

EXPLORING THE IMPACT OF THE SPORT EDUCATION MODEL ON STUDENT
MOTIVATION AND INTENT TO CONTINUE ELECTIVE PHYSICAL AND HEALTH
EDUCATION

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Master of Arts in Physical Education, Sport and Physical Literacy

BMOE7007: Dissertation

University of Wales Trinity Saint David

Fall 2025

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Declaration Form



Master's Degrees by Examination and Dissertation Declaration Form

1. This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

Signed: *Gurjita Lalli*

Date: October 25, 2025

2. This dissertation is being submitted in partial fulfilment of the requirements for the degree of MA of Arts in Physical Education, Sport and Physical Literacy .

Signed: *Gurjita Lalli*

Date: October 25, 2025

3. This dissertation is the result of my own independent work / investigation, except where otherwise stated.

Other sources are acknowledged by explicit references. A bibliography is appended.

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Date: October 25, 2025

4. I hereby give consent for my dissertation, if accepted, to be available for photocopying, inter-library loan, and for deposit in the University's digital repository.

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Supervisor's Declaration.

I am satisfied that this work is the result of the student's own efforts.

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Abstract

The focus of this research is in the area of student motivation and enrollment within secondary Physical and Health Education (PHE). Such a study is important in order to address the ongoing decline in PHE enrollment once the subject becomes an elective and to explore how pedagogical models can foster more meaningful and sustained motivation. Grounded in Self-Determination Theory (SDT), which emphasizes autonomy, competence, and relatedness as core psychological needs, this study examined whether implementing the Sport Education Model (SEM) could enhance motivation in a Grade 10 PHE class and influence students' intentions to enroll in elective PHE the following year. The research approach adopted was a mixed-methods case study conducted at Frank Hurt Secondary School in Surrey, British Columbia, Canada. Quantitative data were collected using the Revised Perceived Locus of Causality (PLOC-R), the Physical Education Autonomy, Relatedness, and Competence Scale (PE-ARCS), and an Intent to Enroll questionnaire, all administered before and after the intervention. Qualitative data were gathered through participant observation field notes during both a traditional PHE unit and a 10-lesson SEM intervention. The findings from this research provide evidence that the SEM positively influenced students' sense of relatedness and competence, and to a lesser extent, autonomy. Although the PLOC-R results indicated no significant change in overall motivation, qualitative observations revealed increased engagement, effort, and enthusiasm during the SEM intervention. Despite this, students' intentions to enroll in elective PHE the following year remained unchanged. The main conclusions drawn from this study are that while SEM can enhance motivation and engagement within the PHE setting, factors beyond pedagogy may influence long-term participation in PHE. The dissertation recommends that PHE departments consider implementing SEM-based approaches to create more inclusive and motivating learning environments and to further investigate strategies that support continued student participation in PHE beyond the mandatory years.

Acknowledgements

First and foremost, I would like to thank my supervisor, Associate Professor Nalda Wainwright, for her patience and support throughout the journey. I appreciate your understanding, as I navigated a challenging few years, and for never giving up on me. Secondly, I would like to thank my husband, Gurjit, for your endless patience and generosity in allowing me to prioritize my studies. Thank you for your partnership, even when it wasn't 50/50, and for your kindness, humour, and belief in me. Thirdly, to my parents and sisters, your constant reminders and words of encouragement really helped me keep going. My final thank you goes to my dear friend Rajan, for helping me to pause, relax, and take much-needed brain breaks in the office when everything felt overwhelming. Your friendship and support during this time were invaluable. I truly could not have finished this without you.

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Chapter 1: Introduction

This chapter introduces the study by outlining its context by situating the research within the broader field of learning. It then presents the rationale for the study, followed by the research aim, objectives, and central question that guide the inquiry. The researcher's motivation for undertaking this work is also discussed, illustrating how professional experience informed the study's focus and practical relevance. The chapter concludes by outlining the structure of the dissertation and providing an overview of its subsequent chapters.

1.1 Context of the Study

Across North America, declining youth physical activity and increasing sedentary behaviour have become pressing public health and educational concerns. Schools are uniquely positioned to promote not only academic achievement but also overall well-being. Within this broader educational goal, Physical and Health Education (PHE) plays a crucial role in fostering mental well-being, physical literacy, healthy and active living, social connectedness, and community health (British Columbia Ministry of Education, 2025). Unfortunately, participation in PHE has steadily declined over the past two decades, particularly once the subject becomes optional after grade 10 (Sulz et al., 2010; Faulkner et al., 2007; Barratt et al., 2021). Students who choose not to enroll in PHE have lower daily levels of physical activity than those who continue participating in PHE (Barratt et al., 2021). Research attributes this disengagement to several factors, including limited student choice, unengaging environments, and negative experiences (Scantling, 1995; Gibbons et al. 1999; Sulz et al., 2020). Despite growing recognition of these PHE enrollment challenges, there is limited Canadian data on this issue. A gap exists in the research, therefore marking a need to explore how learning environments can sustain participation beyond the mandatory years.

Motivation theory provides a lens for exploring this issue. More specifically, Self-Determination Theory (SDT) posits that students are more likely to engage when their needs for autonomy, competence, and relatedness are supported (Deci and Ryan, 1985; Ryan and Deci, 2000; Vasconcellos et al., 2020). Within PHE, pedagogical models such as the SEM align well

with SDT principles. In fact, SEM promotes authentic learning experiences through roles, team structures, and shared decision-making (Siedentop, 1994). Emerging evidence suggests that SEM can enhance enjoyment and engagement (Cuevas, García-López and Serra-Olivares, 2016; Wallhead and Ntoumanis, 2004), but its impact on long-term outcomes of promoting life-long physical activity and, more specifically, continued enrollment in elective PHE, remains unclear.

By situating this investigation within the context of declining participation and lack of student motivation in PHE, this study responds to an ongoing need to identify pedagogical strategies that can help sustain engagement in PHE beyond the mandatory years.

1.2 Rationale for the Study

As outlined in the previous section, declining enrollment and motivation in PHE present ongoing challenges within Canadian secondary schools. These trends mirror national patterns of reduced youth physical activity and rising sedentary behaviour. The ParticipACTION Report Card on Physical Activity for Children and Youth (2024) continues to assign failing grades to Canadian youth for physical activity, highlighting concerns about inactivity, excessive screen time, and limited engagement in school-based opportunities for movement. Within schools, these broader issues are reflected most clearly after Grade 10, when PHE becomes an elective subject and enrollment rates drop drastically (Barratt et al., 2021; Sulz et al., 2010).

At the policy level, these concerns align with provincial educational goals. The British Columbia Ministry of Education (2025) PHE curriculum documents emphasize holistic student development through Core Competencies, communication, thinking, and personal/social responsibility. These are aimed at preparing students for overall success rather than just academic achievement. Within this context, PHE plays an important role in promoting physical literacy, mental health, physical activity and social-emotional growth (British Columbia Ministry of Education, 2025). However, the persistent decline in participation indicates that traditional instructional approaches may not sufficiently address students' motivational needs or align with the principles of the redesigned curriculum in British Columbia (Gibbons, Temple and Humbert, 2014; Sulz et al., 2020; British Columbia Ministry of Education, 2025).

The Sport Education Model (SEM) offers a promising pedagogical alternative to traditional direct styles of teaching. Developed by Siedentop (1994), SEM is designed to create authentic sport and movement experiences through team affiliation, student leadership roles, and cooperative decision-making. When implemented with SDT, SEM has the potential to enhance students' autonomy, competence, and relatedness, which are key components of intrinsic motivation (Vasconcellos et al., 2020). While research has shown that SEM can increase enjoyment and engagement (Cuevas, García-López and Serra-Olivares, 2016; Wallhead and Ntoumanis, 2004), its influence on long-term behavioural outcomes, such as elective PHE enrollment, remains underexplored, particularly within the Canadian context.

Grade 10 represents a critical juncture for intervention, as it marks the transition from mandatory to elective participation in PHE. This study, therefore, examines whether implementing an SEM-based intervention guided by SDT principles can enhance student motivation and influence students' intent to continue with PHE in senior grades. By linking pedagogy with broader health and policy goals, this study aims to contribute to the growing body of literature on strategies that enhance motivation and sustain participation in PHE, ultimately supporting lifelong engagement in physical activity.

1.3 Research Aim, Objectives, and Research Question

Building on the issues of declining participation and motivation in PHE, the overall aim of this study is to examine whether using the Sport Education Model (SEM) in a Grade 10 Physical and Health Education (PHE) class can enhance students' motivation and influence their intention to enroll in elective PHE in the next school year. Grounded in Self-Determination Theory (SDT), the research aims to explore how the SEM supports students' psychological needs for autonomy, competence, and relatedness, and whether these experiences lead to increased motivation for ongoing participation in PHE.

To achieve this goal, the specific objectives of this case study are to:

1. Implement the SEM within a Grade 10 PHE class to examine its impact on student motivation and engagement.

2. Measure changes in students' motivation following the SEM intervention using quantitative instruments.
3. Explore whether patterns observed in students' behaviours, interactions, and engagement during the intervention support or contrast the quantitative findings.
4. Investigate the relationship between students' motivation during the SEM intervention and their expressed intentions to enroll in elective senior PHE.
5. Determine whether the SEM can be recommended to PHE teachers as a practical approach for enhancing student motivation and engagement.
6. Determine whether the SEM can be recommended for promoting students' intentions to enroll in elective PHE.

Based on these objectives, the central research question guiding this investigation is: What impact does the Sport Education Model (SEM) have on Grade 10 students' motivation and their intention to enroll in elective Physical and Health Education the following year?

1.4 Researcher Motivation

The motivation for conducting this research arises from the researcher's dual role as a PHE teacher and Athletic Director at Frank Hurt Secondary School. Over several years of teaching, it became increasingly clear that enrolment in senior elective PHE drops significantly once the subject is no longer mandatory beyond Grade 10. Internal school data from Frank Hurt Secondary, confirmed this pattern: during the 2021–2022 school year, only 25% of Grade 11 students, 80 out of 304, chose to continue with elective PHE and in 2022-2023 school year, 20% of grade 11 students, 55 out of 275 students chose to continue with senior PHE (Personal communication, September 2021). This drop reflected a broader provincial trend in which participation in PHE decreases sharply after Grade 10, especially among female students (Sulz et al., 2020). In response to these trends, the researcher sought to examine how alternative pedagogical models could potentially increase student motivation and encourage sustained participation in PHE at the elective level.

The researcher's classroom observations and conversations with students revealed that traditional teaching styles, often centred around competition and teacher-led drills, left many adolescents feeling disconnected from PHE. Students frequently described the subject as

repetitive, overly performance-focused, or irrelevant to their interests, echoing findings from Gibbons, Temple and Humbert (2014) and Scantling (1995). This was more noticeable among girls and students who perceived themselves as less athletic, suggesting that current pedagogical structures were not meeting diverse motivational needs. As a result, the researcher felt compelled to explore alternative instructional pedagogies capable of providing more inclusive, meaningful, and enjoyable learning experiences in PHE.

The Sport Education Model (SEM) was chosen to tackle these challenges. Having previously experimented with SEM in summer school settings, the researcher noticed its potential to increase enthusiasm, responsibility, and relatedness among students. These past positive experiences in summer school encouraged the researcher to experiment with this pedagogy at the grade 10 level, a pivotal time where students' experiences may directly impact their decision to enroll in elective PHE the following year.

Beyond personal and professional curiosity, this project also holds broader social and educational importance. The rising rates of youth physical inactivity and mental health issues in Canada highlight an urgent need to retain as many students as possible in school-based PHE courses. The more time they spend in PHE learning and building positive routines and behaviours, students may be more likely to stay active for life, benefiting their overall long-term well-being.

As a practitioner-researcher working within the public school system, the researcher viewed this project as a practical way to enhance classroom practice. It aimed to bridge the gap between educational research and the everyday realities of teaching. Conducting the study within her own teaching environment allowed for an authentic exploration of how evidence-based pedagogies can be integrated into existing curricula to boost engagement, motivation and retention.

1.5 Methodology

This study employed a mixed-methods case study design, integrating both quantitative and qualitative approaches to provide a comprehensive understanding of how the SEM influenced student motivation and enrolment intentions. Quantitative data were gathered through three validated instruments: the revised Perceived Locus of Causality in Physical Education

(PLOC-R) (Vlachopoulos et al., 2011), the Physical Education Autonomy, Relatedness, and Competence Scale (PE-ARCS) (Sulz, Temple and Gibbons, 2016) and a researcher-developed Intent to Enroll in PHE questionnaire. These were all administered before and after the SEM intervention. In addition, qualitative data were gathered through detailed participant observation field notes that captured student interactions, behaviours, and engagement across both the 10 traditional PHE lessons and the 10-lesson SEM intervention. The mixed-methods approach facilitated triangulation between the quantitative and qualitative data, producing a nuanced, contextually grounded understanding of SEM's motivational influence on students and subsequently their intent to enroll in elective PHE the following year.

1.6 Locating the Study

This research was conducted at Frank Hurt Secondary School, a public high school in Surrey, British Columbia, Canada, within the Surrey School District (SD36). This district is the largest and most culturally diverse in the province. The school serves students from Grades 8 to 12 and reflects a broad range of cultural, linguistic, and socio-economic backgrounds. This diversity offers a rich context for examining issues of motivation and engagement, especially within PHE, where student experiences and perceptions often vary across gender, culture, and prior sport participation.

1.7 General Overview of the Study Group

The study was conducted with a Grade 10 co-educational PHE class at Frank Hurt Secondary School in SD 36. The class consisted of 25 students (14 males and 11 females) aged 15–16 years old. This grade was selected intentionally because it marks the final mandatory year of PHE before students must select it as an elective the following year. Therefore, this group provided valuable insights into how learning experiences influence motivation and future participation. The ten-lesson SEM intervention was integrated into the regular school timetable, ensuring that the study captured authentic classroom dynamics and student responses within a genuine secondary school setting.

1.8 Dissertation Structure

This dissertation is organized into five chapters. The Introduction set the context, rationale, and purpose of the study, outlining its aims, objectives, and research question. Followed by an overview of the researcher's motivation and a brief description of the study location, study group, and methodology. The second chapter describes the Methodology used by the case study design, the data collection tools, and the analytical procedures used to evaluate motivation and enrolment results. The Literature Review chapter examines key theories and previous research related to the SEM, SDT and trends in PHE enrollment. The Results and Discussion chapters present and interpret the findings, connecting them to existing research and theoretical frameworks. Finally, the Conclusion summarizes the study's contributions, identifies its strengths and limitations, and discusses implications for future research.

The next chapter outlines the study's methodology. It explains the rationale for using a pragmatic mixed-methods case study design to investigate the impact of the SEM on student motivation and enrollment intentions. It also describes the data collection tools, participant group, and analytical strategies used to interpret both quantitative and qualitative findings. In addition, it addresses ethical considerations that guided the research process.

Chapter 2: Methodology

This chapter outlines the research methodology used in this study, beginning with the research paradigm within which the research is situated. Next, the research design is outlined with the methods used for the collection of data.

2.1 Research Paradigm

This research study utilized a pragmatic approach. The goal of pragmatism is to provide practical solutions that can guide future actions by merging both objectivism and subjectivism and not considering the research in abstract notions (Saunders, Lewis and Thornhill, 2019). Pragmatists acknowledge that there are multiple valid ways to understand the world and

complete research; no single perspective can fully capture all possible realities (Saunders, Lewis and Thornhill, 2019).

In this study, the central issue is the declining enrollment in elective PHE across North America, with a specific focus on Frank Hurt Secondary School. The pragmatic paradigm is well-suited to exploring this issue, as it supports the investigation of both conceptual understanding and practical outcomes. Specifically, this research examines the impact of the SEM on student motivation through the lens of SDT, while also considering the implications of this relationship for future elective PHE enrollment (Moon & Blackman, 2014).

