagement in public scholarship: A motivation systems theory perspective. *Journal of Higher Education and Outreach Engagement*, 12(2), 7-32.

Cothran, D.J., Hodges Kulinna, P., & Garn, A.C. (2010). Classroom teachers and physical activity integration. *Teaching and Teacher Education*, 26, 1381–1388.

Coulter, G. A., & Grossen, B. (1997). The effectiveness of in-class instructive feedback versus after-class instructive feedback for teachers learning direct instruction teaching behaviors. Effective school practices, 16, 21–35.

Couper, M. P., Traugott, M. W., & Lamias, M. J. (2001). Web survey design and administration. Public opinion quarterly, 65, 230–253.

Crawford, S., Couper, M., & Lamias, M. (2001). Web surveys: Perceptions of burden. Social Science Computer Review, 19(2), 146–162.

Curbing Childhood Obesity: A federal, provincial and terrirtorial framework for action to promote healthy weights. (2010), Full Report. 1-6.

Deacon, B.W. (2001). Physical education curriculum review report. Victoria, BC: Ministry of Education Curriculum Division.

Deckelbaum, R. J., & Williams, C. L. (2001). Childhood obesity: The health issue. Obesity, 9, 239S-243S.

DeCorby, K., Halas, J., Dixon, S.,Wintrup, L. and Janzen, H. (2005) Classroom Teachers and the Challenges of Delivering Quality Physical Education. *Journal of Educational Research,* 98, 208–20.

DeFusco, R. A., & Pinto, J. E. (2007). Quantitative investment analysis John Wiley & Sons Inc.

Dehghan, M., Akhtar-Danesh, N., & Merchant, A. T. (2005). Childhood obesity, prevelence and prevention. *Nutrition Journal*, 4, 24.

Dewey, J. (1938). Experience and education. NY: Macmillan.

DuFour, R. & Berkey, T. (1995). The principal as staff developer. *Journal of Staff Development*, 16(4), 2-6.

Dusenbury, L., Brannigan, R., Falco, M., & Hansen, W.B. (2003). A review of research on fidelity of implementation: Implications for drug abuse prevention in school settings. Health Education Research, 18(2), 237–256.

Eccles, J.S. and Midgley, C. 1989. “Stage/environment fit: Developmentally appropriate classrooms for early adolescents”. In Research on motivation in education, Edited by: Ames, R.E.

Engelmann, S. (1988). The logic and facts of effective supervision. Education and treatment of children, 11, 328–340.

Epps, S., & Lane, M. P. (1987). Assessment and training of teacher interviewing skills to program common stimuli between special and general education environments. School Psychology Review, 16, 50–68.

Evertson, C.M., Hawley, W.D.,& Zlotnik, M.(1985). Making a difference ineducational quality through teacher education. Journal of teacher Education,36, 2-10

Faucette, N., & Hillidge, S.B. (1989). Research findings–physical education specialists and classroom teachers. *Journal of Physical Education, Recreation & Dance*, 60(7), 51–54.

Faucette, N., & Patterson, P. (1989). Classroom teachers and physical education: What they are doing and how they feel about it. Education, 110, 108–114.

Ford, M. E., (1992). Motivating Humans: Goals, Emotions and Personal Agency Beliefs. Sage Publications, 258-283.

French, N. (1993). Elementary teacher stress and class size. *Journal of Research and Development in Education,* 26, 66 – 73.

French, S. A., Story, M., & Jeffery, R. W. (2001). Environmental influences on eating and physical activity. Annual Review of Public Health, 22(1), 309-335.

Geijsel, F. (2001). Schools and innovations: Conditions fostering the implementation of educational innovations. University of Nijmegen, Nijmegen, Netherlands.

Geijsel, F., Sleegers, P., Van den Berg, R., & Kelchtermans, G. (2009). Conditions fostering the implementation of large-scale innovation programs in schools: Teachers' perspectives. Educational Administration Quarterly, 37, 130-166.

Gencay, O.E., (2009). Validation of the Physical Education Teachers' Physical Activity Self-efficacy Scale with a Turkish sample. *Journal of Social behaviour and Personality*, (2)37, 17-38.

Gersten, R., Morvant, M., & Brengleman, S. (1995). Close to the classroom is close to the bone: Coaching as a means to translate research into classroom practice. Exceptional Children, 62, 52–66.

