PEDAGOGIES OF AFFECT IN PHYSICAL EDUCATION: EXPLORING TEACHING FOR AFFECTIVE LEARNING IN THE CURRICULUM AREA OF HEALTH AND WELLBEING

EISHIN TERAOKA

SCHOOL OF EDUCATION

UNIVERSITY OF STRATHCLYDE

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

2020

DECLARATION OF AUTHENTICITY AND AUTHOR'S RIGHTS

This thesis is the result of the author's original research. It has been composed by the author and has not been previously submitted for examination which has led to the award of a degree.

Signed: Eishin Teraoka

Date: 21 March 2020

ACKNOWLEDGEMENTS

Many scholars and colleagues provided me with invaluable assistance and wonderful experiences during my doctoral study. I would like to express my deepest gratitude to Professor David Kirk for his helpful advice and insightful comments to lead my PhD journey. David was always supportive and encouraged me to keep studying hard. I learned from David what it means to be a successful researcher and educator. I would also like to thank my co-supervisor Dr Farid Bardid and my annual review meeting chair Professor Ian Rivers for proving constructive and valuable feedback on my works. Professor Leen Haerens, Dr Nathalie Aelterman, and Ms Femke Van duyse at Ghent University helped me with observational analyses. I appreciate their kindness and support when I visited Ghent.

Many thanks to all the teachers and pupils who involved in my research. They were willing to help me to collect valuable data. This thesis would never have made meaningful findings and discussions without their contributions. My sincere thanks go to Mr John Millar and Ms Cara Lamb for offering their professional network to recruit possible participants. John and Cara also provided practical insights to improve my discussion in this thesis.

I wish to thank my PhD colleagues at Strathclyde, Loreain Martinez Lejarreta in Education, Laura Elina Del Carpio in Psychology, Cheewin Mallikamarl in Law, and Yun Huang in History. We started our PhD studies in October 2016 and shared a lot of memorable moments. Also, I would like to extend my gratitude to visiting PhD students Heidi Jancer Ferreira from Brazil, Jenna Lorusso from Canada, Hanne Herigstad Mong from Norway, Felix Lobo de Diego from Spain, and Fabiana Thume from Spain. The time we spent together at Strathclyde let my research accelerate substantially.

Finally, I want to thank my father and mother to support everything. This thesis is dedicated to them.

LIST OF PUBLICATIONS AND PRESENTATIONS

Publications

Teraoka, E., Ferreira, H. J., Kirk, D., and Bardid, F. (in press). Affective learning in physical education: A systematic review. Accepted to *Journal of Teaching in Physical Education*.

Kirk, D., Bardid. F., Lamb, C., Millar, J. and **Teraoka, E.** (2018). Redesigning Physical Education in Scotland. In: Lawson, HA. (2018, ed) *Redesigning physical education: Legitimate peripheral participation*, London: Routledge.

Conference papers

Teraoka, E., and Kirk, D. (2020). Teachers' and pupils' views on health and wellbeing in and through physical education in Scottish secondary schools. *2020 Yokohama Sport Conference (online)*. 8th –22nd September, Yokohama, Japan.

Kirk, D., Lamb, C., and **Teraoka, E.** (2020). Exploring and developing pedagogies of affect in Scottish secondary schools. *SERA Connects and EERA Network 18 Research in Sport Pedagogy.* 28th August, online symposium.

Teraoka, E., Bardid, F., and Kirk, D. (2020). Behind physical education teachers' need-supportive teaching and pupils' views of teachers' behaviour for affective learning. *2020 American Educational Research Association Annual Meeting*. Paper accepted.

Kirk, D., **Teraoka, E**., and Houssin, E. (2020). L'utilisation des méthodes mixtes dans un paradigme de constructionnisme social de recherche en éducation physique et pédagogie du sport. *11th Bienniale of Association for Research on Intervention in Sport*. 25th – 28th February, Liège, Belgium.

Teraoka, E., Bardid, F., and Kirk, D. (2019). Exploring physical education teachers' experiences of need-supportive and need-thwarting teaching behaviour through self-confrontation interviews: A critical incident analysis. *AIESEP International Conference 2019.* 19th – 22nd June, New York, USA.

Teraoka, E., Ferreira, H. J., Bardid, F., and Kirk, D. (2018). A systematic review of the affective benefits of physical education for children and adolescents. *AIESEP World Congress 2018.* 25th–28th July, Edinburgh, Scotland.

Teraoka, E., Bardid, F., and Kirk, D. (2017). Young people's affective development in physical education contexts. *Scottish Educational Research Association Annual Conference.* 22nd–24th November, Ayr, Scotland.

ABSTRACT

The purpose of this thesis is to explore the practice of pedagogies of affect in secondary school physical education. The decision to consider the affective domain as the main focus was in response to current issues relating to mental health among young people. This thesis has the overarching concern of how physical education is producing affective learning outcomes with a sample of Scottish secondary schools. In the Scottish context, physical education may make a significant contribution to the area of health and wellbeing, which is one of the cross-curricular priorities. This thesis includes three findings chapters as a result of adopting a pragmatic mixed methods approach to investigate the complexity of the practice. The first findings chapter (Chapter 4) considered the question of the degree to which twenty teachers engaged in pedagogies of affect and how their teaching behaviour influenced pupils' affective learning outcomes, with the use of Self-Determination Theory (SDT) as a lens. The findings indicated that observed need-supportive teaching behaviour had a direct impact on pupils' affective learning outcomes. The second findings chapter (Chapter 5) was to build upon the previous chapter by revealing eight teachers' reflections on their observed lessons. This chapter focuses on the questions to what extent the teachers were aware of their teaching behaviour and why they behaved in the ways they did, which is a gap that previous studies have not covered yet. One of the key findings in this chapter was how well teachers know their pupils' feelings and how important it is to build trusting relationships with their pupils in order to teach for positive affective learning. The third findings chapter (Chapter 6) centred on how teachers' and pupils' conceptualisation of health and wellbeing was enacted in their teaching and learning in consideration of the Scottish context. A holistic understanding of health emphasised the importance of building confidence, a growth mindset, and relationships with others, which could strength teaching and learning of health and wellbeing, particularly in the affective domain.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF IMAGES AND FIGURES

ABBREVIATIONS

CfE :	Curriculum for Excellence
MVPA :	Moderate-to-Vigorous Physical Activity
SPARK :	Sports, Play and Active Recreation for Kids
SDT :	Self-Determination Theory
WHO :	World Health Organisation
TARGET :	Task, Authority, Recognition, Grouping, Evaluation and Time
TGfU :	Teaching Games for Understanding
TPSR :	Teaching Personal and Social Responsibility
iTFR :	individualized Teacher Frame of Reference
GIRFEC	Getting it Right for Every Child
SIMD :	Scottish Index of Multiple Deprivation
PT :	Principal Teacher
WEMWBS :	Warwick-Edinburgh Mental Well-being Scale
T-TASCQ :	Teacher report of Teacher as Social Context Questionnaire
T-PCT :	Teacher report of Psychologically Controlling Teaching
S-TASCQ :	Student report of Teacher as Social Context Questionnaire
PCT :	Psychologically Controlling Teaching
PANAS :	Positive and Negative Affect Schedule
BPNS-R :	Basic Psychological Need Scale-Revised
BRPEQ :	Behavioural Regulation in Physical Education Questionnaire
ICC :	Intraclass Correlation Coefficients
SC Interview :	Self-Confrontation Interview
ST Interview :	Second Teacher Interview
FG Interview :	Focus Group Interview

Chapter 1: Introduction

1.1 Topic and focus

This thesis explores critical pedagogies of affect in physical education for the development of young people's health and wellbeing. The notion of critical pedagogy is centrally concerned with education for social change and the needs of students (Kirk, 2020). Critical pedagogies of affect are emphasised with the alignment of curriculum, teaching, learning, and assessment that highlight the affective domain as a primary concern (Kirk, 2020). The affective domain includes psychological and emotional learning relating to feelings, beliefs, aspirations, and attitudes (Bailey et al., 2009). Nowadays, legitimate learning outcomes in the affective domain are expressed by concepts such as motivation, interest, perceived competence, self-concept, self-esteem, body image, enjoyment, and wellbeing. This thesis explores physical education programmes in secondary schools in Scotland with a focus on young people's affective development for health and wellbeing.

1.2 Background to the study

The main concern of this thesis is the affective domain in physical education as it is associated with healthy mental and social development of young people, which is an urgent health issue in today's society. The prevalence of mental health disorders (e.g., depression and anxiety) is estimated at around 792 million people across the world in 2017 (Ritchie & Roser, 2018). In the case of Scotland, NHS Health Scotland reported approximately one in four people experienced a mental health problem at some point in their lives (NHS Health Scotland, 2019). Furthermore, teenagers self-harming is a common problem nowadays as is those suffering from anxiety and depression (NHS inform, 2019). These mental health issues of children and adolescents are a growing concern in Scotland and globally.

School is a particularly influential social context for education and prevention for young people. Scotland's national school curriculum, Curriculum for Excellence (CfE), was implemented in 2010, and has introduced a new framework for the Scottish school curriculum (Scottish Government, 2009). In the CfE, the three areas of health and wellbeing, literacy, and numeracy are the cross-curricular priorities. While these areas will be relevant to all pupils and the responsibility of all teachers across school subjects (Scottish Government, 2009), physical education can arguably play a significant role in learning for health and wellbeing. The CfE provides several benchmarks of learning outcomes in physical education to support teachers in the assessment of pupil learning. One of these related to the affective domain is Personal Qualities. This Significant Area of Learning encompasses motivation, confidence and self-esteem, determination and resilience, responsibility and leadership, respect and tolerance, and communication (Education Scotland, 2017). Yet, we rarely find empirical studies on the experiences and outcomes in Personal Qualities, which is strongly associated with mental health and the affective domain. Furthermore, there is an acknowledgement that physical education teachers may have limited skills and resources to address affective learning outcomes (Kirk, Bardid, Lamb, et al., 2018). Therefore, my aim was to contribute to our knowledge about promoting the development of health and wellbeing and, in particular, mental health, in and through the school curriculum and provide useful information to further equip teachers to promote health and wellbeing of their pupils.

I believe that physical education provides a powerful educational medium for affective learning benefits that are not common in other subjects. My motivation to engage in this research is to provide robust evidence to support this belief and contribute to education for the next generation. In today's society, young people live in precarious times and face considerable uncertainty in adulthood (Kirk, 2020). It seems that many young people feel anxious and hopeless about their future as they may perceive that it is not easy to justify their lives and the

individual values they have (The Prince's Trust, 2019). In school contexts, we face a massive challenge of educating young people to inspire their autonomy to become independent adults and citizens, have more confidence in their selves, and feel relatedness with others and society. During my PhD study, I wonder how physical education can contribute to these current educational issues. How can physical education teachers support and work with young people? What do young people think about their lives and how much physical education is helpful for them? Traditionally, physical education teachers and researchers have claimed that achieving levels of Moderate-to-Vigorous Physical Activity (MVPA) remains an important goal of school physical education (McKenzie et al., 2016). Nevertheless, the notion of how much or how often children are physically active may not be the most pressing issue for young people who need support to live in precarious times. We need to explore innovative forms of physical education that seek to produce affective learning benefits for young people.

1.3 Research questions

The main purpose of this thesis was to explore existing secondary school programmes in physical education and to determine the extent to which these may be considered to contribute to pedagogies of affect. There is a growing awareness of the importance of affective learning outcomes as a central pedagogical concern among physical education teachers. Previous reviews have explored the effectiveness of school-based interventions on psychological variables such as motivation and enjoyment (Burns, Fu, & Podlog, 2017; Demetriou, & Höner, 2012). However, they provided little information on the aspects of pedagogy, that is, the alignment of curriculum, teaching, learning, and assessment, that may support learning in this area. This thesis is a pedagogical research study that aims to investigate what is happening in physical education with a focus on the affective domain. The research questions therefore centre on the relationships between teachers' behaviour, pupils' affective learning, and assessment on the affective domain, and health and wellbeing in the Scottish curriculum.

1. How does observed teaching behaviour relate to pupils' affective learning and how do pupils perceive teaching behaviour?
2. To what extent are teachers aware of their teaching behaviour for affective learning and why do they behave in the ways they do?
3. How do teachers and pupils conceptualise health and wellbeing including the affective domain as a curricular topic?

The nature of my research questions requires various types of data generation methods (e.g., observations, questionnaire, and interview) to understand the complexity of the practices of pedagogies of affect in physical education. I carried out the fieldwork in Scottish secondary schools over one academic year guided by these research questions. There are two main studies in my research. The first study is designed to capture a bigger picture of existing pedagogies with a large quantitative data set generated by observations and questionnaires. The findings in the first study will be able to answer the first research question. The second study employs one-to-one interviews with teachers, including self-confrontation interviews, and focus group interviews with pupils to investigate further the phenomena in-depth as a means of addressing the second and third research question.

1.4 Structure of the thesis

This thesis has six chapters following this introductory chapter. The next chapter is a review of the literature related to pedagogies of affect in physical education. The methodology chapter considers a justification for the methods and outlines the research design to explore the complexity of existing pedagogical practice for affective learning. There are three chapters to report the findings and discuss them in relation to existing literature. The conclusions chapter brings together the findings and discussion to address my research questions, to summarise what we have learned from this study, and to suggest

possible future forms of research in this area of pedagogies of affect in physical education.

In Chapter 2, I begin with a discussion around the concept of health in physical education. Drawing on a historical perspective of health, I argue that there is a challenge to incorporate the affective domain as a central concern rather than a hoped for by-product because the residual effects of past practices remain in the present. This chapter considers how the affective domain is conceptualised and expressed in the literature, and how the concepts related to each other. The literature suggests that a number of pedagogical intervention studies were significantly successful in producing legitimate learning outcomes in the affective domain. At the end of this chapter, I highlight the literature on physical education within the curricular area of health and wellbeing in the Scottish context.

Chapter 3 outlines the methodology to discuss a rationale for the use of a mixed-method approach. I describe in detail the research design, methods, participants, data generation, data analysis, trustworthiness of data, and ethical considerations.

Chapter 4 shows the results of my analyses on the observed 20 physical education teachers' behaviour and of the questionnaires from the teachers and pupils. The findings in this chapter reveals the degree to which the teachers' behaviour was, in terms of Self-Determination Theory (SDT), needs-supportive or needs-thwarting in physical education lessons and how the observed teaching behaviour was related to class contexts, teachers' and pupils' perceptions, and affective learning outcomes.

Chapter 5 builds upon the results of the previous chapter in exploring the extent to which the teachers were aware of their teaching behaviour and why they behaved in the ways they did. The data in this chapter draw on self-confrontation interviews with eight selected teachers who took part in the

second study. This chapter proposes that teachers' knowledge and expectations of their pupils may have a significant influence on their observed teaching behaviour.

Chapter 6 provides further insight into the possibility of pedagogies of affect within the curricular area of health and wellbeing in Scotland. The results in this chapter are mainly extracted from semi-structured interviews with the selected eight teachers and pupil focus group interviews. The chapter aims to investigate teachers' understanding of health and wellbeing generally, and their views on how physical education can make contributions to their pupils' affective learning. Also, the data from pupil focus group interviews reveals the extent to which they were aware of how they conceptualised values and belief about health and wellbeing, and learning in physical education.

Chapter 7 summarises findings in my research. This chapter highlights how I have addressed my research questions and how my research provides implications and recommendations for practice, professional development, and educational policy. Finally, I reflect on my experiences and findings of this doctoral study during the past 42 months in Scotland and propose how I will continue to engage with research on sport pedagogy and physical education.

Chapter 2: Literature review

2.1 Introduction

This chapter highlights issues of health in physical education and explores the literature on young people's affective learning. I describe the current perspectives on health and organise chronologically a historical perspective on health in physical education in Britain. Understanding a historical view is important because the concept of health in physical education is a contested term over time. Also, this section provides insight into how the affective domain has been treated as part of health in history. I will argue that a shift towards incorporation of the affective domain as a central concern presents a challenge to support young people's health because the residual effect of past practices seems to remain up to the present. At the end of the first section, I will review a number of recent studies that addressed how teachers and pupils conceptualise health. The literature showed that most physical education teachers and pupils in English-speaking countries had a limited understanding of health that emphasises fitness, exercise, obesity-related risks, body shape, and food consumption. In the second section, I explore current terminology concerning the affective domain. This section reveals that motivation has been studied predominantly in the recent decade. Motivation is significantly associated with other affective learning such as interest, perceived competence, self-concept, self-esteem, body image, enjoyment, and wellbeing. Consequently, this section builds upon this current terminology in order to explore the literature around the pedagogical practices that could produce the affective learning outcomes. I include an examination of a number of pedagogical intervention studies that have informed teaching approaches, strategies, and lesson contents. Finally, I provide a descriptive account of the Scottish national curriculum and recent developments and debates around how the curricular area of health and wellbeing is conceptualised at local level. Also, I will clarify how the affective

domain is positioned in physical education contexts as pivotal for promoting pupils' learning in health and wellbeing.

2.2 Changing perspectives on health in physical education

The first section describes how the concept of health in physical education has changed over time. An established, general definition of health refers to 'a state of complete physical, mental, and social wellbeing and not merely the absence of disease' (WHO, 1948). However, the view of health in physical education still has remained disease-focused (e.g., heart disease and obesity), which can be described as a pathogenic perspective (Quennerstedt, 2008). This section begins with some currently common perspectives on health in physical education and traces these back to the 19th century in Britain.

2.2.1 Current perspective on health in physical education and their development over time

A pathogenic perspective has dominated the discussion on health in the media and society for at least the last 50 years (Quennerstedt, 2008). The pathogenic perspective on health relates to the absence of disease, such as heart disease, and is a mainly biomedical view (Antonovsky, 1979). The pathogenic perspective has influenced physical education contexts in history. However, in the context of the relationship between health and physical education, Kirk (2006) argued that we should think beyond the biomedical perspective and seek new perspectives on health. Consequently, Quennerstedt (2008) suggested that a salutogenic approach can be one possible way of discussing health and health promotion within and through physical education. A salutogenic approach was developed by Antonovsky (1979), who emerged as a prominent critic of the dominance of a pathogenic perspective. A salutogenic approach is about health promotion, including the whole human being in their environment, and not only the dichotomy between health and disease. In a salutogenic perspective, physical education can promote health, for example, through

developing motor skills, social qualities, empowerment and involvement in movement, and enjoyment (Quennerstedt, 2008). This application of the salutogenic perspective to physical education highlights the importance of the affective domain. A salutogenic perspective is not just how much or how often children are physically active. In addition, it is a matter of what children do to understand of the meaning of the activity and the meaning within movement (Quennerstedt, 2008). More recently, McCuaig and Quennerstedt (2018) adopted the concept of how individuals live a 'good life' to investigate health from a salutogenic perspective. They highlighted the current perspective of health promotion beyond biomedical perspectives. Moreover, the term wellbeing is also considered as an important aspect of the pursuit of a good life (Claire, 2018; Lambert et al., 2020). In this sense, there is a common notion between 'a salutogenic view of health' and 'wellbeing', which emphasises the language of becoming or process. A salutogenic perspective allows us to understand health as a holistic concept embracing the affective domain, whereas a pathogenic approach does not help to solve the recent health issues among young people relating in particular to mental health.

However, physical education teachers might still be working from a pathogenic approach in terms of how they understand the relationship between physical education and health (Quennerstedt, 2008). The roots of a pathogenic perspective arguably can be traced back to the 19th century. During the period from the 1850s to the turn of the 19th century, there was a notion that exercise could help overcome children's physical deterioration as a contribution to health. According to Kirk (1992), from the early 19th century, the relationship between physical education and health was embedded in a medico-health rationale, which linked to good posture and therapeutic exercises with children. After the Second World War, a notion of physical fitness was dominant as the key linking concept between physical education and health. These statements seemed to have been consistent with a pathogenic perspective. In the next section, I will turn to the historical outline in detail in order to understand how

we came to our current views on the relationship between physical education and health.

2.2.2 Two traditions (1850s - 1902)

The relationship between health and physical activity in physical education discourse has its roots at the mid-1800s (Kirk, 1992). From the 1850s, the notion of exercise was considered as one of four pivotal component parts contributing to health. The other three were 'nutrition, sanitary conditions and fresh air' (Bailey et al., 2009, p.3). According to Kirk (1992), there was an argument in Britain in the second half of the 19th century for the inclusion of physical education in the elementary school curriculum to improve school children's health. There was an important debate about the issue that some children's health was severely affected by 'over-pressure' (p.128) of their internment in schools. Physical exercise brought a form of over-pressure. Some considered that providing school meals would be important to improve children's performance in schools, while some argued for exercise as a mean of improving their health. This debate lasted until 1895 at least when the Education Department made physical training eligible for a grant as a subject of instruction, although some historians have argued that the primary concern for the implementation of physical training was to tackle the poor discipline of pupils rather than promote health (Kirk, 1992; McIntosh, 1952).

On the other hand, in Public schools, games had been considered to make an important contribution to building up the physique and moulding the character of boys from the mid-1800s, and for girls later (Kirk, 1992; McIntosh, 1952). Schools served as a foundation for the upper classes to enhance their leadership in society in the 1800s. Team games (e.g., football) occupied a central role in the education of wealthy males during the Victorian and Edwardian eras (see Image 2.1). Competitive team games and sports attained prominence from around 1850 up to 1914 and were part of a cult of athleticism (Mangan, 1981). The term athleticism contained the idea that 'sports build character' (Harvey, Kirk, &

Image 2.1 Football at Rugby School in 1870 (MacIntosh, 1952, p.60)

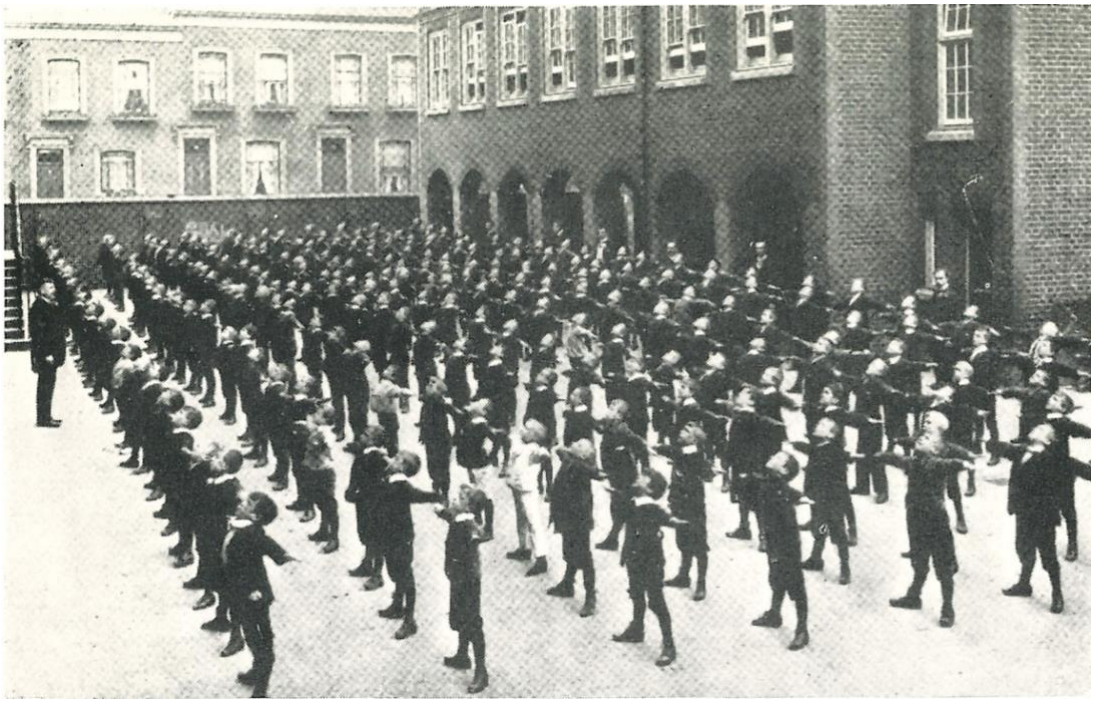


Image 2.2 Massed drill at an elementary school in 1906 (MacIntosh, 1952, p.60)

O'Donovan, 2014, p.41), a term which brought together the moral properties and physical endeavour of games. The idea that 'sports build character' arguably still remains a dominant justification in school physical education (Harvey, Kirk, & O'Donovan, 2014), and relates to the affective benefits of games and sports.

2.2.3 The relationship between physical education and health was embedded in a medico-health rationale (1902-1945)

According to McIntosh (1952), the turn of the 19th century was the start of a new approach for physical education. There was a strong need to produce soldiers as a result of Britain's poor performance in the Boar War in South Africa (1899-1902). The Board of Education, which had been set up in 1899, issued the 1902 Model Course in consultation with the War Office in order to meet the demand for the improved physical condition of recruits for the army. It was based on army methods of training and consisted of military drills for handling weapons and ceremonial parades. Nevertheless, it was controversial as there were arguments that no attempt was made to adapt the military drills and other exercises such as dumb-bell work to suit children (Smith, 1974). Consequently, the 1902 Model Course was replaced two years later by the 1904 Physical Training syllabus. The new syllabus was certainly regarded as an improvement on the model course, but was still primarily based on militarized form for army training for recruits (McIntosh, 1952).

The syllabus of physical training was revised several times in 1909, 1919 and 1933. Within this Syllabus in its various revised forms, the relationship between physical education and health was embedded in a medico-health rationale (Kirk, 1992). The therapeutic value of physical training had received special attention from around 1909 (McIntosh, 1952). Physical education was conceived in medical terms as physical training. In addition, the term physical education was used for the first time in the annual report for 1912 by the Chief Medical Officer, though both physical training and physical education were used in that year (McIntosh, 1952). In the syllabuses of physical training, each syllabus sought to

emphasize the development of bodily and mental wellbeing as the educationists demanded an approach linked to good posture and therapeutic exercises for children (McIntosh, 1952). Writing in the 1933 Syllabus, the Chief Medical Officer, Dr George Newman, claimed that the therapeutic value of physical training raised a child's power of resistance to the onset of disease, and helped them overcome it more successfully (McIntosh, 1952). The notion of strengthening children's physique as the main effects of physical education became prominent by the time of the 1933 Syllabus (Bailey et al., 2009). Physical exercises such as Swedish gymnastics, swimming, dancing, and games skills played a role in promoting this medical notion of health (Kirk, 1992; Smith, 1974). Also, it is worth noting that the Board of Education significantly justified the educational values of therapeutic physical training. It firmly stated that it had no intention of returning military drills to the policy both before and during the Boer war, although militarists continued to make demands for military drills in elementary schools in the advent of the First World War (McIntosh, 1952; Smith, 1974).

To sum up, physique and the absence of physical defects, in particular postural defects, were viewed as evidence of good health (Bailey et al., 2009). Dr Newman stated that proper nourishment, effective medical inspection and treatment, and hygienic surroundings were essential to good health (Kirk, 1992). In addition, a comprehensive system of physical training was viewed as indispensable for the normal healthy development of the body, and for the correction of physical defects (Kirk, 1992). Subsequently, this medico-health notion of the relationship between physical activity and health came to prominence in physical training discourse until the middle of the 1950s (Kirk, 1992). Kirk (1992) pointed out that the elements of the medico-health legacy exerted a residual influence in physical education discourse through the 1950s and into the 1960s.

2.2.4 The development of fitness, strength and endurance (1950-current)

From the 1950s, the development and measurement of body movement through the new scientific principle of progressive overload began appearing in physical education discourse (Kirk, 1992). This principle stated that a gradual increase in stress placed upon the body is required in order to make gains in strength and endurance. As the scientific principle was a breakthrough, it led to considerable progress towards physical and functional approaches to physical education as a part of the medico-health rationale such as circuit training and using weights to develop physical strength and muscle endurance. Accordingly, physical fitness began to be established as the key to the relationship between physical education and health (Kirk, 1992). Moreover, the development of the individual, through methods such as circuit training, was situated at the centre of a new 'progressive' form of pedagogy in which the teacher took a subsidiary role (Kirk, 1992). Circuit training was educationally and scientifically progressive, so that teachers required to adopt different teaching styles. It demanded that pupils should be treated as individuals, and participants could see their improvement through the use of scientific measurement tools (Kirk, 1992). However, even though physical educators began to incorporate child-centred principles at that time, the command style, with its origins in military training practices, remained dominant (Kirk, 2010).