SEM was implemented as an intervention in a grade 10 PHE class to explore its potential influence on students' motivation and their intent to enroll in elective PHE the following school year. The goal is to determine if it would be helpful for Frank Hurt Secondary and other high schools to implement the SEM in grade 10 PHE as a strategy to increase enrolment in elective senior PHE. The pragmatic approach was chosen to incorporate practical outcomes and to determine if SEM is a practical solution to help address the problem of low elective PHE enrollment. While prior research has examined SEM's effects on motivation (Tendinha et al., 2021; Perlman, 2010; Wallhead & Ntoumanis, 2004), there remains limited evidence on whether SEM influences students' future intent to enroll in elective PHE. One related study by Cuevas, García-López, and Serra-Olivares (2016) explored the effect of SEM on students' intentions to participate in sports during their leisure time. Therefore, this research study aims to address this gap by investigating the potential link between SEM and elective PHE enrollment within a case study framework.

2.2 Research Design

The research strategy that was used in this research is a case study. A case study has many definitions, but for the purpose of this research, it can be characterized as a comprehensive investigation of a particular population that explores interactions, processes, and relationships within a natural setting (Cohen et al., 2018; Biggam, 2021). The population this case study will focus on is a grade 10 PHE class (Pitney and Parker, 2009).

This case study design allowed the implementation of a SEM intervention within a real educational context, allowing for an in-depth examination of its impact on student motivation and the potential influence on their intent to enroll in elective PHE the following academic year. Case studies in educational settings can support evidence-informed decision-making for practitioners (Cohen et al., 1999). In line with this, a couple of objectives of the current study were to determine whether the SEM can be recommended as a practical approach for enhancing student motivation and/or promoting student intentions to enroll in elective PHE. One of the key strengths of the case study approach is its practical relevance; it can serve as a "step to action," where insights are "directly interpreted and put to use" (Cohen et al., 2018, p. 449).

An additional advantage of the case study method is its focus on a clearly defined group of participants (Pitney and Parker, 2009). All data collection was limited to this Grade 10 class; no other students, teachers, classes, or parents were involved. This narrow scope increased the manageability of the research and eliminated the need for a larger research team (Cohen et al., 1999).

The intended audience for this study includes PHE teachers and school administrators. Given that case study findings are often presented in accessible language and grounded in practical educational contexts, this strategy is particularly appropriate (Cohen et al., 2018)

However, the case study approach is not without its limitations. Findings from a single case study are not generalizable, which limits their transferability to other schools or contexts (Pitney & Parker, 2009; Cohen et al., 2018). Readers are instead encouraged to consider how the findings may apply to their own settings. Additionally, case studies may be subject to researcher bias, selectivity, and subjectivity, and can be challenging to cross-validate (Cohen et al., 2018). While efforts were made to minimize observer bias and acknowledge researcher reflexivity, these concerns remain as challenges within case studies.

2.3 Data Collection

Case studies employ a flexible methodological approach that allows for multiple data collection methods. As Cohen et al. (2018) explain, case studies can incorporate a range of

quantitative and qualitative methods and offer various avenues for data analysis, including both statistical and interpretive approaches. Therefore, this study adopted a mixed methods design, combining qualitative and quantitative data collection tools, to gain a more comprehensive understanding of student motivation and intent to enroll in elective PHE. The mixed methods paradigm recognizes that social phenomena are complex, and that a single-method approach may lead to partial or incomplete findings (Cohen et al., 2018). It embraces the pragmatic use of multiple methods, sequentially, concurrently, or in synthesis, to capture the complex nature of the research problem (Cohen et al., 2018). In this study, both data types were collected throughout the intervention, focusing on common themes grounded in SDT, for example autonomy, relatedness, and competence.

2.4 Quantitative Data: Questionnaires

Three questionnaires were used as quantitative methods of data collection: The revised Perceived Locus of Causality in Physical Education Scale (PLOC-R) (Vlachopoulos et al., 2011) (See Appendix A), Physical Education Autonomy Relatedness Competence Scale (PE-ARCS) (Sulz, Temple and Gibbons, 2016) (See Appendix B), and a custom-developed scale assessing Intent to Enroll in Elective Physical Education (See Appendix C). These instruments were administered twice: once following the ten traditional PHE lessons (pre-intervention) and again following the SEM intervention (post-intervention). Questionnaires were selected for their structured design, ease of administration, ability to generate numerical data, and ease of analysis (Cohen et al., 2018).

To uphold ethical standards, students were explicitly informed, both verbally and in writing, that participation in the questionnaires was entirely voluntary. It was emphasized that their decision to participate or abstain would have no impact on their academic performance or relationship with the teacher. To further reduce perceived pressure, students were reminded that they could skip any question they did not feel comfortable answering and could withdraw at any time without penalty. These steps were taken to ensure that no student felt coerced or pressured to participate.

Although the teacher-researcher was present during questionnaire completion to clarify instructions and respond to student questions (Cohen et al., 2018), care was taken to create a non-threatening atmosphere. Students were given adequate time and space to respond independently and confidentially to the questionnaires. Despite these measures, the researcher acknowledges that the presence of the teacher may still be perceived as intimidating by some students, which represents a potential limitation of this data collection method (Cohen et al., 2018). Additionally, as with most self-report instruments, there remains the possibility that responses were not entirely truthful, whether due to social desirability bias or disengagement (Cohen et al., 2018).

The Revised Perceived Locus of Causality in Physical Education Scale (PLOC-R) evaluates students' motivational regulations within the PHE context using 19 items rated on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree) (Vlachopoulos et al., 2011) (Pannekoek, Piek and Hagger, 2014). The original scale was previously validated, but for this study, the modified version by Vlachopoulos et al. (2011) was used. Experienced researchers with the necessary background knowledge modified the scale while maintaining ecological validity (Pannekoek, Piek and Hagger, 2014). The revised version has wording that is more appealing and easier to understand for students, which is essential for a questionnaire used in a secondary school environment (Cohen et al., 2018).

The second questionnaire used was the Physical Education Autonomy Relatedness Competence Scale (PE-ARCS), which measures students' psychological need satisfaction and perceptions of autonomy, relatedness, and competence (Sulz, Temple and Gibbons, 2016; Sulz et al., 2020). The scale has a total of 12 items with a seven-point likert scale (1 = strongly disagree to 7 = strongly agree) (Sulz, Temple and Gibbons, 2016; Sulz et al., 2020). Sulz, Temple and Gibbons (2016) provided evidence for the scale's reliability and validity for use in secondary school PHE settings as a measure of motivational state and needs fulfillment.

The third instrument was a researcher-developed questionnaire designed to assess students' intent to enroll in Grade 11 elective PHE. It began with a yes/no question: "Do you plan on enrolling in elective PHE next year (Grade 11)?" This was followed by a multiple-choice

question prompting students to select reasons influencing their decision, with the option to select more than one response and include an open-ended “other” option. Response options were based on the researcher’s informal conversations with former students and allowed for exploratory data collection (Cohen et al., 2018).

2.5 Qualitative Data: Participant Observations

Participant observations were collected as qualitative data throughout all twenty lessons of the case study. Field notes were recorded to capture descriptive details about participant behaviours and the classroom context (See example in Appendix D). The first ten lessons followed a traditional PHE format, consisting of teacher-directed instruction in fitness activities, yoga, minor games, and team sports. The subsequent ten lessons implemented the SEM intervention through a structured badminton season.

Observations were conducted by the teacher-researcher using a moderate participation role, balancing both insider (participant) and outsider (observer) perspectives (Spradley, 1980). Field notes were documented both during and immediately after each lesson (Spradley, 1980). A semi-structured template was used to guide observations, dividing the journal into two columns labelled “engaged behaviours” and “disengaged behaviours.” This approach facilitated systematic recording while allowing room to document emergent themes or unexpected behaviours (Cohen et al., 2018).

Field notes captured a range of data, including students’ verbal interactions, physical activity levels, non-verbal cues, engagement with the teacher and peers, and environmental conditions. One advantage of this method is that it offers context-rich insights into social dynamics and non-verbal behaviour. This allows the researcher to observe discrepancies between what participants say and what they do, which is sometimes referred to as a “reality check” (Cohen et al., 2018, p. 637). Additionally, observations enabled the researcher to view the actions of the participants in each lesson with a fresh perspective, while avoiding assumptions (Cohen et al., 2018).

However, participant observations also present several challenges. It is time-intensive, particularly given the volume of data generated from twenty lessons. The quality of observational data depends heavily on the researcher's ability to stay consistent and reflect appropriately (Cohen et al., 2018). Moreover, observer bias is a recognized limitation of this method, which requires ongoing efforts toward reflexivity and objectivity (Cohen et al., 2018; Biggam, 2021).

2.6 Participants

This study involved twenty-five grade 10 male ($n=14$) and female ($n=11$) students enrolled in a mandatory grade 10 PHE class at Frank Hurt Secondary School. Participants were selected through convenience sampling, as the researcher was a teacher at the school and was assigned to instruct this class. Therefore, participants were not randomly selected, which is a known limitation of convenience sampling (Cohen et al., 2018).

The full research intervention was conducted over twenty-two instructional days (See case study timeline in Appendix E). Students first participated in ten traditional PHE lessons, followed by one class session dedicated to completing the pre-test questionnaires. This was followed by ten SEM intervention lessons (See Appendix F and G) and concluded with one final session for the post-test questionnaires.

2.7 Data Analysis

A paired samples t-test (repeated measures) was conducted using SPSS to analyze the quantitative data collected from both the PLOC-R and PE-ARCS questionnaires. This statistical test was appropriate for comparing pre- and post-intervention scores within the same group of participants. These paired t-tests helped determine whether the SEM intervention produced statistically significant changes in students' motivation and psychological need satisfaction.

For the Intent to Enroll in Elective PHE questionnaire, results were visually represented using bar charts and pie charts to illustrate changes in students' responses before and after the intervention. This allowed for a clear comparison of shifts in students' intentions regarding future participation in elective PHE.

The qualitative data collected through participant observations were analyzed using Reflexive Thematic Analysis (TA) (See Appendix H), as outlined by Braun and Clarke (2022). This method was chosen for its flexibility and focus on identifying patterns of meaning or themes that are organized around a central concept. Table 2.1 below outlines the thematic analysis process in more depth.

Following the initial analysis, data triangulation was employed to enhance the credibility and depth of the findings. This involved cross-referencing patterns and insights across the quantitative and qualitative data.

Table 2.1 – Description of analytic steps	
Analytic steps suggested by Braun and Clarke (2006)	Analytic steps of the current study
Step 1: Familiarization with the Data	The researcher became familiar with the dataset, which consisted of observation notes collected before and during the Sport Education intervention. These notes were read multiple times to understand student behavior patterns, experiences, and interactions.
Step 2: Generating Initial Codes	Coding involved systematically highlighting relevant data excerpts that captured meaningful patterns in student behavior. Codes were generated manually by highlighting repetitive student participation and engagement behaviors.
Step 3: Searching for Themes	The initial codes were organized into potential themes by clustering similar codes together. Themes were further divided into subthemes to capture nuances.
Step 4: Reviewing Themes	Themes and subthemes were refined by revisiting the notes to ensure that each theme was well-supported by data. Furthermore, data excerpts within a theme were read and analyzed to ensure they shared coherence.
Step 5: Defining and Naming Themes	Each theme and its subthemes were articulated clearly to answer the research question. The theory of self-determination guided the

	definition and labeling of themes as this theory guides this research and the quantitative data as well.
Step 6: Writing Up	The finalized themes and subthemes were displayed in a table with supporting examples from the dataset to demonstrate findings. Differences between pre-and post-intervention behaviors were emphasized.

2.8 Ethical Position

The principal at the school authorized the case study by signing the Authorization for Frank Hurt to Serve in a Research Study for: MA Physical Education Sport and Physical Literacy (See Appendix I). Furthermore, all students who participated in the study brought in signed consent forms (See Appendix J) completed by a parent or guardian. Students were made aware that participation was voluntary and that they had the right to stop at any time. As outlined in the previous section, this was explicitly communicated during the administration of the questionnaires to ensure that no student felt pressured or obligated to participate.

To protect student privacy, all data collected was kept confidential and anonymous. The questionnaires were completed electronically via Microsoft Forms. Responses were securely stored in a password-protected OneDrive folder accessible only to the researcher. Similarly, participant observation notes were stored in a locked drawer that was only accessible by the researcher.

To maintain data accuracy and reduce the risk of bias, all observational field notes and reflective journal entries were completed immediately following each lesson. This helped ensure that the data was recorded based on direct observation rather than relying on memory.

The next chapter will summarize the current literature on SDT, SEM and enrollment trends in PHE in the Canadian context. It will also identify gaps and help situate the current study in this context.

Chapter 3: Literature Review

This chapter reviews literature related to the Sport Education Model (SEM), Self-Determination Theory, and enrollment trends in PHE. The purpose of this chapter is to provide a comprehensive understanding of the current literature by synthesizing current findings, identifying gaps in the literature, and placing the present case study in relation to this existing body of work. It will illustrate how SEM, rooted in SDT, may serve as a practical intervention tool to increase both student motivation and enrollment in senior elective PHE courses. The chapter is organized into the following sections: Self-Determination Theory, Self-Determination Theory in PHE, Sport Education Model (SEM), SEM and SDT, motivational and behavioural outcomes of integrating SEM and SDT, and enrollment trends in PHE. Each section builds on the previous topic to support the relevance of the current research question within the broader literature.

3.1 Self-Determination Theory (SDT)

Self-Determination Theory (SDT), developed by Deci and Ryan (1985), is a widely recognized framework for understanding motivation. It theorizes motivation as the drive to engage in meaningful behaviours that foster personal growth (Ryan & Deci, 2000). Deci and Ryan (2000) organize motivation into three categories: amotivation, extrinsic motivation, and intrinsic motivation. Within these categories, SDT outlines a continuum of motivation that shows how actions can be driven by a range of internal drives or external demands (Ntoumanis, 2001; Perlman & Goc Karp, 2010; Vasconcellos et al., 2020). These different types of motivation help explain why people behave the way they do and how they respond to the world around them. This motivational continuum ranges from a complete lack of motivation (amotivation) to actions driven purely by enjoyment and personal interest (intrinsic motivation), with several forms of extrinsic motivation in between.

Intrinsic motivation, positioned at the self-determined end of the continuum, arises when individuals engage in activities purely for the inherent enjoyment and pleasure they provide (Cuevas, García-López, and Serra-Olivares, 2016; Van den Berghe et al., 2014). In contrast, extrinsic motivation comprises several progressions. Identified regulation occurs when

individuals perceive the behaviour as personally advantageous (Cuevas, García-López, and Serra-Olivares, 2016). Introjected regulation is somewhat less autonomous and is driven by internal pressures, such as guilt (Cuevas, García-López, and Serra-Olivares, 2016). At the least autonomous end of extrinsic motivation lies external regulation, where behaviours are motivated entirely by external rewards or pressures (Cuevas, García-López, and Serra-Olivares, 2016). Finally, amotivation represents a complete absence of motivation to engage in a behaviour (Cuevas, García-López, and Serra-Olivares, 2016; Ntoumanis et al., 2004).

SDT highlights that there are three fundamental psychological needs: autonomy, competence, and relatedness. These are essential to fostering intrinsic motivation (Deci & Ryan, 1985, 1991, 2000). Autonomy involves having a sense of control or choice over one's actions (Deci & Ryan, 2000). Competence involves feeling effective and capable of achieving success in a specific context (Deci & Ryan, 2000). Relatedness is the need to feel a sense of belonging and connection within a social environment (Deci & Ryan, 2000).

SDT offers a framework to understand motivation and the psychological needs that influence human behaviour (Deci & Ryan, 1985, 2000). When these needs are supported, individuals are more likely to experience intrinsic motivation, which in turn leads to greater engagement and psychological well-being (Deci & Ryan, 1985, 2000). Autonomy, competence and relatedness are considered universal and essential for psychological growth, well-being, and motivation across cultures, age groups, and contexts (Deci & Ryan, 2000; Vansteenkiste & Ryan, 2013). On the other hand, when autonomy, competence, or relatedness is undermined, individuals may become disengaged or act out of pressure, resulting in amotivation or externally controlled behaviour that lacks personal meaning (Deci & Ryan, 2000).

The SDT continuum of motivation has been widely applied to educational settings. It has helped understand students' diverse motivational profiles and the factors that enhance or inhibit their engagement (Reeve, 2002). The theory is particularly relevant to learning environments like PHE, where active participation, teamwork, and personal effort are central to student experiences. SDT offers a valuable lens to explore how these principles can be used to enhance student motivation and participation in PHE settings (Vasconcellos et al., 2020).