Gerston LN. (2004) Public Policy Making: Process and Principles, 2nd ed. New York: M.E. Sharpe.

Goddard, R., Hoy, W. K., & Hoy, A. W. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal,* 37, 479-507.

Goodlad, J. I. (1975). The dynamics of educational change: Toward responsive schools. NY: McGraw-Hill.

Goran, M. I., Reynolds, K. D., & Lindquist, C. H. (1999). Role of physical activity in the prevention of obesity in children. *International Journal of Obesity*, 23, 18-33.

Graham, S., Harris, K. R., Fink, B., & MacArthur, C. A. (2001). Teacher efficacy in writing: A construct validation with primary grade teachers. Scientific studies of reading, 5(2), 177-202. Retrieved on April 6th, 2011 from: https://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=4802790&site=ehost-live

Graham, S., & Weiner, B. (1996). Theories and principles of motivation. In D. C Berliner & R.C Calfee (Eds). Handbook of Educational Phycology. p. 63-84. New York, NY: Mcmillan.

Greenwood, C. R., & Abbott, M. (2001). The research to practice gap in special education. *Teacher Education and Special Education*, 24, 276–289.

Grossman, P.L. (1990). The making of a teacher: Teacher knowledge and teaching education. New York: Teachers College Press.

Guarino, C. M., Santibanez, L. & Daley, G. A. (2006) Teacher recruitment and retention: A Review of recent empirical literature, Review of Educational Research, 76, 173–208.

Haney, S.S. (2002). Sustainability of teacher implementation of school-based mental health programs. *Journal of Abnormal Child Psychology*, 33(6), 665–679.

Han, S.S, Weiss, B. (2005). Sustainability of Teacher Implementation of School-Based Mental Health Programs. *Journal of Abnormal Child Psychology*, 33, (6), 665–679.

Hargreaves, A. (1988). The emotional practise of teaching. *Teaching and Teacher Education.* 14, (8), 835-854

Harper, P. M. S. (2010). PM highlights government legislation becoming law Stephen Harper / Prime Minister, Retrieved from http://pm.gc.ca/

Hart, M.A. (2005). Influence of a physical education methods course on elementary education majors' knowledge of fundamental movement skills. Physical Educator, 62(4), 198–204.

Hill, G.M., & Cleven, B. (2004). A comparison of students' choices of 9th grade physical education activities by ethnicity. The University of North Carolina Press, 16-33

Hogwood B.W, Gunn L.A. (1984). Policy Analysis for the Real World. Oxford, UK: Oxford University Press.

Hoy, A.W., Spero, R.B., (2005). Changes in teacher efficacy in the early years of teaching: A comparison of four measures. *Teaching and Teaching Education*. 21. 342-346

Ingersoll, R. (2003, September). Is There Really a Teacher Shortage? University of Pennsylvania, Philadelphia, PA.

International Association for the Study of Obesity (IASO). Retrieved on August 13, 2011 from: http://www.iaso.org/publications/obesityreviews/

Irwin, J. W., & Farr, W. (2004). Collaborative school communities that support teaching and learning. Reading and Writing Quarterly, 20, 343-364.

Janzen, H., Halas, J., Dixon, S., DeCorby, K., Booke, J., & Wintrup, L. (2003). The quality of physical education in Manitoba schools: A three year study. *Physical and Health Education Journal,* 69(2), 44

Johnson, S. M. & Birkeland, S. E. (2003) Pursuing a sense of success: New teachers explain their career decisions*, American Educational Research Journal*, 40, 581–617.

Kirk, D. (2005). Physical education, youth sport and lifelong participation: The importance of early learning experiences. European Physical Education Review, 11(3), 239-255.

Kuczmarski, R, J., & Flegal, K.M., (2007). Criteria for definition of overweight in transition: Background and recommendations for the united states. *American Journal of Clinical Nutrition* 72 (5),1074–81;

Kyriacou, C. (2000). Stress busting for teachers. Cheltenham, United Kingdom: Stanley Thornes.

Kyriacou, C. (2001). Teacher stress: Directions for future research. Educational Review, 53, 27 – 35.

Lambert, R., & McCarthy, C. (Eds). (2006). Understanding teacher stress in an age of accountability. Information Age Publishing, Inc.