A view of health education emerged in the post Second World War period, which was proposed by the medical profession (Kirk, 1992). Dr Robert Sutherland (1949) proposed at that time that health was a multi-dimensional concept, which included physical, intellectual and emotional aspects. Although physical education was expected to play a key role of the health education in school, physical educators were arguably not able to teach beyond the physical and functional aspects of health since there was no training to prepare for this shift (Kirk, 1992).

From the beginning of the 1960s, the new view of the relationship between physical activity and health was linked to the solution of medical problems such as heart disease and obesity. Regular exercise had a part to play in preventing the onset of the risk factors associated with these diseases (Kirk, 1992). By the 1980s, a new health consciousness emerged among the general public, captured in the exercise = fitness = health triplex, in which body size and shape are believed to signify health (Kirk & Colquhoun, 1989). In other words, 'the possession of a slender, toned body is viewed as proof of health' (Kirk, 2006, p. 128). This particular concept of health as corporeal and individualistic was called healthism by Crawford (1980). The triplex link was interpreted as an individual responsibility to exercise to keep fit (Kirk & Colquhoun, 1989). Kirk and Colquhoun (1989) also showed evidence that children perceived being healthy through having healthy food, doing exercise, and not smoking.

The concept of Moderate to Vigorous Physical Activity (MVPA) can be viewed as an example of the manifestation of the exercise = fitness = health triplex. Moreover, since the justification for MVPA is improving cardiorespiratory and muscular fitness, we can trace back to the 1950s at least to find the basis of recent and current advocacy for the concept of MVPA as a central aspect of physical education. Pate et al. (1995) argued that the notion of the health benefits of moderate-intensity physical activity extended the traditional exercise-fitness model to a broader physical activity-health paradigm (Pate et al., 1995). They issued a new public health recommendation on the amount of moderate-intensity physical activity needed for health promotion and disease prevention (e.g., coronary heart disease, osteoporosis, colon cancer, anxiety and depression), that was based on various epidemiologic studies during the 1970s and1980s (Pate et al., 1995). While they stated that the recommendation was a new one, it was intended to complement the previous notions of the disease prevention benefits associated with an increase in physical activity (Pate et al., 1995). In this context, however, as in more traditional sport-based forms of physical education, the affective benefits of physical education were realized as by-products of participation in physical activity (Kirk, 2018).

Physical educators have been challenged to collaborate with public health professionals in developing and evaluating health-related physical education programmes (Sallis & McKenzie, 1991). The SPARK (i.e., Sports, Play and Active Recreation for Kids) programme is a representative example of health-related physical education curricula. The main focus of the SPARK programme was on developing cardiovascular endurance and body strength through fitness activities such as aerobic dance, jogging and jump rope (Sallis et al., 1997). The activities also included games such as soccer and basketball, but these games were modified to make children more active (Sallis et al., 1997). The school-based intervention study showed that intervention schools provided higher MVPA levels during physical education classed than controls (Sallis et al., 1997). Mckenzie et al. (2001) reported similar findings from the CATCH (Child and Adolescent Trial for Cardiovascular Health) physical education intervention. Thus, a number of intervention studies have accumulated for the purpose of arguing for increasing MVPA levels during physical education (Mckenzie & Lounsbery, 2009).

Providing opportunities to engage in MVPA for children has been regarded as a significant role for physical education teachers over the past few decades (McKenzie et al., 2001). In addition, McKenzie and Lounsbery (2009) described that MVPA-centred physical education is 'the pill not taken' (p. 223). This notion of promoting a high level of physical activity as much as possible to reduce the risk of cardiovascular disease and overweight seems to be still dominant in the practice of physical education. Indeed, a majority of previous studies in physical education aimed to provide more explanations of physical and behavioural outcomes such as engagement, effort, and physical activity level. Many researchers mention that participation in physical activity is crucial in promoting overall health and wellbeing, and in preventing obesity and its associated diseases (Chen & Hypnar, 2015; Chen & Chen, 2012; Erwin et al., 2013; Haslem et al., 2016; Mercier & Silverman, 2014). They pointed out that the percentage of school children who meet minimum recommended activity

level of at least 60 min of daily physical activity is low. While it may be assumed that few teachers currently consider children's good posture as the main benefit in physical education, the importance of body shape and size are still gain the commitment of teachers, couched mainly in terms of combatting obesity (Kirk, 2017). To this end, the relationship between physical education and health has been embedded within a medico-health rationale since the early 1900s.

2.2.5 Teachers' and pupils' conceptualisations of health

Building upon a historical perspective on the relationship between physical education and health, it is worth noting a recent discussion around how physical education teachers and pupils understand health. Many physical education teachers have arguably believed in a pathogenic perspective on health in the context of physical education even though health is described as physical, mental and social wellbeing at the curriculum level (Quennerstedt, 2008). Indeed, a recent study identified that a pathogenic norm dominated in the practice of physical education and health discourses in Sweden (Brolin et al., 2018). Also, Burrows and McCormack (2012) reported that teachers might have a predominant understanding of physical health and a keen awareness of corporeal matters by showing the results of interviews with three physical education teachers in New Zealand. Harris and Leggett (2015) revealed that physical education teachers in England used the concepts of health and fitness interchangeably. In addition, in Australia, there was evidence that a number of pre-service physical education teachers highlighted knowledge around obesity-related risks, body shape, and food consumption when they were asked about their understanding of health (Varea, 2018). The represented literature above showed a similar trend in the understanding of health among physical education teachers in the English-speaking countries studied. Notwithstanding this trend, some of the studies witnessed that a few teachers mentioned the importance of a pedagogical approach that focuses on enjoyment, value, and an inclusive concept of health (Brolin et al., 2018; Burrows & McCormack, 2012). These teachers seemed to be aware of the importance of pedagogies of affect,

but still only a few cases. This thesis would be beneficial to the literature if it investigates teachers' perceptions of health in relation to their actual practice in Scotland because their perceptions and beliefs inevitably influence what they do to enhance pupils' health in and through physical education (Burrows & McCormack, 2012).

At the same time, there is a number of studies that investigated how pupils conceptualise health. For example, Harris et al. (2018) showed that, for young people in England, a limited corporal view of health dominated, that represented health as exercise and physical fitness. They argued that there might be an unconscious influence of teachers' narrow beliefs about health on the pupils' limited conceptualisations of health (Harris et al., 2018). Also, Powell and Fitzpatrick (2015) mentioned that the children in New Zealand were likely to understand fitness as a direct link with being healthy and the avoidance of being fat. Previous studies have accumulated similar findings that pupils might have a limited view of health through a close link with fitness, exercise, body shape, and food. Even though little has been known about how pupils understand health in Scotland, I expected that this thesis would report a similar finding that is consistent with previous studies elsewhere.

2.3 Affective learning in physical education

I have argued that research in physical education has claimed health benefits as a major outcome of the subject over many years (Cale & Harris, 2013). In particular, as I mentioned in the introduction chapter, young people's mental health has been highlighted as a major concern in schools (Inchley et al., 2016). This has led to an increased attention to the affective domain in the literature. In the following section, I will mention the predominant theories and current terminology with regard to the affective domain in physical education. The largest contribution to the literature on the affective domain in physical education has been in relation to motivation. Also, motivation has a significant

relationship with several concepts such as interest, perceived competence, self-concept, self-esteem, body image, enjoyment, and wellbeing.

2.3.1 Motivation

Self-Determination Theory (SDT; Ryan & Deci, 2017) has been used to address motivation and affective learning. The main idea of SDT is that every human being has three basic psychological needs for autonomy (i.e., feeling of a sense of psychological freedom when carrying out activities), competence (i.e., feeling of effectiveness when mastering tasks), and relatedness (i.e., feeling of connectedness and intimacy with others), which need to be supported to facilitate more autonomous motivation (Ryan & Deci, 2017). Previous empirical research supported the notion that satisfaction for the three basic psychological need is strongly related to autonomous motivation towards participation in physical education for both primary school children (Chen & Hypnar, 2015; van Aart et al., 2017) and secondary school students (Mouratidis, Barkoukis, & Tsorbatzoudis, 2015; Sanchez-Oliva et al., 2014). These findings are important because they showed that the principle of SDT could be applied to the physical education contexts across the school-aged population (Van den Berghe et al., 2014).

SDT describes motivation as a continuum emphasising different types of behavioural regulation (Ryan & Deci, 2017). Autonomous motivation refers to the regulation of behaviour involving experiences of volition and self-expression and is considered the optimal form of motivation. The autonomous forms of motivation include intrinsic motivation (e.g., I engage in physical education because it is fun), integrated regulation (e.g., I engage in physical education because it is consistent with my life goals), and identified regulation (e.g., I value the benefits of physical education). Controlled motivation denotes behavioural engagement characterised by feelings of internal or external pressure or coercion. The controlling forms of motivation include introjected regulation (e.g., I feel guilty when I do not engage in physical education),

external regulation (e.g., I engage in physical education because other people say I should). Another type of motivation is amotivation, defined as a lack of motivation and intention (e.g., I do not see why I should have to engage in physical education).

Although studies of motivation using SDT predominate in the literature, the expectancy-value model (Eccles et al., 1983) has also been applied in physical education settings to understand students' motivational process (Gao, Lee, & Harrison, 2008). Expectancy-value motivation includes expectancy-related beliefs and subjective task values. Eccles et al. (1983) defined expectancy-related beliefs as individuals' evaluations of their competence and beliefs about how well they will perform on a task. Subjective task values refer to individuals' subjective reasons for doing or not doing an activity. To specify the contexts of this, Eccles et al. (1983) argued that task values are conceptualized as possessing four components; attainment value, intrinsic (or interest) value, utility value, and cost. Attainment value is related to a core personal value and identity that highlights the significance of performing well on a task. Intrinsic (or interest) value refers to the inherent enjoyment or pleasure that individuals get from engaging in an activity. Utility value is the perceived usefulness of tasks. Cost refers to how much time or effort a person has to spend to engage in an activity. In recent studies, the researchers found the positive impact of the expectancy-value motivation on learning outcomes such as situational interest (Ding, Sun, & Chen, 2013) and engagement in physical education class (Yli-Piipari & Kokkonen, 2014). Moreover, Zhang, Solmon, and Gu (2012) explored how the expectancy-value model is relevant to SDT for understanding the role of physical education teachers' support in class. The result showed that autonomy support, in particular support for perceived competence, had a significant effect on students' expectancy-related beliefs and subjective task values. This finding is crucial because it contributed to constructing a strong relationship between the expectancy-value model with SDT (Zhang, Solmon, & Gu, 2012).

2.3.2 Interest

The term interest has a significant relationship with motivation. The interest-based motivation theory (Krapp, Hidi, & Renninger, 1992) proposed that interest can be a major source of motivation that arises as individuals interact with the environment. The interest-based motivation theory conceptualizes two kinds of interest; personal interest and situational interest. Personal interest is defined as a personal preference of one action over others, while situational interest is defined as the brief appeal of an activity for individuals in a particular context and at a particular moment. Moreover, Hidi and Renninger (2006) suggested that interest has four development phases including: triggered situational interest, maintained situational interest, emerging individual interest, and well-developed individual interest.

In terms of situational interest, Chen, Darst, and Pangrazi (1999) identified five main situational interest dimensions in physical education: novelty, challenge, exploration intention, instant enjoyment, and attention demand. In addition, they suggested that situational interest can be manifested in two major dimensions, exploration interest and instant enjoyment. In other words, it seems that characteristics in an activity that invoke students' intention to explore and provide instant enjoyment are the key factors of situational interest (Chen, Darst, & Pangrazi, 1999). Novelty is conceptualised as an important element of intrinsic motivation (Ryan & Deci, 2000). More recently, González-Cutre et al. (2016) tested that novelty is positively related to the three basic psychological needs and autonomous motivation.

Apart from situational interest, Garn, Cothran, and Jenkins (2011) conducted a qualitative study of individual interest with early-adolescents. As the main findings of the study, the authors reported that opportunities to participate and perceived competence could influence individual interest during the semester in physical education. The students in this study said that playing games with a small group could increase opportunities to participate. They also claimed that

waiting or standing in a line was not enjoyable. In terms of perceived competence, the students reported that being good at sports dictated their interest, while they did not show their interests towards sports in which they perceived themselves as low skilled.

2.3.3 Perceived competence

As I described above, the concept of perceived competence seems to be vital to develop pupils' motivation, interest, and other affective learning outcomes. Deci and Ryan (2000) suggested that perceived competence is an important predictor of motivation in accordance with the principles of SDT. Perceived competence is defined as an individual's assessment of their ability to perform sports and recreational activities (Babic et al., 2014). In the context of physical education, Haslem et al. (2016) confirmed that the students were more likely to be physically active if they feel competent and value being active. Furthermore, De Meester et al. (2016) found that adolescents who had overestimated their competence were significantly more autonomously motivated for physical education than other students with a similar level of actual motor competence. This result was of interest because it may indicate that a high sense of competence would help pupils to enhance their autonomous motivation even though their actual competence was low. Nevertheless, it is important to note that children's perceptions of competence and ability are developed through comparisons with their peers (Lee, Carter, & Xiang, 1995). Lee, Carter, and Xiang (1995) reported that the children in kindergarten and first grade gave unrealistically high self-evaluations of their motor achievements, while some children in fourth and fifth grade defined their ability by comparing their own performance to that of their peers. Teachers might be able to implement teaching strategies that help to maintain a high level of perceived competence with a focus of individual process rather than social comparisons in order to enhance motivation and affective learning, rather than focusing on the development of actual competence.

2.3.4 Self-concept

Physical self-concept appears to be similar to the concept of perceived competence and body image since it is defined as an individual's descriptive and evaluative self-perceptions of one's physical appearance and physical ability (Marsh, 1997). Additionally, physical self-concept is theorised as one of the specific domains in global self-concept (Marsh & Shavelson, 1985). Global self-concept is a hierarchical model representing social, emotional, and physical self-concept. A study found that physical self-concept was a mediator between identified regulation in physical education and global self-concept in adolescent girls (Beasley & Garn, 2013). This finding indicated the importance of physical self-concept, especially for girls, to facilitate health outcomes in the affective domain. However, there was a discussion that there is no clear evidence about whether physical self-concept can be improved by participation in physical education (Babic et al., 2014).

2.3.5 Self-esteem

Self-esteem is linked to motivation (Whitehead, 1995). Self-worth is often viewed as synonymous with self-esteem. Whitehead (1995) wrote that self-esteem or self-worth referred to a person's evaluation of the good, or worth, inherent in an individual's self-description. Harter (1999) viewed self-esteem as an evaluative aspect of the self-system, which is related to the image of an ideal self that we all have. Harter (1985) validated the scales for athletic competence and physical appearance for children in third to eighth grades. This scale is called the Self-Perception Profile for Children (Harter, 2012), which is the most widely used questionnaire for assessing self-esteem in children and youths. Recent research using this scale, for example, Bardid et al. (2016), explored how children differ in global self-worth based on scores for actual and perceived competence. They found that children who had low levels of perceived competence can have a negative impact on their self-worth, although they had high levels of actual motor competence (Bardid et al., 2016). Again, the

importance of perceived competence was presented from this finding. Moreover, self-esteem is significantly associated with psychological wellbeing. For instance, Moksnes and Reidunsdatter (2019) clarified that higher self-esteem predicted a higher level of mental wellbeing and lower level of depression and anxiety in adolescents.

2.3.6 Body image

Body image is one of the important sources of motivation. Body image refers to one's body-related self-perceptions including thoughts, beliefs, and feelings (Cash, 2004). Adolescents, especially girls, are susceptible to the appearance of their body image so that it can affect their emotions and behaviours. Recent research suggested that social physique anxiety, which is a desire to control the appearance of the body, negatively predicted the basic psychological needs to be physically active (Sicilia et al., 2016). Likewise, Jachyra (2016) illustrated that the students who felt dissatisfaction with their body size and appearance are discouraged from class participation. The importance of body image is also raised by Kerner, Haerens, and Kirk (2018), who argued that strategies to promote positive feelings of body image and competence among students should be considered in physical education contexts because a number of students might experience body image disturbance due to social dynamics within physical education.

2.3.7 Enjoyment

The term enjoyment is often used together with motivation since it is a central component of intrinsic motivation based on SDT (Ryan & Deci, 2000). Enjoyment is related to feelings of fun and pleasure, and it can be considered as a central meaningful and valuable experience itself in physical education (Beni, Fletcher, & Ní Chróinín, 2017). Previous studies revealed that autonomous motivation positively predicted enjoyment (Sanchez-Oliva et al., 2014). Several researchers have argued that the provision of enjoyment in physical education

is positively associated with the optimal level of physical activity (Sallis et al., 1999).

2.3.8 Wellbeing

Wellbeing is an important concept in relation to mental health and affective learning. WHO defines mental health as 'a state of wellbeing in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community' (WHO, 2018). Although there is no conclusive definition of wellbeing, many researchers agreed that wellbeing could be considered as one's social, emotional, mental and physical wellness that link to health (Claire, 2018; Dodge et al., 2012). Given this fact, Claire (2018) suggested that notions of being well or living well (i.e., a good life) may be helpful to conceptualise wellbeing, which emphasised that people are always in a state of becoming. In another study, Lambert et al. (2020) also proposed that a definition of wellbeing reflects what constitutes a good life. In educational research, the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) is commonly used to measure the emotional and mental aspects of wellbeing, which I adopted in my research. The PANAS describes distinct and independent positive and negative feelings. Moreover, a new scale called Warwick-Edinburgh Mental Well-being Scale (WEMWBS) was developed to capture a wide concept of wellbeing that covers positive affect, psychological functioning (i.e., autonomy, competence, self-acceptance, personal growth), and interpersonal relationships (Tennant et al., 2007). The items of WEMWBS seem to overlap with the basic psychological need satisfaction. For instance, the item 'I've been interested in new things' is associated with autonomy need satisfaction. Also, the item 'I've been feeling good about myself' is an element of competence need satisfaction, while the item 'I've been feeling close to other people' is reflective about relatedness need satisfaction. A high level of basic psychological need satisfaction arguably contributes to one's wellbeing. In fact, recent studies showed that basic

psychological need satisfaction relates to students' emotional wellbeing such as positive affect (Behzadnia et al., 2018) and vitality (Haerens et al., 2018).

2.3.9 Bully victimization

Bully victimization is a severe mental health disorder in school contexts. Victims of bullying are bound to feel more anxiety, loneliness, depression, lower self-esteem and suicidal ideation compared with those who are not bullied (Eisenberg & Aalsma, 2005). Cosma et al. (2017) reported that bullying victims among the school-aged children tended to feel less confidence and happiness and have more psychological complaints than their non-bullied counterparts, especially in the case of adolescent girls. Though bullying behaviour is related to problematic social issues rather than emotional issues, it is considered that developing positive social behaviours can enhance emotional health and wellbeing. In physical education contexts, some empirical evidence exists exploring students' empathy and caring, which are mediators for engaging in prosocial behaviour (e.g. helping another student, cheering up someone who is sad). Gano-Overway (2013) reported that a perceived caring climate (e.g., the teacher respects her/his students) was one of the factors to facilitate engagement in prosocial behaviours and to reduce antisocial behaviours. In addition, a perceived caring climate positively predicted students' empathy (e.g., I can understand my friend's happiness when she/he does well at something). This study implied that when students perceive a teacher to be more helpful, kind, and sympathetic towards them, they are more likely to be involved socially with other people and behave ethically. In another study, there was a finding that students who have been bullied are more likely to feel dissatisfaction with their body image (Jachyra, 2016). Although eliminating bullying will be apart from the primary purpose of my research, it should be noted that students' positive self-perception and teacher's interactions are of critical importance for good mental health and wellbeing.

In this second section, I highlighted the predominant theories and current terminology that has been used in the literature that relates to the affective domain. Studies of motivation grounded in SDT are predominant. There are a large number of studies related to the affective domain around motivation. Therefore, this section suggests that SDT allows us to understand students' affective learning as a proxy. The following section provides and overview of the literature concerned with pedagogies that support and facilitate motivation and other affective learning outcomes.

2.4 Pedagogical practices for affective learning

The literature suggested a number of teaching approaches and interventions that could produce affective learning outcomes effectively in physical education. Consistent with the previous section, SDT is commonly used to understand social contextual factors such as teachers' need-supportive teaching to enhance students' motivation and affective learning outcomes. At the same time, some researchers adopted achievement goal theory to implement pedagogical practice for motivation and affective learning outcomes. Moreover, some studies reported that the implementation of pedagogical models such as Sport Education resulted in facilitating students' affective learning outcomes. There were also a number of school-based interventions targeting affective learning outcomes.

2.4.1 Need-supportive teaching

SDT suggests that there are three factors of need-supportive teaching: autonomy support, structure, and involvement. Need-supportive teaching is of critical importance as several studies showed that an increase in the perception of need support from teachers was related to an increase in all three psychological needs among students (Haerens et al., 2015; Rutten et al., 2015; Sanchez-Oliva et al., 2014). Conversely, controlling, chaotic, and uninvolved teachers typically thwart three psychological needs of students, impeding

students' autonomous motivation and promoting controlled motivation (Deci & Ryan, 2000; Haerens et al., 2015).

The factor of autonomy supportive teaching is to adopt students' wishes, interests, and preferences and to welcome students' thoughts, feelings, and behaviours (Reeve, 2009). One of the representative teaching practices is offering choices. The pedagogical importance of offering choice has been recognised in the literature (Haerens et al., 2015; Kirk, Lamb, Oliver, et al., 2018). For example, Mitchell, Gray, and Inchley (2015) found that offering a choice of activity promoted students' feeling of autonomy since the students can choose activities they felt competent in. They reported, consequently, the students changed from disengagement to engagement in physical education. From the perspective of SDT, offering a choice promotes students' feelings of autonomy (Ryan & Deci, 2017). It is significant to note that choices of lesson content in physical education should not be confused with free play (Oliver & Kirk, 2015). Teachers should thus provide students with meaningful choices when engaging with learning activities (Aelterman et al., 2019). To this end, allowing students to choose from a range of content and tasks (e.g., choices as to the size and type of equipment, choices of lesson content and choices in spending time on a task – see Lamb, Oliver, & Kirk, 2018) can lead to an increase in autonomous motivation and all three basic psychological needs satisfaction (Hastie, Rudisill, & Wadsworth, 2013). Autonomy supportive teaching helps students to enhance enjoyment and interest (Leptokaridou, Vlachopoulos, & Papaioannou, 2016) Moreover, autonomy supportive teaching features the importance of supporting students in taking responsibility of their own learning (Leptokaridou, Vlachopoulos, & Papaioannou, 2016; Pardo et al., 2016). This focus on the individual learning process is also present in the TARGET framework (i.e., task, authority, recognition, grouping, evaluation and time; Epstein, 1989) which can enhance students' self-concept and positive emotional wellbeing.

Although studies of autonomy support exist extensively (Reeve, 2009), the factor of structure is necessary to enhance need satisfaction, especially competence need satisfaction. Teachers can implement structure with appropriate guidance and clarify to help learners feel competent to engage in activities (Aelterman et al., 2019). The provision of positive feedback and encouragement are a substantive part of structure, which have positive relationships with motivation and interest (Stroet, Opdenakker, & Minnaert, 2013). Conversely, negative evaluative feedback (e.g., lack of nurturance) predicts negative affect (Stroet, Opdenakker, & Minnaert, 2013).

The factor of involvement refers to teachers' interactions with their students (Wellborn et al., 1988). This factor is mainly associated with relatedness need satisfaction that supports students to feel connected to others (Stroet, Opdenakker, & Minnaert, 2013). The factor of involvement includes teachers' attuning such as understanding, sympathy, and knowledge about students (Wellborn et al., 1988). If students perceived higher involvement, this significantly predicts a higher level of motivation and engagement (Stroet, Opdenakker, & Minnaert, 2013).

Most recently, a series of observation studies within SDT has been conducted since Haerens et al. (2013) developed the first version of a need-supportive observation tool for teaching behaviour in the physical education contexts (De Meyer et al., 2014; Van den Berghe et al., 2013). Observation studies can gain more direct evidence of teachers' actual behaviour to achieve learning outcomes as they have high ecological validity (Haerens et al., 2013). However, the literature has not clarified the degree to which the observed teaching behaviour predicts affective learning outcomes in physical education contexts. Moreover, observation studies could be strengthened by integration with a qualitative point of view in order to provide additional insight into teachers' behaviour and teachers' intentions (Van den Berghe et al., 2016).

2.4.2 Motivational climate and TARGET

The concept of motivational climate is considered as one of the most influential environmental factors to create achievement goals in the context of the teaching and learning practices based on achievement goal theory (Ames, 1992). Motivational climate is conceptualized as a situationally-induced environment that directs the goals of action. Specifically, a mastery motivational climate emphasized self-referenced success, effort, and personal improvement. In contrast, a performance motivational climate focused on social comparison with others such as competition, and emphasizes normative ability. A recent review paper showed that a mastery motivational climate is linked with a range of positive outcomes such as intrinsic motivation, perceived competence and the level of engagement in physical activity, whereas a performance motivational climate is positively associated with extrinsic regulation, amotivation, and negative thoughts (Harwood et al., 2015). According to Nicholls (1984), achievement goal theory indicates two major achievement goals, namely, task and ego goals. I note that the labelling of the two constructs varies between researchers. Dweck (1986) referred to these constructs as learning and performance goals, whereas Ames (1992) suggested mastery and performance goals. I adopted the words mastery and performance since recent studies used these labels in physical education contexts. Jaakkola, Washington, and Yli-Piipari (2013) showed that a mastery motivational climate was positively associated with self-determined motivation. Gu and Solmon (2016) provided evidence that a mastery climate is positively related to expectancy beliefs and task values, though a performance motivational climate had a small positive correlation with expectancy beliefs and task values. A recent study claimed that a perceived mastery motivational climate was associated with greater enjoyment in physical education (Johnson et al., 2017).

Optimal mastery motivational climate can be created with the TARGET framework (i.e., task, authority, recognition, grouping, evaluation and time; Epstein, 1989). Tasks are designed to include all students with a variety of

activities and sufficient flexibility so that the lowest skilled student and the highest skilled student are able to achieve success. The authority structure allows students to make choices and creates opportunities for decision-making. Recognition is focused on effort and improvement with positive feedback and rewards. The grouping structure allows students to work with others of their own choice. Evaluations are based on individual improvement and progress, not focused on the end results. The time structure allows students to determine the length of time they spend practising various tasks. A number of studies implemented an intervention programme based on the TARGET structure, which has been adopted successfully in different countries. (e.g., Spain, Greece, Italy and Turkey). The studies showed that there was a significant increase in affective learning outcomes (i.e., attitude, self-efficacy, enjoyment, and perceived competence; Abós et al., 2017) and a significant reduction in anxiety and worry (Barkoukis, Tsorbatzoudis, & Grouios, 2008) and lack of pleasure (Bortoli et al., 2015) through the lessons based on TARGET structure for enhancing the mastery motivational climate.

2.4.3 Pedagogical models

A number of studies of pedagogical models have shown positive results for the achievement of affective outcomes. For instance, Sport Education (Siedentop, 1994) is a representative pedagogical model that seeks to facilitate learning in the affective domain. The original purpose of Sports Education was to offer an authentic sports experience in school physical education programmes (Siedentop, 1994). The Sport Education model has the following six features: seasons (e.g., pre-season, round robin and finals phases), affiliation (e.g., stable and persisting teams), formal competition, record keeping, culminating events, and festivity (Hastie, 2012). Hastie, de Ojeda, and Luquin (2011) reported that Sport Education can help students to develop their personal qualities (e.g., cooperation, empathy, and self-discipline), enthusiasm, enjoyment, fair play behaviour, and motivation. Chu and Zhang (2018) showed that Sport Education had positive effects on the three basic psychological need satisfaction and

autonomous motivation, especially the relatedness need satisfaction since the nature of Sport Education facilitated social affiliation. Sport Education also manipulates a mastery motivational climate which can accomplish the achievement goals (Hastie et al., 2014). Ang and Penney (2013) reported that the implementation of Sport Education facilitated students' learning of emotional skills relating to coping with failure in physical education. They argued that supporting other students allowed them to cope with situations in which they came across failure in classes. In addition, the result indicated the improvement of the students' self-perceived emotional resilience.