The relevance of SDT to this study lies in its ability to explain the motivational processes that support student engagement and behaviour in PHE. In this case study, SDT is used to examine how the SEM satisfies or frustrates autonomy, competence, and relatedness. By doing so, this research aims to explore whether fulfilling these needs leads to greater motivation and, in turn, influences students' willingness to continue with elective PHE. The following section will explore the application of SDT within the context of PHE, highlighting its relevance to student outcomes and teaching practices.

3.2 SDT and Physical Education

SDT has emerged as one of the most popular frameworks for studying motivation in PHE research, offering insights into how teaching styles, curricular structures, and peer relationships impact student motivation (Vasconcellos et al., 2020). Teachers in PHE play an important role when it comes to influencing motivation, engagement, and learning outcomes by creating environments that meet the psychological needs of students (Deci & Ryan, 1985, 1991, 2000; Niemiec & Ryan, 2009; Vallerand, 2001). Negative experiences in PHE, such as excessive competition or feelings of inadequacy, can lessen student motivation (Moreno Murcia, Coll and Ruiz Pérez, 2009; Vasconcellos et al., 2020), SDT offers a valuable framework for addressing these challenges by supporting the development of autonomy, competence, and relatedness.

Autonomy involves providing students with meaningful choices, enabling them to direct their own learning and take ownership of their actions (Niemiec & Ryan, 2009). Research by Van den Berghe et al. (2014) emphasizes the significance of autonomy supportive teaching, which encompasses practices such as offering students choices, acknowledging their perspectives, and providing meaningful rationales for activities. These practices have been shown to enhance students' intrinsic motivation and engagement in PHE settings (Niemiec & Ryan, 2009). Their research highlights how the instructional environment plays a central role in shaping students' experiences (Niemiec & Ryan, 2009). Furthermore, teachers who encourage initiative and minimize controlling language are more likely to foster self-determined motivation (Reeve, 2002; Van den Berghe et al., 2014). Conversely, overly controlling teaching environments can undermine autonomy and lead to feelings of restricted choice and reduced motivation (Vansteenkiste & Ryan, 2013; Bartholomew et al., 2011, 2018). These practices pressure students

to behave in specific ways through external rewards, threats, or guilt (Bartholomew et al., 2011). Van den Berghe et al. (2014) found that autonomy support significantly predicted students' enjoyment, perceived competence, and positive engagement in PHE.

Competence, defined as showcasing effectiveness or achieving success within a particular setting, is strongly linked to intrinsic motivation (Perlman & Goc Karp, 2010). Students who feel capable in PHE classes often enjoy participating and engage more willingly (Goudas, Biddle, & Fox, 1994; Goudas, Dermitzaki, & Bagiatis, 2000; Whitehead & Corbin, 1991). Teachers can build competence by creating structured environments with clear goals, optimal challenges, and constructive feedback (Niemic & Ryan, 2009; Vasconcellos et al., 2020). According to Van den Berghe et al. (2014), this allows students to feel effective in their efforts, enhancing their skill development and reinforcing their motivation to participate in physical activities, both within and beyond the gym. According to Ntoumanis (2001), perceived competence in PHE was the strongest predictor of intrinsic motivation among high school students. Furthermore, research indicates that competence is most closely associated with students' self-determined motivation. This highlights its critical role in encouraging active participation (Vasconcellos et al., 2020).

Relatedness refers to experiencing a sense of belonging in a social environment, highlighting the value of interpersonal connections in PHE (Perlman & Goc Karp, 2010). When students feel supported by their teachers and peers, they are more likely to engage in physical activities with enthusiasm and persistence (Ryan & Deci, 2017). Van den Berghe et al. (2014) emphasize that teacher-student relationships characterized by warmth and genuine care are essential for fostering relatedness. This in turn promotes greater motivation and well-being (Niemic & Ryan, 2009). Perlman and Goc Karp (2010) found that peer relationships played a significant role in shaping students' motivation, especially for students who might otherwise feel sidelined in competitive PHE environments. Relatedness also helps students take in and accept values from people they feel close to; this shows how important it is for them to feel respected and valued by their teachers and classmates (Niemic & Ryan, 2009).

However, many students report negative experiences in PHE due to low perceived ability, excessive competition, or concerns about social evaluation, which results in low motivation and

a poor self-concept (Moreno Murcia, Coll and Ruiz Pérez, 2009; Taylor & Ntoumanis, 2007; Vasconcellos et al., 2020). Furthermore, the findings of Bartholomew et al. (2018) indicate that when students perceive teachers' behaviour as controlling, they are more likely to exhibit low-quality motivation and develop an excessive fear of failure. This often leads to students avoiding challenges to preserve their self-worth. Amotivated students often view PHE as meaningless, therefore, avoiding participation through excuses and disengagement (Ntoumanis et al., 2004; Perlman, 2010). Conversely, intrinsically motivated students report more positive experiences and outcomes in PHE (Vasconcellos et al., 2020). Empirical studies in PHE demonstrate that environments fulfilling the psychological needs of autonomy, competence, and relatedness lead to positive outcomes, such as increased enjoyment, higher levels of physical activity, and greater academic achievement (Van den Berghe et al., 2014; Vasconcellos et al., 2020). Numerous studies have validated SDT's assertion that both autonomy and competence are critical for maintaining intrinsic motivation (Niemiec & Ryan, 2009). Ntoumanis (2001) also found that feeling competent is one of the strongest predictors of intrinsic motivation in high school PHE students. When teachers support students' psychological needs, it enhances need satisfaction, therefore fostering self-determined motivation, positive emotional and cognitive outcomes, and increased intentions to participate in PHE (Ntoumanis & Harris, 2005; Vasconcellos et al., 2020). By addressing these needs through well-structured lessons that offer choice, achievable goals, and positive peer interactions, teachers can cultivate an engaging and supportive PHE environment (Hassandra, Goudas and Chroni, 2003; Perlman, 2010).

The current study applies this understanding by investigating the extent to which the SEM aligns with SDT principles. Given that SEM intentionally incorporates student choice, peer collaboration, and structured feedback, it holds significant potential to enhance intrinsic motivation in PHE. By examining the motivational outcomes of a SEM intervention in a grade 10 PHE class at Frank Hurt, this research seeks to determine how SDT principles can be used in real-world PHE classroom settings to promote enrollment in elective PHE.

3.3 Sport Education Model (SEM)

The Sport Education Model (SEM), developed by Daryl Siedentop, is a pedagogical approach designed to provide students with authentic sport experiences, with the goal to develop

competent, literate, and enthusiastic sportspersons (Siedentop, Hastie, & van der Mars, 2011). Unlike traditional PHE pedagogy, SEM mirrors real-world sports settings. These features include structured seasons, team affiliation, formal competition, a culminating event, record keeping, developmentally appropriate competition, diverse roles, and an emphasis on festivity (Siedentop, 1998). A defining characteristic of SEM is that students remain on the same team for the duration of the season and take on responsibilities beyond just being a player (Siedentop, 1998). Together, these elements can create an engaging and meaningful experience for students, leading to fostering a deeper connection to the activity (Siedentop, 1998; Siedentop, Hastie, & van der Mars, 2011).

A key component of SEM is the inclusion of diverse roles, enabling students to participate as players and in non-playing roles, such as coaches, referees, trainers, and scorekeepers (See Appendix M) (Siedentop, Hastie, & van der Mars, 2011). These roles provide students with a comprehensive understanding of sports dynamics and encourage collaboration and responsibility (Siedentop, Hastie, & van der Mars, 2011). Albaloul, Kulinna and van der Mars (2024) further noted that students enjoyed their non-playing roles, which enhanced their understanding of the sport and expanded their sense of competence.

Additionally, the effective implementation of SEM relies on specific instructional strategies, including establishing clear managerial routines, utilizing duty teams to streamline organization, promoting peer teaching, engaging students in cooperative planning, and preparing them to resolve conflicts constructively (See Appendix G) (Siedentop, 1998). By integrating these components, SEM fosters an inclusive and developmentally appropriate environment that not only enhances physical skills but also nurtures social and cognitive development (Siedentop et al., 2011).

3.4 Sport Education Model and Self-Determination Theory

There is extensive research supporting Sport Education as an instructional model that can foster students' motivational needs in PHE (Perlman, 2011; Perlman & Goc Karp, 2010; Sinelnikov, Hastie, & Prusak, 2007; Spittle & Byrne, 2009; Wallhead & Ntoumanis, 2004). By integrating the structural components of SEM with the psychological principles outlined by SDT,

educators can create enriched learning environments that enhance students' intrinsic motivation. SEM and SDT together emphasize the satisfaction of autonomy, competence, and relatedness; three fundamental psychological needs critical for driving self-determined motivation (Deci & Ryan, 1985, 2000; Siedentop, Hastie, & van der Mars, 2011). This section explores how SEM aligns with SDT principles, the implications of this integration, and its impact on student outcomes.

3.4.1 Autonomy in the Sport Education Model

Autonomy, a core component of SDT, is defined as the ability to make choices and feel a sense of ownership over one's actions (Deci & Ryan, 2000). The SEM is effective at fostering autonomy by granting students meaningful control over their learning process (Wallhead, Hagger, & Smith, 2010). Key features of SEM, such as team organization, role allocation, and responsibility for planning and executing activities, create authentic opportunities for students to engage independently in the learning process and take on more initiative (Siedentop, Hastie, & van der Mars, 2011). For instance, students may assume roles as coaches, referees, or event planners, which allows them to shape their educational experiences based on those diverse roles and contribute meaningfully to their teams (Siedentop, Hastie, & van der Mars, 2011).

Research consistently points to the benefits of autonomy-supportive teaching environments, especially within the SEM. Wallhead, Hagger, and Smith (2010) found that students who experienced the SEM reported higher levels of decision-making autonomy compared to their peers in traditional PHE settings. Similarly, Clarke and Quill (2003) observed that students participating in the SEM became more self-reliant and less dependent on the teacher (Perlman, 2010). Furthermore, the formal competition phase of the SEM encourages students to organize practices and plan festive events. This fosters creativity, experimentation, and self-regulation, which are all key components of autonomy. SEM highlights student leadership and choice, which aligns with SDT's emphasis on autonomy.

However, some studies indicate variability in how effectively SEM supports autonomy (Manninen & Campbell, 2022; Hastie & Wallhead, 2016). Manninen and Campbell (2022) found that in some instances, the SEM's impact on autonomy was less pronounced than expected;

therefore, the model may be less supportive of autonomy under certain conditions compared to other approaches. This also highlights the importance of teacher training and fidelity to the model's implementation. Without proper guidance, teachers may inadvertently undermine autonomy by failing to provide authentic choices or by relying too heavily on directive teaching (Hastie & Wallhead, 2016). These findings emphasize the importance of teacher preparation to ensure SEM consistently fulfills students' autonomy needs.

3.4.2 Fostering Competence Through SEM

Competence refers to being capable and effective in a specific context, which is essential for building intrinsic motivation (Deci & Ryan, 2000). The SEM helps build students' confidence by offering structured activities that focus on skill development and helps students to see their improvement (Wallhead & O'Sullivan, 2005). In contrast to traditional PHE models, which often prioritize large-group instruction and standardized drills, SEM uses small-sided games, mixed-ability teams, and role differentiation to ensure all students can participate meaningfully and develop their skills (Tendinha, et al., 2021; Ward et al., 2019).

Hastie (1998) noted that traditional PHE often involves large-sided games where some players rarely engage while others dominate. In contrast, Sport Education features small-sided games with consistent, mixed-ability teams that encourage all members to contribute (Tendinha et al., 2021). This structure reduces the dominance of highly skilled players and fosters participation from less-skilled students, leading to greater engagement and perceived competence (Albaloul, Kulinna and van der Mars, 2024); Tendinha et al., 2021). Additionally, diverse roles such as team manager or scorekeeper allow students to showcase strengths often overlooked in traditional PHE (Manninen & Campbell, 2022). According to Siedentop, Hastie, and van der Mars (2011), SEM provides students with meaningful responsibilities that enhance both engagement and skill development. Students felt they contributed meaningfully to their teams, even in non-playing roles, which supported their sense of competence (Tendinha et al., 2021). This aligns with SDT, which emphasizes that optimal challenges and meaningful involvement are key to fostering competence and motivation in PHE (Niemic & Ryan, 2009).

According to numerous studies, students participating in SEM reported enhanced perceived competence in tactical knowledge (Pereira et al., 2014; Spittle & Byrne, 2009). Similarly, Albaloul, Kulinna and van der Mars (2024) highlighted that the inclusive nature of SEM allowed students to perceive themselves as capable contributors, regardless of their initial skill levels. While the SEM generally impacts competence positively, variability in outcomes may occur because the model lacks detailed teaching frameworks; therefore, untrained teachers with limited pedagogical knowledge may find it challenging to implement it effectively (Hastie, 2016; Wallhead & O’Sullivan, 2005; Manninen & Campbell, 2022).

3.4.3 Enhancing Relatedness Through SEM

Relatedness, which is the need to feel connected and valued within a social environment, is arguably the most consistently supported psychological need in SEM research. According to the literature, the SEM’s focus on team affiliation is the most appealing aspect for students (Grant, Treddinick, & Hodge 1992; Kinchin, MacPhail, and Ni Chroinin 2009; MacPhail, Kirk, and Kinchin 2004; Wallhead, Garn and Vidoni, 2013). It encourages interactions among students, which helps them develop relatedness and social skills (Carlson & Hastie, 1997). Furthermore, persistent team membership allows students to build trust and camaraderie with their peers, which is especially beneficial for low-skilled or socially isolated students (Wallhead et al., 2013). It also fosters a strong sense of belonging and mutual investment among students (MacPhail et al., 2004). Perlman (2010) found that amotivated ninth-grade high school students reported significantly higher enjoyment and a greater sense of relatedness when taught using the SEM compared to traditional teaching methods, even if they did not feel more competent or in control. This suggests that feeling connected (relatedness) might be the first step in building motivation for some students (Perlman, 2010). Vallerand (2000) supports this idea, explaining that the importance of each psychological need can differ from student to student. This finding is particularly relevant to the current study, which focuses on a similar age group, therefore reinforcing the potential of SEM to influence motivation through social connection.

Moreover, SEM supports positive interactions between students and teachers. Teachers in SEM classrooms will often take on a guiding role, providing support and encouragement while empowering students to assume leadership positions (Carlson & Hastie, 1997; Perlman, 2010).

Throughout the SEM, students start to feel more comfortable expressing their opinions to both classmates and teachers (Hastie & Sharpe, 1999; Carlson & Hastie, 1997; Perlman, 2010). These changes reflect a meaningful shift in teacher-student dynamics, fostering a more collaborative and respectful classroom climate that strengthens students' sense of relatedness and belonging.

This study looks at SEM using SDT to see how well it meets students' psychological needs and keeps them engaged. It adds to existing research by showing whether SEM can be a practical, evidence-based option that engages students more than traditional PHE. The goal is to find out if supporting student needs through SEM leads to greater motivation and, as a result, a higher chance of enrolling in future PHE courses.

3.5 Enrollment Trends in Physical Education

Enrollment in PHE classes has experienced a consistent decline over the past two decades across North America. In Canada, this pattern is evident once PHE transitions from a mandatory subject to an elective subject. Sulz et al. (2010) note that elective status significantly contributes to lower participation rates. Similarly, in Ontario, PHE enrollment dropped from 70.3% in 1999 to 60.3% in 2005, with the most substantial decline occurring between grades 9 and 12 as students gained the choice to opt out (Faulkner et al., 2007). National statistics also reflect a concerning trend: only 39% of Canadian youth between the ages of 12 and 17 achieve the recommended 150 minutes of school-based physical activity per week, and by grade 12, elective PHE enrollment falls to 24% (Barratt et al., 2021). This disengagement is associated with reduced daily levels of moderate-to-vigorous physical activity (MVPA) especially when compared to students who remain enrolled in PHE, who are significantly more active (Barratt et al., 2021).