Lambert, R. G., McCarthy, C. J., O'Donnell, M., & Melendres, L. (2007). Teacher stress and classroom structural characteristics in elementary settings. In G. Gates, M. Wolverton, & W. Gmelch (Eds.), Emerging thought and research on student, teacher, and administrator stress and coping (pp. 109 – 131). Charlotte, NC: Information (Vol. 4). Greenwich. CT: Information Age.

Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. New York: Springer.

Lawson, H., Lawson, B., & Stevens, A. (1982). Meanings and functions attributed to elementary physical education. Canadian Association for Health. *Physical Education and Recreation Journal*, 48(4), 3–6

Leach, D. J., & Conto, H. (1999). The additional effects of process and outcome feedback following brief inservice teacher training. Educational Psychology, 19, 441–462.

Lefever, S., Dal, M., & Matthíasdóttir, Á. (2007). Online data collection in academic research: Advantages and limitations*. British Journal of Educational Technology*, 38(4), 574-582.

Leithwood, K. A., Jantzi, D., & Steinbach, R. (1999). Changing leadership for changing times. Buckingham, UK: Open University Press.

Levesque, L, Robertson-Wilson, JE, (2009). Ontario's Daily Physical Activity Policy for Elementary Schools: Is Everything in Place for Success? *Canadian Journal of Public Health*, 100(2),125-29.

Lindsley, O. R. (1992). Why aren't effective teaching tools widely adopted? *Journal of Applied Behavior Analysis*, 25, 21–26.

Lobstein, T., Baur, L., & Uauy, R. (2004). Obesity in children and young people: A crisis in public health. Obesity Reviews, 5, 4-85.

Lortie, D. C. (1975) School teacher (Chicago, University of Chicago Press).

Lu, C., Lodewyk, K. (2012). The physical education profession in Canada. *Journal of Physical Education & Health*, 2012, vol. 1 (1), 15-22.

Lu, C., De Lisio, A. (2009b). Specifics for generalists: Teaching elementary physical education*. International Electronic Journal of Elementary Education*, 1(3), 170–187.

Maehr, M. L., & Braskamp, L. A. (1986). The motivation factor: A theory of personal investment. Lexington, MA: Lexington Books.

Marin, P. & Brown, B. (2008). The School Environment and Adolescent Well-Being: Beyond Academics. Child Research Brief. (11), 1-26.

Martin, J. J., & Kulinna, P. H. (2003). The development of a physical education teachers' physical activity self-efficacy instrument*. Journal of Teaching in Physical Education,* 22, 219-232.

Matheny, K. B., Aycock, D. W., Pugh, J. L., Curlette, W. L., & Canella, K. A. (1986). Stress coping: A qualitative and quantitative synthesis with implications for treatment. Counseling Psychologist, 14, 499 – 549.

McCarthy, C., Lambert, R., O'Donnell, M., & Melendres, L. (2009). The relation of elementary teachers' experience, stress, and coping resources to burnout symptoms*. The Elementary School Journal,* 109, 1–19.

McGraw SA, Sellers D, Stone E, Resnicow KA, Kuester S, Fridinger F, et al. Measuring implementation of school programs and policies to promote healthy eating and physical activity among youth. Prev Med 2000;31(Suppl):S86-S97.

Mertler, C. A. (2003). Patterns of Response and Nonresponse from Teachers to Traditional and Web Surveys. Practical Assessment, Research & Evaluation, 8, 22.

Mertler, C. A. (2002). Patterns of response and nonresponse from teachers to traditional and web surveys. Practical Assessment, Research & Evaluation, 8, 22.

Morgan, P., & Hansen, V. (2007). Recommendations to improve primary school physical education: Classroom teachers' perspective. *The Journal of Educational Research*, 101(2), 99–111.

Morgan, M., Ludlow, L., Kitching, C., O'Leary, M., Clarke, A. (2010) What Makes Teachers' Tick? Sustaining Events in New Teachers lives*. British Educational Research Journal.* 36 (2), 191-208

Morrison, G. R., Ross, S. M., Kemp, J. E., & Kelman, H. (2009). Designing effective instruction Wiley.

Mueller L. Gutted programs and children's guts. CMAJ 2008;178:665-67.