Game-centred approaches such as Teaching Games for Understanding (TGfU; Bunker & Thorpe, 1982) and Tactical Games Model (Mitchell, Oslin, & Griffin, 2006) can help students' affective learning including fun, motivation, and positive attitudes towards peers (Harvey & Jarrett, 2014). TGfU and Tactical Games Model usually prioritise learning outcomes in the cognitive domain such as tactical knowledge and decision making in a game situation (Metzler, 2017). However, several features of teaching support students to gain affective learning outcomes. For example, using deductive questions and offering feedback during situated learning tasks could lead to learners' positive affective outcomes such as motivation (Harvey et al., 2017) and enjoyment (Gray, Sproule, & Morgan, 2009). Several studies proposed that game-centred approaches are also consistent with the elements of autonomy-supportive teaching (Gil-Arias et al., 2017; Harvey et al., 2017). More recently, a hybrid programme of TGfU and Sport Education designed by Gil-Arias et al. (2017) had a significant influence on autonomy and competence need satisfaction and enjoyment.

Cooperative Learning can potentially facilitate learning outcomes in the physical, cognitive, social, and affective domains (Casey & Goodyear, 2015). Cooperative Learning generally highlights five elements: positive interdependence, promotive face-to-face interaction, individual accountability, group processing, and interpersonal and small-group skills (Johnson & Johnson,

1994). Recenty, a study showed that there was a positive change in intrinsic motivation within Cooperative Learning (Fernandez-Rio et al., 2017). In addition, Goodyear, Casey, and Kirk (2014) suggested that non-sporty girls became more motivated when they had opportunities to work in promotive face-to-face interaction and to give and receive peer-feedback.

Teaching Personal and Social Responsibility (TPSR; Hellison & Wright, 2003) is a pedagogical model that helping student to take responsibility for their own development and contribute to others' wellbeing as an integrated part of physical activity. Hellison (2003) considered a rationale for teaching personal and social responsibility, and affective benefits:

> Sport builds character. Running makes you feel better. Play fair in class and you will play fair in life. The list goes on. (…) This is not to say that the potential for personal and social benefits is non-existent. It's just risky to assume that such outcomes automatically accrue from participating in sport, fitness, or physical education. Changes in participants' feelings, attitudes, values, and behaviors are more likely to occur if someone, whose presence reflects the desired qualities, plans and exemplifies them. (Hellison, 2003, p.7)

This notion is consistent with the idea of pedagogies of affect. In this sense, the TPSR model is a clearly structured pedagogical model for affective learning (Kirk, 2020). This model aims to achieve the five goals that are: respecting the rights and feelings of others, participation and effort, self-direction, helping others and leadership, and transfer of life skills outside the gym (Hellison, 2003). There are a number of studies that have produced evidence that affective learning occurred as a result of participation in the TPSR model-based programmes. For instance, Escartí et al. (2010) showed that a TPSR model facilitated students' self-regulatory efficacy (i.e., resist feeling the negative pressure of peers, family, and community). Wright and Burton (2008) reported that a TPSR programme adopting a tai chi context had a positive effect on

students' stress coping skills. They mentioned that stress reduction occurred because the tai chi context and associated activities blended effectively with TPSR. A recent review reported that past studies have shown an improvement of self-confidence, self-esteem, and self-control through the TPSR model-based programmes (Pozo, Grao-Cruces, & Pérez-Ordás, 2018).

2.4.4 Other interventions

There are a number of other intervention studies that have achieved affective learning outcomes. For instance, the teaching guideline called the individualized teacher frame of reference (iTFR) that was used in Schmidt et al.'s (2013) study was successful in enhancing students' self-concept. Teaching based on the iTFR framework is a way to emphasise the individual learning process and avoidance of social comparisons (Lüdtke et al., 2005), which is relevant to a mastery motivational climate. Furthermore, a programme based on an activist approach (Oliver & Kirk, 2015) targeting girls' concerns about their bodies did demonstrated a significant impact on social physique anxiety within the experimental group compared with a control group that received regular physical education (O'Brien, Ginis, & Kirk, 2008).

In recent research, Lang et al. (2016, 2017) proposed that physical education can contribute to the successful acquisition of new knowledge and skills to cope with stress. Coping skills are important human capabilities in the affective domain as they are key to fostering resilience, which is the ability to recover from misfortune (Masten, 2001). Coping skills are also central to a salutogenic approach to health promotion (Antonovsky, 1996). Lang et al. (2016, 2017) designed the training programme to promote adaptive coping skills in students where they became more sensitive to stress and how to manage it. The programme was implemented as part of students' regular physical education class. It consisted of eight modules with different aims. For instance, the first module addressed basic knowledge about the development of stress. Subsequently, other modules aimed at improving problem-solving and

practising relaxation techniques. The students were assigned homework tasks in each module. The findings of this study showed that physical education could contribute to the successful acquisition of new knowledge, thoughts, and skills to cope with stress. This kind of study contributed to the literature on the implementation of physical education to incorporate mental health in a curriculum.

This section considered pedagogical practices for affective learning outcomes that have been studied in the literature. This literature review suggests that a number of well-designed physical education programmes can positively influence affective learning outcomes such as motivation, enjoyment, self-concept, resilience, and emotional wellbeing. The previous studies reviewed in this section could provide exemplars for innovative forms of physical education to support affective learning for young people. For my research, it is useful to refer back to these studies to discuss commonalities with existing pedagogies of affect in Scotland. In the next section, I summarise theoretical frameworks that could be adapted for this study.

2.5 Theoretical framework for the study

While several theories has existed around what affective learning is and how to teach it, I made a pragmatic decision to use SDT as a theoretical framework to observe existing pedagogies of affect. One of the reasons for this decision was that a SDT-informed observation instrument and questionnaires are proxy measures of how teachers behave to promote pupils' affective learning outcomes during lessons. Another rationale for choosing SDT was that it is a multi-dimensional framework to analyse motivation and psychological wellbeing and thus is a good representative for affective learning outcomes. Previous research grounded in SDT has shown the significance of need-supportive teaching as it can satisfy the three basic psychological needs that link to affective learning outcomes (Van den Berghe et al., 2014). Need-supportive teaching has three factors, which are the provision of autonomy support,

structure, and involvement. The provision of autonomy support is associated with autonomy satisfaction, which includes offering choices and applying differentiation (Stroet, Opdenakker, & Minnaert, 2013). The factor of structure enhances competence satisfaction by providing specific explanations and positive feedback (Stroet, Opdenakker, & Minnaert, 2013). The provision of involvement refers to the quality of the interpersonal relationships between teachers and pupils, which supports relatedness satisfaction, for example, by paying attention to what the pupils are saying (Stroet, Opdenakker, & Minnaert, 2013). Researchers have used these theoretical principles to understand the dynamics of teaching behaviour over the past few decades. Most recently, several observational studies based on SDT have contributed direct evidence on need-supportive teaching behaviour as it happened in real-life contexts. Researchers in these studies have developed a valid and reliable observation tool to assess teachers' need-supportive teaching behaviour (Haerens et al., 2013) and need-thwarting teaching behaviour (Van den Berghe et al., 2013). Following the line of SDT research, Aelterman et al. (2019) developed a new integrative scale of teaching style with four factors (autonomy support, structure, control, and chaos) that are more closely related to each other rather than consisting of the three psychological needs separately. This is so that teaching style can be assessed more systematically. For example, Aelterman et al. (2019) suggested that the structure can be provided either in an autonomy-supportive way (e.g., provide a rationale for a task) or in a controlling way (e.g., threaten pupils who do not follow teacher's guideline). A benefit of the new scale is to gain a systematic view of teaching style in light of how related each factor is to each other. Even though Aelterman et al. (2019) did not provide the scale as an observational tool, I decided to use it because it offers items more specific to pedagogies of affect. For example, the total number of items in the factor of need-supportive teaching is 41, whereas the previous version (Haerens et al., 2013) has 21 items. Likewise, the number of items in the factor of need-thwarting teaching is 26, whereas the previous version (Van den Berghe et al., 2013) has 16 items.

The use of the observation tool can be beneficial to teachers to be aware of discrepancies between their own self-perceptions of their teaching and actual teaching behaviour. Nevertheless, the extent to which teachers can be aware of their teaching behaviour and why they behave in the ways they did are not evident in previous research, which was therefore investigated through the second research question. To resolve the issue, the identification of critical didactic incidents in teaching can be used to analyse and evaluate key moments in the teaching process drawing on the French 'didactique' tradition (Amade-Escot, 2005). A critical didactic incident is determined based on observations that a teacher's course of action appears to be significant for the intended learning (Amade-Escot, 2005). Also, critical didactic incidents can be used for the analysis of teacher effectiveness and behaviour in the classroom (Amade-Escot, 2005). In my research, critical didactic incidents can be events when teachers were observed to be involved in need-supportive teaching behaviour as their practice of pedagogies of affect. Therefore, the use of critical didactic incident analysis allows the exploration of the teachers' perceptions of pedagogies of affect, which were investigated in Phase 2 of the study with eight selected teachers.

My third research question was about teachers' and pupils' conceptualising health and wellbeing as an umbrella concept embracing the affective domain. A salutogenic perspective is useful to understand the relationship between health and physical education as an analytical lens. Quennerstedt (2019) proposed that a salutogenic perspective offers a way of discussing how pedagogies of affect assist pupils to strengthen health resources and learn health. Health resources refer to assets that provide meaning in pupils' lives (McCuaig & Quennerstedt, 2018). They are dependent on the historical, social, cultural contexts in which individuals live (Antonovsky, 1979). Understanding pupils' learning health in physical education includes consideration of gender, social class, and ethnicity as essential issues (Quennerstedt, 2008). Responses from teachers and pupils considered what health resources are from their points of view and how

physical education contributed to learning health from a salutogenic perspective.

In the final section in this chapter, I narrow down on the Scottish context to consider the practices of physical education under the curriculum area of health and wellbeing since the new national curriculum was implemented.

2.6 Physical education within the Scottish national curriculum

This section will provide a descriptive account of physical education in the Scottish national curriculum. Physical education is literally a key subject for pupils' achievements in health and wellbeing, where it is one of three cross-curricular proprieties. Nevertheless, the literature has articulated some critical debates surrounding conceptualisations of physical education in health and wellbeing and teachers' interpretations of this curricular priority. An important question will be raised about the extent to which physical education teachers implement the documentation into their pedagogical practice and how they produce pupils' affective learning.

2.6.1 The curriculum description

The Scottish national curriculum was renewed in 2010. The new curriculum policy Curriculum for Excellence (CfE) aims to enable all Scottish pupils to become successful learners, confident individuals, effective contributors, and responsible citizens (Scottish Government, 2009). A feature of CfE is to allow teachers to work profession with a degree of independence to develop a curriculum and make pedagogical decisions in their school contexts (Priestley & Sinnema, 2014). CfE signals a shift from the specification of disciplinary knowledge to an emphasis on the intrinsic value of knowledge and the development of key capacities (Priestley & Sinnema, 2014). The Scottish Government (2009) announced that the four learning capacities could be achieved through three core learning prioritised area. There are literacy,

numeracy, and health and wellbeing. Subsequently, each curricular area has a set of the experiences and outcomes to enable teachers and key stakeholders to understand the nature of the new curriculum (Gray, Mulholland, & McLean, 2012). Importantly, all teachers and school staff in Scotland have the responsibility in supporting the three curricular priorities (Scottish Government, 2009). Having said that, as Thorburn (2018) acknowledged, a recent challenge is to understand how health and wellbeing can become more central to pedagogy and be a more obvious responsibility for all teachers since there has been a trend toward the importance of subject teaching for literacy and numeracy to raise national standards and cope with inequalities in educational attainment. This concern indicates that health and wellbeing could be considered as a supportive enhancement to learning for literacy and numeracy rather than as part of the primary educational outcomes (Thorburn, 2018).

2.6.2 The curricular area of health and wellbeing

The principle of learning in health and wellbeing is to ensure that 'children and young people develop the knowledge and understanding, skills, capabilities and attributes necessary for mental, emotional, social, and physical wellbeing now and in the future' (Scottish Government, 2009, p.13). There are six areas that cover 51 experiences and outcomes for health and wellbeing (Education Scotland, n.d.). The statements of the experiences and outcomes arguably articulate closely with the principles and values of the Getting it Right for Every Child (GIRFEC) that aims to support young people's and their parents' understanding of wellbeing (Gray, Mulholland, & MacLean, 2012; Thorburn, 2017). The six areas are (1) mental, emotional, social, and physical wellbeing; (2) planning for choices and changes; (3) physical education, physical activity and sport; (4) food and health; (5) substance misuse; and (6) relationships, sexual health and parenthood. It seems to be feasible that all teachers are aware of their responsibility to cover the first two areas, but the rest of the areas seem to be a subject responsibility for teaching explicit experiences and outcomes in

and through personal and social education, home economics, and physical education (Thorburn, 2017).

2.6.3 Physical education within health and wellbeing

Physical education is set in the curriculum as a core subject within the area of health and wellbeing that incorporates mental, emotional, social, and physical wellbeing (Gray, MacLean, & Mulholland, 2012). Also, the position of physical education within health and wellbeing would strength the value of the subject, considering its role in the curriculum (McLean et al., 2015). Specifically, four benchmarks are set to clarify significant aspects of learning in physical education along with the experiences and outcomes of health and wellbeing. These are Cognitive Skills, Physical Competences, Physical Fitness, and Personal Qualities (Education Scotland, 2017). Once again, teachers can use the CfE policy documents and benchmarks to plan lessons and assess pupil learning while making full use of their professional autonomy. In doing so, teachers can practise pedagogies in response to the needs of pupils (Gray et al., 2018).

Although the principal aim of health and wellbeing appears to be broadly comparable to the learning outcomes of physical education in the literature, there have been critical discussions around what the policy documents intended and how teachers interpret them. For example, McEvilly et al. (2014) concluded that the policy document might intend to provide a specific guideline about what teachers teach and what pupils achieve and experience in relation to physical activity and motor skill development. Consequently, physical education teachers might interpret the policy text as a means of improving fitness and increasing physical activity levels (MacLean et al., 2015). These results could arguably link to the issue of the curriculum development process. Gray, Mulholland, and MacLean (2012) interviewed policy-makers including physical education teachers and organisational members who were involved in curriculum development to clarify the process of constructing the experiences and outcomes for physical education. They showed that the whole process was

government-led and individual policy-makers who participated in the study particularly took part in making changes to the language and the structure of the text rather than involving teachers in curriculum reform (Gray, Mulholland, & MacLean, 2012). Gray, Mulholland, and MacLean (2012) argued that teachers would need to interpret the policy document in a critical way and the policy should be developed aligned with the professional knowledge. Further investigation would be required around how physical education teachers understand and engage with health and wellbeing policy that will make a contribution to the field of pedagogy and curriculum policy in Scotland.

Another challenge that most teachers generally face in terms of connecting health and wellbeing with the significant aspects of learning in physical education is that the experiences and outcomes in this curricular are not easily measurable (Thorburn & Dey, 2017). As such, there was evidence that most schools were not formally assessing health and wellbeing, and they were making subjective-type judgements (Thorburn, 2017). More recently, nevertheless, Hardley, Gray, and McQuillan (2020) suggested that schools appeared to conceptualise health and wellbeing as teachable and measurable outcomes as long as they analysed documents that described how health and wellbeing policy discourse was interpreted at school level. Yet, they advocated that additional efforts to clarify curricular goals and assessment measures are needed to ensure the desired outcomes in practice (Hardley, Gray, & McQuillan, 2020). For further investigation of this issue, a question that needs to be asked in my research is how physical education teachers assess pupils' experiences and outcomes in the curricular area. This evidence will reflect professional knowledge that could develop pedagogies of affect.

2.6.4 The affective domain in CfE

The educational benefits of physical education in the affective domain are closely related to the Personal Qualities as one of the significant aspects of learning in the Scottish context. The Personal Qualities encompasses

motivation, confidence and self-esteem, determination and resilience, responsibility and leadership, respect and tolerance, and communication (Education Scotland, 2017). The benchmarks provide descriptive statements of expected outcomes for each element on five-levels. For example, an experience and outcome of Personal Qualities at the first level describes that 'I am developing skills and techniques and improving my level of performance' (Education Scotland, 2017, p.11). The next level describes that 'I practice, consolidate and refine my skills to improve my performance' (Education Scotland, 2017, p.15). The benchmark also states the criteria to support teachers' professional judgement to observe their pupils (Education Scotland, 2017). This resource seems to be important because it provides a shared understanding among teachers and standardised criteria for assessment.

In terms of research on pupils' experiences and outcomes in the affective domain, relatively little is known in the Scottish context since CfE was implemented. To my knowledge, Gray et al. (2018) investigated Scottish pupils' experiences for the first time under the new curriculum. They used SDT as a theoretical framework and showed that pupils were more motivated when teachers provided tasks at an appropriate level of challenge, and when they managed to make a friendship group. This finding was consistent with the principle of the basic psychological need satisfaction that could underpin autonomous motivation and affective learning, as I reviewed in the earlier section. In another study, Lamb, Oliver, and Kirk (2018) reported girls' positive experiences within an activist approach implemented in Scottish secondary schools. The finding from this study is important because it showed that teachers could work with pupils to create a supportive learning environment that could produce affective learning.

Referring back to the first section in this chapter, the area of health and wellbeing in CfE seems to fit with the current perspective on health from a salutogenic perspective. However, there has been little research on how physical education teachers implement CfE into their practice for pupils' health

and wellbeing and what pupils learn about health and wellbeing in the Scottish context. The literature might be more applicable if they reveal how physical education teachers interpret health and wellbeing and how they teach this curricular priority. The way in which teachers put CfE into their practice might depend on how they conceptualise health and wellbeing (Gray, MacLean, & Mulholland, 2012; Hardley, Gray, & McQuillan, 2020). At the same time, further research is required to examine the perspectives of pupils in terms of their understanding of health and wellbeing and their experiences and outcomes in the affective domain.

2.7 Chapter conclusion

The first section of this chapter showed the relationship between health and physical education from the 19th century to the present. The historical description highlighted that the concept of health in physical education contexts has changed over time. While a salutogenic perspective of health would be currently important to consider health in physical education, the residual effects of a pathogenic approach continue to be strongly influential on the practices of physical education in the present. The notion of being as active as possible has predominated among researchers and physical education teachers over the past few decades. The literature showed that most teachers and pupils across the English-speaking countries studied appeared to have a limited conceptualisation of health with an emphasis on fitness, exercise, obesity-related risks, body shape, and food consumption. In recent years, there are still a number of studies that adopt the concept of MVPA for the indication of high quality physical education.

In the second section, nonetheless, there is the fact that the recent literature has paid attention to the affective domain as a response to the current health-related issues among young people (e.g., mental health). Motivation has been studied predominantly in recent years. Apart from motivation, terminology related to the affective domain was emerged such as interest, perceived

competence, self-esteem, body image, enjoyment, and wellbeing. Importantly, this chapter revealed that this emerging terminology relates to notions of motivation based on SDT. Thus, one of the critical implications for my research is that SDT is a multi-dimensional theoretical framework, and it allows us to understand students' affective learning as a proxy in order to make precise measurements.

From a pedagogical perspective, the literature suggested that the use of need-supportive teaching practices and pedagogical models were significantly successful in producing the legitimate learning outcomes in the affective domain. Several elements of teaching within pedagogical models are consistent with need-supportive teaching. For example, these are offering meaningful choices, providing positive feedback, and using deductive questions towards targeted learning. Need-supportive teaching can be used to ask whether teachers engage in their practice for affective learning as I discussed in the second section. However, one of the limitations with previous SDT studies in physical education is that there is little research on the degree to which the observed need-supportive teaching behaviour predicts affective learning outcomes, which I will explore in Chapter 4.

The last section in this chapter highlighted how Scottish physical education is located within the national curriculum and how the affective domain is related to the curricular area of health and wellbeing. Physical education is located at the heart of health and wellbeing. CfE further provides four significant aspects of learning to achieve health and wellbeing. The Personal Qualities is one of the significant aspects of learning that addressing the affective domain directly. The policy documents clarify that physical education can produce experiences and outcomes in the affective domain as part of health and wellbeing. However, pedagogical research related to the affective domain in the Scottish context is limited to the date. Further research is required on how physical education teachers engage with pedagogies in Scottish physical education to achieve affective learning outcomes and, more broadly, health and wellbeing, which I

aim to explore in Chapter 4 and Chapter 5. Furthermore, it is important to examine teachers' and pupils' perspectives in terms of their understanding of health and wellbeing because their conceptualisations may influence teaching, learning, and assessment, which I will show in Chapter 6.

This chapter discussed a pragmatic approach within SDT to explore the complexity of existing pedagogical practice for affective learning within the area of health and wellbeing. Also, it suggests the need for empirical research on how teachers and pupils conceptualise health and wellbeing and their effects on pedagogies. Building upon the discussion, the next chapter will consider methodology as a means of addressing the gap in the literature and outline the research design and methods for my research.

Chapter 3: Methodology

3.1 Introduction

In the literature review, I identified that there has been a growing awareness of the importance of the affective domain as a central pedagogical concern in recent years. However, empirical research on pedagogies for affective learning in physical education has been limited. This thesis investigates existing pedagogies of affect in the Scottish context. To do this, the literature suggested the use of Self-Determination Theory (SDT) as a theoretical framework because it embraces multiple concepts in relation to the affective domain. With respect to SDT studies, one of the research gaps is that there is no evidence showing how observed teaching behaviour influences pupils' affective learning outcomes. At the same time, observation studies would be valuable if they have a qualitative point of view on the intentions behind teachers' behaviour. These notions are reflected in the first and second research questions. Acknowledging that physical education in Scotland is located within the area of health and wellbeing, it is crucial to consider how teachers and pupils conceptualise health as a umbrella concept that encompasses the affective domain. Investigating teachers' and pupils' views on health addresses the third research question.

This chapter aims to discuss the research methodology that is intended to generate data to answer the research questions. I begin with the research paradigm and the justification for adopting a mixed methods design. The philosophical assumptions within the pragmatic paradigm will be discussed to create research designs and methods taking into account the nature of the research questions. I will describe detailed information on research design, methods, participants, data generation, and data analyses. A way of establishing the trustworthiness of data and ethical consideration will be mentioned at the end of this chapter.

3.2 Research paradigm and rationale for mixed methods

Physical education is socially and culturally constructed according to what is done in the name of physical education (Kirk, 2010). Indeed, the previous chapter highlighted that the conceptualisation of health within physical education has changed over time. In this sense, pedagogical research should be associated with a social constructionist perspective. In recent years, however, the idea of pragmatism has been used as a newer research paradigm. Pragmatism accepts the notion that reality and knowledge are socially constructed, but it emphasises that the reality is grounded in the nature of human experience (Kaushik & Walsh, 2019). Also, the notion of a pragmatic philosophical paradigm underlies philosophical assumptions to advocate for mixed methods research (Mertens, 2019). The characteristics of pragmatic mixed methods highlight that both quantitative and qualitative data are collected either simultaneously, within a short period of time, or sequentially, to answer research questions (Mertens, 2019). In this sense, mixed methods within the pragmatic paradigm would fit with my research because my research questions require various types of data to understand the complexity of the practice of pedagogies of affect. The study needs to capture a bigger picture of phenomena with a large data set, then investigate further the phenomena in-depth with a smaller sample. In the following section, I will discuss the positions of the present research in the following four basic assumptions that Mertens (2019) articulated. They are known as axiology, ontology, epistemology, and methodology.

Axiology refers to 'the nature of values and ethics' (Mertens, 2019, p.10). Within the pragmatic paradigm, the axiological assumption is to 'gain knowledge in pursuit of desired ends as influenced by the researcher's value and politics' (Mertens, 2019, p.11). I believe that the research on pedagogies of affect is valuable because it can be a reasonable response to a health-related issue among young people in today's society. As I explained in detail in Chapter 2, the prevalence of young people's mental health issues is the case in point.

Pedagogies for affective learning are demanding of teachers and represent a challenge to support young people's health and wellbeing in the school curriculum. The present research can contribute to the body of knowledge about promoting the affective domain of health and wellbeing in physical education, which can be my pursuit of desired outcomes of the research.

Ontology refers to 'the nature of reality' (Mertens, 2019, p.10). Pragmatists claim that 'there is a single reality and all individuals have their unique interpretation of reality' (Mertens, 2019, p.11). Besides, according to Mertens (2019), pragmatists emphasise creating knowledge through lines of joint actions and projects that individuals can accomplish together. There is one reality in a physical education lesson to be observed, but perceptions of teaching might differ among individuals who were involved in the lesson. Also, different teachers might have different stories and appreciations that underpinned their teaching behaviour. The research design was based on the assumption that we need to know to what extent teachers engage in pedagogies of affect and how they perceive their teaching, using audio-visual recording of observations and questionnaires, before I scheduled interviews to gain reflective data from the participants. As well as teachers, pupils' perceptions of teaching were examined from both perspectives of questionnaires and focus group interviews.

Epistemology refers to 'the nature of knowledge and the relationship between the knower and the would-be known' (Mertens, 2019, p.10). Researchers who employ the pragmatic paradigm interact with communities to determine an appropriate course of action rather than position themselves as distanced observers. In this sense, the epistemological assumptions in the present research are that I worked with teachers who are interested in pedagogies of affect. The teachers and myself were keen to collaborate in a community of innovative physical education.

Methodology refers to 'the nature of systematic inquiry' (Mertens, 2019, p.10). Mertens (2019) suggested that qualitative and quantitative methods are compatible within the pragmatic paradigm. The researchers use the criterion 'what works' to determine which method to use to answer a given research question (Mertens, 2019, p.320). Within the pragmatic paradigm, the present research began with quantitative analysis of a large data set to capture a bigger picture of teaching behaviour and perceptions of affective learning, followed by qualitative interviews with a smaller number of teachers and pupils.

3.3 Research design

I adopted an exploratory mixed methods research design that consisted of two main studies. The first study employed observations and questionnaires (i.e., Study 1), while the second study employed interviews with teachers and focus group interviews with pupils (i.e., Study 2). Before the main studies, the pilot study was conducted with one secondary school in January 2018. The main fieldwork ran from October 2018 to May 2019.

3.3.1 Pilot study

A female teacher and her pupils participated in the pilot study. The teacher had five years teaching experience. The pupils were aged 11-12 years. The teacher was recruited through professional contacts in the School of Education at the University of Strathclyde. Once I obtained permission from the local authority and the secondary school, I conducted a brief meeting with the participating teacher to discuss the logistics of observing lessons, the time of interviews, and the time of administering questionnaires. The research design for the pilot study followed the didactic data collection procedure (Amade-Escot, 2005). The data collection method consisted of intrinsic data sources (i.e., pre-lesson and post-lesson interview) and extrinsic data sources (i.e., observation). Intrinsic data sources were obtained from participants, whereas extrinsic data sources were obtained through researcher observation. In January 2018, I conducted a

pre-lesson interview with the teacher to learn her experience of teaching, her use of CfE in planning lessons, and her understanding of her contribution to pupils' health and wellbeing. The interview took 30 minutes. After the first interview, I filmed two basketball lessons a week apart and administered questionnaires to all pupils at the end of each lesson. One camera was positioned at the corner of a gym to film lessons. I also asked the teacher to wear a small microphone. Between the observed lessons, 16 pupils were selected for focus group interviews by the teacher. One group consisted of four pupils according to their friendship. A student-teacher attended the focus group interview to help my understanding of what the pupils said. The pupils were asked about their general experiences of physical education and their views on how physical education contributes to their health and wellbeing. The focus group interviews took 20 to 30 minutes to complete each group. Two weeks after the series of lesson observations, I conducted a post-lesson interview with the teacher. At the same time, we watched the recorded video to ask her thoughts and feelings during the lessons (i.e., self-confrontation interview that will be explained in a later section). I did not make a video clip, but I chose some scenes that contained critical didactic incidents. The critical didactic incidents were selected based on the pre-lesson interview and observations. For example, the teacher commented in her pre-lesson interview that personalisation was her priority for affective learning so that I selected some incidents where she interacted with pupils individually. The post-lesson interview took approximately 30 minutes.