Several studies have identified key reasons behind declining enrollment. Scantling (1995), in a U.S.-based study, found that most students did not take elective PHE because they prioritized academic subjects or had negative experiences in PHE classes. These negative perceptions often stemmed from repetitive activities, discomfort with changing for class, perceived gender imbalances, and feelings of exclusion (Scantling, 1995). Furthermore, scheduling conflicts with required academic courses, a lack of perceived value, and limited

variety in PHE programming frequently led students to deprioritize PHE (Lodewyk & Pybus, 2013; Davis, Zhu and Haegele, 2018; Sulz et al., 2020). In the Canadian context, similar findings have emerged. Gibbons et al. (1999) reported that many grade 10 girls viewed their PHE experiences as monotonous and unengaging, which led them to opt out once it became optional. Particularly among adolescent girls, enrollment rates remain disproportionately low. In British Columbia, less than 10% of female students choose to take senior elective PHE, compared to 24% of males (Gibbons, 2009). Similarly, Davis, Zhu and Haegele (2018) reported that senior female students felt PHE interfered with their academic priorities and saw it primarily as a break rather than a meaningful learning experience. Later work by Gibbons, Temple and Humbert (2014) further emphasized persistent gender disparities, with female students significantly less likely to enroll in senior-level PHE.

Motivational theory helps further explain these enrollment patterns. According to Ntoumanis (2005), students who experience self-determined forms of motivation, rooted in autonomy, competence, and relatedness, are more likely to continue participating in elective PHE. Similarly, Sulz et al. (2020) argue that improving the quality of students' experiences in PHE by supporting their psychological needs may enhance both motivation and enrollment outcomes. Those who feel competent and supported are more likely to enjoy the subject and persist in it. Unfortunately, students who experience pressure from academic obligations are less likely to choose elective PHE (Hobin et al., 2010). These findings align with the broader framework of SDT (Deci & Ryan, 1985; Ryan & Deci, 2000), which suggest that students are more likely to engage in activities they perceive as meaningful and aligned with their personal goals.

Although some countries, such as Australia and Scotland, have reported increases in senior PHE enrollment (Whittle, Telford and Benson, 2015), Canadian data continues to reflect low participation. At Frank Hurt Secondary, enrollment trends over the past seven years mirror this national pattern, highlighting the importance of this issue and the need to explore pedagogical solutions (Frank Hurt Secondary, personal communication, January 12, 2022).

While existing research highlights significant trends in PHE enrollment, much of the data, particularly in Canada, relies on outdated statistics from the early 2000s. However, trends at Frank Hurt Secondary over the past seven years have remained consistent with this historical data, leading to the formulation of this research question. Despite growing evidence supporting motivation-enhancing interventions, few studies have directly explored whether improved motivation leads to increased enrollment in elective PHE. While SEM based units have been linked to higher student enjoyment, engagement, and motivation (Cuevas, García-López, and Serra-Olivares, 2016; Wallhead & Ntoumanis, 2004), the relationship between these outcomes and enrollment behaviour remains unclear. For instance, Cuevas, García-López, and Serra-Olivares (2016) found that although students participating in SEM experienced increased motivation and enjoyment, this did not significantly influence their intentions to be physically active after compulsory education. Similarly, Wallhead, Garn and Vidoni (2013) reported only modest gains in students' physical activity intentions outside school settings. These findings suggest that while SEM may enhance the in-class experience, translating this into long-term participation or course selection may require additional supports.

Some evidence does suggest that SEM could play a role in influencing enrollment. In a study by Sulz et al. (2020), an intervention designed to support students' psychological needs led to increased enrollment among grade 11 female students, even though the intervention did not significantly impact overall motivation. Ntoumanis (2005) also demonstrated that students who experienced higher levels of need satisfaction during PHE reported greater self-determined motivation and were more likely to enroll in PHE the following year. These findings support the view that motivation should not be viewed as an endpoint, but rather as a mechanism that may lead to behaviour change. This study seeks to contribute to this conversation by examining how the use of SEM, when implemented through the lens of SDT, may influence grade 10 students' motivation and subsequently their enrollment in elective PHE.

The current study aims to address this need by exploring whether a SEM intervention, implemented within a Grade 10 PHE class at Frank Hurt Secondary School, can positively influence students' intrinsic motivation and subsequently affect their intent to enroll in elective PHE the following year. Grounded in SDT and evaluated through a mixed-methods case study

design, this research aims to contribute to both theoretical understanding and practical application. By examining whether SEM can meaningfully impact enrollment decisions through improvements in autonomy, competence, and relatedness, this study aims to provide a context-specific perspective that extends existing literature and supports future instructional practices in PHE at Frank Hurt Secondary.

The next chapter will present the findings of the quantitative and qualitative data collected during this mixed-methods case study.

Chapter 4: Results

This chapter presents the quantitative and qualitative data collected in this mixed methods case study. The chapter begins with the quantitative results, derived from pre- and post-intervention questionnaires. Then, the qualitative themes that emerged from a reflexive thematic analysis of participant observations are presented. The identified themes, subthemes, and associated codes are summarized in a comprehensive table.

4.1 Quantitative Data

4.1.1 Revised Perceived Locus of Causality in Physical Education Scale (PLOC-R)

The analysis of data from the PLOC-R showed no significance. The statistics are displayed in Table 4.1, and the results from the paired t-test are shown in Table 4.2.

Table 4.1- Revised Perceived Locus of Causality in Physical Education Pre and Post-Intervention Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Amotivation	2.7400	25	1.56870	.31374
	POSTAmotivation	2.9700	25	1.01697	.20339
Pair 2	External Regulation	3.4267	25	1.54116	.30823
	POSTEx.Regulation	3.2933	25	1.74356	.34871
Pair 3	PREIden.Regulation	4.8000	25	1.62500	.32500
	POSTIden.Regulation	4.6700	25	1.86207	.37241
Pair 4	PREIntro.Regulation	2.9467	25	1.42945	.28589
	POSTIntro.Regulation	2.4400	25	1.36030	.27206
Pair 5	PREIntrin.Motivation	5.1600	25	1.82842	.36568
	POSTIntrin.Motivation	5.1400	25	2.04644	.40929

Table 4.2 –Revised Perceived Locus of Causality in Physical Education Paired T-Test

		Paired Differences				Significance				
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p
					Lower	Upper				
Pair 1	Amotivation - POSTAmotivation	-.23000	1.37343	.27469	-.79692	.33692	-.837	24	.205	.411
Pair 2	External Regulation - POSTEx.Regulation	.13333	1.53659	.30732	-.50094	.76761	.434	24	.334	.668
Pair 3	PREIden.Regulation - POSTIden.Regulation	.13000	1.51747	.30349	-.49638	.75638	.428	24	.336	.672
Pair 4	PREIntro.Regulation - POSTIntro.Regulation	.50667	1.54315	.30863	-.13032	1.14365	1.642	24	.057	.114
Pair 5	PREIntrin.Motivation - POSTIntrin.Motivation	.02000	1.18568	.23714	-.46942	.50942	.084	24	.467	.933

4.1.1.1 Amotivation

A paired-samples t-test was conducted to evaluate the impact of the SEM intervention on amotivation. There was no statistically significant difference observed between pretest ($M=2.74$, $SD=1.56$) and posttest [$M=2.97$, $SD=1.01$, $t(24)=-0.837$, $P>0.05$].

4.1.1.2 External Regulation

A paired-samples t-test was conducted to evaluate the impact of the SEM intervention on external regulation. There was no statistically significant difference observed between pretest ($M=3.43$, $SD=1.57$) and posttest [$M=3.29$, $SD=1.74$, $t(24)=0.434$, $P>0.05$].

4.1.1.3 Identified Regulation

A paired-samples t-test was conducted to evaluate the impact of the SEM intervention on identified regulation. There was no statistically significant difference observed between pretest ($M=4.8$, $SD=1.63$) and posttest [$M=4.67$, $SD=1.86$, $t(24)=0.428$, $P>0.05$].

4.1.1.4 Introjected Regulation

A paired-samples t-test was conducted to evaluate the impact of the SEM intervention on introjected regulation. There was no statistically significant difference observed between pretest ($M=2.94$, $SD=1.43$) and posttest [$M=2.44$, $SD=1.36$, $t(24)=1.642$, $P>0.05$].

4.1.1.5 Intrinsic Motivation

A paired-samples T-Test was conducted to evaluate the impact of the SEM intervention on amotivation. There was no statistically significant difference observed between pretest (M=5.16, SD=1.83) and posttest [M=5.14, SD=2.04, $t(24)=0.084$, $P>0.05$].

4.1.2 Physical Education Autonomy Relatedness Competence Scale (PE-ARCS)

The data analysis of the PE-ARCS statistics is displayed in Table 4.3, and the results from the paired t-test are shown in Table 4.4.

Table 4.3 - Physical Education Autonomy Relatedness Competence Scale (PE-ARCS) Pre and Post Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PreAutonomy	4.3000	25	1.32877	.26575
	PostAutonomy	4.7100	25	1.32814	.26563
Pair 2	PreRelatedness	5.0100	25	1.21937	.24387
	PostRelatedness	5.4100	25	1.19870	.23974
Pair 3	PreCompetence	5.1300	25	1.07921	.21584
	PostCompetence	5.5200	25	.97340	.19468

Table 4.4 - Physical Education Autonomy Relatedness Competence Scale (PE-ARCS) Paired T-Test

		Paired Differences					t	df	Significance	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Lower	Upper				
Pair 1	PreAutonomy - PostAutonomy	-.41000	1.24139	.24828	-.92242	.10242	-1.651	24	.056	.112
Pair 2	PreRelatedness - PostRelatedness	-.40000	.80687	.16137	-.73306	-.06694	-2.479	24	.010	.021
Pair 3	PreCompetence - PostCompetence	-.39000	.92725	.18545	-.77275	-.00725	-2.103	24	.023	.046

4.1.2.1 Autonomy

A paired-samples T-Test was conducted to evaluate the impact of the SEM intervention on autonomy. There was no statistically significant difference observed between pretest (M=4.3, SD=1.33) and posttest [M=4.71, SD=1.33, $t(24)=-1.65$, $P>0.05$].

4.1.2.2 Relatedness

A paired-samples T-Test was conducted to evaluate the impact of the SEM intervention on relatedness. There was a statistically significant difference observed between pretest (M=5.01, SD=1.22) and posttest [M=5.41, SD=1.99, $t(24)=-2.48$, $P<0.05$]. There was a large effect size observed (Eta Squared = $-2.479^2 / -2.479^2 + 25 - 1 = 0.20$).

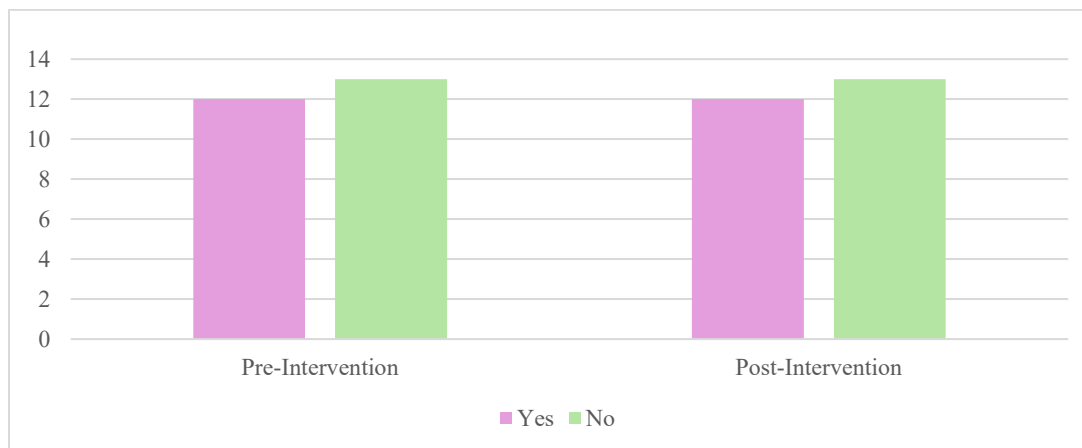
4.1.2.3 Competence

A paired-samples T-Test was conducted to evaluate the impact of the SEM intervention on competence. There was a statistically significant difference observed between pretest (M=5.13, SD=1.08) and posttest [M=5.52, SD=0.97, $t(24)=-2.103$, $P<0.05$]. There was a large effect size observed (Eta Squared = $-2.103^2 / -2.103^2 + 25 - 1 = 0.16$).

4.1.3 Student Intent to Enrol in Elective Physical Education

The researcher designed the questionnaire to assess whether the SEM intervention would influence students' decision-making about enrolling in elective PHE the following year. Students completed the questionnaire both before and after the intervention. Figure 4.1 presents the results of the first question: “Do you plan on enrolling in elective PHE next year?” The analysis revealed no change in student responses following the intervention. In both instances, 12 students (male = 9, female = 3) responded “Yes,” while 13 students (male = 5, female = 8) responded “No.”

Figure 4.1 - Student Intent to Enroll in Elective Physical Education Pre Test vs Post Test



As a follow-up question, students were asked to indicate reasons influencing their decision not to enroll in elective PHE the following year by marking an “X” next to all applicable options. Table 3.2 highlights no notable differences between students' pre- and post-intervention responses. The top three reasons cited for not enrolling in elective PHE were:

1. "I do not want to get sweaty during the day."
2. "I am interested in another elective."
3. "Academic courses are more important."

Figure 4.2 - Reasons I Do Not Intend to Enroll in Elective PHE Next Year

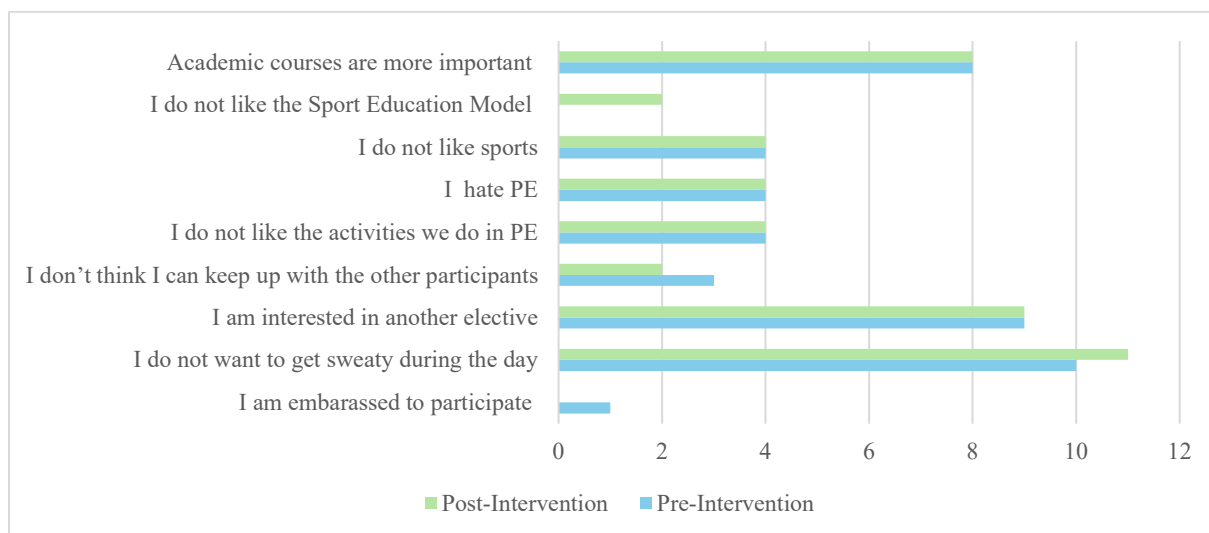
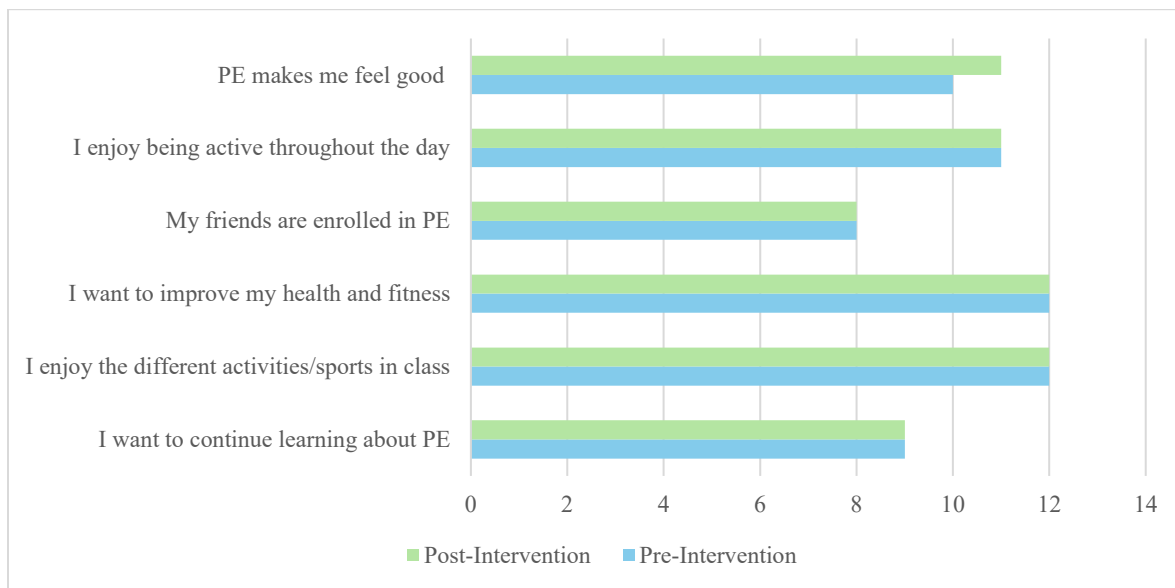


Figure 4.3 shows that post-intervention responses remained mostly consistent with pre-intervention answers regarding students' reasons for choosing to enroll in elective PHE. The top three reasons cited by students for intending to enroll in elective PHE were:

1. "I enjoy the different activities/sports in class."
2. "I want to improve my health and fitness."
3. "I enjoy being active throughout the day."