Muller, K., Alliata, R., Benninghoff, F (2009). Attracting and Retaining Teachers: A Question of Motivation. Education Management Administration and Leadership. SAGE Publications. 37 (5), 574-599.

Muller, C. (1993). Parent involvement and academic achievement: An analysis of family resources available to the child. In B. Schneider & J. S. Coleman (Eds.), Parents, their children, and school (pp. 77–113). Boulder, CO: Westview Press.

National Center on Accessing the General Curriculum (2010). Differentiated Instruction and Implications for UDL Implementation: Effective Classroom Practises Report. Retrieved on 09/22/12 from: http://aim.cast.org/sites/aim.cast.org/files/DI_UDL.1.14.11.pdf

Nieto, S. (2003) What Keeps Teachers Going (New York, Teachers College Press).

Noddings, N. (1992). The challenge to care in schools: An alternative approach to education. NY: Teachers College Press.

Noell, G. H., Witt, J. C., Gilbertson, D. N., Ranier, D. D., & Freeland, J. T. (1997). Increasing teacher intervention implementation in general education settings through consultation and performance feedback. School Psychology Quarterly, 12, 77–88.

Ontario Ministry of Education: Policy/Program Memorandum No. 138 (2005). Retrieved on April 16th, 2011 from: http://www.edu.gov.on.ca/eng/

Ontario Ministry of Education. Daily physical activity in schools: Guide for school boards. Available online at: http://www.edu.gov.on.ca/eng/teachers/

Ontario Ministry of Health and Long Term Care: Public information. Retrieved on 06/18/11 from: http://www.mhp.gov.on.ca/en/active-living/default.aspdpa_boards.pdf (Accessed August 6, 2012).

OPHEA: Healthy schools and healthy communities (2011). Retrieved on July 18, 2011 from: http://www.ophea.net/healthy-schools-communities.

O'Reilly, M. F., Renzaglia, A., & Lee, S. (1994). An analysis of acquisition, generalization and maintenance of systematic instruction competencies by teachers using behavioral supervision techniques. Education and training in mental retardation and developmental disabilities, 29, 22–33.

Pajares, F. (2002). Overview of soil cognative theory and of self-efficacy. Retrieved from: www.emory.edu/EDUCATION/mfp/eff.html

Parks, M., Solmon, M., & Lee, A. (2007). Understanding classroom teachers' perceptions of physical activity: A collective efficacy perspective. *Journal of Research in Childhood Education*, 21(3), 316–328.

Peetsma, T. T. D., Hascher, T., van der Veen, I., & Roede, E. (2005). Relations between adolescents' self-evaluations, time perspectives, motivation for school and their achievement in different countries and at different ages. *European Journal of Psychology of Education*, 20, 209-225.

People for Education (2012). The annual report on Ontario's schools, 2012. Retrieved on August 1, 2012 from: http://www.peopleforeducation.ca/faq/what-is-daily-physical-activity-dpa/

Pintrich, P.R., McKeachie, W.J., & Lin, Y.G. (1987). Teaching a course in learning to learn. Teaching of Psychology, 14, 81-86

Pratt J. (1978). Perceived stress among teachers: The effects of age and background of the children taught. Educational Review, 30, 3 – 14.

Public Health Agency of Canada: Curbing Childhood Obesity: An overview of the federal, provincial and territorial framework for action to promote health weights (2001). 10/24/2011 from: http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/framework-cadre/intro-eng.php

Quay, J. Peters, J (2008). Skills, strategies, sport, and social responsibility: reconnecting physical education. Cirriculum studies. 40(5), 601-625

Ramanathan, S, Allison, K.R, Faulkner G, Dwyer JJM. Challenges in assessing the implementation and effectiveness of physical activity and nutrition policyinterventions as natural experiments. Health Promot Int 2008;23:290-97.

Rink, J.E., Hall, T., & Webster, C. (2008). Physical education. In S. Mathison & E.W. Ross (Eds.), Battleground Schools. Westport, CT: Greenwood Press, (1), 483-489.

Robertson-Wilson J.E, Levesque L., (2009) Ontario's daily physical activity policy for elementary schools: Is everything in place for success? *Canadian Journal of Public Health 2009;* 100(2):125-29

Roede, E. (1989). Explaining student investment: An investigation of high school students'retrospective causal accounts of their investment in school (Unpublished doctoral dissertation). University of Amsterdam, Amsterdam, Netherlands.