The results from the pilot study helped to develop the research design for the main fieldwork. The pilot study told me the required length of time for pupils to fill out questionnaires and to conduct interviews with teachers and pupils. The focus group interview schedule was developed to be more aligned with the questionnaires. For example, I elaborated questions about the pupils' perceptions of teaching (e.g., how does your teacher help you to be healthy?) and their motivation (e.g., what factors motivate you to engage in physical education?). In terms of the process of data collection, I considered filming two

lessons with questionnaires first, then conduct two interviews with teachers and focus group interviews with pupils. A reason for this consideration was that a larger number of teachers expressed willingness to participate in the research if they were involved in observations and questionnaires only (i.e., Study 1). Thus, I decided that once I had completed Study 1 within one school, I would ask the teachers whether they would take part in interviews with teachers and focus group interviews with pupils for further investigations (i.e., Study 2). This chronical order was different from the pilot study that adapted the original didactic data collection. However, my research captured intrinsic and extrinsic data sources effectively, even though I did not conduct a pre-lesson interview. The aim of a pre-lesson interview could be to clarify teachers' interpretation and intention of the learning objectives for the upcoming lessons to be observed. Thereby, researchers could identify which events could be considered as critical didactic incidents. As my research focused on teaching behaviour for affective learning, the identification of critical didactic incidents was defined as an episode where teachers were observed to practise a pedagogy of affect, namely need-supportive teaching. In addition, I gained information on teachers' interpretation and intention of the learning objectives during the observed lessons in their self-confrontation interview and second interview.

3.3.2 Study 1

Study 1 was designed to film two indoor lessons per class and administer a set of questionnaires to pupils and teachers. The setup of the observation was the same as the pilot study. One camera (i.e., iPad) was positioned at the corner of a gym to film lessons. During the filmed lessons, the teacher was asked to wear a small microphone to catch their verbal instruction and communication with pupils. The two lessons were delivered by the same teacher to the same classes. The observation data was coded to examine how the teachers engaged in need-supportive and need-thwarting teaching. Teachers were asked to fill out self-reported questionnaires about perceptions of their teaching behaviour to reflect the observed first lesson. The questions were about teacher provision of

involvement, structure, autonomy support, and controlling teaching, which as explained were based on SDT. The questionnaires were collected before the start of the second lesson to be observed. Pupils were asked to fill out a set of self-reported questionnaires at the end of observed lessons. Questionnaires on pupils' perception of teaching behaviour were administered at the end of the first lesson, which had the same factors as the questions of teachers' perceptions. Questionnaires on pupils' motivation and psychological wellbeing were administered at the end of the second lesson. Table 3.1 shows the research design for Study 1. The contents of questionnaires will be described in the section on data generation.

3.3.3 Study 2

Two audio-recorded interviews with teachers were conducted. For the first interview, the participating teachers were asked to talk through what was happening during the observed lessons while watching selected recorded video clips. Before the interview, I viewed and re-viewed the full video recordings to identify and make video clips of critical didactic incidents. The characteristics of the incidents were based on the statement of need-supportive teaching behaviour that Haerens et al. (2013) articulated. For example, critical incidents were where a teacher offered choices, applied differentiation, monitored activities, provided instructions, offered feedback and interacted with pupils individually. Most of the episodes were recognisable as need-supportive teaching behaviour. The scenes where teachers provided and explained a new activity were also included in a clip because these scenes helped remind the teachers what the intended task was. In the process of making video clips, I did not use the coding system that was adopted in Study 1 because the new observation tool was not ready at that time. As one means of validating the choice of video clips by myself, the teachers were asked at the end of the interview, whether the selected videos were a good representation of their teaching for affective learning.

Table 3.1 Research design for Study 1

	First lesson		Within a week	Second lesson	
	During (20-30 mins)	After (10 mins)		During (20-30 mins)	After (10 mins)
Pupil	—	Questionnaire (Perceptions of teaching behaviour)	—	—	Questionnaire (Affective learning outcomes)
Teacher	Observed behaviour	—	Questionnaire (Perceptions of teaching behaviour)	Observed behaviour	—

The method for teacher reflection while watching a video is called a self-confrontation interview that prompts the participants to explain what they do and the knowledge they use during the lessons (Mollo & Falzon, 2004). The use of the self-confrontation interview allowed me to explore the teachers' knowledge and perceptions of need-supportive teaching as a proxy of pedagogies of affect. For the second interview, the participating teachers were asked about their experience of teaching, their main goals and priorities, and their understanding of their contribution to pupils' health and wellbeing through physical education. The second interview aimed to identify teachers' intentions and interpretations of teaching health and wellbeing. The interview questions referred to previous research within a didactic approach (Amade-Escot, 2005; Quennerstedt et al., 2014). I also asked follow-up questions from the self-confrontation interview. Follow-up questions were about how the teachers' comments in the second interview were related to the video clips. For example, when a female teacher commented that building her pupils' confidence is her priority in teaching, I asked whether she found specific incidents related to building her pupils' confidence in the video clips. Each interview took 30 to 40 minutes.

Furthermore, selected pupils participated in focus group interviews. The members of the focus groups were selected by their teachers according to friendship and to include a range of ability and interest levels among pupils. Each focus group interview was completed within approximately 30 minutes. Interview questions were created using a grounded theory method to create open-ended questions (Charmaz, 2014). I created queries about pupils' general experiences of physical education and their views on how physical education contributes to their health and wellbeing. Some of the interview questions came from the questionnaires in Study 1. The details of the interview schedule will be described in the section on data generation.

3.4 Participants

Participants consisted of 20 teachers and their pupils aged 11 to 15 from seven different secondary schools across Scotland. Table 3.2 shows the information of the participants. I provide a summary of the school contexts later.

3.4.1 Study 1

Participants were recruited through professional contacts in the School of Education at the University of Strathclyde and the University of Edinburgh. I sent the research protocol of Study 1 to a number of teachers who expressed their interest. When I had a meeting with the teachers, I explained that what I wanted to do was to observe lessons where the affective domain (i.e., Personal Qualities in CfE) featured. A total of 20 teachers from seven secondary schools agreed to participate in Study 1. There were 11 male and nine female teachers. Years of teaching experience ranged from one to 14. Four teachers were Principal Teachers and heads of department. There were six S1 classes, eight S2 classes, five S3 classes, and one S4 class. The classes included four girls-only classes, two boys-only classes, and 14 co-educational classes. The number of participating pupils was 401 in the first lessons and 384 in the second lessons. The video recording of Miss B's voice in her first lesson at school one was distorted due to a technical error. The distorted sound was not able to be fixed so that a total of 19 lessons counted as the first lesson. Twenty lessons were recorded successfully as the second lesson. Activities in the observed lessons included basketball, badminton, gymnastics, ball games, tennis, table tennis, volleyball, running, and high jump. These activities were part of the normal physical education programmes in the schools.

3.4.2 Study 2

Once the observations were completed within one school, I provided the participants with the research proposal for Study 2. Eight teachers agreed to

Table 3.2 List of participants

	Name	Gender	No. of years teaching	Role	Grade	No. of pupils in the first lesson			No. of pupils in the second lesson		
						Male	Female	Other	Male	Female	Other
1	Lisa	Female	11	PT	S1	0	27	0	0	22	0
	Steven	Male	13	-	S3	20	7	1	19	6	0
	Miss B	Female	4	-	S3	-	-	-	13	8	1
	Miss H	Female	8	-	S2	0	26	0	0	17	0
	Miss S	Female	10	-	S2	15	11	0	13	11	0
2	Kenny	Male	5	-	S1	13	12	0	7	12	0
3	Luke	Male	11	PT	S3	18	4	0	15	5	0
	Mr R	Male	11	-	S1	6	16	1	3	16	0
	Mr S	Male	2	-	S2	7	9	0	10	10	0
	Miss M	Female	2	-	S3	2	14	0	2	19	0
4	Miss E	Female	2	-	S1	12	10	0	10	11	1
	Miss D	Female	3	-	S2	18	11	1	15	11	0
	Mr S	Male	10	-	S2	13	10	0	10	10	0
	Mr N	Male	14	PT	S4	15	5	0	9	5	0
5	Simon	Male	13	PT	S3	7	2	0	7	2	0
	Chloe	Female	2	-	S2	0	16	0	0	23	0
	Mr S	Male	14	-	S2	18	0	0	16	0	0
6	Mr D	Male	3	-	S1	11	12	0	10	11	0
7	Amelia	Female	1	-	S2	0	17	0	0	15	0
	Ben	Male	2	-	S1	13	0	0	11	0	0

PT: Principal Teacher

Table 3.2 (continued)

	Name	Activity in the first lesson	Activity in the second lesson	Teacher interview	Focus group interview
1	Lisa	Basketball	Basketball	Yes	Two female groups
	Steven	Badminton	Badminton	Yes	Two male groups
	Miss B	-	Ball game	-	-
	Miss H	Badminton	Badminton	-	-
	Miss S	Gymnastics	Gymnastics	-	-
2	Kenny	Ball game	Gymnastics	Yes	One co-educational group
3	Luke	Badminton	Basketball	Yes	One male group and one female group
	Mr R	Tennis	Ball game	-	-
	Mr S	Badminton	Volleyball	-	-
	Miss M	Badminton	Ball game	-	-
4	Miss E	Basketball	Basketball	-	-
	Miss D	Table Tennis	Volleyball	-	-
	Mr S	Badminton	Volleyball	-	-
	Mr N	Ball game	Ball game	-	-
5	Simon	Badminton	Badminton	Yes	One male group and one co-educational group
	Chloe	Basketball	Basketball	Yes	Two female groups
	Mr S	Gymnastics	Gymnastics	-	-
6	Mr D	Running	High jump	-	-
7	Amelia	Badminton	Badminton	Yes	-
	Ben	Basketball	Basketball	Yes	-

take part in the interviews. A total of 11 groups participated in focus group interviews. The focus groups consisted of five female groups, three male groups and three co-educational groups. One group consisted of four pupils. Pupils at school seven did not manage to participate in focus group interviews due to a tight schedule.

3.4.3 School contexts

All the participating schools were six-year non-denominational state-funded comprehensive schools. Figure 3.1 illustrates the school locations. School one was situated within East Dunbartonshire, in a mainly urban Local Authority in the west of Scotland. The postcode of the school was in the 20% least deprived area according to the 2016 Scottish Index of Multiple Deprivation (SIMD). School one's enrolment was 1228. School two was situated within Edinburgh City which is a city in the east of Scotland. The postcode of the school was in the 30% least deprived area according to the 2016 SIMD. School two's enrolment was 360, which was the lowest number among the participating schools. School three was situated within West Dunbartonshire which is another mainly urban Local Authority in the west of Scotland. The postcode of the school was in the 30% least deprived area according to the 2016 SIMD. School three's enrolment was 605. School four was situated within Edinburgh City in the 10% least deprived area according to the 2016 SIMD. School four's enrolment was 1260. School five was situated in Edinburgh City in the 30% least deprived area according to the 2016 SIMD. School five's enrolment was 610. School six was situated in Argyll and Bute which is a mainly rural Local Authority in the west of Scotland. The postcode of the school was in the 30% most deprived area according to the 2016 SIMD. School six's enrolment was 873. School seven was situated in East Renfrewshire which is to the south of Glasgow. The postcode of the school was in the 10% least deprived area according to the 2016 SIMD. School seven's enrolment was 1750, which was the highest number among the participated schools.

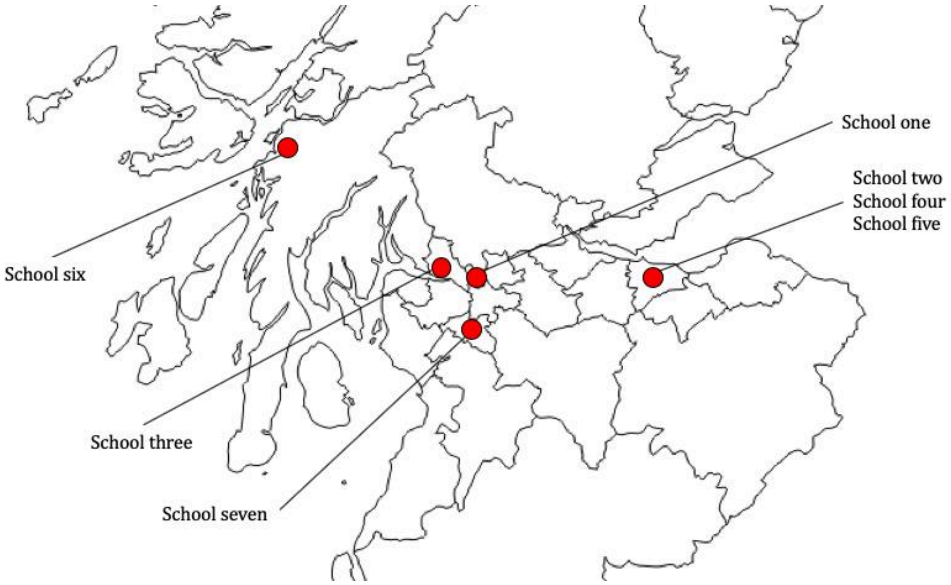


Figure 3.1 Geographic location of the participating schools

3.5 Data generation

Data were generated through observations, questionnaires, and interviews. Observations were focused on teaching behaviour. Teachers' and pupils' perceptions of the observed teaching behaviour and pupils' affective learning were measured by self-reported questionnaires. All interviews were voice recorded and transcribed. All names of teachers and pupils were changed on the transcripts to pseudonyms. The questionnaires and interview schedule for the main fieldwork are attached in appendix A to K.

3.5.1 Observations

Teaching behaviour was assessed using the observation criteria of teaching styles that Aelterman et al. (2019) proposed. It included four overarching factors of teaching style based on SDT, which are autonomy support (17 items), structure (24 items), control (15 items), and chaos (11 items). Autonomy support refers to the teacher's instructional and interpersonal behaviour for understanding pupils' interests, values, and preferences. Teacher provision of structure involves appropriate guidance to help pupils feel competent to engage in activities. On the other hand, controlling teaching behaviour are forcing pupils to comply with what to do and making pupils feel pressure. Chaos is reflective of creating a laisser-faire climate by letting pupils do what they want. The list of items is attached in appendix A. The 67 teaching behaviours were coded periodically (every five minutes) using a five-point frequency scale, ranging from 0 (not at all observed) to 1 (slightly observed), to 2 (sometimes observed), to 3 (often observed), to 4 (observed all the time; typical for this interval). Summed scores for the total duration of the lesson were divided by the number of coded intervals to compute the mean scores for each item. Dimensional scale scores were computed by averaging those items reflecting each of the four factors. The mean scores of need-supportive teaching were calculated by averaging the mean scores of autonomy support and structure.

The mean scores of need-thwarting teaching were calculated by averaging the mean scores of control and chaos (Aelterman et al., 2019).

3.5.2 Teacher questionnaires

Teachers' perceptions of their own teaching behaviour were measured with the teacher report of Teacher as Social Context Questionnaire (T-TASCQ; Wellborn, Connell, Skinner, & Pierson, 1988) and the teacher report of Psychologically Controlling Teaching (T-PCT; Soenens et al., 2012). Fourteen items measured teacher involvement (e.g., I know a lot about what goes on for the pupils) including negative statements (e.g., I don't understand the pupils very well). Fifteen items measured teacher provision of structure (e.g., when I discipline the pupils, I always explain why) including negative statements (e.g., I let the pupils get away with things I normally wouldn't allow). Twelve items measured teacher provision of autonomy support (e.g., I try to give the pupils a lot of choices about classroom assignments) including negative statements (e.g., It's better not to give too many choices to the pupils). The T-TASCQ is attached in Appendix B. In the T-PCT, seven items measured teacher provision of controlling teaching (e.g., I make the pupils feel guilty when they have dissatisfied me). The T-PCT is attached in Appendix C. The teachers were asked to respond on a five-point scale ranging from 1 (not true for me) to 2 (not really true for me), to 3 (sometimes true for me), to 4 (often true for me), to 5 (very true for me). Negative statements of T-TASCQ were reverse-scored to compute average scores. The scale scores of T-PCT were computed by averaging the seven items.

3.5.3 Pupil questionnaires

The scale of the student report of Teacher as Social Context Questionnaire (S-TASCQ; Belmont, Skinner, Wellborn, & Connell, 1988) and Psychological Controlling Teaching (PCT; Soenens et al., 2012) were administered at the end of the first lesson to measure pupils' perceptions of teaching behaviour. I

adapted the short form of S-TASCQ with 24 items. Eight items measured teacher involvement (e.g., my teacher really cares about me) including negative statements (e.g., my teacher just doesn't understand me). Eight items measured teacher provision of structure (e.g., my teacher makes sure I understand before he/she goes on) including negative statements (e.g., my teacher doesn't make it clear what he/she expects of me in class). Eight items measured teacher provision of autonomy support (e.g., my teacher listens to my ideas) including negative statements (e.g., It seems like my teacher is always telling me what to do). The S-TASCQ is attached in Appendix D. In the PCT, seven items measured teacher provision of controlling teaching (e.g., my teacher makes me feel guilty when dissatisfied him/her). The PCT is attached in Appendix E. The pupils were asked to respond to the items on a five-point scale ranging from 1 (not true for me) to 2 (not really true for me), to 3 (sometimes true for me), to 4 (often true for me), to 5 (very true for me). Negative statements of S-TASCQ were reverse-scored to compute average scores. The scale scores of PCT were computed by averaging the seven items.

In the second lesson, the pupils were asked to fill out a set of four different questionnaires. The first was the Positive and Negative Affect Schedule (PANAS; Thompson, 2007) to measure a wide conception of psychological wellbeing in pupils. It consists of five positive feelings (e.g., Active) and five negative feelings items (e.g., afraid). The PANAS is attached in Appendix F. The pupils responded to what extent they are feeling at the end of the second lesson on a five-point scale ranging from 1 (not at all) to 2 (a little), to 3 (moderately), to 4 (quite a bit), to 5 (extremely).

The second questionnaire in the second lesson was the Basic Psychological Need Scale-Revised adapted to physical education context (BPNS-R; Haerens et al., 2015). The BPNS-R was originally developed by Chen et al. (2015). Haerens et al. (2015) revised it for the context of physical education. There are 24 items that consist of autonomy satisfaction (four items: e.g., I felt a sense of choice and freedom in the things I undertake) and frustration (four items: e.g., most

activities I did felt like “I have to”), competence satisfaction (four items: e.g., I felt confident that I could do the activities well) and frustration (four items: e.g., I had serious doubts about whether I could do the activities well), and relatedness satisfaction (four items: e.g., I felt that the class members I care about also care about me) and frustration (four items: e.g., I felt excluded from the group I want to belong to). The BPNS-R is attached in Appendix G. A five-point scale was used for the scale ranging from 1 (not true for me) to 2 (not really true for me), to 3 (sometimes true for me), to 4 (often true for me), to 5 (very true for me).

The third questionnaire was the Behavioural Regulation in Physical Education Questionnaire (BRPEQ; Aelterman et al., 2012) to assess pupils’ motivation towards the physical education lesson just completed. The items describe reasons why pupils engaged in the lesson. The items follow the statement ‘I put effort in this PE class’. It consists of 20 items reflecting autonomy motivation (eight items: e.g., because I find this PE class personally meaningful), controlled motivation (eight items: e.g., because I had to prove myself), and amotivation (four items: e.g., I don’t see why this PE class is part of the curriculum). The BRPEQ is attached in Appendix H. A five-point scale was used for the scale ranging from 1 (not true for me) to 2 (not really true for me), to 3 (sometimes true for me), to 4 (often true for me), to 5 (very true for me).

3.5.4 Teacher interviews

After the observed lessons, eight teachers participated in audio-recorded interviews about their teaching behaviour and concerns that arose during the observed lessons while watching selected recorded video clips (i.e., self-confrontation interview). I asked all the participating teachers in Study 1 when the observations within one school were completed. Consequently, the eight teachers agreed to take part in the interviews. During the self-confrontation interview, the interviewer’s strategy was to ask the teachers a question such as 'tell me what was happening here?' and the researcher took the initiative to stop

the video to give the teachers time to talk. This question exemplifies a way of interviewing with initial open-ended questions in grounded theory approach (Charmaz, 2014). I sometimes prompted the teachers by asking, for example, 'what was your teaching point here?', 'what was the issue here?', 'what were you thinking at that moment?', 'can you tell me more about this pupil?'. The self-confrontation interview schedule is attached in Appendix I. These questions helped to elicit the teachers' views of their expectations and experiences. As I explained in the research design section, scenes in the video clips were selected by me based on the statements of the need-supportive teaching behaviour (Haerens et al., 2013). The scenes were selected when need-supportive teachings was clearly observed, for example, when choices of activities were offered, the level of a task was differentiated, teachers monitored pupils' engagement, provided clear instructions, offered substantive feedback and interacted with pupils individually. As a means of validating the video clips, I confirmed with the teachers that the selected videos were a good representation of their teaching. All eight teachers agreed that the clips were a good representation of their teaching for affective learning. However, one of the critical reflection points was about the time period between the self-confrontation interviews and the observed lessons. Table 3.3 shows the data collection schedule. For example, the self-confrontation interviews with Simon and Chloe were conducted 16 weeks after their second lessons. For other teachers, it was eight weeks for Kenny, six weeks for Lisa and Steven, three weeks for Amelia and Ben, and a week for Luke. Taking more than four weeks after the observed lessons might be a source of limited reflection for teachers.

For the second interview with teachers, I asked about their experience of teaching physical education (e.g., what do you find the most interesting in your experience of teaching?), their main goals and priorities (e.g., what kinds of issues do you prioritise in your lessons?), their use of CfE in planning physical education lessons (e.g., how do you use the policy documents?), relationship with pupils (e.g., how do you get to know your pupils?), and their understanding of their contribution to pupils' health and wellbeing (e.g., to what extent do you

Table 3.3 Data collection schedule

Name	First lesson	Second lesson	Self-confrontation interview	Second interview	Focus group interview
Lisa	20 November 2018	30 November 2018	14 January 2019	21 January 2019	15 February 2019
Steven	22 November 2018	29 November 2018	14 January 2019	21 January 2019	21 February 2019
Kenny	6 November 2018	13 November 2018	15 January 2019	6 February 2019	26 March 2019
Luke	16 April 2019	30 April 2019	3 May 2019	8 May 2019	8 May 2019
Simon	1 October 2018	9 October 2018	28 January 2019	4 February 2019	25 February 2019
Chloe	1 October 2018	8 October 2018	28 January 2019	4 February 2019	4 March 2019
Amelia	27 February 2019	6 March 2019	26 March 2019	23 April 2019	-
Ben	27 February 2019	6 March 2019	26 March 2019	23 April 2019	-

believe health and wellbeing in your responsibility?). The second teacher interview schedule is attached in Appendix J. The second interviews were conducted within four weeks after the self-confrontation interviews. I also used the video clips sometimes to ask if there were any incidents during the observed lessons that related to what teachers talked about.

3.5.5 Pupil focus group interviews

In focus group interviews with the selected pupils, I asked about their views of health (e.g., what does it mean to be healthy?) and their views on how physical education contributes to their health (e.g., do you think physical education helps you to be healthy?). The pupil focus group interview schedule is attached in Appendix K. As well as the pilot study, student-teachers who were in a placement school had a role assisting me. Focus group interviews in School one and School five were conducted with their student-teachers. This enabled pupils to feel more comfortable and facilitated communication. One of the potential negative issues in a student-teacher being present would be that the student-teacher may deviate from the research topic due to miscommunication with me. To overcome the potential issue, I explained the aim of the study and shared the interview schedule before starting the focus group interviews. Besides, student-teachers were allowed to ask additional questions if necessary, for clarification. Only I interviewed pupils in School two and School three since there were no student-teachers available. Pupils might feel nervous and uncomfortable with me and not be willing to answer honestly. To reduce this concern, I asked teachers to confirm the selected pupils were willing to take part in a focus group interview and make a group according to their friendship. I tried to keep the discussion conversational. Also, I already had experiences of interviewing when I conducted focus group interviews in School two and School three. My interview skills at that time could reduce pupils' negative feelings.

3.6 Data analysis

A range of data analyses was used. I will describe the approach to preliminary statistical analyses, statistical analyses for Chapter 4, and interview data analysis for Chapter 5 and Chapter 6. Quantitative data analyses were conducted with SPSS version 26. Qualitative data were analysed using a grounded theory approach (Charmaz, 2014).

3.6.1 Preliminary statistics analyses for the participating teachers

I provided a feedback sheet of preliminary statistical analyses to the participating teachers within a week after their observed second lesson. It consisted of perceptions of teaching behaviour, positive and negative affect, motivation, and psychological need satisfaction. Each mean score of the variables in the class was calculated and represented in visual analogue scales. An example of a feedback sheet is attached in appendix L.

3.6.2 Statistical analyses for Chapter 4

The first task was to assess reliability of my use of the observation tool. Cronbach's alpha was computed for each factor of teaching behaviour to assess internal consistency. As Taber (2018) noted, Cronbach's alpha values above 0.7 are considered acceptable ($\alpha \geq 0.7$), good ($\alpha \geq 0.8$) and excellent ($\alpha \geq 0.9$). Any factors of teaching behaviour with low internal consistency ($\alpha < 0.7$) would not be considered for further analysis. Pearson's correlation coefficient was used to examine relationships between the factors. Furthermore, paired-sample *t*-tests were conducted to examine whether there were significant differences between the first and second lesson.

After determining the scores of observed teaching behaviour, relationships between the observed teaching behaviour and class contexts were explored. It is important to examine this relationship as these class contexts are significant

features of the pedagogical context and they might influence teaching behaviour (Van den Berghe et al., 2013). For this, simple linear regression analysis was conducted due to the sample size (n = 20). As noted by Field (2018), there should be at least ten or more cases per predictor. Class-level contextual variables were class size, class setting, the teachers' sex, and years of teaching experience. Dependent variables were the scores of overall need-support, autonomy support, structure, overall need-thwarting, controlling, and chaos. The data set of this section was extracted from the first and second lesson separately.

The next task was to examine relationships between observed teaching behaviour, teachers' perceptions, and pupils' perceptions. I first examined correlations between teachers' and pupils' perceptions, which were presented by Pearson's correlation coefficient. Since the data set extracted from teachers and pupils in the first lesson was treated as a two-level hierarchical data structure, multilevel regression analyses were conducted. Sex and age were included as the background variables of pupils. Sex was dummy coded (with girl = 1 and boy = 0) and age was grand mean centred. Following, to examine the relationship between observed teaching behaviour and pupils' perceptions, observed need support variables were included in the model. The scores of observed teaching behaviour were grand mean centred. I ran the analyses with overall need support, and autonomy support and structure separately. A model with fixed effects was built at pupil-level. Then, a random model was built after testing whether the intercepts of pupils' perceptions randomly varied between classes. The relationship between teachers' perceptions and pupils' perceptions was examined using the same process. Sex, age, and teachers' perceptions were included in the models. Teachers' perceptions were grand mean centred.

The final task was to examine how observed teaching behaviour related to pupils' affective learning outcomes. The data set was extracted from the second lesson. Multilevel regression analyses were conducted to examine relationships between observed teaching behaviour and affective learning outcomes. Also, the

background variables of pupils (i.e., sex and age) were considered in the models. I ran two separate models with overall need support, and autonomy support and structure. Next, multilevel mediation analyses were used to examine the mediating effect of motivation on the relationships between pupils' need satisfaction and frustration, and feelings of positive and negative affect. The SPSS macro program MLmed (Hayes & Rockwood, 2020) was used to conduct the multilevel mediation analyses. Finally, a multilevel path diagram was created to show the relationships. Sex and age were included as covariates in the path diagram.

3.6.3 Interview data analysis for Chapter 5 and Chapter 6

I used a grounded theory approach as a guideline for gathering, coding, and reporting interview data (Charmaz, 2014). As I mentioned in the earlier section of data gathering, I drew on Charmaz's (2014) advice about open-ended interview strategies. Coding is 'naming segments of data with a label that simultaneously categorizes, summarizes, and accounts for each piece of data' (Charmaz, 2014, p.111). The first step in coding is line-by-line coding. Line-by-line coding helps to identify patterns and events that occurred in data and conceptualise possible ideas to develop theoretical categories inductively. The next step is focused-coding. Focused-coding requires a decision about which initial codes to be highlighted to categorise themes. Throughout the coding process, codes were developed to represent themes and subthemes grounded in the data.