Figure 4.3 - Reasons I Intend to Enroll in Elective PHE Next Year



4.2 Qualitative Data

The qualitative component of this research used thematic analysis as outlined by Braun and Clarke (2006) to explore student behaviours and experiences in a Grade 10 PHE class at Frank Hurt Secondary. The goal was to understand the impact of a SEM intervention on student motivation and engagement. The teacher collected observation notes before and during the intervention, which served as the primary dataset. Four themes emerged from the analysis:

1. Autonomy: students' ability to problem solve independently.
2. Relatedness: Connection and collaboration among peers.
3. Competence: Development of sports-related skills, confidence, and self-awareness.
4. Engagement/Effort: Observable levels of energy and enthusiasm.

The themes of relatedness and competence identified in the qualitative analysis directly align with the statistically significant findings measured by the Physical Education Autonomy Relatedness Competence (PEARC) Scale. While autonomy did not show a significant difference in the quantitative results, its emergence as a theme in the qualitative analysis suggests that aspects of autonomy were still present and meaningful in the students' experiences during the intervention. Additionally, the theme of Engagement/Effort highlights the broader positive impact of the SEM intervention, particularly in fostering higher levels of participation in PHE.

Below, Table 4.5 presents the findings organized into themes, subthemes, and codes.

Table 4.5 – Presentation of Themes, Subthemes, Codes, and Examples from Observation Notes

Theme	Subtheme	Codes	Pre-Intervention Examples from Observation Notes	Post-Intervention Examples from Observation Notes
Autonomy	Problem-Solving	Resolving challenges independently	-Confusion about net setup due to a mix-up in gym assignments - Students waited for teacher's direction to solve scoring disagreements	- Duty teams resolved a 5v6 player mismatch by adjusting the match structure - Players independently clarified court lines and scoring rules
	Leadership	Managing setup/organizing activities	- The teacher had to remind students multiple times to help set up nets	- students consistently set up nets, and equipment and assigned roles on their teams
Relatedness	Peer Support	Cheering for teammates	- Girls clapped for friends during volleyball but didn't engage with others	-Student #13 high-fived Student #20 after a rally and said, "Great game!"
		High-fives	- Cheering was limited to small friendship groups, with little team-wide encouragement	- Peers frequently encouraged teammates with phrases like, "Don't worry, you've got the next one!" - "That was such a close game—good job everyone!"
	Collaboration	Working together during set-up/takedown and officiating	- It took 15-20 minutes to set up volleyball nets due to a lack of teamwork - Equipment setup was slow, with most students standing around waiting for others - students asked the teacher to be ref	- Refs and linesmen collaborated to make accurate calls and clarify rules together - Students collaborated to organize games, including dividing refereeing duties and set up equipment
	Inclusion	Ensuring participation regardless of skill level	- Student #5 only participated if someone passed them the ball; otherwise, they stood still - Girls avoided play, citing a lack of confidence in volleyball skills	- Students celebrated efforts regardless of skill level, with phrases like, "Good effort, keep it up!" - Players worked to include quieter classmates

Competence	Skill Development	Skill improvement	- Girls refused to use a lighter volleyball despite struggling with volleys - Players struggled to maintain rallies in badminton, often hitting the birdie into the net	- Student #2 executed a perfect cross-court drop shot and celebrated with a quiet fist pump - Students demonstrated longer rallies and successful smashes during competitive matches
	Confidence in Roles	Confidently refereeing Enforcing rules, tracking scores	- Scorekeeping and refereeing were inconsistently managed - often completed by the teacher	- Student #5 confidently enforced serving rules as a referee - Student #18 confidently communicated to officials and players if the shuttle was in or out of bounds - “I finally have the hang of being a referee” - students stopped play to explain the rule to all players before resuming game play
	Feedback and Reflection	Reflecting on progress, celebrating success	- Students laughed off mistakes rather than addressing them - Players rarely discussed what went well or how to improve after games	- Student #15: “That was tough, but I’m getting better at returning smashes” - Players celebrated good shots with comments like, “That was awesome”
Engagement/Effort	Physical Participation	Active involvement in warm-ups, gameplay	- Minimal running during warm-ups; most students walked instead - Many students stood still during games, avoiding movement or effort	- Dynamic warm-ups involved consistent participation, with most students engaged - Players moved actively during badminton matches, chasing birdies with enthusiasm

	Mental Focus	Attention to rules, strategies	- Students used phones while waiting for their turn in badminton - Players showed minimal attention to game dynamics, often chatting instead	- duty teams clarified rules and applied them accurately during matches - Students strategized during gameplay, discussing positioning and tactics
	Emotional Investment	Reactions to success or failure	- Student #7 stood still during games, showing no emotional reaction - Limited displays of enthusiasm or frustration during play	- Student #7 jumped for joy and cheered loudly after scoring a point - Students celebrated points with cheers, high-fives, and animated gestures

This chapter presented the findings from the quantitative and qualitative components of this study. The quantitative data, gathered from pre- and post-intervention questionnaires, revealed statistically significant improvements in the relatedness and competence aspects of the Physical Education Autonomy Relatedness Competence (PEARC) Scale, while autonomy showed no significant change. Similarly, the Revised Perceived Locus of Causality (PLOC-R) paired t-tests showed no statistically significant differences across all motivational regulation types. Regarding students' intent to enroll in elective PHE, the questionnaire results indicated no change. Meanwhile, the qualitative thematic analysis illuminated key aspects of student experiences, identifying themes of autonomy, relatedness, competence, and engagement/effort. Together, these results suggest the potential effects of the intervention, while keeping in mind that the limited data and small sample size necessitate caution in interpretation. The qualitative findings offer valuable context that complements the quantitative outcomes, providing preliminary insights.

The integration of these findings will be explored in depth in the next chapter, where the results will be triangulated to assess their alignment with SDT and prior research, while acknowledging the study's limitations.

Chapter 5: Discussion

This chapter critically discusses the findings of this case study, which explored the impact of the SEM on Grade 10 students' motivation and their intention to enroll in elective PHE. By adopting SDT as a framework, this study investigates how the SEM addresses students' psychological needs of autonomy, competence, and relatedness, and whether it positively influences their future participation in elective PHE. Applying a mixed-methods approach, the investigation combines quantitative survey data from the PLOC-R, PE-ARCS, and Intent to Enroll in PHE questionnaires with qualitative pre- and post-intervention participant observations.

This chapter is organized based on the four main themes identified from the analysis: Enhanced Autonomy, Increased Perceived Competence, Stronger Peer and Teacher Relatedness, and Engagement Gains Without Enrollment Change. Each section examines the combined findings from the quantitative and qualitative data along with relevant literature.

5.1 Summary of Key Findings

The findings of this study showed some statistical changes in student motivation after the SEM intervention. Quantitative data demonstrated statistically significant improvements in students' competence and relatedness, as measured by the PE-ARCS questionnaire. These improvements were supported by qualitative observations, which regularly noted increased student engagement, favourable peer interactions, and a noticeable rise in student-led activities during the SEM intervention. Students demonstrated increased collaboration, enthusiasm, and commitment to classroom dynamics, with several students taking on leadership roles, including the initiative to support their peers throughout lessons.

Although quantitative data did not show a significant increase in student autonomy scores, qualitative evidence strongly indicated a positive change in this area. Field notes highlighted frequent examples of students exercising choice, initiating team strategies, and reflecting on their own roles. These behaviours suggest a growing sense of autonomy, even if not statistically confirmed.

Interestingly, the analysis of the PLOC-R questionnaire data showed no statistically significant differences across different types of motivation. This suggests that although students experienced increased needs satisfaction, particularly in competence and relatedness, these changes may not have resulted in statistical shifts along the motivational continuum during the short time frame of the intervention.

Similarly, responses to the questionnaire about enrollment intentions remained unchanged. Although overall motivation in respect to SDT seemed to increase after the intervention, this did not lead to statistically significant changes in students' intention to enroll in elective PHE the following year.

5.2 Theme 1: Enhanced Autonomy

One of the main goals of the SEM is to promote autonomy by encouraging students to take responsibility for their own learning (Wallhead, Hagger, & Smith, 2010). In this study, qualitative data illustrated clear increases in student-led behaviour, independent decision-making, and peer accountability during the SEM intervention. For instance, Lesson 14 documented a previously disengaged student “coordinating warm-up drills with her team without any teacher prompting.” Another positive example in Lesson 18, a student initiated a strategy discussion: “Let’s plan our rotation better today so we don’t get caught like last time.” These behaviours reflect the kind of responsibility and decision-making emphasized by Wallhead, Hagger, and Smith (2010). Additionally, Siedentop, Hastie, & van der Mars (2011) described how persistent teams and clearly defined roles within SEM create authentic learning opportunities that foster meaningful engagement. Similarly, Perlman (2011) found that students participating in structured team roles, such as coaching or refereeing, demonstrated greater ownership of their learning and peer collaboration (Clarke & Quill, 2003). The findings of this study align well with the literature; students may not have perceived autonomy in choosing activities, but they likely still experienced autonomy through opportunities to lead, make decisions, and contribute meaningfully within the SEM framework.

Despite the qualitative findings, autonomy scores on the PE-ARCS questionnaire did not show a statistically significant change from pre- to post-intervention. This discrepancy may be attributed to how autonomy is defined and measured in the questionnaire. The autonomy subscale focuses on students' control over content and decision-making (e.g., “I choose which activities I want to practice”), which may not fully match the nature of autonomy in SEM. In this intervention, the sport (badminton), the competition schedule, and the role rotations were all predetermined by the teacher. The students had some freedom within their roles but they did not select the broader learning context or activities. SEM provided students with structured autonomy, such as assuming leadership roles within assigned tasks. This may have led students not to perceive that they had a genuine choice, which may potentially explain why autonomy scores remained unchanged. This aligns with Manninen & Campbell’s (2022) findings that SEM’s impact on autonomy can vary depending on its implementation and the level of authentic choice offered. It also echoes Hastie and Wallhead’s (2016) warning that without careful

planning and teacher training, autonomy-supportive intentions in SEM may not fully translate into perceived autonomy for students.

Furthermore, autonomy was not experienced consistently across the class. As seen in Lesson 15, some students resisted leadership roles, with one stating, “I don’t want to be a coach, can someone else do it?” This highlights the reality that not all students feel prepared to take on autonomous roles without proper support and prior experiences. Although the SEM aims to give students ownership and responsibility (Siedentop, Hastie, & van der Mars, 2011), shifting from teacher-led instruction to student-led activities can be challenging for students who are not accustomed to such environments. Van den Berghe et al. (2014) stress the importance of autonomy-supportive teaching practices, such as recognizing students’ perspectives and minimizing controlling language, to effectively foster intrinsic motivation. When such supports are absent or inconsistently applied, students may feel uncomfortable. These findings reflect broader research highlighting the importance of teacher preparation and scaffolding to help students confidently assume autonomous roles (Hastie & Wallhead, 2016; Manninen & Campbell, 2022).

Ultimately, quantitative measures did not show significant gains in autonomy; however, the qualitative findings suggest that the SEM provided meaningful opportunities for student agency and leadership. This discrepancy highlights the importance of critically examining how autonomy is measured and interpreted within PHE research. This is important because autonomy is shared and social in the SEM. Future studies may benefit from utilizing tools that better capture relational and task-specific autonomy. Additionally, including student interviews as a tool and then triangulating with observational and survey data would also be beneficial. This would help create a more detailed picture of how autonomy is experienced.

5.3 Theme 2: Increased Perceived Competence

During the pre-intervention phase, which utilized traditional PHE lessons, students often demonstrated hesitancy and a lack of confidence. Observation notes from Lesson 4 described “Several students lingering on the sidelines, not participating during the fitness circuit,” and basketball lessons as “very stagnant,” with students “standing in one spot for the entire game.”

These findings align with previous research indicating that traditional PHE settings can discourage students who perceive themselves as having low competence from actively engaging (Moreno Murcia, Coll and Ruiz Pérez, 2009; Taylor & Ntoumanis, 2007). This discouragement can also be intensified by added performance pressure, competition, or the presence of social evaluation (Ntoumanis et al., 2004; Bartholomew et al., 2018; Vasconcellos et al., 2020). In these types of environments, students may choose not to participate in order to avoid feelings of disappointment and shame, which can lead to decreased motivation, increased avoidance behaviours, and disengagement from physical activity.

In contrast, the SEM environment appeared to promote a stronger sense of competence by incorporating authentic roles and diverse opportunities for success. In Lesson 16, a previously disengaged student was observed taking “initiative to serve in a doubles match against a similarly skilled classmate, visibly proud when their team scored.” In Lesson 13, a student in the referee role shared, “I actually like this role; I’m not good at badminton, but I feel like I’m still helping my team.” These examples illustrate how SEM enabled students who might not typically excel in traditional physical skill-based tasks to experience success and still be able to participate meaningfully in PHE. This aligns with research suggesting that structured environments providing optimal challenges (Niemic & Ryan, 2009) and student-led involvement (Siedentop, Hastie, & van der Mars, 2011) foster the development of competence in PHE.

Duty team roles such as referees, coaches, and scorekeepers further enhanced students’ feelings of competence and effectiveness. Field notes documented moments where students confidently applied rules and mediated team discussions, including when “students clarified rules and awarded points correctly,” or when a student “stopped play and gathered all teams to explain the call.” The student later reflected, “I finally have the hang of being a referee.” This shows that students developed both technical and interpersonal skills through repeated engagement in non-playing roles. This aligns with findings by Tendinha et al. (2021), who highlight that SEM’s diverse responsibilities allow students to make meaningful contributions and feel valued, especially those who may lack confidence in physical performance. Similarly, Manninen and Campbell (2022) argue that such roles help students demonstrate strengths beyond traditional athletic abilities, increasing their sense of belonging and self-worth. These insights also resonate

with Clarke and Quill's observations (as cited in Perlman, 2010), where SEM environments fostered self-reliance and reduced dependence on teacher guidance.

Students demonstrated a growing sense of awareness of their skill development and contributions, which increased their sense of competence throughout the SEM intervention. In Lesson 17, one student reflected, "I'm getting better at serving; it actually goes over now," while another commented, "That was a tough rally, but I'm getting better at returning smashes." These moments of self-recognition show not only physical improvement but also students' rising confidence in their abilities, which is a key part of developing competence (Tendinha et al., 2021; Ntoumanis, 2001). As highlighted by Albaloul, Kulinna and van der Mars (2024) and Tendinha et al. (2021), the inclusive structure of SEM, using small-sided games and consistent mixed-ability teams, reduces performance pressure and allows students at all skill levels to contribute meaningfully. The opportunity to succeed in diverse roles, such as team manager or scorekeeper, further supported competence by enabling students to showcase strengths often overlooked in traditional PHE formats (Manninen & Campbell, 2022). These features, along with peer feedback and role clarity, appear to create an environment where students not only improve skills but also become aware of their personal growth, thereby strengthening their motivation to participate.