Rohrbach, L.A., Graham, J.W., & Hansen, W.B. (1993). Diffusion of a school-based substance abuse prevention program: Predictors of program implementation. Preventive Medicine, 22, 237–260.

Rose, D. J., & Church, R. J. (1998). Learning to teach: The acquisition and maintenance of teaching skills. *Journal of Behavioral Education*, 8, 5–35.

Roussel, P. (2000) La Motivation au Travail—Concept et Theories. Notes du Laboratoire Interdisciplinaire de recherché sur les Ressources Humaines et l'Emploi (LIRHE)

Rutherford, R. B., & Nelson, C. M. (1988). Generalization and maintenance of treatment effects. In J. Witt, S. N. Elliott, & F. M. Gresham (Eds.), Handbook of behavior therapy in education. New York: Plenum.

Ryan, R.M., & Deci, E.L. (2000). Intrinsic and Extrinsic Motivations: Classic definitions and new directions. Contemporary Educational Psychology, 25, 54-75

Sapolsky, R. M. (1998). Why zebras don't get ulcers: An updated guide to stress, stress-related diseases, and coping. New York: W. H. Freeman.

Schaufeli, W. B., & Enzmann, D. (1998). The burnout component to study and practice. London: Taylor & Francis.

Schempp, P.G., Tan, K.S., Fincher, M.D. (1998). Subject expertise and teachers' knowledge. *Journal of Teaching in Physical Education*. Human Kinetics Publishers Inc. 17. 342-356.

Scruggs, T. E., & Mastropieri, M. A. (1994). The effects of generalization training: A quantitative synthesis of single-subject research. Advances in Learning and Behavioural Disabilities, 8, 259 280.

SETDA, (2008). Empowering Teachers: A Professional and Collaborative Approach. Accessed on October, 5th, 2012.

Sheehan, K. B., & McMillan, S. J. (1999). response variation in e-mail surveys: An exploration. Journal of Advertising Research, 39(4), 45–54.

Shipp, V. (1999) Factors influencing the career choices of african-american collegians: Implications for minority teacher recruitment, *Journal of Negro Education*, 68, 343–351.

Sheehan, K. B., & McMillan, S. J. (1999). Response variation in e-mail surveys: An exploration. *Journal of Advertising Research*, 39 (4), 45-54.

Scheeler, M. C., Ruhl, K. L., & McAfee, J. K. (2004). Providing performance feedback to teachers: A review. *Teacher Education and Special Education*, 27, 396–407.

Scheerens, J. (2008). Een overzichtsstudie naar school- en instructie-effectiviteit [An overview study of school effectiveness and the effectiveness of instruction]. Enschede, Netherlands: University of Twente, Vakgroep Onderwijsorganisatieen-Management.

Schmid, T.L, Pratt M, Witmer. (2006). A framework for physical activity policy research. *J Phys Act Health* 2006;3(Suppl 1):S20-S29.

Shulman, L.S. (1986). Those who understand; Knowledge growth in teaching: *Journal of Educational Research*, 15, 4-21.

Smylie, M. A. (1988). The enhancement function of staff development: Organizational and psychological antecedents to individual teacher change*. American Educational Research Journal,* 25, 1-30.

Sorrentino, R. M., & Short, J. C. (1986). Uncertainty orientation, motivation, and cognition. In R. M. Sorrentino & E. T. Higgins (Eds.), Handbook of motivation

Spillane, J. P., Reiser, B. J., & Reimer, T. (2002). Policy implementation and cognition: Reframing and refocusing implementation research. Review of Educational Research, 72, 387-431.

Statistics Canada. Canadian Health Measures Survey: Cycle 1 Data Tables, 2007 to 2009. 2010;82-623-X.

Statistics Canada: Canadian Community Health Survey: Measured Obesity. Overweight Canadian Children and Adolescents. 2005;82-620-MWE2005001.

Stockhard, J. & Lehman, M. (2004) Influences on the satisfaction and retention of 1st year teachers: the importance of effective school management, Educational Administration Quarterly, 40, 742–771.

Stokes, T. F., & Osnes, P. G. (1989). An operant pursuit of generalization. Behavior Therapy, 20, 337– 355.