The transcripts of the self-confrontation interviews were initially coded by myself and my supervisor individually to confirm initial analysis was appropriate, according to the criterion that they provided critical incidents of need-supportive teaching behaviour. Further analysis was shared between myself and my supervisor to identify the key themes and subthemes relating to teachers' experience and knowledge for need-supportive teaching behaviour. We extracted data from pupils' focus group interviews to identify their

perceptions of their teachers' behaviour. The results will be described in Chapter 5. Themes were mainly developed according to teaching behaviour such as offering choices, differentiating, and providing individual interactions. The results of Chapter 6 were extracted from the second teacher interviews and pupils' focus group interviews. Themes and subthemes relating to teachers' and pupils' conceptualisation of health and wellbeing were identified. For example, a theme emerged from the notion that physical exercise and fitness are essential to health. In contrast, another theme was reflective of statements that health is a holistic concept rather than merely focusing on fitness and exercise.

3.7 Trustworthiness

The trustworthiness of data was established in a number of ways. First, all the questionnaires I used were already validated and reliable for the adolescent populations in previous research. Second, for the observations, I was trained on how to code with the tool under the supervision of researchers who developed the tool at Ghent University. The first visit was in August 2018. They introduced me to the new observation tool for the first time. I joined in a research meeting to demonstrate how the tool works with the video recording in the pilot study. I learned the contents of the tool and the coding system. After completing the data collection, I visited Ghent again in September 2019. I coded ten videos with the tool at that time. The researchers at Ghent University advised me when I was not sure what score should be. The process of coding under their supervision helped me to gain a shared understanding of the tool developers' intentions and contributed to the observation data trustworthiness. Two weeks later, I coded the ten identical videos to assess intra-observer reliability. Consequently, intra-observer reliability was adequate with 0.85, which was calculated by means of intraclass correlation coefficients (ICC). A visiting PhD student at the University of Strathclyde helped with the coding for inter-observer reliability. He had experiences of observing physical education lessons with a similar tool in his PhD project. I taught him how to use the observation tool based on what I learned at Ghent University. One identical video was used

for this demonstration. Further, nine identical videos were coded independently by the two observers. Inter-observer reliability was adequate with 0.83, which was calculated by means of ICC. Even though inter-observer reliability was secured, we had a meeting to reach 100% agreement on the coding. After that, one observer (me) coded the rest of the lessons. ICC was used to test reliability for the tool itself. The results of assessing the tool will be presented in Chapter 4. Third, in terms of interview data, all data were transcribed by myself, and my supervisor checked transcription accuracy. Interview data were analysed by myself and my supervisor independently and I had regular meetings with him to discuss possible interpretations. Finally, since a mixed method approach was adopted for data generation, it allowed triangulation of data sources to reveal pedagogical practice with high ecological validity.

3.8 Ethical considerations

All the research activities involving in my PhD project were designed and conducted in accordance with the guidelines of the University of Strathclyde Ethics Committee. The committee approved both the pilot study and the main studies. Ethical approval for the pilot study was granted in November 2017, and the main study was granted in April 2018. Copies of the ethical approval can be in Appendix M and N. Additionally, the approvals from local councils and the headteachers were secured before starting data collection. There were some cases that a headteacher or a local council refused access to schools even though their physical education teachers were interested in participating in the study, which lengthened the fieldwork process and limited the numbers of teachers I was able to recruit to Study 1. Before the observations, I obtained consent from the participating teachers and assent from the pupils. The pupils were asked to pass to their parents a parent information sheet with opt-out form. I explained that participation was voluntary, and any pupil could decline to participate in the study, but no pupils and parents refused. Further ethical considerations will be discussed in the final chapter.

3.9 Chapter conclusion

This chapter justified the methodology of mixed methods within the pragmatic paradigm. The characteristics of pragmatic mixed methods highlight that both quantitative and qualitative data are collected within a short period of time. For the quantitative part, which formed Study 1, my research took the forms of an observation study with questionnaires based on SDT. This first phase aimed to answer the first research question. Afterwards, Study 2 involved interviews with selected teachers and focus group interviews with pupils. Self-confrontation interviews with teachers can be used to explore the teaching process in depth. This methodological strategy provides a qualitative point of view on what happened in the observed lessons and why the teachers behaved in the ways they did, which provided data to enable me to answer the second research question. The second teacher interviews and pupil focus group interviews aimed at answering the third research question of how the teachers and pupils conceptualise health. A grounded theory approach provided the process of data gathering and data analyses for Study 2. In the following three chapters, I show the findings that provide a response to the three research questions.

Chapter 4: Relationships between observed teaching behaviour, class contexts, teachers' and pupils' perceptions of teaching, and affective learning outcomes

4.1 Introduction

I begin the findings on existing pedagogies of affect by observing physical education lessons and investigating pupils' affective learning outcomes. This chapter is the first phase of this research to understand the complexity of existing pedagogical practices with a sample of 20 teachers and their pupils in Scotland. The literature suggested that the use of Self-Determination Theory (SDT) allows measuring teacher-pupil interactions as precisely as possible. More recently, a number of observational studies contributed direct evidence on need-supportive behaviour as it happened in real-life contexts (Haerens et al., 2013; Van den Berghe et al., 2016). However, it still remains to be known how observed teaching behaviour influences affective learning outcomes. Also, it has been not clear how observed teaching behaviour was related to class contexts, teachers' perceptions, and pupils' perceptions.

As I described in Chapter 3, I observed 20 classes twice for data collection. In the first lesson, I observed the teachers' behaviour during the lessons and asked the teachers and their pupils to provide their perceptions of the lessons. In the second lesson, I observed the teachers' behaviour as well and asked the pupils to fill out questionnaires on affective learning outcomes. Figure 4.1 illustrates an overview of data collection in this phase.

The first aim of this chapter is to investigate how the teachers behaved in physical education lessons. For this, I used an observation tool based on the study of Aelterman et al. (2019) to code the teachers' behaviour. In the first

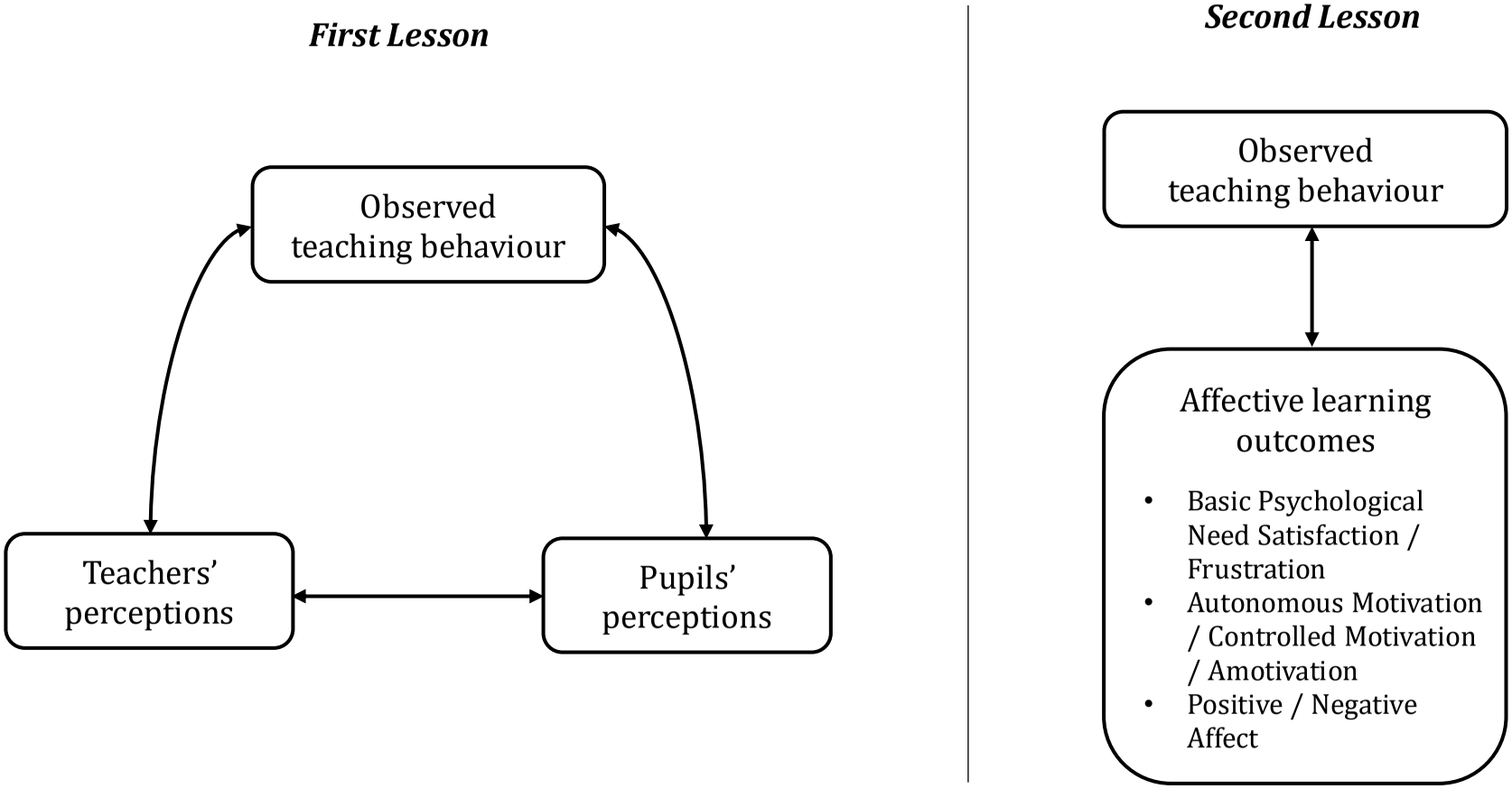


Figure 4.1 Overview of data collection in the first phase

section of this chapter, I will assess the internal consistency of the observation tool for need-supportive and need-thwarting teaching behaviour with Cronbach's alpha. The relationships between the factors of observed teaching behaviour will also be analysed with Pearson's correlation coefficient. Additionally, I will use paired-samples *t*-tests to investigate whether the teaching behaviour in the first lessons was consistent with the teaching behaviour in second lessons. The second aim is to examine the relationships between observed teaching behaviour and class-level contextual variables with multiple regression analyses. Class-level contextual variables include class size, class setting (i.e., co-educational class or single-sex class), teacher's sex, and years of teaching experience. The third aim is to investigate the relationships between observed teaching behaviour, teachers' perceptions, and pupils' perceptions. I will use Pearson's correlation coefficient to provide descriptive statistics and correlations among the variables. Also, multilevel regression analyses will be conducted to investigate the relationships. The fourth aim is to test how observed teaching behaviour predicts pupils' affective learning outcomes. For this, I will conduct multilevel regression analyses to investigate how observed teaching behaviour influences the pupil-level variables. I will also run multilevel mediation analyses to investigate the mediating effect of pupil-level variables.

4.2 Findings

The following sections show the results in accordance with the four aims of this chapter. The results indicated that the observation tool could assess need-supportive teaching behaviour and it differed depending on class context. There were significant relationships between observed teaching behaviour, the teachers' perceptions, and the pupils' perceptions with fixed effects. Also, there were significant fixed effects of observed need-support teaching behaviour on affective learning outcomes.

4.2.1 Observation tool for assessing need-supportive and need-thwarting teaching behaviour

The observation tool consisted of the factors of autonomy support (i.e., interpersonal tone of understanding), structure (i.e., interpersonal tone of guidance), control (i.e., interpersonal tone of pressure), and chaos (i.e., interpersonal tone of laissez faire) for evaluating teaching behaviour (Aelterman et al., 2019). The results of observed teaching behaviour will be reported for the first lesson and second lesson separately. Cronbach's alpha was computed for each factor to assess the internal consistency of the observation tool. A number of significant relationships between the factors were found through Pearson's correlation coefficient. Paired samples *t*-tests were also conducted to investigate differences between the first and second lesson.

4.2.1.1 First lesson

Table 4.1 shows the descriptive statistics and correlations of observed teaching behaviour in the first lesson. Overall observed need-supportive teaching behaviour was significantly positively correlated with the factors of autonomy support ($r = 0.86$, $p < 0.01$), structure ($r = 0.96$, $p < 0.01$), and control ($r = 0.36$, $p < 0.01$), whereas negatively correlated with the chaos factor ($r = -0.22$, $p < 0.01$). Overall observed need-thwarting teaching behaviour was significantly positively correlated with the factors of structure ($r = 0.37$, $p < 0.01$), control ($r = 0.96$, $p < 0.01$), and chaos ($r = 0.55$, $p < 0.01$). Overall observed need-supportive and need-thwarting teaching behaviour were significantly positively correlated with each other ($r = 0.30$, $p < 0.01$). The observed autonomy support factor had a significant positive correlation with the observed structure factor ($r = 0.67$, $p < 0.01$), and a significant negative correlation with the observed chaos factor ($r = -0.16$, $p < 0.01$). The observed structure factor was significantly positively correlated with the observed control factor ($r = 0.50$, $p < 0.01$), and negatively correlated with the observed chaos factor ($r = -0.22$, $p < 0.01$). There

Table 4.1 Descriptive statistics, internal consistency, and correlations among observed teaching behaviour in the first lesson

		M	SD	α	1	2	3	4	5	6
1	Overall need-support	0.52	0.50	0.90	1.00	0.30**	0.86**	0.96**	0.36**	-0.22**
2	Overall need-thwarting	0.24	0.07	0.49		1.00	-0.01	0.37**	0.96**	0.55**
3	Autonomy support	0.32	0.19	0.72			1.00	0.67**	0.05	-0.16**
4	Structure	0.73	0.35	0.88				1.00	0.50**	-0.22**
5	Control	0.45	0.12	0.43					1.00	0.31**
6	Chaos	0.02	0.04	0.50						1.00

N = 19

**: $p < 0.01$; *: $p < 0.05$ (two-side test)

α : Cronbach's alpha

was a significant positive correlation between the observed control factor and the observed chaos factor ($r = 0.31$, $p < 0.01$).

Overall scores on observed need-supportive teaching behaviour was 0.52 and its Cronbach's alpha was 0.90. Overall scores on observed need-thwarting behaviour was 0.24 and its Cronbach's alpha was 0.49. Mean scores on the structure factor was the highest among the rest of variables with 0.73. Cronbach's alpha was satisfactory with 0.88. Mean scores on the autonomy support factor was 0.32. Its Cronbach's alphas was moderate with 0.72. Mean scores on the control factor was 0.45. Its Cronbach's alphas was low with 0.43. Mean scores on the chaos factor was 0.02. It had relatively low reliability with 0.50. The factors of overall need-thwarting, control, and chaos will be removed for further analysis due to their low internal consistency.

4.2.1.2 Second lesson

Table 4.2 shows the descriptive statistics and correlations of observed teaching behaviour in the second lesson. Overall observed need-supportive teaching behaviour was significantly positively correlated with the factors of autonomy support ($r = 0.94$, $p < 0.01$) and structure ($r = 0.95$, $p < 0.01$), whereas negatively correlated with the factors of control ($r = -0.48$, $p < 0.01$) and chaos($r = -0.11$, $p < 0.05$). Overall need-thwarting teaching behaviour was significantly negatively correlated with the factors of autonomy support ($r = -0.56$, $p < 0.01$) and structure ($r = -0.30$, $p < 0.01$), whereas positively correlated with the factors of control ($r = 0.99$, $p < 0.01$) and chaos($r = 0.58$, $p < 0.01$). Overall observed need-supportive teaching behaviour had a significant negative correlation with need-thwarting teaching behaviour ($r = -0.45$, $p < 0.01$). The observed autonomy support factor was significantly positively correlated with the observed structure factor ($r = 0.78$, $p < 0.01$), and negatively correlated with the observed control factor ($r = -0.59$, $p < 0.01$) and the observed chaos factor ($r = -0.16$, $p < 0.01$). The observed structure factor was negatively significantly correlated with the observed control factor ($r = -0.30$, $p < 0.01$). There was a significant positive

Table 4.2 Descriptive statistics, internal consistency, and correlations among observed teaching behaviour in the second lesson

		M	SD	α	1	2	3	4	5	6
1	Overall need-support	0.56	0.25	0.87	1.00	-0.45**	0.94**	0.95**	-0.48**	-0.11*
2	Overall need-thwarting	0.17	0.10	0.66		1.00	-0.56**	-0.30**	0.99**	0.58**
3	Autonomy support	0.37	0.26	0.78			1.00	0.78**	-0.59**	-0.16**
4	Structure	0.75	0.27	0.78				1.00	-0.32**	-0.04
5	Control	0.33	0.19	0.65					1.00	0.44**
6	Chaos	0.01	0.04	0.53						1.00

N = 20

**: $p < 0.01$; *: $p < 0.05$ (two-side test)

α : Cronbach's alpha

correlation between the observed control factor and the observed chaos factor ($r = 0.44$, $p < 0.01$).

Overall scores on observed need-supportive teaching behaviour was 0.56 and its Cronbach's alpha was 0.87. Overall scores on observed need-thwarting teaching behaviour was 0.17 and its Cronbach's alpha was 0.66. Mean scores on the factors of autonomy support and structure were 0.37 and 0.75 respectively. Cronbach's alpha was satisfactory with 0.78 for both the factors of autonomy supportive teaching and structure. Mean scores on the factors of control and chaos were 0.33 and 0.01 respectively. Cronbach's alphas for the observed control factor was moderate with 0.65. The observed chaos factor had relatively low reliability with 0.50. As with the first lesson, the factors of overall need-thwarting, control, and chaos will be removed from further analysis due to their low internal consistency.

4.2.1.3 Comparisons between the first and second lesson

Teaching style with the factors of autonomy support and structure are represented in Figure 4.2 and Figure 4.3 across the teachers. When looking at the figures, in the first lesson, autonomy-supportive teachers seemed to be likely to provide more structure (Figure 4.2). In the second lesson, the score of structure was similar across the teachers, while there was a wide range of the score of autonomy support (Figure 4.3). The patterns of teaching style in the first lesson seemed to be slightly different to the second lesson. However, no significant differences were found between the first and second lesson by paired samples *t*-tests. Moreover, the average score of observed autonomy support and structure in the first lessons were 0.33 and 0.80 respectively, while the average score of observed autonomy support and structure in the second lessons were 0.38 and 0.71 respectively. The average differences of autonomy support and structure from the first lesson to the second lesson were 0.06 and -0.09 respectively.

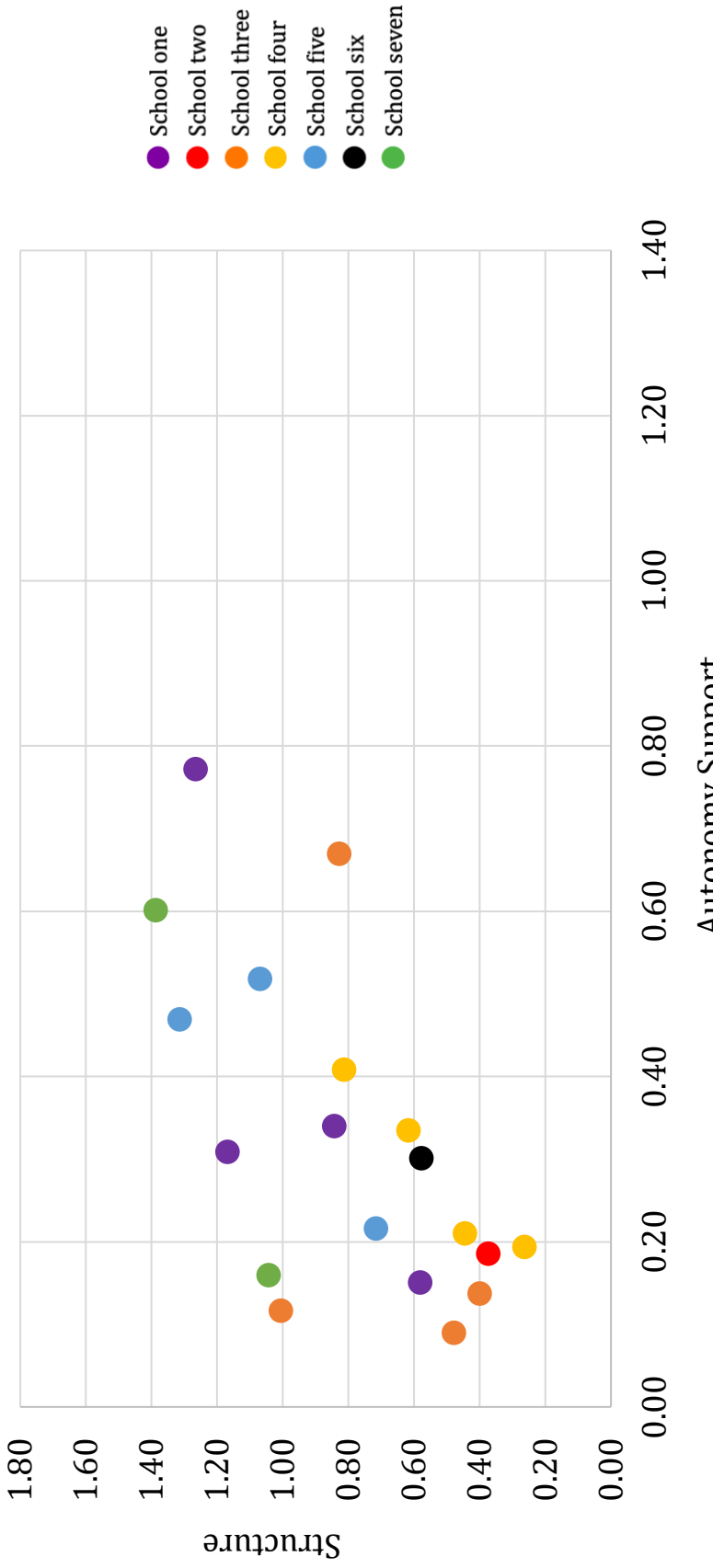


Figure 4.2 Graphical representation of teaching type in the first lesson

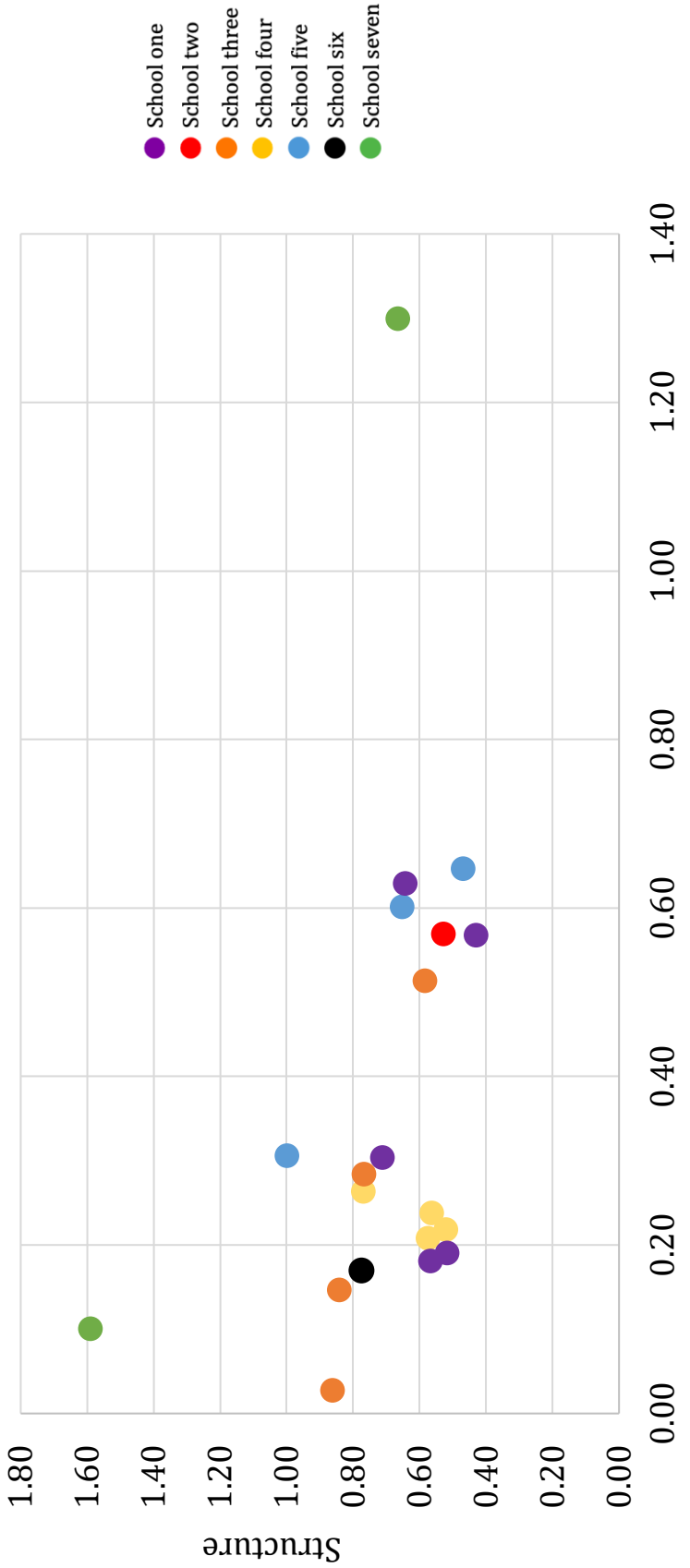


Figure 4.3 Graphical representation of teaching type in the second lesson

4.2.2 Relationships between observed need-support and class contexts

Linear regression analyses with one predictor were conducted to investigate how class-level contextual variables (e.g., class size, class setting, teacher's sex, and years of teaching experience) were related with observed need-support. The results showed that teacher's sex mattered in the first lesson, whereas class setting mattered in the second lesson.

4.2.2.1 First lesson

Table 4.3 shows the results of the linear regression analyses of observed need-support on class contexts in the first lessons. Female teachers provided significantly higher levels of overall need-support (B = 0.24, SE = 0.11, β = 0.47, $p < 0.05$, $R_2 = 0.22$) and more autonomy support (B = 0.21, SE = 0.08, β = 0.51, $p < 0.05$, $R_2 = 0.26$) than male teachers. There were no significant relationships between observed need-support and class size, class setting, and years of teaching experiences.

4.2.2.2 Second lesson

Table 4.4 shows the results of the linear regression analyses of observed need-support on class contexts in the second lessons. The results indicated that teachers who delivered a lesson in a single-sex provided significantly higher levels of overall need-support (B = 0.27, SE = 0.12, β = 0.48, $p < 0.05$, $R_2 = 0.23$) and more structure (B = 0.32, SE = 0.12, β = 0.53, $p < 0.05$, $R_2 = 0.28$). There were no significant relationships between observed need-support and class size, teacher's sex, and years of teaching experiences.