Students' physical skill execution during competitive play also supported feelings of competence. For example, one student "executed a perfect cross-court drop shot and celebrated with a quiet fist pump," suggesting a sense of mastery and confidence. Additionally, students participated in "longer rallies and successful smashes during competitive matches," indicating technical growth. These outcomes reflect the SEM's ability to create optimally challenging environments, where students have both the opportunity and psychological safety to improve (Niemiec & Ryan, 2009).

In summary, the SEM seemed to promote competence not only by improving skill performance but also by expanding the definition of success. Through its inclusive design and diverse roles, students could experience, recognize, and take pride in their contributions. Although statistical data did not indicate a significant change in motivation, the qualitative

findings suggest that the SEM supported key conditions for motivational growth, particularly through increased perceptions of competence.

5.4 Theme 3: Strengthened Peer and Teacher Relatedness

During the pre-intervention phase, observation notes recorded limited interactions between peers and dominance by a few athletic students in game play. Lesson 3 described the class as “segregated into skill-based clusters,” while Lesson 5 noted “little collaboration and encouragement across teams.” These conditions align with critiques of traditional PHE, which often leaves lower-skilled students feeling alienated and excluded. This lack of peer connection in traditional formats can reduce students’ sense of relatedness, especially for those who are not confident in sport settings. As highlighted in SDT research, when students do not feel connected to their peers, their willingness to participate and engage decreases (Ryan & Deci, 2017; Perlman, 2011).

In contrast, the SEM promoted a lively social environment where relatedness was actively supported through team-based structures and collaborative rituals. Observation notes from Lesson 15 described “Teammates cheering each other on,” while Lesson 17 noted “Joint strategizing between players during timeouts.” One student was overheard saying, “Don’t worry, you’ll get it next time, we’ve got your back,” after a missed serve, highlighting peer support. These observations demonstrate how stable teams, consistent roles, and shared goals in SEM help students develop relationships with peers that create supportive environments. MacPhail et al. (2004) and Siedentop (1998) emphasize that these group dynamics deepen social connectedness beyond surface-level collaboration, therefore, enhancing students’ investment in the collective experience.

Team bonding went beyond active play. Students created team cheers, decorated scorecards, and recognized a “player of the game.” These rituals helped build a sense of group identity. For example, in Lesson 14, one group ended the session with a spontaneous cheer, while another participated in a team handshake after scoring. These practices align with the literature, which highlights the importance of inclusive, team-oriented cultures in fostering belonging

(MacPhail et al., 2004). When students feel part of a collective, they are more likely to invest emotionally and socially in the learning environment (Perlman, 2011).

Relatedness was also present beyond peer interactions, as the teacher-student relationship also evolved. In Lesson 20, a student approached the teacher and asked, “We’re thinking of switching up our rotation. Can you help us figure it out?”. This was indicative of an important shift in the learning dynamic, which went from teacher-as-authority to teacher-as-partner. According to Reeve (2002), this adjustment is a key element of autonomy-supportive teaching, which promotes relatedness by encouraging respectful, reciprocal interactions. The shift in power dynamics allows students to view the teacher as someone who values their ideas and supports their agency, which enhances relatedness within the SEM framework.

SEM’s inclusive spirit was significant for students who often find performance-focused environments quite challenging. An observation from Lesson 12 noted that “a student with limited motor skills thrived in the role of coach, taking detailed notes and offering advice during timeouts.” By offering non-playing roles such as coach, referee, and statistician, the SEM enabled students to contribute meaningfully to the team’s success. This reinforces the idea that relatedness frequently acts as the foundation upon which other psychological needs are built (Perlman, 2011). This helps them develop competence and a sense of autonomy. Overall, this shows how SEM promotes social connection.

Collectively, these findings suggest that the SEM promotes relatedness in PHE by allowing students of varying skill levels to feel part of a supportive and collaborative team.

5.5 Theme 4: Engagement Gains Without Enrollment Change

Qualitative data from the SEM intervention revealed notable increases in student engagement. During the SEM lessons, students displayed greater enthusiasm, teamwork, and ownership compared to the traditional PHE unit. During the SEM intervention, students took on meaningful roles within their teams, supported one another during gameplay, and were more emotionally invested. For example, comments like, “I actually like this role; I’m not good at badminton, but I feel like I’m still helping my team,” and “We’ve got your back,” following a

missed serve, illustrate the development of a more inclusive and supportive class environment. These interactions suggest that students were beginning to internalize the values of responsibility, team membership, and shared success; all core features of SEM (Siedentop et al., 2011).

Although engagement increased during the SEM, it did not lead to a higher intention to enrol in elective PHE after the intervention. The main reasons students cited for not enrolling in PHE remained consistent: not wanting to get sweaty during the school day, being interested in other electives, and prioritizing academic courses. These barriers reflect concerns highlighted in the literature, where discomfort, scheduling conflicts, and the low perceived academic value of PHE continue to be primary deterrents (Scantling, 1995; Lodewyk & Pybus, 2013; Davis, Zhu and Haegele, 2018; Sulz et al., 2020).

Notably, few students expressed a dislike for PHE or the SEM model, suggesting that the intervention did not reduce interest in the subject itself. This supports findings by Cuevas, García-López, and Serra-Olivares (2016), who observed that even when motivation improves, it may not necessarily lead to a greater intention to participate in physical activity beyond mandatory education. Similarly, Gibbons (2009) and Davis, Zhu and Haegele (2018) emphasize that academic demands, competing priorities, and general disengagement from PHE often cause female students to opt out when elective PHE choices are available. These persistent barriers may outweigh positive in-class experiences. Therefore, while a single SEM unit may foster enjoyment, autonomy, competence, relatedness and engagement, it may not be enough to change long-standing enrolment patterns or deeply rooted attitudes towards PHE.

Overall, these findings suggest that while the SEM enhanced students' engagement, systemic and practical barriers such as academic priorities and scheduling conflicts still limit students' willingness to enrol in elective PHE.

5.6 Unexpected Findings that Warrant Further Research

An unexpected finding in this study was the absence of a statistically significant change in students' intent to enrol in elective PHE, despite strong qualitative evidence of increased

engagement, competence, and relatedness during the SEM intervention. Although students reported positive experiences, showed increased effort, and reflected higher levels of peer connection and personal growth, these motivational changes did not result in a measurable shift in course selection behaviour. This disconnect may suggest that external factors, such as academic priorities, scheduling constraints, or perceptions of PHE as less academically valuable, still outweigh intrinsic motivational gains when students are deciding on enrollment.

To better understand this result, future research would benefit from examining why students decide not to enrol in elective PHE even after positive experiences. Qualitative methods such as semi-structured interviews, focus groups, or student journaling could provide deeper insights into students' personal reasons, constraints, and social influences. Additionally, mixed-method studies might show how factors like school timetables, availability of elective courses, or parental influence interact with motivational factors. Studying these patterns over time could also offer a clearer understanding of how exposure to SEM over multiple semesters could impact elective enrolment decisions.

To conclude, this study found that the SEM helped create a more inclusive, student-centred environment that supported autonomy, competence, and relatedness. Despite these improvements, the intervention did not lead to a measurable increase in students' intention to enrol in elective PHE. This indicates that while SEM can enhance in-class motivation, external factors may still have a greater influence on course selection. The next chapter will review the overall contributions of the study and outline its strengths and limitations.

Chapter 6: Conclusion

6.1 Motivation Outcomes

The findings indicate that the SEM positively influenced students' sense of competence and relatedness. This was confirmed by statistically significant improvements on the PE-ARCS scale and detailed qualitative observations. Although autonomy did not increase significantly in the quantitative data, qualitative evidence documented students engaging in decision-making, problem-solving, and team strategy planning. This discrepancy suggests that SEM fosters a

structured or shared form of autonomy rather than complete choice, which may not align precisely with how survey tools measure the construct.

PLOC-R results revealed no significant differences in amotivation, external regulation, introjected regulation, identified regulation, or intrinsic motivation. This suggests that while students felt more competent and connected, these improvements did not translate into measurable shifts along the motivational continuum during the short timeframe of the study.

Taken together, the evidence suggests that SEM is effective at enhancing classroom experiences tied to competence and relatedness, and may promote role-specific autonomy, but it appears less effective at shifting deeper motivational positions in the short term.

6.2 Enrollment Intentions

Although there were some motivational improvements, the intervention did not change students' enrollment decisions. Both before and after the SEM season, 12 students expressed intent to take elective PHE, while 13 did not. Students' reasons for not planning to enrol remained centred on academic priorities, interest in other electives, and discomfort with becoming sweaty during the school day.

The study, therefore, concludes that SEM has the potential to boost motivation and classroom engagement but does not independently influence enrollment intentions. These findings align with prior studies, which showed that improvements in classroom motivation do not necessarily extend to elective course selection.

6.3 Strengths of the Study

The pragmatic case study design, underpinned by SDT, effectively linked theory with practice by focusing on a specific school-based issue. The use of mixed methods was another strength, as it combined validated surveys with detailed participant observations. This integration allowed statistical evidence to be contextualized with rich descriptions of student behaviour, enhancing both depth and credibility. Furthermore, conducting the study in an authentic Grade

10 classroom enhanced its practical relevance. The intervention took place in real school conditions, making the results directly useful for teachers and administrators who are thinking about using the SEM. Lastly, the study added to the literature by clearly linking SEM outcomes with SDT constructs and situating these results within the context of the declining PHE enrolment issue in Canadian secondary schools.

6.4 Weaknesses and Limitations

The study also has limitations that must be acknowledged. The most significant is the small sample size, as it only had twenty-five students from a single school participate. While case study research does not seek broad generalizability, the limited scope restricts transferability to other settings. The short duration of the SEM intervention, limited to ten lessons, also presents a weakness. Motivation and enrolment behaviours may evolve over more extended periods, and therefore, a longer intervention may have yielded a different outcome.

The dual role of teacher-researcher presents another limitation, as students may have altered their responses or behaviours knowing that their teacher was also collecting data. Moreover, the possibility of researcher bias cannot be eliminated despite efforts to minimize this risk. Furthermore, reliance on self-report questionnaires also posed measurement constraints, particularly regarding autonomy, which may not have been adequately captured by the instruments used. Similarly, the Intent to Enroll questionnaire was not validated and only offered a snapshot of decision-making. It failed to capture the complex interplay of academic, social, and personal factors that impacted students' intent to enrol in elective PHE.

Finally, it must be acknowledged that enrollment decisions may be influenced by external factors beyond classroom interventions, including timetable conflicts, parental expectations, and academic pressures. These structural issues were outside the scope of this study but remain central to understanding why improved classroom experiences did not translate into changes in elective enrollment.

6.5 Implications for Practice

The findings suggest that SEM should be recommended as a pedagogy that can increase students' motivation within compulsory PHE. Teachers adopting SEM can create inclusive and engaging learning environments that promote competence, foster peer connection, and provide students with meaningful roles and authentic sporting experiences. These conditions make compulsory PHE more rewarding and accessible for a diverse range of students.

6.6 Recommendations for Future Research

This research suggests several directions for future studies. Long-term research could follow students over multiple years to assess if SEM impacts physical activity outside of school. Broader, multi-site studies with larger and more diverse samples would also improve generalizability and allow exploration of demographic factors, including gender differences. Gender-focused research is particularly important because of the noticeably lower enrolment of female students in elective PHE. Interventions that specifically address girls' experiences may help close this gap. Future research could also strengthen the qualitative component of the study. For example, incorporating interviews or focus groups would offer deeper insights into the reasons behind students' enrolment choices. Additionally, other tools for measuring autonomy could be used to better catch autonomy experienced in SEM contexts. Finally, policy-level research exploring the effects of scheduling, counselling, and cultural perceptions of PHE would provide valuable insights into the systemic barriers impacting enrollment.

6.7 Concluding Thoughts

In this study, SEM enhanced competence, relatedness, and classroom engagement. It also highlights the limits of pedagogy alone, showing that systemic, cultural, and academic pressures may exert stronger influences on enrollment decisions than classroom enjoyment. In conclusion, SEM is not a standalone solution to declining PHE enrollment, but it remains a powerful tool for enriching compulsory PHE for secondary students.

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Appendix List

Appendix A: The Revised Perceived Locus of Causality in Physical Education Scale (PLOC-R)

I take part in PE...

Amotivation

- But I really don't know why
- But I don't see why we should have PE
- But I really feel I'm wasting my time in PE
- But I can't see what I'm getting out of PE

External Regulation

- Because in this way I will not get a low grade
- So that the teacher won't yell at me
- Because that's the rule

Introjected Regulation

- Because I would feel bad if the teacher thought that I am not good at PE
- Because I would feel bad about myself if I didn't
- Because I would feel bad if the other students thought that I am not good at PE
- Because it would bother me if I didn't

Identified Regulation

- Because it is important to me to do well in PE
- Because it is important to me to improve in the drills we do in PE
- Because it is important to me to be good in the sports we practice in PE
- Because it is important to me to try in PE

Intrinsic Motivation

- Because PE is enjoyable
- Because PE is exciting
- Because I enjoy learning new skills
- Because PE is fun

(Vlachopoulos et al., 2011)

Appendix B: Physical Education Autonomy Relatedness Competence Scale (PE-ARCS)

When I am in physical education...

Autonomy

- I choose which activities I want to practice
- I make a lot of my own decisions
- I have input in which skills I want to practice
- I am doing what I want

Relatedness

- My classmates seem to like me
- I really like the people I am with
- I feel my classmates accept me
- I feel connected to my classmates

Competence

- I am good at the things we do
- I am able to perform well
- I feel skilled
- I am confident in my ability

(Sulz, Temple and Gibbons, 2016)

Appendix C: Intent to Enroll in Elective Physical Education Survey

1. I plan on enrolling in elective PHE next year

- a. Yes
- b. No

If you answered No please complete question #2.

If you answered Yes please complete question #3.

2. Please place an X beside all of the reasons that impacted your intent NOT to enroll in elective PHE next year:

- ☐ I am embarrassed to participate
- ☐ I do not want to get sweaty during the day
- ☐ I am interested in another elective
- ☐ I don't think I can keep up with the other participants
- ☐ I do not like the activities we do in PHE
- ☐ I hate PHE
- ☐ I do not like sports
- ☐ I do not like the Sport Education Model
- ☐ Academic courses are more important
- ☐ Other _____

3. Please place an X beside all the reasons that impacted your intent to enroll in elective PHE next year:

- ☐ I want to continue learning about PHE
- ☐ I enjoy the different activities/sports in class
- ☐ I want to improve my health and fitness
- ☐ My friends are enrolled in PHE
- ☐ I enjoy being active throughout the day
- ☐ PHE makes me feel good
- ☐ I enjoy the Sport Education Model
- ☐ Other _____

Appendix D: Example of Observation Field Notes

Date: January 19, 2023	
Space: Small Gym	
Lesson/Activity: Playoffs 2v 4 Duty = 1+ 3	
Engaged Behaviours	Disengaged Behaviors
• After the teacher reminder both teams did running warm-ups + dynamic warm-ups • Duty teams were efficient in their set-up • Student M = ref ○ Explaining single vs double lines to Student C = linesman ○ "Don't worry you got it!" • Student H = ref ○ Enforcing switching sides when serving ○ "I finally have the hang of being a referee" • High fives • Good movement on courts • Cheering "woo" "yes" "so close" nice try" • Players are respectful of referees • Student K collapsed to the floor in frustration b/c he hit it out • Student H - "Don't worry about that miss; you've got the next one!" • Student K - "Great shot! That was awesome teamwork" • Student B - "That was a tough rally, but I'm getting better at returning smashes." • Student E - "That was such a close game—good job everyone!" • Student I executed a perfect cross-court drop shot during the rally and celebrated quietly with a fist pump, saying, "Finally,!" • After the match, Student J high-fived Student W and said, "Great game!"	• Playing teams = phones at beginning of warm-ups • Student E + Student R = phones during lines • Student K didn't help set up ○ "enough ppl helping" ○ On her phone on the bench • Student B ○ "if someone doesn't do they're job then it doesn't work" • Student N ○ "its fun but would be more fun of it was another sport" ○ "I would have preferred basketball" • Student E ○ "Being duty team is the boring part" •