Stokes, T. F., & Baer, D. M. (1977). An implicit technology of generalization. *Journal of Applied Behavior Analysis,* 10, 349–367.

Stone, M., Faulkner, G., Zeglen-Hunt, L., and Cowie-Bonne J., (2012). The daily physical activity (DPA) policy in Ontario: is it working? An examination using accelerometry- measured physical activity data*. The Canadian Journal of Public Health* [in review]

Strike, K. (2004). Community, the missing element of school reform: Why schools should be more like congregations than banks. *American Journal of Education*, 110, 215-233.

Thoonen, E. E. J., Sleegers, P. J. C., Oort, F. J., Peetsma, T. T. D., & Geijsel, F. P. (2011). How to improve teaching practices: The role of teacher motivation, organizational factors, and leadership practices. Educational Administration Quarterly, 47(3), 496-536. doi:10.1177/0013161X11400185.

Tomlinson, C. A., (1995). Differentiating instruction for advanced learners in the mixed-ability middle school classroom. ERIC Digest E536.

Tremblay, M. S., Inman, J. W., & Willms, J. D. (2000). The relationship between physical activity, self-esteem, and academic achievement in 12-year-old children. Pediatric Exercise Science, 12(3), 312-323.

Tremblay, M . , Pella, T., & Taylor, K. (1996). The quality and quantity of school-based physical education: A growing concern. *Canadian Association for Health, Physical Education, Recreation, and Dance Journal*, 62(4), 4.

Tremblay, M. S., Shields, M., Laviolette, M., Craig, C. L., Janssen, I., & Gorber, S. C. (2010). Fitness of Canadian Children and Youth: Results from the 2007-2009 Canadian Health Measures Survey. Health Rep, 21(1), 7-20.

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. Teaching and Teacher Education, 17,783–805.

Understanding the No Child Left Behind Act (2002). Retrieved on 02/11/12 from: http://www.learningpt.org/pdfs/qkey6.pdf

U.S. Department of Education, National Center for Education Statistics. (2002) The Condition of Education 2002. Table 33-4. Washington, DC.

Vallerand, R.J., & Thill, E.E. (1993). Introduction au concept de motivation [Introduction to the concept of motivation]. In R.J. Vallerand, & E.E. Thill (Eds.), Introduction a la Psychologie de la Motivation [Introduction to the Psychology of Motivation], (3), 39-123.

Van Veen, K. & Sleegers, P. (2008) teachers' emotions, sense making and identities in a context of reform, paper presented at American Educational Research Association 2008 Meeting, New York, March 24–28.

Vaughn, S., Klingner, J., & Hughes, M. (2000). Sustainability of research-based practices. Exceptional Children, 66, 163–171.

Vedder, P., Boekaerts, M. and Seegers, G. 2005. Perceived social support and well being in school: The role of students' ethnicity*. Journal of Youth and Adolescence*, 34(3): 269–78.

Watt, J. H. (1999). Internet systems for evaluation research. Information technologies in evaluation: Social, moral epistemological and practical implications (pp. 23–44). san francisco: Josey-bass.

Webster, C., Monsma, E., & Erwin, H. (2010). The role of biographical characteristics in preservice classroom teachers' school physical activity promotion attitudes. *Journal of Teaching in Physical Education*, 29, 358–377.

WHO : World Health Organization. Retrieved 2/28/2011, from http://www.who.int/en/

WHO: Global Strategy on Diet, Physical Activity and Health. Retrieved on October 24th, 2011 from: http://www.who.int/dietphysicalactivity/strategy/eb11344/strategy_english_web.pdf

Woods (1990). Teacher Skills and Strategies. British Library Cataloguing in Publication Data, 96, 96-135

Xiang, P., Lowy, S., & McBride, R. (2002). The impact of a field-based elementary physical education methods course on preservice classroom teachers' beliefs. *Journal of Teaching in Physical Education,* 21, 145–161.

BIOGRAPHICAL SKETCH

Todd Gilmore earned a Bachelor of Arts degree in leisure studies from the University of Ottawa in 2010 and a Master of Science degree in recreation, parks and tourism from the University of Florida in 2012. Throughout Todd's academic and professional career, he has demonstrated strong values towards leisure education and health promotion in both research and practical environments. Todd's experience in playing competitive sport, coaching and mentoring others is what inspired him to pursue his master's level studies and this thesis.