Table 4.3 Regression analyses of observed need-support from class contexts in the first lesson

	Overall need-support				Autonomy support				Structure			
	B	SE	β		B	SE	β		B	SE	β	
Constant	0.97	0.25			0.51	0.20			1.43	0.34		
Class size	-0.02	0.01	-0.39	n.s.	-0.01	0.01	-0.22	n.s.	-0.03	0.02	-0.44	n.s.
R^2	0.11				0.05				0.20			
Constant	0.33	0.18			0.34	0.14			0.33	0.23		
Class setting [a]	0.16	0.13	0.30	n.s.	-0.01	0.10	-0.02	n.s.	0.33	0.17	0.43	n.s.
R^2	0.09				0.00				0.19			
Constant	0.20	0.17			0.04	0.13			0.37	0.24		
Teacher's sex [b]	0.24	0.11	0.47	*	0.21	0.08	0.51	*	0.28	0.16	0.39	n.s.
R^2	0.22				0.26				0.15			
Constant	0.60	0.11			0.36	0.09			0.83	0.16		
Teaching experience	-0.01	0.01	-0.13	n.s.	-0.01	0.01	-0.12	n.s.	-0.01	0.02	-0.12	n.s.
R^2	0.02				0.02				0.02			

N = 19

**: $p < 0.01$; *: $p < 0.05$; n.s.= not significant

[a] 1 = Co-educational class; 2 = Single-sex class

[b] 1 = Male; 2 = Female

Table 4.4 Regression analyses of observed need-support from class contexts in the second lesson

	Overall need-support				Autonomy support				Structure			
	B	SE	β		B	SE	β		B	SE	β	
Constant	0.85	0.27			0.69	0.28			1.01	0.29		
Class size	-0.01	0.01	-0.25	n.s.	-0.01	0.01	-0.26	n.s.	-0.01	0.01	-0.21	n.s.
R^2	0.06				0.07				0.04			
Constant	0.21	0.16			0.09	0.18			0.34	0.17		
Class setting [a]	0.27	0.12	0.48	*	0.22	0.13	0.36	n.s.	0.32	0.12	0.53	*
R^2	0.23				0.13				0.28			
Constant	0.30	0.18			0.04	0.18			0.57	0.20		
Teacher's sex [b]	0.18	0.12	0.35	n.s.	0.23	0.12	0.42	n.s.	0.13	0.13	0.23	n.s.
R^2	0.12				0.17				0.05			
Constant	0.60	0.11			0.44	0.12			0.76	0.12		
Teaching experience	-0.01	0.01	-0.09	n.s.	-0.01	0.01	-0.16	n.s.	-0.01	0.01	-0.02	n.s.
R^2	0.01				0.03				0.00			

N = 20

**: $p < 0.01$; *: $p < 0.05$; n.s.= not significant

[a] 1 = Co-educational class; 2 = Single-sex class

[b] 1 = Male; 2 = Female

4.2.3 Relationships between observed need-support and perceived need-support from teachers and pupils

Observed need-support data from the first lesson (see Table 4.1) was used to investigate correlations with teachers' and pupils' perceived need-support. Table 4.5 shows descriptive statistics and Pearson's correlation coefficient among the variables of observed need-support and perceived need-support from the teachers and pupils. The internal consistency of the variables was investigated with Cronbach's alpha. Table 4.6 shows the relationships between observed need-support and pupils' perceived need-support with multilevel regression analyses. Sex and age were included in the analyses. I ran the analyses with overall need support, and autonomy support and structure separately. Table 4.7 shows how teachers' perceived need-support was related to pupils' perceived need-support with multilevel regression analyses. Sex and age were also included in the analyses. Multilevel regression analyses were used in this section in consideration of the nested structure of the data (i.e., pupils in classes). In the first lesson, the number of participants consisted of 401 pupils at Level 1 and 19 classes at Level 2. Random models tested whether the intercepts randomly vary between classes. Interclass correlation coefficient (ICC) was computed to explain the proportion of variance at class-level. The results showed that the intercepts for all the factors of pupils' perceptions varied significantly across the classes (all *p*s < 0.01).

4.2.3.1 Teachers' perceived need-support

The internal consistency of the teachers' perceived need-support scale was satisfactory as Cronbach's alpha was 0.87 for the autonomy support factor, 0.77 for the structure factor, 0.79 for the involvement factor, and 0.68 for the control factor. Teachers' perceptions of autonomy support were significantly positively correlated with their perceived structure ($r = 0.27$, $p < 0.01$) and involvement ($r = 0.49$, $p < 0.01$), and negatively correlated with their perceived control ($r = -0.45$, $p < 0.01$). Teachers' perceptions of structure were significantly positively

correlated with their perceived involvement (r = 0.50, p < 0.01), and negatively correlated with their perceived control (r = -0.38, p < 0.01). There were no significant correlations between teachers' perceptions of involvement and control.

4.2.3.2 Pupils' perceived need-support

The internal consistency of the pupils' perceived need-support scale was satisfactory as Cronbach's alpha was 0.77 for the autonomy support factor, 0.75 for the structure factor, 0.77 for the involvement factor, and 0.82 for the control factor. Pupils' perceptions of autonomy support were positively correlated with their perceptions of structure (r = 0.71, p < 0.01) and involvement (r = 0.60, p < 0.01), and negatively correlated with their perceptions of control (r = -0.53, p < 0.01). Pupils' perceptions of structure were positively correlated with their perceptions of involvement (r = 0.62, p < 0.01), and negatively correlated with their perceptions of control (r = -0.56, p < 0.01). Pupils' perceptions of involvement was negatively correlated with their perceptions of control (r = -0.53, p < 0.01).

4.2.3.3 Relationships between observed need-support and teachers' perceived need-support

There were significant correlations between observed need-support and teachers' perceived need-support with Pearson's correlation coefficient (Table 4.5). The observed autonomy support factor was significantly positively correlated with teachers' perceived autonomy support (r = 0.23, p < 0.01), structure (r = 0.23, p < 0.01), and involvement (r = 0.13, p < 0.01), and negatively correlated with teachers' perceived control (r = -0.21, p < 0.01). The observed structure factor was significantly positively correlated with teachers' perceived autonomy support (r = 0.26, p < 0.01), structure (r = 0.16, p < 0.01), and involvement (r = 0.26, p < 0.01), and negatively correlated with teachers' perceived control (r = -0.15, p < 0.01).

Table 4.5 Descriptive statistics, internal consistency and correlations among observed need-support, teachers' perceived need-support, and pupils' perceived need-support

		M	SD	α	1	2	3	4	5	6	7	8	9	10
Observed														
1	Autonomy support	0.32	0.19	.72	1.00	.67**	.23**	.23**	.13**	-.21**	.04	.07	.02	-.02
2	Structure	0.73	0.35	.88		1.00	.26**	.16**	.26**	-.15**	.17**	.17**	.08	-.09
Teachers' perceived														
3	Autonomy support	3.22	0.51	.87			1.00	.27**	.49**	-.45**	.01	.02	-.06	.02
4	Structure	3.59	0.33	.77				1.00	.50**	-.38**	.03	.02	.01	-.06
5	Involvement	3.76	0.34	.79					1.00	-.06	.00	-.01	-.05	.03
6	Control	2.09	0.51	.68						1.00	-.04	-.05	-.02	.07
Pupils' perceived														
7	Autonomy support	3.26	0.69	.77							1.00	.71**	.60**	-.53**
8	Structure	3.50	0.65	.75								1.00	.62**	-.56**
9	Involvement	3.33	0.68	.77									1.00	-.53**
10	Control	1.73	0.69	.82										1.00

$N_{teachers} = 19$; $N_{pupils} = 401$

**: $p < 0.01$; *: $p < 0.05$ (two-side test)

α : Cronbach's alpha

4.2.3.4 Relationships between observed need-support and pupils' perceived need-support

There were no significant correlations between observed autonomy support and pupils' perceived need-support (Table 4.5). The observed structure factor was significantly positively correlated with pupils' perceived autonomy support (r = 0.17, p < 0.01) and structure (r = 0.17, p < 0.01), but not significantly correlated with pupils' perceived involvement and control (Table 4.5).

The results of multilevel regression analyses are shown in Table 4.6. The model for pupils' perceived autonomy support (Model a1) showed that age had a significant negative effect on perceived autonomy support with older pupils reporting lower levels of perceived autonomy support (b = -0.09, SE = 0.03, p < 0.05). Sex had a significant effect with girls showing higher levels of perceived autonomy support compared to boys (b = 0.15, SE = 0.07, p < 0.05). The model that included observed overall need-support (Model a2) showed that observed overall need-support significantly influenced pupils' perceived autonomy support (b = 0.31, SE = 0.14, p < 0.05). Sex was no longer significantly related to pupils' perceived autonomy support after including observed need-support in this model. The other model that included observed autonomy support and observed structure (Model a3) showed that observed structure was significantly positively related to pupils' perceived autonomy support (b = 0.45, SE = 0.13, p < 0.01). Observed autonomy support was not significantly related to pupils' perceived autonomy support. Random models for pupils' perceived autonomy support indicated a significant variance at class-level. The value of ICC was 17%. However, no significant relationships were found in the random models.

The model for pupils' perceived structure (Model b1) showed that sex had a significant effect with girls showing higher levels of perceived structure compared to boys (b = 0.15, SE = 0.06, p < 0.05). Age was not significantly

related to pupils' perceived structure. The model that included observed overall need-support (Model b2) showed that observed overall need-support was significantly positively related to pupils' perceived structure (b = 0.34, SE = 0.13, p < 0.01). The other model that included observed autonomy support and observed structure (Model b3) showed that observed structure had a significant positive effect on pupils' perceived structure (b = 0.38, SE = 0.13, p < 0.01). Random models for pupils' perceived structure indicated a significant variance at class-level. The value of ICC was 18%. However, no significant relationships were found in the random models.

The model for pupils' perceived involvement (Model c1) showed that sex had a significant effect with girls showing higher levels of perceived involvement compared to boys (b = 0.30, SE = 0.06, p < 0.01). Age was not significantly related to pupils' perceived involvement. The models that included observed teaching behaviour variables showed that neither observed overall need-support (Model c2), nor observed autonomy support and observed structure (Model c3) were significantly related to pupils' perceived involvement. Random models for pupils' perceived involvement indicated a significant variance at class-level. The value of ICC was 18%. Moreover, a random effect was found for sex indicating that the relationship between sex and pupils' perceived involvement differed between classes.

The model for pupils' perceived control (Model d1) showed that sex had a significant effect with boys showing higher levels of perceived control compared to girls (b = -0.30, SE = 0.07, p < 0.01). Age had a significant positive effect on perceived control with older pupils reporting higher levels of perceived control (b = 0.09, SE = 0.03, p < 0.01). The models that included observed overall need-support (Model d2) showed that observed overall need-support was not significantly related to pupils' perceived control. The other model that included observed autonomy support and observed structure (Model d3) showed that observed autonomy support and observed structure were not significantly related to pupils' perceived control. Random models for

Table 4.6 Relationships between sex, age, observed need-support and pupils' perceived need-support

	Perceived autonomy support (Model a)						Perceived structure (Model b)					
	Model a1		Model a2		Model a3		Model b1		Model b2		Model b3	
	b	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE
Fixed effects:												
Intercept	3.03**	0.11	3.06**	0.11	3.05**	0.11	3.27**	0.10	3.30**	0.10	3.29**	0.10
Sex [a]	0.15*	0.07	0.13	0.07	0.14*	0.07	0.15*	0.06	0.13*	0.06	0.13*	0.06
Age [b]	-0.09**	0.03	-0.09*	0.03	-0.07*	0.03	-0.05	0.03	-0.05	0.03	-0.04	0.03
Observed												
Overall need-support [b]			0.31*	0.14					0.34**	0.13		
Autonomy support [b]					-0.43	0.24					-0.27	0.22
Structure [b]					0.45**	0.13					0.38**	0.12
	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE
Random effects:												
Intercept	3.15**	0.13	3.15**	0.13	3.14**	0.13	3.37**	0.12	3.37**	0.12	3.36**	0.12
Level 1 residual	0.40	0.03	0.40	0.03	0.40	0.03	0.34	0.02	0.34	0.02	0.34	0.02
Sex	0.06	0.07	0.05	0.07	0.06	0.07	0.08	0.07	0.07	0.07	0.08	0.07
Age	-0.04	0.05	-0.04	0.05	-0.04	0.05	-0.01	0.05	-0.02	0.05	-0.01	0.05
Observed												
Overall need-support			0.39	0.26					0.40	0.25		
Autonomy support					-0.40	0.43					-0.25	0.43
Structure					0.49	0.24					0.42	0.24

$N_{teachers}$ = 19; N_{pupils} = 401 **: $p < 0.01$; *: $p < 0.05$ [a] 0 = boy; 1 = girl [b] grand mean centred

Table 4.6 (continued)

	Perceived involvement (Model c)						Perceived control (Model d)					
	Model c1		Model c2		Model c3		Model d1		Model d2		Model d3	
	b	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE
Fixed effects:												
Intercept	2.87**	0.11	2.88**	0.11	2.87**	0.11	2.19**	0.11	2.18**	0.11	2.18**	0.11
Sex [a]	0.30**	0.06	0.29**	0.07	0.30**	0.07	-0.30**	0.07	-0.29**	0.07	-0.29**	0.07
Age [b]	0.01	0.03	0.00	0.03	0.01	0.03	0.09**	0.03	0.09*	0.03	0.08*	0.03
Observed												
Overall need-support [b]			0.08	0.13					-0.09	0.13		
Autonomy support [b]					-0.24	0.23					0.27	0.23
Structure [b]					0.18	0.13					-0.20	0.13
	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE
Random effects:												
Intercept	2.90**	0.13	2.90**	0.13	2.90**	0.13	2.18**	0.13	2.17**	0.13	2.18**	0.13
Level 1 residual	0.36	0.03	0.36	0.03	0.36	0.03	0.38	0.03	0.38	0.03	0.38	0.03
Sex	0.27**	0.07	0.27**	0.07	0.27**	0.07	-0.28**	0.07	-0.27**	0.07	-0.28**	0.07
Age	0.07	0.06	0.07	0.06	0.08	0.06	0.05	0.05	0.05	0.05	0.04	0.05
Observed												
Overall need-support			0.14	0.29					-0.11	0.26		
Autonomy support					-0.38	0.50					0.28	0.44
Structure					0.29	0.28					-0.22	0.24

$N_{teachers}$ = 19; N_{pupils} = 401 **: $p < 0.01$; *: $p < 0.05$ [a] 0 = boy; 1 = girl [b] grand mean centred

pupils' perceived control indicated a significant variance at class-level. The value of ICC was 17%. Additionally, a random effect of sex was found, which suggests that the relationship between sex and pupils' perceived control was different across classes.

4.2.3.5 Relationships between teachers' perceptions and pupils' perceptions

The results of multilevel regression analyse are shown in Table 4.7. The model for pupils' perceived autonomy support (Model a1) showed that sex had a significant effect with girls showing higher levels of perceived autonomy support compared to boys (b = 0.15, SE = 0.07, p < 0.05). Age had a significant negative effect on perceived autonomy support with older pupils reporting lower levels of perceived autonomy support (b = -0.09, SE = 0.04, p < 0.01). The models that included teachers' perceived need-support variables (Model a2) show that any teachers' perceived need-support variables were not significantly related to pupils' perceived autonomy support. Random models for pupils' perceived autonomy support indicated a significant variance at class-level. The value of ICC was 17%. However, the relationships of sex, age, and teachers' perceived need-support with pupils' perceived autonomy support did not significantly differ across classes since no significant relationships were found.

The model for pupils' perceived structure (Model b1) showed that sex had a significant effect with girls showing higher levels of perceived structure compared to boys (b = 0.15, SE = 0.06, p < 0.05). Age was not significantly related to pupils' perceived structure. The models that included teachers' perceived need-support variables (Model b2) show that any teachers' perceived need-support variables were not significantly related to pupils' perceived structure. Random models for pupils' perceived structure indicated a significant variance at class-level. The value of ICC was 18%. However, the relationships of sex, age, and teachers' perceived need-support with pupils' perceived structure did not significantly differ across classes since no significant relationships were found.

The model for pupils' perceived involvement (Model c1) showed that sex had a significant effect with girls showing higher levels of perceived involvement compared to boys (b = 0.30, SE = 0.06, p < 0.01). Age was not significantly related to pupils' perceived involvement. The models that included teachers' perceived need-support variables (Model c2) show that any teachers' perceived need-support variables were not significantly related to pupils' perceived involvement. Random models for pupils' perceived involvement indicated a significant variance at class-level. The value of ICC was 18%. Furthermore, a random effect of sex was found indicating differences in the relationship between sex and pupils' perceived involvement across classes.

The model for pupils' perceived control (Model d1) showed that sex had a significant effect with boys showing higher levels of perceived control compared to boys (b = -0.30, SE = 0.07, p < 0.01). Age had a significant positive effect on perceived control with older pupils reporting higher levels of perceived control (b = 0.09, SE = 0.03, p < 0.01). The models that included teachers' perceived need-support variables (Model d2) show that any teachers' perceived need-support variables were not significantly related to pupils' perceived control. Random models for pupils' perceived control indicated a significant variance at class-level. The value of ICC was 17%. Moreover, a significant random effect was found for sex indicating that the relationship between sex and pupils' perceived control differed across classes.

4.2.4 Relationships between observed need-support and affective learning outcomes

The results of observed need-support in the second lesson (see Table 4.2) were used to investigate the effects on affective learning outcomes. Table 4.8 shows descriptive statistics and Pearson's correlation coefficient among the variables of observed need-support and affective learning outcomes. The internal consistency of the variables was investigated with Cronbach's alpha. Table 4.9

Table 4.7 Relationships between sex, age, teachers' perceived need-support and pupils' perceived need-support

	Perceived autonomy support (Model a)				Perceived structure (Model b)			
	Model a1		Model a2		Model b1		Model b2	
	b	SE	*b*	SE	*b*	SE	*b*	SE
Fixed effects:								
Intercept	3.03**	0.11	3.03**	0.11	3.27**	0.10	3.27**	0.10
Sex [a]	0.15*	0.07	0.15*	0.07	0.15*	0.06	0.15*	0.06
Age [b]	-0.09**	0.03	-0.12**	0.04	-0.05	0.03	-0.07	0.04
Teachers' perceived								
Autonomy support [b]			0.04	0.09			0.03	0.09
Structure [b]			0.20	0.14			0.12	0.13
Involvement [b]			-0.15	0.14			-0.11	0.13
Control [b]			-0.05	0.08			-0.07	0.08
	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE
Random effects:								
Intercept	3.15**	0.13	3.15**	0.13	3.37**	0.12	3.37**	0.12
Level 1 residual	0.40	0.03	0.40	0.03	0.34	0.02	0.34	0.02
Sex	0.06	0.07	0.06	0.07	0.08	0.07	0.08	0.07
Age	-0.04	0.05	-0.06	0.06	-0.01	0.05	-0.02	0.05
Teachers' perceived								
Autonomy support			0.02	0.16			0.01	0.16
Structure			0.14	0.25			0.05	0.25
Involvement			-0.07	0.28			-0.01	0.28
Control			-0.03	0.16			-0.06	0.16

$N_{teachers}$ = 19; N_{pupils} = 401 **: $p < 0.01$; *: $p < 0.05$ [a] 0 = boy; 1 = girl [b] grand mean centred

Table 4.7 (continued)

	Perceived involvement (Model c)				Perceived control (Model d)			
	Model c1		Model c2		Model d1		Model d2	
	b	SE	*b*	SE	*b*	SE	*b*	SE
Fixed effects:								
Intercept	2.87**	0.11	2.83**	0.11	2.19**	0.11	2.21**	0.11
Sex [a]	0.30**	0.06	0.32**	0.07	-0.30**	0.07	-0.31**	0.07
Age [b]	0.01	0.03	0.01	0.04	0.09**	0.03	0.12**	0.04
Teachers' perceived								
Autonomy support [b]			-0.13	0.09			0.06	0.09
Structure [b]			0.14	0.13			-0.30	0.13
Involvement [b]			-0.11	0.14			0.20	0.14
Control [b]			-0.05	0.08			0.11	0.08
	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE
Random effects:								
Intercept	2.90**	0.13	2.89**	0.13	2.18**	0.13	2.18**	0.12
Level 1 residual	0.36	0.03	0.36	0.03	0.38	0.03	0.38	0.03
Sex	0.27**	0.07	0.28**	0.07	-0.28**	0.07	-0.28**	0.07
Age	0.07	0.06	0.08	0.06	0.05	0.05	0.07	0.05
Teachers' perceived								
Autonomy support			-0.16	0.17			0.10	0.14
Structure			0.12	0.27			-0.28	0.22
Involvement			-0.02	0.30			0.13	0.24
Control			0.01	0.17			0.10	0.14

$N_{teachers}$ = 19; N_{pupils} = 401 **: $p < 0.01$; *: $p < 0.05$ [a] 0 = boy; 1 = girl [b] grand mean centred

shows relationships between observed need-support and affective learning outcomes. I ran multilevel analyses with overall need support, and autonomy support and structure separately. Background variables of pupils (i.e., sex and age) were included in the analyses. Multilevel mediation analyses were conducted to examine the mediating effect of motivation on the relationships between pupils' need satisfaction and frustration, and feelings of positive and negative affect. Multilevel regression analyses and multilevel mediation analyses were used to create a path diagram (Figure 4.4) in consideration of the nested structure of the data. In this section, the number of participants consisted of 384 pupils at Level 1 and 20 classes at Level 2.

4.2.4.1 Descriptive statistics and correlations

Table 4.8 shows the descriptive statistics and correlations between observed need-support, the scale of basic psychological need satisfaction, basic psychological need frustration, autonomous motivation, controlled motivation, amotivation, positive affect, and negative affect. The internal consistency of the scale of need satisfaction for competence (α = 0.86), need satisfaction for relatedness (α = 0.85), need frustration for competence (α = 0.76), autonomous motivation (α = 0.90), controlled motivation (α = 0.82), amotivation (α = 0.89), and negative affect (α = 0.76) were satisfactory. The internal consistency of the scale of need satisfaction for autonomy (α = 0.74), need frustration for autonomy (α = 0.72), need frustration for relatedness (α = 0.65), and positive affect (α = 0.73) were moderate.

Nearly all the pupil variables were significantly correlated. Need satisfaction for autonomy, competence and relatedness were positively correlated with autonomous motivation and positive affect. In contrast, they were negatively correlated with need frustration for autonomy, competence, relatedness, controlled motivation, amotivation, and negative affect. All need frustration outcomes showed significant positive correlations with controlled motivation, amotivation, and negative affect. In contrast, they were negatively correlated

with autonomous motivation and positive affect. Autonomous motivation demonstrated a significant positive correlation with positive affect, whereas it was negatively associated with amotivation and negative affect. However, it did not have significant correlation with controlled motivation. Controlled motivation was positively correlated with amotivation and negative affect, whereas there were significant negative correlation with positive affect. Amotivation was negatively correlated with positive affect and positively correlated with negative affect. Positive affect was negatively associated with negative affect.

Observed autonomy support was positively correlated with relatedness need satisfaction (r = 0.11, p = 0.05), and negatively correlated with autonomy need frustration (r = -0.13, p = 0.05) and relatedness need frustration (r = -0.10, p = 0.05). Observed structure was positively associated with all need satisfaction outcomes (autonomy: r = 0.13, competence: r = 0.14, relatedness: r = 0.14, all ps = 0.01), autonomous motivation (r = 0.14, p = 0.01), and positive affect (r = 0.14, p = 0.01), and negatively correlated with all need frustration outcomes (autonomy: r = -0.20, p = 0.01, competence: r = -0.17, p = 0.01, relatedness: r = -0.13, p = 0.05) and amotivation (r = -0.11, p = 0.05).

4.2.4.2 Path model

A path model was hypothesised in line with SDT research. Observed need-support was expected to have a positive direct effect on pupils' need satisfaction, autonomous motivation, and positive affect (Haerens et al., 2015). Pupils' autonomous motivation would be a mediator between need satisfaction positive and positive affect (Behzadnia et al., 2018; Standage, Duda, & Ntoumanis, 2005). In contrast, observed need-support was expected to have a negative direct effect on pupils' need frustration, controlled motivation, amotivation, and negative affect (Behzadnia et al., 2018). Controlled motivation or amotivation would mediate the relationship between need frustration and negative affect (Behzadnia et al., 2018).

Table 4.8 Descriptive statistics, internal consistency and correlations between observed teaching behaviour and variables of affective learning outcomes

		M	SD	α	1	2	3	4	5	6	7	8	9	10	11	12	13
Observed																	
1	Autonomy support	0.37	0.26	.78	1.00	.78**	.10	.00	.11*	-.13*	-.04	-.10*	.06	-.01	-.04	.00	-.02
2	Structure	0.75	0.27	.78		1.00	.13**	.14**	.14**	-.20**	-.17**	-.13*	.14**	-.06	-.11*	.14**	-.05
Need satisfaction for																	
3	Autonomy	3.21	0.85	.74			1.00	.67**	.53**	-.31**	-.24**	-.13*	.67**	-.13*	-.40**	.56**	-.24**
4	Competence	3.77	0.88	.86				1.00	.60**	-.33**	-.51**	-.27**	.72**	-.25**	-.49**	.61**	-.39**
5	Relatedness	3.57	0.97	.85					1.00	-.22**	-.35**	-.36**	.49**	-.23**	-.29**	.44**	-.34**
Need frustration for																	
6	Autonomy	2.23	0.80	.72						1.00	.43**	.37**	-.35**	.35**	.48**	-.21**	.27**
7	Competence	1.97	0.84	.76							1.00	.55**	-.30**	.48**	.41**	-.30**	.45**
8	Relatedness	1.77	0.74	.65								1.00	-.18**	.52**	.37**	-.16**	.51**
9	Autonomous Motivation	3.73	0.90	.90									1.00	-.12	-.59**	.56**	-.28**
10	Controlled Motivation	1.91	0.74	.82										1.00	.39**	-.11*	.34**
11	Amotivation	1.48	0.80	.89											1.00	-.33**	.39**
12	Positive Affect	3.23	0.87	.73												1.00	-.11*
13	Negative Affect	1.29	0.52	.76													1.00

$N_{teachers} = 20$; $N_{pupils} = 384$
**: $p < 0.01$; *: $p < 0.05$ (two-side test)
α : Cronbach's alpha

The results of multilevel regression analyses showed that sex and age were not significantly related to pupils' need satisfaction, need frustration, autonomous motivation, controlled motivation, positive affect, and negative affect. Observed overall need-support teaching behaviour was significantly positively related to need satisfaction (b = 0.31, SE = 0.16, p < 0.05). In contrast, observed need-support was significantly negatively related to need frustration (b = -0.36, SE = 0.13, p < 0.01). In a model with observed autonomy support and observed structure, observed structure was significantly positively related to need satisfaction (b = 0.75, SE = 0.25, p < 0.01), autonomous motivation (b = 0.66, SE = 0.30, p < 0.05), and positive affect (b = 1.11, SE = 0.28, p < 0.01), whereas it was significantly negatively related to need frustration (b = -0.76, SE = 0.20, p < 0.01) and amotivation (b = -0.55, SE = 0.26, p < 0.05). Observed autonomy support was significantly negatively related to positive affect only (b = -0.96, SE = 0.29, p < 0.01). Random models for all the factors of pupils' affective learning outcomes indicated a significant variance at class-level, except negative affect. The value of ICC was 13% for need satisfaction, 18% for need frustration, 12% for autonomous motivation, 11% for controlled motivation, 16% for amotivation, 12% for positive affect, and 5% for negative affect. A random effect of observed structure was found indicating differences in the relationship between observed structure and pupils' need frustration across classes.