Appendix E: Case Study Timeline

Action Area	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7-onwards
Activity	- Traditional PE	- Traditional PE	-Traditional PE/ Sport Education Intervention	- Sport Education Intervention	- Sport Education Intervention	Intervention Complete	
Data collections	- Researcher Observations	- Researcher Observations	- Three Quantitative Surveys - Researcher Observations	- Researcher Observations	- Researcher Observations	- Three Quantitative Surveys - Researcher Observations	
Analysis plan	- Transcribe Observations and review both observations and researcher journal for themes - Determine and record any plan adjustments needed in methodology journal	- Transcribe Observations and review both observations and researcher journal for themes - Determine and record any plan adjustments needed in methodology journal	- digitize survey results - Transcribe Observations and review both observations and researcher journal for themes - Determine and record any plan adjustments needed in methodology journal	- Transcribe Observations and review both observations and researcher journal for themes - Determine and record any plan adjustments needed in methodology journal	- Transcribe Observations and review both observations and researcher journal for themes - Determine and record any plan adjustments needed in methodology journal	- digitize survey results - Transcribe Observations and review both observations and researcher journal for themes - Determine and record any plan adjustments needed in methodology journal	- Run SPSS - Write dissertation

Appendix F: Sport Education Model Intervention – Badminton Block Plan

1	Intro. - explanation of sport ed. Season → why? Benefits? Purpose? - go over season overview - describe roles - expectations - assessment - post teams with designated captains → explain how teams were made through team shake app - handout → role descriptions Development - team meeting → each member will have a corresponding number from 1-5 excluding the captain - this # will help team members to check what role they are playing each day - team contract - formation of team entity - short press release write up to introduce team into league Culmination - regroup and introduce teams - hand in documents into team binder - team pictures - create team poster and post onto gym wall - survey on initial opinions about this unit - Time permitting → coaches teach grips to team and free play rally	6	Regular Season Intro. - each team will retrieve their binder and figure out their roles through the numbered chart - trainer will lead warm-up → can choose from the many warm-ups provided in the binder Development - coaches will grab binders and meet with commissioner to go over today's objectives - given hand out of today's lesson to add to binder - defending as a pair → side to side - defend against the smash - cover most area side to side - high serve fall into side Culmination - continue regular season games - post game media - statistician record scores in binder - GPAI - PASE roles and responsibilities checklist
2	Intro. Pre-Season - each team will retrieve their binder and figure out their roles through the numbered chart - trainer will lead warm-up → can choose from the many warm-ups provided in the binder Development - coach will find today's lesson in the binder - coaches will meet with commissioner to go over the objectives of today's practice - equipment managers will get equipment - coaches will lead practice	7	Regular Season Intro. - each team will retrieve their binder and figure out their roles through the numbered chart - trainer will lead warm-up → can choose from the many warm-ups provided in the binder Development - coaches will grab binders and meet with commissioner to go over today's objectives

	→ creating space – pushing the opponent back, overhead clear and backhand overhead clear - Where are the available spaces on the court? - is it harder for your opponent to attack you from the front or the back? Why? - is it easier to send your opponent back by using an overhead or underhand shot? Culmination - half court singles within teams - understand more power can be generated from overhead shots - equipment managers will return equipment - self- assessment work sheet		- work on what you feel your team needs to improve on for the end of the regular season and so they are ready for the post season Culmination - finish regular season games - post game media - statistician record scores in binder - formative assessment → self and team worksheet - PASE roles and responsibilities checklist
3	Pre-season Intro. - each team will retrieve their binder and figure out their roles through the numbered chart - trainer will lead warm-up → can choose from the many warm-ups provided in the binder Development - Creating Space → drop shot - coaches will grab binders and meet with commissioner to go over today's objectives - given hand out of today's possible lesson to add to binder → use drop shot to move opponent forward - use overhead clear to push opponent back, and then be aware of the space available at the front of the opponent's court - drop shots into hoola hoops - one player feeds shuttle to back court and player returns drop shot Culmination - singles games within teams - alternate serves - score on every serve and it begins with underarm serve only - serve beyond service line - equipment manager returns equipment self- assessment journal half a page → reflecting on concepts of space	8	Post Season Intro. - each team will retrieve their binder and figure out their roles through the numbered chart - trainer will lead warm-up → can choose from the many warm-ups provided in the binder Development - coaches get team organized and ensure everybody knows where they are going Culmination - playoff games - statistician record scores in binder - post game media - GPAI

4	Regular Season Intro. - each team will retrieve their binder and figure out their roles through the numbered chart - trainer will lead warm-up → can choose from the many warm-ups provided in the binder Development - coaches will grab binders and meet with commissioner to go over today's objectives - given hand out of today's lesson to add to binder - winning the points → Attacking Short Serve - full court doubles game - Q: how can you attack a short serve? - half-court partner practice, singles - feed short serves, other attacks it Culmination - regular season games start - GPAI - equipment manager will return equipment - publicist will write and present post game media release to class - statistician record scores in binder - PASE roles and responsibilities checklist	9	Post Season Intro. - each team will retrieve their binder and figure out their roles through the numbered chart - trainer will lead warm-up → can choose from the many warm-ups provided in the binder Development - coaches get team organized and ensure everybody knows where they are going Culmination - playoff games - statistician record scores in binder - post game media - GPAI
5	Regular Season Intro. - each team will retrieve their binder and figure out their roles through the numbered chart - trainer will lead warm-up → can choose from the many warm-ups provided in the binder Development - coaches will grab binders and meet with commissioner to go over today's objectives - given hand out of today's lesson to add to binder - winning the points → attacking smash - half court singles game - cannot play 2 consecutive drop shots - goal is to return shuttle with a smash - practice getting a specific # of shots to certain areas → one partner feeds high to midcourt - fake a smash and perform a drop shot	10	Post Season I Intro. - each team will retrieve their binder and figure out their roles through the numbered chart - trainer will lead warm-up → can choose from the many warm-ups provided in the binder Development - coaches get team organized and ensure everybody knows where they are going Culmination - playoff games - statician record scores in binder - post game media - presentation of awards

	Culmination - Regular Season games - post game media - statistician record scores in binder - formative assessment → assessing your team worksheet - PASE roles and responsibilities checklist		- feedback survey on the unit
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Appendix G: Sport Education Model Intervention – Daily Agenda

TIME	ACTIVITY
10:20-10:25 5 min	- Check the team binder and familiarize yourself with your designated role for the day Duty Team → set-up the nets
10:25-10:35 10 min	Team Fitness Trainer → lead the warm-up for the day
10:35-10:40 5 min	Captain/Coach → meet with league commissioner Equipment Manager → retrieve necessary equipment for your team practice
10:40-10:55 15 min	Captain/Coach → lead practice
10:55-11:00 5 min	Captain/Coach + Duty Team → organize team members; - Assure that each member knows what they are doing - Ex. playing on a specific court, refereeing on a specific court
11:00-11:20 20 min	Regular Season Games
11:20-11:25 5 min	Publicists → check your team scores and write post game media release Statistician → record scores in both team and competition binder Duty Team → put equipment away and take down nets Captain/Coach → help team where required Fitness Trainer → help team where required
11:25-11:30 5 min	- Regroup with league commissioner - Record your self-evaluations in your team binder Publicists → present post game media release

Appendix H: Example of Coded Qualitative Data

Date: January 19, 2023	
Space: Small Gym	
Lesson/Activity: Playoffs 2v 4 Duty = 1+ 3	
Engaged Behaviours	Disengaged Behaviors
• After the teacher reminder both teams did running warm-ups + dynamic warm-ups • Duty teams were efficient in their set-up • Student M = ref ○ Explaining single vs double lines to Student C = linesman ○ "Don't worry you got it!" • Student H = ref ○ Enforcing switching sides when serving ○ "I finally have the hang of being a referee" • High fives • Good movement on courts • Cheering "woo" "yes" "so close" nice try" • Players are respectful of referees • Student K collapsed to the floor in frustration b/c he hit it out • Student H - "Don't worry about that miss, you've got the next one!" • Student K - "Great shot! That was awesome teamwork" • Student B - "That was a tough rally, but I'm getting better at returning smashes." • Student E - "That was such a close game—good job everyone!" • Student I executed a perfect cross-court drop shot during the rally and celebrated quietly with a fist pump, saying, "Finally,!" • After the match, Student J high-fived Student W and said, "Great game!"	• Playing teams = phones at beginning of warm-ups • Student E + Student R = phones during lines • Student K didn't help set up ○ "enough ppl helping" ○ On her phone on the bench • Student B ○ "if someone doesn't do they're job then it doesn't work" • Student N ○ "its fun but would be more fun if it was another sport" ○ "I would have preferred basketball" • Student E ○ "Being duty team is the boring part" •

Appendix I: School Authorization – Principal Permission Letter

Principal Permission Letter
Authorization for Frank Hurt Secondary School to Serve in a Research Study for: MA Physical Education Sport and Physical Literacy

Project:	MA Dissertation
Researcher:	Gurjita Lalli
Phone number:	(604)836-9587
Location of the study:	Frank Hurt Secondary
Supervising instructor:	Dr. Karen Sirna, Coordinator, Graduate Diploma in Physical and Health Education sirnak@douglascollege.ca
Purpose of the study:	What impact does a Sport Education season have on the motivation levels of grade 10 students and their intent to enroll in an elective PHE class the following year?
Procedures:	Surveys and Observations
Time and duration:	5 weeks November to December 2022
Benefits of the study:	Improve: student motivation, student enrollment in elective PE, my practice
Persons with access to raw data:	Only the following people will have access to the raw data: Gurjita Lalli and Dr. Karen Sirna if requested
Raw data destruction dates	Any records with personal information on them will be kept for one year and destroyed by December 30, 2023.

I understand that participation in this project is voluntary, and I understand that a parent or guardian may withdraw his/her child from this study at any time by notifying the researcher.

Statement of confidentiality:

The participation of the students in this project is confidential. Only the researcher, collaborators, and supervising instructor will have access to the students' identities and to information that can be associated with their identities.

Please check the appropriate box below and sign the form:

- ☒ I give permission for my school to participate in this project. I understand that I will receive a signed copy of this consent form. I have read this form and understand it.
- ☐ I do not give permission for my school to participate in this project.

Brian Tait

Signature of Principal
Brian Tait

October 24, 2022

Date

Appendix J: Informed Consent



FRANK HURT SECONDARY SCHOOL

13940 – 77th Avenue, Surrey, BC V3W 5Z4
Phone: 604-590-1311 Fax: 604-590-9013

Informed Consent

Authorization for a Minor to Serve as a Research Participant

Dear Parents/Guardian,

I will be conducting a study in our classroom to determine the impact of a Sport Education Unit on students' motivation levels and their intent to enroll in elective PHE the following year. This study is part of my Master's of Arts in Physical Education, Sport and Physical Literacy at the University of Wales, Trinity St. David.

The purpose of this study is to determine if student motivation to participate in Physical Education increases during a Sport Education unit and if this impacts students' intent to enroll in elective physical education the following year. This study will take place at Frank Hurt Secondary and will last for five weeks from November to December 2022.

I am writing to ask permission to use the information I collect from your child during this process for my dissertation. Participation in this study involves only regular classroom activities. All students in this class will be participating in a Sport Education unit as part of PE 10 this semester. The consent requested below is specifically for the collection of data from surveys and observations. Only students who will be participating in this study will be required to complete anonymous surveys. These surveys will NOT affect students' grades. Participation in this study is voluntary and students may leave this study at any time. You may contact me at any time regarding your child's participation. My phone number is (604)590-1311. The principal of the school, Mr. Tait, has approved this study.

Only Ms. Lalli and Dr. Sirna will have access to the data (observations & surveys) collected in this study. Your child's participation in this project is strictly confidential. Only I and my instructor, will have access to your child's identity and to information that can be associated to your child's identity. Any records with personal information on them will be kept for one year and destroyed by December 30, 2023.

Please check the appropriate box below and return this form to Ms. Lalli by November 4, 2022.

- ☐ I give permission for my child's data to be used in this study. I understand that I will receive a signed copy of this consent form. I have read this form and understand it.
- ☐ I do not give permission for my child's data to be part of this project.

Student's Name

Signature of Parent/Guardian

Date

Appendix K: APPLICATION FOR ETHICAL APPROVAL

In order for research to result in benefit and minimise risk of harm, it must be conducted ethically. A researcher may not be covered by the University's insurance if ethical approval has not been obtained prior to commencement.

The University follows the OECD Frascati manual definition of **research activity**: “creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications”. As such this covers activities undertaken by members of staff, postgraduate research students, and both taught postgraduate and undergraduate students working on dissertations/projects.

The individual undertaking the research activity is known as the “principal researcher”.

Ethical approval is not required for routine audits, performance reviews, quality assurance studies, testing within normal educational requirements, and literary or artistic criticism.

Please read the notes for guidance before completing ALL sections of the form.

This form must be completed and approved prior to undertaking any research activity. Please see Checklist for details of process for different categories of application.

Delete the Guidance Notes at the end of the form BEFORE submitting your application

SECTION A: About You (Principal Researcher)

1	Full Name:	Gurjita Lalli			
2	Tick all boxes which apply:	Member of staff:	☐	Honorary research fellow:	☐
3	Undergraduate Student	☐	Taught Postgraduate Student	☒	Postgraduate Research Student
4	Institute/Academic Discipline/Centre:	University of Wales Trinity Saint David School of Sport, Health and Outdoor Education			
5	Campus:	Carmarthen			
6	E-mail address:	gurjita@gmail.com			
7	Contact Telephone Number:	6048369587			
For students:					
8	Student Number:	2007989			
9	Programme of Study:	MA Physical Education, Sport and Physical Literacy			
10	Director of Studies/Supervisor:	Nalda Wainwright/Karen Sirna			

SECTION B: Approval for Research Activity

1	Has the research activity received approval in principle? (please check the Guidance Notes as to the appropriate approval process for different levels of research by different categories of individual)	YES	☒	NO	☐
					Date
2	If Yes, please indicate source of approval (and date where known): Approval in principle must be obtained from the relevant source prior to seeking ethical approval	Research Degrees Committee	☐		
3		Institute Research Committee	☒		
4		Other (write in)	☐		

SECTION C: Internal and External Ethical Guidance Materials

Please list the core ethical guidance documents that have been referred to during the completion of this form (including any discipline-specific codes of research ethics, and also any specific ethical guidance relating to the proposed methodology). Please tick to confirm that your research proposal adheres to these codes and guidelines.		
1	UWTSD Research Ethics & Integrity Code of Practice	☒
2	UWTSD Research Data Management Policy	☒
3	TRI Council Policy Statement on Ethical Conduct (TCPS 2: CORE)	☒

SECTION D: External Collaborative Research Activity

1	Does the research activity involve collaborators outside of the University?	YES	☒	NO	☐
2	If Yes, please provide the name of the external organisation and name and contact details for the main contact person and confirmation this person has consented to their personal data being shared as part of this collaboration.				
3	Institution	Frank Hurt Secondary School			
4	Contact person name	Steve Semren			
5	Contact person e-mail address	Semren_s@surreyschools.ca			
6	Has this individual consented to sharing their details on this form?	YES	☒	NO	☐
7	Are you in receipt of a KESS scholarship?	YES	☐	NO	☒

8	Is your research externally funded		YES	☐	NO	☒
9	Are you specifically employed to undertake this research in either a paid or voluntary capacity?	Voluntary	YES	☐	NO	☒
10		Employed	YES	☐	NO	☒
11	Is the research being undertaken within an existing UWTSD Athrofa Professional Learning Partnership (APLP)	If YES then the permission question below does not need to be answered.	YES	☐	NO	☒
12	Permission to undertake the research has been provided by the partner organisation	(If YES attach copy) If NO the application cannot continue	YES	☒	NO	☐

Where research activity is carried out in collaboration with an external organisation

13	Does this organisation have its own ethics approval system?	YES	☐	NO	☒
14	If Yes, please attach a copy of any final approval (or interim approval) from the organisation				

SECTION E: Details of Research Activity

1	Indicative title:	Investigating the impact of a Sport Education season on the motivation levels of grade 10 students and their intent to enrol in an elective PHE class the following year?			
2	Proposed start date of your research (not your course start date):	January 1, 2022	Proposed end date:	June 30, 2022	
3	Introduction to the Research (maximum 300 words) Ensure that you write for a <u>Non-Specialist Audience</u> when outlining your response to the three points below: • <i>Purpose of Research Activity</i> • <i>Proposed Research Question</i> • <i>Aims of Research Activity</i> • <i>Objectives of Research Activity</i> Demonstrate, briefly, how <u>Existing Research</u> has informed the proposed activity and explain • <i>What the research activity will add to the body of knowledge</i> • <i>How it addresses an area of importance.</i>				

4	Purpose of Research Activity To introduce Sport Education to grade 10 students, as an intervention, in an effort to positively influence student motivation. In hopes of impacting student intent to enroll in elective physical education the following year (this box should expand as you type)
5	Research Question What impact does a Sport Education season have on the motivation levels of grade 10 students and their intent to enroll in an elective PHE class the following year? (this box should expand as you type)
6	Aims of Research Activity The aim of my research is to ultimately keep students participating in PHE throughout their high school career in order to promote lifelong participation in physical activity across the lifespan. Students are more likely to be active as adults, if they stay active as teenagers. (this box should expand as you type)
7	Objectives of Research Activity My objectives are to introduce Sport Education to grade 10 students. To improve student motivation To improve enrolment in elective (this box should expand as you type)
8	Proposed methods (maximum 600 words) Provide a brief summary of all the methods that may be used in the research activity, making it clear what specific techniques may be used. If methods other than those listed in this section are deemed appropriate later, additional ethical approval for those methods will be needed.
9	For my qualitative data, I will be keeping a researcher journal with my own reflections of each lesson completed by the end of the day. In addition, I will be keeping a methodology journal to keep track of any changes or interruptions that occur, which will also be completed by the end of the day. I will also be collecting observational data of the students via observation notes both before and during the SEM intervention. I will be looking for the following: • Participation levels (sitting out, playing, disappearing from class??) • Facial expressions (happy, mad, sad, etc.) • Activity levels (walking, running, playing) • Interactions with peers (talking, laughing, etc.) • Success in activities For quantitative data, the first survey is The Revised Perceived Locus of Causality in Physical Education Scale (PLOC-R) which evaluates students' motivational regulations (Appendix A) (Vlachopoulos et al., 2011). The PLOC-R has 19 items with seven-point likert scale. The original scale has previously been validated, but for the purpose of the study by Vlachopoulos et al. (2011), it was modified by two experienced researchers with the necessary background knowledge needed to maintain ecological validity (Pannekoek, Piek and Hagger, 2014) I will be using the modified version as I find the wording to be more appealing and easier to understand for students.