Sex and age were included as covariates in multilevel mediation analyses as well. However, sex and age did not significantly influence the relationships between the affective learning outcome variables. A path from need satisfaction had significant positive direct relationships with autonomous motivation (b = 0.80) and positive affect (b = 0.48), whereas it had significant negative direct relationships with controlled motivation (b = -0.14), amotivation (b = -0.37), and negative affect (b = -0.21). Consequently, autonomous motivation was significantly positively related to positive affect (b = 0.21). Controlled motivation and amotivation were significantly negatively related to negative affect (controlled: b = 0.13, amotivation: b = 0.16). Moreover, there was a

Table 4.9 Relationships between observed need-support and affective learning outcomes

	Need Satisfaction (Model a)						Need Frustration (Model b)					
	Model a1		Model a2		Model a3		Model b1		Model b2		Model b3	
	b	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE
Fixed effects:												
Intercept	3.32**	0.13	3.36**	0.13	3.27**	0.13	2.14**	0.11	2.09**	0.11	2.18**	0.11
Sex [a]	0.13	0.08	0.10	0.08	0.16	0.08	-0.09	0.06	-0.06	0.06	-0.12	0.07
Age [b]	-0.07	0.04	-0.05	0.04	0.01	0.05	0.07	0.03	0.05	0.03	0.01	0.04
Observed												
Overall need-support [b]			0.31*	0.16					-0.36**	0.13		
Autonomy support [b]					-0.46	0.26					0.42	0.21
Structure [b]					0.75**	0.25					-0.76**	0.20
	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE
Random effects:												
Intercept	3.37**	0.15	3.39**	0.15	3.34**	0.15	2.06**	0.12	2.05**	0.12	2.08**	0.12
Level 1 residual	0.51	0.04	0.51	0.04	0.51	0.04	0.33	0.02	0.33	0.02	0.33	0.02
Sex	0.10	0.08	0.08	0.09	0.12	0.08	-0.04	0.07	-0.03	0.07	-0.06	0.07
Age	-0.02	0.06	-0.01	0.06	0.03	0.06	0.01	0.05	0.01	0.05	-0.03	0.05
Observed												
Overall need-support			0.36	0.27					-0.41	0.25		
Autonomy support					-0.43	0.39					0.37	0.35
Structure					0.78	0.40					-0.79*	0.36

$N_{teachers}$ = 20; N_{pupils} = 384 **: $p < 0.01$; *: $p < 0.05$ [a] 0 = boy; 1 = girl [b] grand mean centred

Table 4.9 (continued)

	Autonomous Motivation (Model c)						Controlled Motivation (Model d)						Amotivation (Model e)					
	Model c1		Model c2		Model c3		Model d1		Model d2		Model d3		Model e1		Model e2		Model e3	
	b	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE
Fixed effects:																		
Intercept	3.79**	0.15	3.83**	0.15	3.75**	0.16	2.07**	0.12	2.06**	0.13	2.12**	0.13	1.42**	0.13	1.38**	0.14	1.45**	0.14
Sex [a]	-0.04	0.09	-0.07	0.09	-0.01	0.10	-0.10	0.08	-0.10	0.08	-0.13	0.08	0.04	0.08	0.06	0.08	0.02	0.09
Age [b]	-0.10	0.05	-0.09	0.05	-0.04	0.05	0.04	0.04	0.04	0.04	0.01	0.05	0.06	0.04	0.05	0.04	0.02	0.05
Observed																		
Overall need-support [b]			0.35	0.19					-0.04	0.15					-0.25	0.17		
Autonomy support [b]					-0.34	0.31					0.34	0.25					0.32	0.27
Structure [b]					0.66*	0.30					-0.36	0.24					-0.55*	0.26
	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE
Random effects:																		
Intercept	3.80**	0.17	3.82**	0.17	3.78**	0.17	2.01**	0.14	2.00**	0.14	2.02**	0.14	1.35**	0.16	1.34**	0.16	1.36**	0.16
Level 1 residual	0.71	0.05	0.71	0.05	0.71	0.05	0.48	0.04	0.48	0.04	0.48	0.04	0.53	0.04	0.53	0.04	0.53	0.04
Sex	-0.04	0.10	-0.05	0.10	-0.03	0.10	-0.06	0.08	-0.06	0.08	-0.07	0.08	0.08	0.09	0.09	0.09	0.08	0.09
Age	-0.05	0.07	-0.04	0.07	-0.01	0.07	0.03	0.06	0.02	0.06	0.01	0.06	-0.04	0.07	-0.05	0.07	-0.07	0.07
Observed																		
Overall need-support			0.42	0.31					-0.08	0.25					-0.38	0.33		
Autonomy support					-0.28	0.46					0.21	0.38					0.34	0.48
Structure					0.70	0.46					-0.30	0.39					-0.72	0.49

$N_{teachers}$ = 20; N_{pupils} = 384 **: $p < 0.01$; *: $p < 0.05$ [a] 0 = boy; 1 = girl [b] grand mean centred

Table 4.9 (continued)

	Positive Affect (Model f)						Negative Affect (Model g)					
	Model f1		Model f2		Model f3		Model g1		Model g2		Model g3	
	b	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE	*b*	SE
Fixed effects:												
Intercept	3.21**	0.14	3.24**	0.15	3.07**	0.15	1.31**	0.09	1.30**	0.09	1.33**	0.09
Sex [a]	0.01	0.09	-0.01	0.09	0.10	0.09	-0.01	0.05	0.01	0.05	-0.02	0.06
Age [b]	-0.10	0.05	-0.09	0.05	-0.01	0.05	0.01	0.03	0.01	0.03	-0.02	0.03
Observed												
Overall need-support [b]			0.19	0.18					-0.08	0.11		
Autonomy support [b]					-0.96**	0.29					0.16	0.18
Structure [b]					1.11**	0.28					-0.23	0.17
	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE	σ^2	SE
Random effects:												
Intercept	3.24**	0.17	3.25**	0.17	3.17**	0.16	1.30**	0.10	1.29**	0.10	1.30**	0.10
Level 1 residual	0.66	0.05	0.66	0.05	0.66	0.05	0.26	0.02	0.26	0.02	0.26	0.02
Sex	-0.01	0.09	-0.02	0.09	0.04	0.10	0.01	0.06	0.01	0.06	-0.01	0.06
Age	-0.04	0.07	-0.04	0.07	0.02	0.07	0.01	0.04	0.01	0.04	-0.01	0.04
Observed												
Overall need-support			0.20	0.31					-0.10	0.15		
Autonomy support					-0.90	0.42					0.07	0.23
Structure					1.11	0.42					-0.17	0.23

$N_{teachers}$ = 20; N_{pupils} = 384 **: $p < 0.01$; *: $p < 0.05$ [a] 0 = boy; 1 = girl [b] grand mean centred

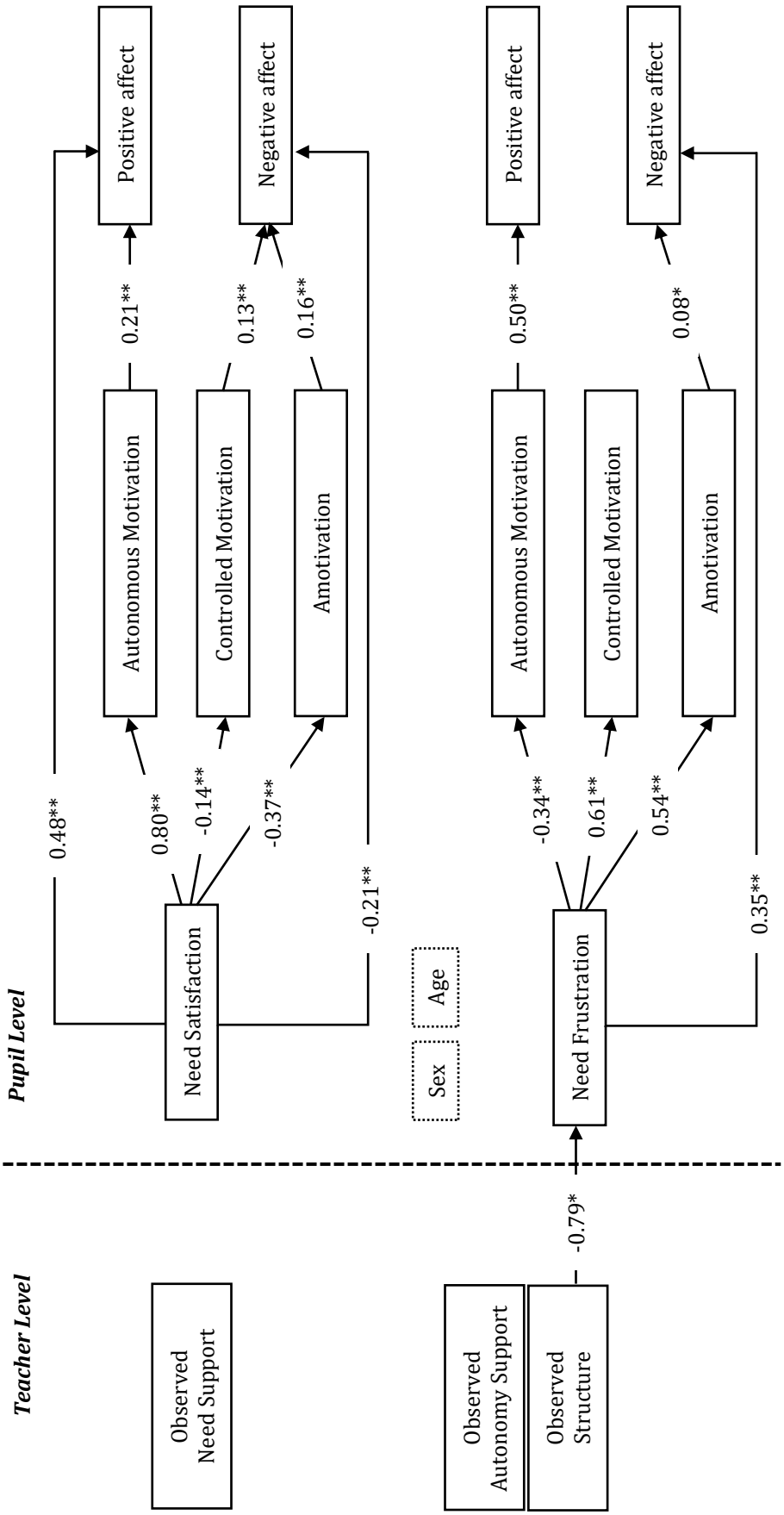


Figure 4.4 Multi-level path model that indicating relationships between observed need-support and affective learning outcomes

significant indirect effect of need satisfaction on positive affect via autonomous motivation (*b* = 0.17). Also, there was a significant indirect effect of need satisfaction on negative affect via controlled motivation (*b* = -0.02) and amotivation (*b* = -0.06).

On the other hand, need frustration had a significant negative direct relationship with autonomous motivation (*b* = -0.34), and significant positive direct relationships with controlled motivation (*b* = 0.61), amotivation (*b* = 0.54) and negative affect (*b* = 0.35). Consequently, autonomous motivation was significantly positively related to positive affect (*b* = 0.50), and there was a significant positive relationship between amotivation and negative affect (*b* = 0.08). Moreover, there was a significant indirect effect of need frustration on positive affect via autonomous motivation (*b* = -0.17).

4.3 Chapter discussion

To begin with, I assessed the scale for observed teaching behaviour and its reliability. The results showed that the factors of observed need-supportive teaching behaviour showed adequate levels of internal consistency, while the need-thwarting teaching behaviour factor did not demonstrate a satisfactory level of internal consistency. The internal consistency for observed need-thwarting teaching behaviour was low, possible due to the fact that the observers frequently coded zero for need-thwarting teaching behaviour. In particular, they rarely observed chaos across teachers. If a larger sample size was obtained, perhaps need-thwarting teaching behaviour could be observed more readily. Additionally, it might need more items since the number of items in the factor of chaos was relatively small. Van den Berghe et al. (2013) suggested that teachers with a controlled motivational orientation engaged in more need-thwarting teaching behaviour. Since the teachers in this study had an interest in the affective domain, they were less likely to engage in need-thwarting teaching behaviour. Although the scale for observed need-thwarting

teaching behaviour was not used for further analyses, teaching behaviour could be assessed with the scale for observed need-supportive teaching behaviour.

Consistent with the first observation study within SDT by Haerens et al. (2013), the scale can provide new insights into need-supportive teaching behaviour in real-life contexts. Observed need-supportive teaching behaviour was composed of autonomy support and structure. The mean score of observed structure was relatively high. This result indicates that the observers frequently provided high scores for items such as giving concrete feedback and clear instructions across the teachers. Whereas, the mean score of the observed autonomy support was quite low. There seemed to be a wide range in the score for observed autonomy support between the teachers, compared to the score for observed structure. Teachers did not always demonstrate autonomy-supportive teaching behaviour such as providing a rationale for a task, acknowledging displeasure, and responding to personal interests, preferences, and goals (Haerens et al., 2013). In the meantime, teachers' provision of autonomy support might be impacted by pupil behaviour compared to structure.

The results of paired samples *t*-tests demonstrated whether there were differences between the first lessons and the second lessons, but no significant differences were found. This result implied that the teachers similarly delivered both lessons. In other words, observed need-support was consistent across the teachers. This result contributed to the reliability of the observation tool. When looking at Figure 4.2 and Figure 4.3, visual differences prominently appeared in the graph that represents patterns of teaching type. Most of the teachers delivered two lessons with the same activity and similar lesson topic, while some of the teachers used different activities between the first and second lesson. This might explain the different patterns of teaching type. That is, the average scores of observed autonomy support increased from the first lesson (0.33) to the second lesson (0.38), while the average scores of observed structure decreased from the first lesson (0.80) to the second lesson (0.71). However, these differences are not statistically meaningful.

As for relationships between observed teaching behaviour and class contexts, there were no significant relationships in most cases. However, data from the first lesson indicated that female teachers tended to provide more need-support, autonomy support in particular, than male teachers. This is not in line with previous research, which did not find any significant relationships between teacher's sex and observed teaching behaviour (Van den Berghe et al., 2013). However, it should be noted that teachers' sex did not relate significantly to their teaching behaviour in the second lesson. Data from the second lesson showed that the teachers who had a single-sex class significantly engaged in more need-supportive teaching, especially in providing structure. There were six single-sex classes and four of them were girls-only classes. Female teachers had the girls-only classes, while male teachers had the boys-only classes. This matching might be ideal to be need-supportive because teachers could relate more to pupils of the same sex. Stidder (2012) showed that teachers felt difficulties in dealing with issues around the physical support of pupils of the opposite sex and sensitivity to them. Teaching in a same-sex class might have the advantage of being autonomy supportive. Nevertheless, this significant relationship occurred in the second lesson only. Further research could explore how teaching behaviour is different between single-sex and co-educational classes, especially when considering pedagogies of affect. Furthermore, it would be worth noting that teaching experience was not related to teaching behaviour. In contrast, Van den Berghe et al. (2013) argued that experienced teachers tended to engage less in need-supportive teaching behaviour. However, the results in the current study showed that years of teaching experiences did not predict their need-supportive teaching behaviour. Rather, the youngest teacher who had only one-year teaching experience had the highest score of need-supportive teaching behaviour in this study. It is possibly a matter of personal knowledge, values, and intentions rather than the length of teaching experience (Reeve, 2009). As to a limitation of this section, I did not adapt a multi-variate analysis due to the limited sample size. There would be a need for a larger

sample size to explore the influence of multi contextual variables in observed need-support.

Next, I examined relationships between observed need-support and teachers' self-perceived need-support. The observed autonomy support and structure were significantly correlated with all the factors of teachers' perceived need-supportive behaviour. Previous research considered that teachers do not always perceive precisely the ways they actually did (Haerens et al., 2013). This notion is a common justification for observation studies (Haerens et al., 2013; Van den Berghe et al., 2013). Nevertheless, the finding in this research indicated that the teachers could perceive their actual teaching behaviour with significant correlatios between observed teaching behaviour and teachers' perceived teaching behaviour (Table 4.5). More importantly, comparing observation data and their perceptions would be beneficial to teachers to reflect on their teaching objectively.

In terms of relationships between observed need-support and pupils' perceptions, observed overall need-support had a significant relationship with pupils' perceptions of autonomy support and structure in a fixed model. In particular, the observed structure factor could predict pupils' perceived autonomy support, structure, and control. This result suggests that when the teachers were observed to provide clear instrumental support and help, pupils perceived more autonomy support and structure, and less control, which are the most proximal indicators of the affective outcomes (Haerens et al., 2015). However, there was an unexpected negative relationship between observed autonomy support and pupils' perceived need-support. These may be due to potential interactions between observed autonomy support and observed structure, which is shown to play a significant role in predicting the levels of pupils' perceived need-support. Future research with a larger sample size will enable a detailed investigation into the interaction between these observed need-support variables and their effect on pupils' perceived need-support. When investigating the effects of pupils' sex on their perceptions of teaching

behaviour, the estimated models revealed that girls were significantly likely to feel more teachers' provision of autonomy support, structure, involvement than boys. Girls perhaps are more sensitive to teachers' need-supportive teaching behaviour than boys. A recent study suggested that girls usually perceive their teachers to be more supportive than boys (Katz, 2017). In addition, teachers arguably appeared to interact with girls in a more need-supportive way. In contrast, boys were likely to feel more teachers' control teaching compared to girls. This result could be interpreted that teachers were involved in control teaching towards boys. In terms of age differences, younger pupils had a significantly higher level of perceived autonomy support compared to older pupils. The relevant literature on age differences in perceptions of physical education teachers rarely found. Teachers might involve in need-supportive teaching behaviour towards younger pupils. Then, younger pupils might be influenced more by teachers. These results implicate that it would be important to take into account gender differences and age when considering the social environment for enhancing pupils' perceptions of teaching behaviour that predict affective learning outcomes. Furthermore, the question of why sex and age differences in perceptions of teaching behaviour occur in physical education settings should be investigated in future research.

No significant relationships were found between teachers' perceptions and pupils' perceptions, although sex and age were significantly related to pupils' perceptions. This finding suggests that teachers' perceptions of their own teaching were significantly different from what their pupils actually felt. As Haerens et al. (2013) suggested, pupils' perceptions of teaching during a lesson were considerably different from each other because teachers might interact differently with different pupils. It might therefore be necessary to focus on individual teacher-pupil interactions within a lesson.

One of the most important findings in this chapter was about relationships between observed teaching behaviour and affective learning outcomes. Observed need-supportive teaching behaviour had a direct positive effect on

pupils' need satisfaction and autonomous motivation, and a direct negative effect on pupils' need frustration at pupil-level. Particularly, the factor of observed structure significantly related to the outcomes. The results suggest that teachers who provided concrete feedback and clear instructions could possibly have a strong influence on pupils' affective learning outcomes. The finding can add to the previous study that observed control was related to controlled motivation and amotivation (De Meyer et al., 2014). However, the results also showed that the relationship between overall observed need-support and affective learning outcomes did not significantly differ across classes. With regard to the relationships between affective learning outcomes, in line with SDT, the results showed that need satisfaction was significantly related to autonomous motivation and negatively related to amotivation, whereas need frustration was significantly related to controlled motivation. This finding is consistent with the study of Haerens et al. (2015). The current study also showed that there was a direct and indirect effect of need satisfaction on positive affect through autonomous motivation, while there was a direct and indirect effect of need frustration on negative affect through amotivation. Behzadnia et al. (2018) showed a similar result of a significant relationship between need satisfaction, need frustration, motivation, and positive and negative affect.

In summary, this chapter considered a multi-informant perspective of need-supportive teaching behaviour and how observed and perceived need-support influence pupils' affective learning outcomes. The findings showed that observed need-support was consistent with both teachers' and pupils' perceived need-supportive behaviour. Also, observed need-support, in particular the factor of structure, was significantly related to pupils' affective learning outcomes. One of the main discussion points was that it would be necessary to focus on the individual teacher-pupil interactions since teachers could interact differently with individual pupils. The next chapter will draw on this point by asking some of the teachers in detail what was happening during the observed lessons.

Chapter 5: Teachers' knowledge, intentions, and expectations behind their observed teaching behaviour for affective learning

5.1 Introduction

The previous chapter established the prevalence of pedagogies to answer the question to what extent teachers engage in need-supportive teaching. This chapter illustrates these pedagogies in detail with a focus on the questions of how aware were the teachers of their teaching behaviour and why did they behave in the ways they did. As I noted in Chapter 2, the use of an observation tool has contributed to direct evidence of actual teaching behaviour as it happened in a lesson. However, observation studies that provide with a qualitative insight into teachers' behaviour and teachers' intentions are rare (Van den Berghe et al., 2016). Evidence on how teachers responded to their own teaching behaviour can add the body of literature by identifying what physical education teachers required to enhance pupils' affective learning.

In order to answer the second research question, I conducted self-confrontation interviews (SC Interview) with eight teachers who agreed to take part in this phase (i.e., Study 2). They were Lisa and Steven from School one (East Dunbartonshire), Kenny from School two (Edinburgh City), Luke from School three (West Dunbartonshire), Simon and Chloe from School five (Edinburgh City), and Amelia and Ben from School seven (East Renfrewshire). The teachers' teaching styles were different from each other in the observed lessons as reported in Chapter 4. Figure 5.1 and Figure 5.2 remind us what the eight teachers' teaching styles were in the first lesson and the second lesson respectively. The degree of observed need-supportive teaching is expressed in comparison with the average score to show the eight teachers' profiles.

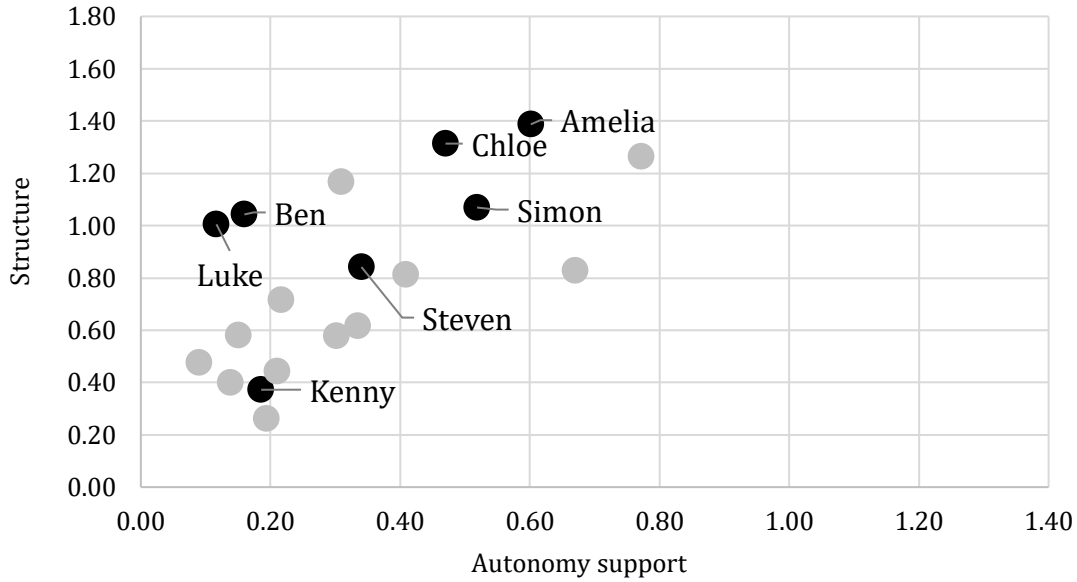


Figure 5.1 The selected eight teachers' teaching style in the first lesson

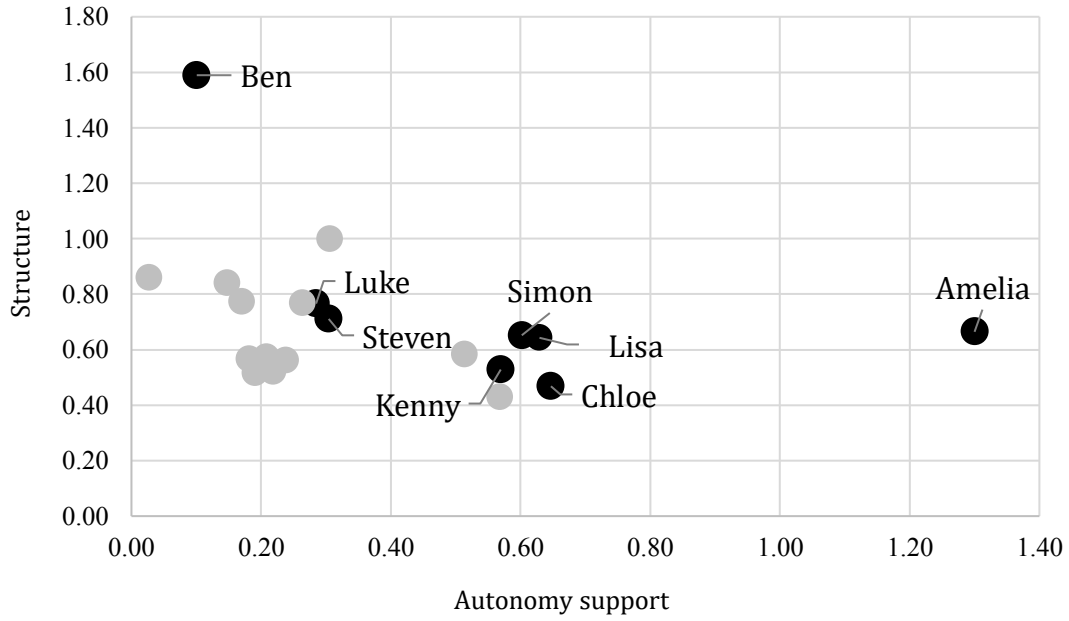


Figure 5.2 The selected eight teachers' teaching style in the second lesson

As I described in Chapter 3, the eight teachers were asked to talk through what was happening during the observed lessons while watching selected recorded video clips. Video clips were made of critical incidents where I identified as need-supportive teaching behaviour. As a means of validating the choice of video clips by myself, the participating eight teachers confirmed that the selected videos were a good representation of their teaching. Data source from the second teacher interviews (ST Interview) and pupil focus group interviews (FG Interview) are used in this chapter as they could elaborate on what the teachers said in their SC Interview. In the results section, I consider that the teachers' knowledge, intentions, and expectations of their pupils has a strong influence on their practice of pedagogies of affect. The findings indicated that teachers cannot be need-supportive unless they know their pupils well, they understand the social dynamics in the class, and they set high expectations for pupils' behaviour.

5.2 Findings

In the following sections, I am going to highlight how the teachers responded through the following themes: taking autonomy and ownership of pupils' learning by offering choices, spending time to set up differentiated tasks, individual interactions and offering feedback, supporting pupils with additional support needs, grouping for developing relationships, caring for a demonstrator, responding to pupils' complaint. At the same time, I add that the pupils' responses in focus group interviews to discuss how they perceived of their teachers' teaching behaviour. The substance of pupils' views on their teachers' behaviour was how teachers know the pupils and respond individually. The more the pupils perceived that the teacher knows them individually and gives individual support, the more likely that they felt capable, confident, motivated, and determined.

5.2.1 'You can decide what stroke you want to practice': taking autonomy and ownership of pupils' learning by offering choices

In practising a pedagogy of affect, offering different activities and equipment is a critical moment so that the pupils can choose according to level of difficulty and their needs. Amelia (School seven) allowed her pupils to decide which group they wanted to work in and what stroke they wanted to work on in a badminton lesson. She had a year of teaching experience. Figure 5.2 showed that her teaching behaviour in the second lesson was the highest scores of need-supportive teaching among the participating teachers. Her pupils perceived a higher level of autonomy support than the average rating. In the lesson shown to Amelia during the SC interview, the number of pupils in the class was 15 girls. There were three badminton courts. After a warm up, Amelia suggested to her pupils to use hoops and cones to create their own exercise to practice a stroke. The selected scene was happened in the middle of the lesson. In the lesson, she explained to her pupils why she was giving them choices.

> Your next challenge, there are lots of shuttles in this room, there are rackets, there are hoops, there are cones, there are nets and there are badminton courts. You can choose, whether it's being a group of four, a group of two, a group of three, but what I want your group to decide, because you're going to be in charge, is what stroke you're going to work on. You're going to create your own drill. Just like what we've been doing for the past two weeks, but you can decide what stroke you want to practice, if you want to use any equipment and you can make it up to work on a stroke you want to improve. We're going to do that for about six minutes.
>
> (Amelia, 6 March 2019, second lesson)

During the SC Interview Amelia commented:

> I'm giving them the choice with their group or their partner on what they want to work on, and I've just given them that autonomy, because I know they're quite able and they're motivated, so I was interested to see what they would come up with. And it's quite good because I can sometimes get ideas from them, and use drills that they've created in other classes.
>
> (Amelia, 26 March 2019, SC Interview on the second lesson)

Amelia mentioned that she learns from what the pupils come up with. She offered choices of tasks because she recognised that this strategy works for the pupils to create an environment to engage in the lesson. She added that her knowledge of this class is a factor in her giving them choices.

> I don't think I could do that with all of my classes. It would maybe need to be more structured, but I know that they work well, so I was able to just let them.
>
> (Amelia, 26 March 2019, SC Interview on the second lesson)

Amelia recognised that her teaching strategy takes into account the achievement level of the class and the pupils. I understood that her willingness to learn from what the pupils' own choice of grouping and activities is a significant factor in her being need-supportive.

Likewise, Simon (School five) gave his pupils choices on what tasks they wanted to participate in. He was the Principal Teacher of his department with 13 years of teaching experience. Simon behaved in an autonomy supportive way overall as the score of the observed autonomy support was relatively higher than the average for all the teachers. The pupils from Simon's class perceived autonomy support on the average level. The video clip for his SC Interview was from his second observed Badminton lesson for S3 pupils. The number of the class was seven boys and two girls in the lesson. At the beginning of the lesson, he explained the aim of the lesson was to improve either decision making, tactics or concentration. He prepared a pile of task cards that look at smash, overhead

clear, net shot, and serve. He let his pupils decide which task they need to work on and encouraged them to think how and why the tasks help to achieve the aim of the lesson. When the pupils began to set up for the tasks, a boy came in five minutes late for the lesson. As soon as Simon noticed the boy came in, he talked to the boy individually.