	The second survey I will be using is the Physical Education Autonomy Relatedness Competence Scale (PE-ARCS) (Appendix B) which measures overall psychological need satisfaction and perceptions of autonomy, relatedness, and competence. The scale has a total of 12 items with a 7-point likert scale (Sulz et al., 2016) (Sulz et al., 2020). Also note that Sulz, Temple and Gibbons (2016) found “evidence of validity and reliability of scores from ... PE-ARCS that could be used in high school physical education settings as measures of motivational state and satisfaction of autonomy, relatedness, and competence” (p. 542). To measure the intent of students to enroll in grade 11 elective PHE I will be administering a survey with 3 questions both pre and post intervention, but students will only answer 2/3 questions. See appendix C. (this box should expand as you type)
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10	Location of research activity Identify all locations where research activity will take place.
11	Frank Hurt Secondary School Gym 13940 77 Ave, Surrey, BC V3W 7V7 (this box should expand as you type)
12	Research activity outside of the UK If research activity will take place overseas, you are responsible for ensuring that local ethical considerations are complied with and that the relevant permissions are sought. Specify any local guidelines (e.g. from local professional associations/learned societies/universities) that exist and whether these involve any ethical stipulations beyond those usual in the UK (provide details of any licenses or permissions required). Also specify whether there are any specific ethical issues raised by the local context in which the research activity is taking place, for example, particular cultural and/or legal sensitivities or vulnerabilities of participants.
13	Tri Council Policy Statement: Ethical Conduct for Research Involving Humans Course on Research Ethics (TCPS 2: CORE) BC Teacher Regulation Branch-Standards for Education, Competence and Professional Conduct of Educators in BC

14	Use of documentation not in the public domain: Are any documents <u>NOT</u> publicly available?	NO ☒	☒
		YES ☐	☐
15	If Yes, please provide details here of how you will gain access to specific documentation that is not in the public domain and that this is in accordance with prevailing data protection law of the country in question and England and Wales.		

SECTION F: Scope of Research Activity

1	Will the research activity include:		
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		YES	NO
2	Use of a questionnaire or similar research instrument?	☒	☐
3	Use of interviews?	☐	☒
4	Use of diaries?	☒	☐
5	Participant observation with their knowledge?	☒	☐
6	Participant observation without their knowledge?	☐	☒
7	Use of video or audio recording?	☒	☐
8	Access to personal or confidential information without the participants' specific consent?	☐	☒
9	Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	☒
10	Performance of any acts which may cause embarrassment or affect self-esteem?	☐	☒
11	Investigation of participants involved in illegal activities?	☐	☒
12	Use of procedures that involve deception?	☐	☒
13	Administration of any substance, agent or placebo?	☐	☒
14	Working with live vertebrate animals?	☐	☒
15	Other primary data collection methods, please explain in this box For example, 'focus groups'. Please indicate the type of data collection method(s) in this box and tick the accompany box.	☐	☐
16	Details of any other primary data collection method:		

If NO to every question, then the research activity is (ethically) low risk and **may** be exempt from **some** of the following sections (please refer to Guidance Notes).

If YES to any question, then no research activity should be undertaken until full ethical approval has been obtained.

SECTION G: Intended Participants

1	Who are the intended participants:	YES	NO

2	Students or staff at the University?	☒	☐
3	Adults (over the age of 18 and competent to give consent)?	☐	☒
4	Vulnerable adults?	☐	☒
5	Children and Young People under the age of 18? (Consent from Parent, Carer or Guardian will be required)	☒	☐
6	Prisoners?	☐	☒
7	Young offenders?	☐	☒
8	Those who could be considered to have a particularly dependent relationship with the investigator or a gatekeeper?	☐	☒
9	People engaged in illegal activities?	☐	☒
10	Others (please identify specifically any group who may be unable to give consent) please indicate here and tick the appropriate box.	☐	☒
11	Other – please indicate here:		

12	Participant numbers and source Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited?	
13	How many participants are expected?	Approx. 25-30
14	Who will the participants be?	My grade 10 students in semester 2 in the 2021-22 school year.
15	How will you identify the participants?	Students will receive an informed consent form in which they and their parents can opt out. Voluntary to participate.

16	Information for participants:	YES	NO	N/A
17	Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	☒	☐	☐

18	Will you tell participants that their participation is voluntary?	☒	☐	☐
19	Will you obtain written consent for participation?	☒	☐	☐
20	Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	☒	☐	☐
21	If the research is observational, will you ask participants for their consent to being observed?	☒	☐	☐
22	Will you tell participants that they may withdraw from the research at any time and for any reason?	☒	☐	☐
23	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	☒	☐	☐
24	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	☒	☐	☐
25	Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	☒	☐	☐
26	If NO to any of above questions, please give an explanation			
27	<i>(this box should expand as you type)</i>			

28	Information for participants:	YES	NO	N/A
29	Will participants be paid?	☐	☒	☐
30	Is specialist electrical or other equipment to be used with participants?	☐	☒	☐
31	Are there any financial or other interests to the investigator or University arising from this study?	☐	☒	☐
32	Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the specific study aims?	☐	☒	☐
33	If YES to any question, please provide full details			
34	<i>(this box should expand as you type)</i>			

SECTION H: Anticipated Risks

1	Outline any anticipated risks that may adversely affect any of the participants, the researchers and/or the University, and the steps that will be taken to address them.
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	If you have completed a full risk assessment (for example as required by a laboratory, or external research collaborator) you may append that to this form.		
2	Full risk assessment completed and appended?	Yes	☐
		No	☒
3	Risks to participants For example: emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information		
4	Risk to Participant: No extra risk than assumed in regular physical education classes. Questionnaires may trigger some negative thoughts about PE. <i>(this box should expand as you type)</i>	How will you mitigate the Risk to Participant Will give a disclaimer if any of the questions are upsetting that they do not have to complete it and can let me know and they can see their counsellor. <i>(this box should expand as you type)</i>	
5	If research activity may include sensitive, embarrassing or upsetting topics (e.g. sexual activity, drug use) or issues likely to disclose information requiring further action (e.g. criminal activity), give details of the procedures to deal with these issues, including any support/advice (e.g. helpline numbers) to be offered to participants. Note that where applicable, consent procedures should make it clear that if something potentially or actually illegal is discovered in the course of a project, it may need to be disclosed to the proper authorities		
	If a student did need support, I would refer them to their school counsellor. <i>(this box should expand as you type)</i>		
6	Risks to investigator For example: personal safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest		
	Risk to Investigator: Students do not always relay messages home so it is important to send a letter home via mail or email to ensure parents are aware of the research so that communication is clear.	How will you mitigate the Risk to Investigator: Send emails home multiple times. <i>(this box should expand as you type)</i>	

	(this box should expand as you type)	
7	University/institutional risks For example: adverse publicity, financial loss, data protection	
	Risk to University: Research will follow all university and ethical guidelines. Research will not be fabricated or plagiarized. (this box should expand as you type)	How will you mitigate the Risk to University: Follow all ethical guidelines. Do not start research until ethical approval. (this box should expand as you type)

8	Disclosure and Barring Service			
9	If the research activity involves children or vulnerable adults, a Disclosure and Barring Service (DBS) certificate must be obtained before any contact with such participants.			
		YES	NO	N/A
10	Does your research require you to hold a current DBS Certificate?	☒	☐	☒

SECTION I: Feedback, Consent and Confidentiality

1	Feedback What de-briefing and feedback will be provided to participants, how will this be done and when?
	At the students request, de-briefing and feedback can be provided at the conclusion of the study. They will no longer be in my class but I can hold a lunch time meeting at the conclusion of the study. (this box should expand as you type)

2	Informed consent Describe the arrangements to inform potential participants, before providing consent, of what is involved in participating. Describe the arrangements for participants to provide full consent before data collection begins. If gaining consent in this way is inappropriate, explain how consent will be obtained and recorded in accordance with prevailing data protection legislation.
	I will inform all students in my grade 10 class of my research study in January (upon approval) and then also send an email home that same day letting parent/guardians know of the study as well. I will then send informed consent forms home the following week. I will ensure that students and parent/guardians know that participation is voluntary and that they can remove their child at any time. <i>(this box should expand as you type)</i>
3	Confidentiality / Anonymity Set out how anonymity of participants and confidentiality will be ensured in any outputs. If anonymity is not being offered, explain why this is the case.
	Students will all be assigned a # which they will use to label their surveys to anonymize their identities in the outputs. All data will be stored securely. <i>(this box should expand as you type)</i>

SECTION J: Data Protection and Storage

In completing this section refer to the University's Research Data Management Policy and the extensive resources on the University's Research Data Management web pages (<http://uwtsd.ac.uk/library/research-data-management/>).

1	Does the research activity involve personal data (as defined by the General Data Protection Regulation 2016 "GDPR" and the Data Protection Act 2018 "DPA")?	YES	NO
	"Personal data" means any information relating to an identified or identifiable natural person ('data subject'). An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.	☐	☒
2	If YES, provide a description of the data and explain why this data needs to be collected:		
	<i>(this box should expand as you type)</i>		
3	Does it involve special category data (as defined by the GDPR)?	YES	NO
	"Special category data" means sensitive personal data consisting of information as to the data subjects' – (a) racial or ethnic origin, (b) political opinions, (c) religious beliefs or other beliefs of a similar nature, (d) membership of a trade union (within the meaning of the Trade Union and Labour Relations (Consolidation) Act 1992), (e) physical or mental health or condition, (f) sexual life, (g) genetics, (h) biometric data (as used for ID purposes),	☐	☒

4	If YES, provide a description of the special category data and explain why this data needs to be collected:
	<i>(this box should expand as you type)</i>

5	Will the research activity involve storing personal data and/or special category data on one of the following:	YES	NO
6	Manual files (i.e. in paper form)?	☒	☐
7	University computers?	☐	☒
8	Private company computers?	☐	☒
9	Home or other personal computers?	☐	☒
10	Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	☒	☐
11	“Cloud” storage or websites?	☐	☒
12	Other – specify:	☐	☒
13	For all stored data, explain the measures in place to ensure the security of the data collected, data confidentiality, including details of password protection, encryption, anonymisation and pseudonymisation:		
	Password protected and no student names used on any data. <i>(this box should expand as you type)</i>		
14	All Data Storage		
15	Will the research activity involve any of the following activities:	YES	NO
16	Electronic transfer of data in any form?	☒	☐
17	Sharing of data with others at the University?	☒	☐
18	Sharing of data with other organisations?	☐	☒
19	Export of data outside the European Union or importing of data from outside the UK?	☐	☒
20	Use of personal addresses, postcodes, faxes, emails or telephone numbers?	☐	☒
21	Publication of data that might allow identification of individuals?	☐	☒
22	Use of data management system?	☐	☒
23	Data archiving?	☐	☒
24	If YES to any question, please provide full details, explaining how this will be conducted in accordance with the GDPR and DPA (and/or any international equivalent):		
	<i>(this box should expand as you type)</i>		
25	List all who will have access to the data generated by the research activity:		
	Supervisors only - Karen Sirna and Nalda Wainwright		

	<i>(this box should expand as you type)</i>		
26	List who will have control of, and act as custodian(s) for, data generated by the research activity:		
	Gurjita Lalli		
	<i>(this box should expand as you type)</i>		
27	Give details of data storage arrangements, including security measures in place to protect the data, where data will be stored, how long for, and in what form. Will data be archived – if so how and if not why not.		
	All electronic data will be stored on a password protected hard drive that I will be the only one that can access. The hard drive and any paper data will be locked away in a cabinet to which I will only have access. Data will be kept archived on hard drive up to 3 years and then will be destroyed. Paper data will be destroyed on completion and approval of dissertation.		
28	Please indicate if your data will be stored in the UWTSD Research Data Repository (see https://researchdata.uwtsd.ac.uk/). If so please explain. <i>(Most relevant to academic staff)</i>		
	no		
	<i>(this box should expand as you type)</i>		
29	Confirm that you have read the UWTSD guidance on data management (see https://www.uwtsd.ac.uk/library/research-data-management/)	YES	☒
		NO	☐
30	Confirm that you are aware that you need to keep all data until after your research has completed or the end of your funding	YES	☒
		NO	☐

SECTION K: Declaration

31	The information which I have provided is correct and complete to the best of my knowledge. I have attempted to identify any risks and issues related to the research activity and acknowledge my obligations and the rights of the participants.		
	In submitting this application I hereby confirm that I undertake to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice which is published on the website: https://www.uwtsd.ac.uk/research/research-ethics/		
	Signature of applicant:	<i>Gurjita Lalli</i>	Date: September 19, 2021

For STUDENT Submissions:

32	Director of Studies/Supervisor:	Karen Sirna & Nalda Wainwright	Date:
33	Signature:		

For STAFF Submissions:

34	Academic Director/ Assistant Dean:		Date:
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35	Signature:		
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Appendix L: TCPS 2: CORE



Game Official or Referee
Role Descriptor Game officials (i.e., referees, umpires) make certain that all players play within the game rules in the fairest way possible. They do so by knowing and using the rules. They avoid giving one team or performer an unfair advantage over the other.
What You Should Do as Referee or Official ➤ Study and know the rules. ➤ Start the contest on time. ➤ Be fair to both teams and avoid playing favorites! ➤ Move with the action (e.g., in basketball, soccer, floor hockey). ➤ Be firm, consistent, and fair. ➤ Explain your calls clearly to players and scorekeepers. ➤ If you are not sure on what to rule, use a <i>do over</i> or <i>rock-paper-scissors</i>. ➤ Watch for bad sport behavior and report it to your teacher. ➤ ABOVE ALL: Do your best. (As a beginning referee, you will make a mistake here and there; it's OK.)
What You Need to Be Able to Do and Know ➤ Be highly familiar with all of the game rules that are in effect for games. ➤ Have the ability to focus on the action in the game for extended periods of time (i.e., not easily distracted). ➤ Demonstrate fairness toward all peers. ➤ Have good communication skills.