Simon: What shot do you think you need to a bit more work on in terms of your tactical play? Is it clearing it from the back of the court, or is it smashing, is it at the nets, what's your most important thing that you'll work on?

Pupil: Smashing.

Simon: Okay, what we'll do is there's simple repetition smashes on one of the cards there, but we won't bother going and getting the card just now.

(Simon, 9 October 2018, second lesson)

In his SC Interview, Simon remarked:

Simon: He came in late. So he was late into class, which is not unusual. Again, that particular pupil is very disengaged in school. Very challenging. I suppose with that it's about ensuring that coming in late is not a disruptive influence on others. So come in there, it allows me an opportunity, to some extent, immediately get him involved in the lesson, without having to go through lots of description about what we've got to do, and then also upsetting the balance in terms of the peers within the class. Also means that I can focus specifically on him being successful. I can give him some encouragement, ensure that he's engaged in what they're doing as well.

Eishin: What kind of things did you try to get him involved?

Simon: (…) Giving him an element of choice. What is it you need to work on? Allowing him to feel like he's in charge of what he's doing. This is really important to get him involved in the lesson.

Eishin: What do you mean by giving choices in this case?

Simon: He comes in the lesson and everyone's already paired up, but they had a choice of what shot they wanted to work on within the game of badminton. And clearly that's really linked back to their decision-making and their tactical play. But inevitably it means that if there's part of the game they enjoy more, it's something that they can choose to do. (…) I wasn't strict about the evidence for why they're picking that shot. It's much more about them being able to choose what it is they want to do, so that they are happy with what they're doing. Also it just lets them take a bit more ownership of what they're doing.

(Simon, 28 January 2019, SC Interview on the second lesson)

Simon thought giving choices allowed this pupil to be engaged in the lesson and 'take ownership' of his learning. In addition, he explained that the reason for offering choices was to make all of the pupils' experience more enjoyable. He focused on the latecomer's engagement in the lesson. He was aware that offering choices is a resourceful strategy for disengaged pupils. I did not capture data from the disengaged pupil, but another pupil recognised that Simon usually gives opportunities to offer choices of activities in other lessons. In a focus group interview he said:

> When you're in the fitness suite in the gym, there are some tasks that you can do. Mr__ puts it on the board and most of the time you choose yourself what you wanna do.
>
> (S3 boy, School five, 25 February 2019, FG Interview)

In addition, a student-teacher who visited School five for placement joined in the focus group interview. The student teacher asked about choices of peers in lessons.

Student-Teacher:	Do you get any certain choice over who you work with in PE?
Pupil:	We can pick our partners out and work with us.
Student-Teacher:	Do you like the fact that you get to do that?
Pupil:	Yeah.

(S3 boy, School five, 25 February 2019, FG Interview)

Amelia and Simon intentionally provided choices for pupils because they knew that this could facilitate pupils' autonomy and ownership. Offering choices had different contents. The teaching behaviour above exemplified choices of tasks and peers, but the following theme is related to choices of difficulty levels.

5.2.2 'It goes from easy to complex': spending time to set up differentiated tasks

Differentiation involves the teacher setting different levels of challenge within a task to accommodate different levels of learner ability and motivation. It is crucial for teachers to prepare differentiated tasks because pupils are likely to feel greater autonomy and engage more fully if they can decide what levels they want to work at. Kenny (School two) prepared a worksheet to apply this principle of differentiation. Kenny's teaching behaviour in his second lesson was a relatively higher score of autonomy support and structure than the first lesson. The video clips for his SC interview came from a double lesson for S1 pupils. There were seven boys and 12 girls in the lesson. The focus of the lesson was partner balances in gymnastics. In the clip, he explained to the pupils the main target of the lesson and what he thought about the worksheet.

> First thing we're gonna do today is we're gonna do a bit of partner balances. Then we'll do a bit on rolling and then I'm gonna, with your partner, put it all together and you're gonna create a sequence. With one, at least one, from flight, balance, rotation and inversion. And put it together. Now I have in our worksheet with different partner balances, starting from A to H. Now this gives you a good visual of what we're looking for. Some of them get trickier, especially as you work down. So it starts easy, and then it gets a little bit trickier. You wanna hold these [balances] for at least three seconds but, because we're really focusing on partner balances right now, let's hold them for at least five seconds.
>
> (Kenny, 13 November 2018, second lesson)

Kenny commented on this clip:

> The main target was, today's lesson, we're going to work on balance, but we're also working on flight, rotation and inversion, so I was focusing on one aspect, trying to get them, so it's differentiated it's quite good because it goes from easy to complex. I thought having visuals were going to help them a lot rather than me demonstrating only, having something that's permanent in front of them that we can see.
>
> (Kenny, 15 January 2019, SC Interview on the second lesson)

Kenny remarked that the worksheet allowed the pupils to access effectively the main teaching and learning points of each balance. He also reflected that the lesson was successful as the pupils were 'being quite creative' (SC Interview on the second lesson) and 'they were all trying hard to get some success' (SC Interview on the second lesson). He argued that using a worksheet with differentiated activities allowed the pupils to be motivated and creative, which are benchmarks of significant affective learning. Even though the teacher's statement that I quoted above was not clear about how his knowledge of the pupils affected the differentiated task, he knew at least that the pupils would be willing to work sufficiently on the task with the differentiated worksheet. In a

focus group interview, one of his pupil commented that the teacher is usually helpful because:

> If you're working at a lower level, he would work with you at that level, and then eventually you'll get higher and higher.
>
> (S1 boy, School two, 26 March 2019, FG Interview)

Another pupil said:

> He doesn't say "you have to do this". He lets you work at your own pace but he still tries to help us get there.
>
> (S1 boy, School two, 26 March 2019, FG Interview)

Similarly, Simon (School five) used a differentiated task card on a badminton lesson. It was the first observed lesson for S3 class. During the first five minutes of the lesson, he introduced the task card for combination rallies.

> What we're gonna do today is we're going to work on some combination rallies. I've got four different combination rally cards so what you and your partner are going to do in a moment, is you're going to go and choose a combination rally task card. What that does is it details the shots that you need to play in order (…) You're trying to play the shot as detailed on this card. Now, there are various levels here, so it goes from easy on this side to the hardest one on this side here. You and your partner have got to try and do that and you gotta choose your own level (…) So you and your partner need to come up, as up here, you need to decide what task card you're going to do; easy, medium, medium-hard, or hard. Go and pick that.
>
> (Simon, 1 October 2018, first lesson)

Simon commented on this clip:

> We want to talk less and have kids doing more, but I think, even looking back at that there, I'm not sure that I could have cut that down much more. Because it was quite a complicated task I was asking the pupils to do. I think they actually listened quite well, or they certainly conducted themselves quite well (…) So reflecting on that, I potentially think of other ways to support pupils, making sure they understand some of this complicated [instruction].
>
> (Simon, 28 January 2019, SC Interview on the first lesson)

Simon worried about how well the pupils understood all information on the tasks. He reflected that he should have talked less though the differentiated tasks were potentially quite complicated for some of the pupils. As far as I observed the video, in fact, the pupils picked one of the tasks immediately and looked at the task card. Some pupils asked questions to check they understood the task. Simon walked around to check their understanding of the task that they choose. He made additional explanations individually. Since Simon spent time to set up differentiated tasks, all the pupils in this class seemed to engage in the tasks.

Setting up differentiated tasks was an example of autonomy supportive teaching. Kenny and Simon prepared a card describing differentiated tasks that could promote affective learning. However, they had a different reflection on this teaching behaviour. Kenny reflected that his lesson was successful in terms of being motivating and creative. On the other hand, Simon had a critical view of his approach to support pupils understanding the given tasks. Simon seemed to need sufficient time to set up differentiated tasks before the activity. Following the instruction, these two teachers needed to think about how they could support their pupils during the activity. In particular, individual interactions and offering feedback were an example of critical moments during the activity.

5.2.3 'Try to give every pupil individual feedback': individual interactions and offering feedback

There is evidence of teachers' perceptions of the importance of individualisation. Ben (School seven) taught basketball to S2 boys. He was a young teacher with two years of teaching experience. His overall teaching behaviour in the first lesson was observed as having a higher level of structure but in a less autonomy supportive way than the average for all the teachers. Nevertheless, his pupils' perceptions of autonomy support were higher than the average score. In the lesson shown to Ben for the SC Interview, the number of the class was 13. He provided tasks for defence, which was the main focus of the lesson. At first, he introduced how to defend in a situation of 1 v 1, and afterwards the pupils participated in a task that the teacher provided. The following task was 2 v 1 defending and 2 v 2 defending. He always demonstrated a task first then the pupils engaged in the task. When he saw a scene of the 2 v 2 defending task, he commented on individualised and personalised feedback. In the lesson, he said:

> Go! Remember you don't need to pass it straight away, you were like I need to get rid of this ball, wait till he gets into space, okay?
>
> (Ben, 27 February 2019, first lesson)

Ben commented on this clip:

> That's me trying to give as much individual feedback as possible. I'll try throughout the lesson to give every pupil individual feedback. This is a small class of twelve, so I'll be able to give individual feedback. But, sometimes I've got a class of 30 and I'm not able to get round every pupil, so I try my best to say well done, always using their names, makes the experience more personalized. I'm getting to know them. I think it's important for the pupil that I know them, constantly building a positive relationship with them.

(Ben, 26 March 2019, SC Interview on the first lesson)

Ben clearly mentioned that knowing the pupils is important to give them individual feedback and to personalise his teaching. In addition, he knows using first names is an effective teaching strategy in terms of increasing pupil engagement in physical education lessons. As I noted in Chapter 2, using pupils' names is one important need-supportive teaching behaviour.

On the other hand, I selected the scene below that was coded as less autonomy support teaching in Ben's class, even though he gave individual feedback. When Ben taught how to defend in Basketball, he demonstrated the task himself for the pupils and asked everyone to perform the same way as he instructed. In the lesson, he said:

> Reach out and touch me, just at an arm length, just there. Okay so that's where I want everyone to be.
>
> (Ben, 27 February 2018, first lesson)

He talked through what was happening in this scene.

> Now that I've shown them how to defend. I've shown them that I want them an arm length away from the defender. I've shown it again. I've just done another demonstration so they're absolutely clear, what I want them to be achieving here.
>
> (Ben, 26 March 2019, SC Interview on the first lesson)

This notion involves a direct instruction since the teacher wanted all the pupils to perform in the same way and at the same level, without task differentiation and the opportunities to solve problems on their own. In another scene, Ben commented on his approach when he gave feedback to a pupil. This was a scene where the pupils worked on a task of 2 v1 defending. There were two groups of

three pupils in a half court. Ben watched one of the groups and gave feedback to a boy who was a defender.

> See, you committed too early, you jumped right in there, you need to hang back a little bit, alright?

Another group came in the court and Ben watched the group.

> Well done, well done. See? Wait here. Watch he waited in between here.
>
> (Ben, 27 February 2018, first lesson)

Commenting on this clip, Ben said:

> They're always defending there, done it exactly how I wanted them to. Was to stay in between the two defenders to try and intercept the ball. I watched the play, they were successful in it, so I need to stop them and say this is why you were successful. I don't just say, good, well done and then walk away. I'll say, good, right, this is why it was good. So I don't just say, "Well done. Brilliant." and walk away. I say, "Brilliant because, this, this and this.
>
> (Ben, 26 March 2019, SC Interview on the first lesson)

Although he acknowledged that he needs to offer substantive feedback, Ben set up a task that has only one correct answer. He knows what the pupils required to be successful in the task, but his teaching involves a teacher-directed approach. This is a traditional problem in physical education teaching. Even though the teacher recognised that he was trying to give as much individual feedback as possible and putting effort to be getting to know the pupils, I can see these actions were within a highly teacher-directed approach. Moreover, Ben did not appear to be aware of how teacher-centred his practice in this instance was. The results demonstrated that the teacher believes himself he has

done effective teaching to achieve pupils' learning. This might be a challenging issue for teachers to reflect on their own teaching critically.

There was another example of this issue in School one. Lisa (School one) was the Principal Teacher with 11 years of teaching experience. Her overall score of need-supportive teaching behaviour in the first lesson was higher than the average. For the SC Interview, Lisa was teaching a basketball lesson for S1 girls. It was a class of 27. Lisa gave instructions for a lay-up shot as a focus in the lesson. Afterwards she asked her pupils to practise it. There were 10 basketball goals in the gym so that two or three pupils used one basketball goal to practise. She offered substantive feedback on a lay-up shot to the girls in the lesson.

> You're finding it hard just now because you're going straight ahead. What you need to do is just come in from the side, so start about here (…) This is where we start. Because I think you started there so you're kinda leaning back (…) Very nice! Nice knee and arm lift there! Well done.
>
> (Lisa, 20 November 2018, first lesson)

In the SC Interview, she reflected:

> I try to give a target to everybody in the lesson. I try to give feedback to every child in the lesson (…) What I am doing though, in terms of feedback and telling them what they are doing instead of what they should be doing, which I would correct. So I'm saying you're doing this but you should be doing this. And I should just leave out that you're doing this and actually just say, "You need to do this now." This is what you should do.
>
> (Lisa, 14 January 2019, SC Interview on the first lesson)

This comment shows Lisa tried to know how every pupil engaged in the task individually. In addition, she was self-critical. She reflected that she should have told her pupils 'what they should be doing' instead of saying 'what they are

doing'. There was evidence that self-confrontation interviews allowed her to promote their critical reflection. In another moment, she responded that she was not giving enough detailed feedback and she would have used worksheets and written feedback down.

Furthermore, in the second interview, Lisa elaborated how important individual feedback is to build pupils' confidence. When I asked her what she prioritises in her teaching, she answered that 'I want to build pupils' confidence at all times to enable them to access all of their parts of learning' (Lisa, 21 January 2019, ST Interview). Her response to the question how to teach confidence was that 'setting realistic targets for them in your planning of lessons, small outcomes and targets for each of the pupils at that time. Lots of praise and a positive atmosphere and a "you can do it" and a growth mindset in an atmosphere and classroom' (Lisa, 21 January 2019, ST Interview). Subsequently, she mentioned the incident below as an example of her teaching to produce a positive mindset and confidence.

> I guess I said in the last interview that I tried to get around to every pupil once to give them a bit of feedback to allow them to progress and again it's difficult to get around in time. Trying to pay attention to them as individuals. It's interesting when you watch, my language isn't exactly ... You're finding it hard just now, instead saying more positive feedback, would be better to start, "This is what you're doing well, but let's see if you can add this in." I like to think that the way I approach the pupils is in a positive manner that keeps them engaged and happy to want to be there.
>
> (Lisa, 21 January 2019, ST Interview)

Lisa's intentions of offering individual feedback was to make her pupils to be more engaged and feel 'happy to want to be' in the lesson. Furthermore, she addressed the importance of relationships to motivate the pupils and promote

their confidence. When I asked the question how she could motivate them, she said that:

> I think I've got a good relationship with the pupils. I'm very positive with them. They're motivated through that. I think their motivation to move is great because they find confidence within the lessons.
>
> (Lisa, 14 January 2019, SC Interview on the first lesson)

Lisa's pupils had a positive response to her as their teacher. The statistical results showed that their perception of autonomy support was the highest of all the classes. The following data form a pupil focus group interview is an example of how Lisa helped the girls. The pupils seem to receive Lisa's intentions.

> Pupil 1: Since I'm quite short in my height, and we're playing basketball, I can never shoot, so I always got encouragement and I made a hoop. And I was very proud of myself.
>
> Pupil 2: She motivates you and just encourages you and she makes you be determined.
>
> Pupil 3: She doesn't force you. Well, she does but in a way that's in a nicer way than being mean.
>
> (S1 girls, School one, 15 February 2019, FG Interview)

In the case of Amelia's class (School seven), I observed the scene below that the teacher gave an individual interaction through a focus on skills learning of overhead clear in badminton that a pupil needed to achieve in the lesson. It was the last five minutes of the lesson. The pupils played a game. Amelia walked around the courts and watched the pupils. When she stood behind a pupil, the pupil approached her.

> Pupil: I can't do that.

Amelia: Let's see. I'll watch your technique. Just play your game and I'll watch you.

The pupil restarted the game. When the shuttle returned at the far side of the court, the pupil swung at the shuttle and missed. The pupil approached Amelia again.

Pupil: I always mess up.
Amelia: And I know why. See how you got the racket and you're going backward, like this. Get back, nice side step, nice and fast.
Pupil: Okay.
Amelia: So make sure the shuttle's always in front of you, because the shuttle was over your head.
Pupil: Okay.
Amelia: You're fast. You're speedy, so make sure you're back and the shuttle's always in front of you and play in back there.

The pupil was back to the game. In the following the rally, when the shuttle came at the far side of her court, the pupil was not successful in returning the shuttle, but hit the shuttle.

Pupil: I even hit it.
Amelia: You hit it, exactly. So it's quick feet to get behind that shuttle. You did it brilliantly. Well done.

(Amelia, 27 February 2018, first lesson)

In the SC Interview, Amelia commented:

> For her, I think it gave her the confidence to be able to keep trying at it, rather than just giving up, and she did hit it, which was a success for her, but looking at it now, I should have reinforced going sideways more,

> because she was faster, but she wasn't turning sideways on. So successful, in the fact for confidence, but technique maybe not so, I would say.
>
> (Amelia, 26 March 2019, SC Interview on the first lesson)

I observed that Amelia was nearby the pupil and used language that the pupil feels comfortable with, which is a significant aspect of autonomy support. Addressing a small success with the provision of autonomy support allowed the pupil to enhance her confidence and motivate her to keep trying, which was a central concern for Amelia.

In School five, Chloe had an individual interaction in a girls-only class. She had two years of teaching experience. The statistical results showed that she was a need-supportive teacher. She acknowledged that working together is the right way of motivating the girls. For the SC Interview, the clip was a Basketball lesson with 16 girls. Chloe provided a task of dribbling to keep the ball away from a defender and reinforced the need to keep their heads-up during dribbling. Her strategy appears to be joining in with the practice, which increasing the intensity of the activity. She told her pupils.

> We're gonna give it a try. Watch your legs. Nice, guys, try and get off. Right, go. (Chloe played with a pupil and demonstrated dribbling) Try and do it with your partner as quick as I just did there. Good. Well done. Try and remember to look up though 'cause you're always looking at the ball. Yeah, that was really good.
>
> (Chloe, 1 October 2018, first lesson)

Reflecting on this incident, Chloe said:

> So that's just me, I tend to try and go round and engage them by doing it with them. I find that as soon as you join in, that's the engagement levels and instead of telling them to improve and develop their speeds and develop timing I think that if you join in with them, it tends to increase

> the tempo a wee bit which you saw there. I think it's a good way of motivating the girls and letting them see that you actually want to do it with them as well. Especially with new classes like that, if they see that you're doing it with them and that you're genuinely engaged in what you're doing, and excited about what you're teaching it comes off on what they're doing as well.
>
> (Chloe, 28 January 2019, SC Interview on the first lesson)

This theme highlighted two different ways of teachers reflecting on their practice. One was being self-critical, and the other was indicating what they did was the right behaviour. I will return to this point in the chapter discussion. The main finding of this theme was that the teachers acknowledged the pedagogical significance of individual interactions and offering substantive feedback for the desired learning. Interacting closely with pupils led to getting to know pupils, building a positive relationship, boosting confidence and increasing the intensity of an activity. The following theme is a different situated context of individual interactions from this theme.

5.2.4 'He has a variety of learning needs': supporting pupils with additional support needs

A number of teachers recognised that some pupils have additional support needs to help them learn. For example, there was a scene where Simon (School three) was involved in working individually with a boy named Paul. At the beginning of the lesson, Simon gave instructions that they will work on a combination rally in Badminton. Then he asked the pupils to work on the tasks with peers, but Paul did not have a partner. Simon said to Paul that they could work together. They had a conversation about the task at the side of a court.

> Simon: What've we got Paul? So what one are we going for?
> Paul: (Said something)
> Simon: So if I serve it first, what am I gonna do with it?

Paul: (Said something)

Simon: So what are you going to do with the next shot?

Paul: (Said something)

Simon: Yeah you gotta try and hit it right back over there to the other side and then I'll repeat that. So let's just start the first two. So serve it high at the back of the court, you gotta try and hit it to the back, okay?

They were back to the court. Simon played with Paul.

Simon: Now drop shot, right good. (…)

After they played a few of rallies, Simon approached Paul and gave feedback.

> What I would suggest for your Paul is you gotta make sure that the shuttle is in front of you cause at the moment the shuttles too much above your head, or behind you, it makes it very difficult for you to get any power in it, okay? (…) Let's try again.
>
> (Simon, 1 October 2018, first lesson)

Commenting on this video clip in the SC interview, Simon remarked:

> Paul suffers from ADHD, and he has a variety of learning needs. And the dynamic it is also particularly strange, which means that on occasion Paul can find himself a little bit isolated from the rest of the group. That's not necessarily a ... what's the word? In a sort of a nasty way, but he can find himself a little bit isolated, both by himself and by others. Both factors are there. So he could often find himself on his own. He struggles to interpret the complexity of a lot of these tasks, and break it down and remain focused. So I saw that as an opportunity to go in there, but he was a little bit left on his own, and actually really support him in

> understanding what the task was, by working with him, to at least get an understanding of what it was he was trying to do.
>
> (Simon, 28 January 2019, SC Interview on the first lesson)

I learned Paul was ADHD. Simon's intention in this scene was to stop Paul feeling lonely and help him to understand what the task was. In his second interview, Simon commented that 'knowing what the learners are coming through the door with is really important. So knowing who does have issues in terms of their behavioural issues or additional support needs' (Simon, 4 February 2019, ST Interview). He understood that individuals face different difficulties and challenges and then teachers' responsibility is trying to respond to these pupils' needs. Simon also mentioned the importance of preparing some strategies that might help getting know pupils on an informal basis.

In the case of Steven's (School one) class in a badminton lesson, there was a scene from the SC Interview video clip where Steven interacted with Jack (pupil) who, as Steven explained to me, has additional support needs. Steven had 13 years of teaching experience. His score of need-supportive teaching behaviour was a moderate rating. His pupils' perceptions of need-supportive teaching were relatively lower than the average for all the classes. At the same time, his pupils' perceptions of controlling teaching were relatively higher than the average. The scene was the first half of the lesson. There were four groups and the pupils played a league game within a group. When Steven walked around in the gym and checked what was going on, Jack talked to Steven.

> Jack: Sir?
> Steven: Yes, Jack?

Steven approached Jack and listened to his talk. Jack seemed to wonder if he won a point or not.

> Jack: If I hit it, and on her court, it lands, like, here ...

Steven: Was it service, was it the first shot?

Jack: It touched her.

Steven: Okay, let me explain. When you serve, it must go behind the white line and land in the box. If nobody's touched it, if your opponent doesn't touch it and it lands straight on the ground, then ...

Jack: She did touch it, so ...

Steven: Let me explain, right? If she hasn't touched it and it lands short of the line, then it's a point. If she swings her racket to try and hit it, and makes contact with the shuttle, then it would be your shot, unless it came over the net, then we play on.

(Steven, 22 November 2018, first lesson)

Steven commented in the SC Interview:

> Jack has got additional support needs, Jack is on the autistic spectrum, he's got Asperger's. So of course if he asks a question, in that case he'll keep talking and he keeps talking so I say, "Jack, you need to stop so I can tell you what you want to hear." That's what the background to that is there. That's why it's such a detailed description, because most pupils just say, "in or out" but it has to be so specific for him to understand (…) So if I just make a decision, even if it's a referee, he'll question it so you try and explain for him to understand.
>
> (Steven, 14 January 2019, SC Interview on the first lesson)

Steven's action was based on his expectation of the pupil's behaviour. He seemed to interrupt what the pupil wanted to say. This behaviour could be recognised as controlling teaching. Nevertheless, the teacher intended to offer detailed information on what the pupil wanted to hear. Steven added details on how Jack behaves outside of the lesson.

> He needs a wee bit more support, even getting changed he uses his own changing room because trouble erupts in the change room, pupils wind him up and he reacts … he needs a lot more one to one all the way through it. It's for him, but also to stop others getting…At time, they'll wind him up, but he might perceive things differently as well so you're always having to explain to make sure it's fair for them but also fair for everybody else.
>
> (Steven, 14 January 2019, SC interview on the first lesson)

Steven explained that he was caring about Jack due to his expectation of Jack's behaviour. There was another scene where Steven was aware of additional support needs. The scene was in the same lesson. When Steven came across the court where Darren (pupil) played, he gave feedback on Darren's performance.

> Darren, look at the shuttle as you're hitting it. You're too quick to see where it goes. Keep focusing on it as you hit it.
>
> (Steven, 22 November 2018, first lesson)

In the SC Interview, Steve said:

> Darren is on the autistic spectrum, he's got Asperger's. Darren is very loud. I had to give him an example of what's happening so again it's just a wee bit of improvement techniques to try and help him get on.
>
> (Steven, 14 January 2019, SC interview on the first lesson)

Steven recognised that Darren needs more support by giving a piece of more detailed information. In a focus group interview, there was evidence that Darren had positive perceptions of additional support. Darren commented that Steven makes him feel positive when he is distracted.

> Sometimes I'll misbehave a bit, or be distracted easily so he'll say this to me stuff like "I know you can do better this", and that makes me feel better because that makes me think what I can actually do.
>
> (Darren, School one, 21 February 2019, FG Interview)

In Kenny's (School two) class, I observed that Sara (pupil) and Nick (pupil) seemed to suffer from taking part in a game. In the video clip for the SC Interview with Kenny, they played a ball game like handball. Sara and Nick were in the same team. Sara was just standing beside the goal during a game. Nick was just moving randomly in the court, and could not touch the ball. Only two boys in this team passed the ball to each other and were involved in the play. Kenny approached Sara and Nick.

> Hey Sara, now this is where you need to move forward a little bit. All right? 'Cause your team's won the ball for you. So come up here with me. Follow me. Nick, move forward! See when your team's got the ball, you want to move forward okay? That's it. Now when the orange has got the ball you want to move back Nick. All right?
>
> (Kenny, 6 November 2018, first lesson)

Steven explained in the SC Interview:

> Both of them are additional support needs kid. They just need a bit more time. And reassurance than the rest of the kids. So, I am just trying to show him where the space is so it becomes really clear that they need to move forward or stand here or get in a good space. Otherwise, they're just gonna stand and not become as involved as they could have been.
>
> (Kenny, 15 January 2019, SC Interview on the first lesson)

According to Kenny, the teaching points were 'developing their skills as in passing, movement, working in teams' (Kenny, 15 January 2019, SC Interview on the first lesson) in this lesson. However, the game might be too difficult for

some of the pupils so that they did not understand how they get involved in the play. In fact, at the beginning of the lesson, Sara told Kenny that she did not know the rule. Kenny explained the rule to her individually, but she was not willing to take part in the play as I described above. Kenny mentioned his strategy to involve pupils who are not engaged: 'giving them as much praise as possible and showing their impact in the game…at least I suppose they feel part of the team' (Kenny, 15 January 2019, SC Interview on the first lesson). Although his strategy could be appropriate to motivate most pupils, his involvements did not seem to be autonomy supportive because there was no evidence of pupils' choices and preferences. The teacher's behaviour might have to be guided by these pupils' needs, interests, and problems. If pupil autonomy is a goal, then it might be necessary to modify the complexity of the game to promote learning for some of the pupils who have additional support needs. Otherwise, the teacher might need to prepare other activities to fit with pupils who have additional support needs, rather than pushing them to participate in the game.

Kenny clearly understood that one of his main challenging issues is additional support needs.

> If you have a class of 30 and you've got some that need more support than others, how do you facilitate them and but also trying to make sure that everyone else in the class gets what they need to do. So that can be a challenge if you don't have the support, required need for that (…) you have to come up with strategies and you have to have quite a lot of support to be able to cope and handle these behaviour issues and you have to be confident in yourself too. There's a lot of different attributes that you need as a person to be able to manage and control different emotions that you see every day.
>
> (Kenny, 6 February 2019, ST Interview)

He mentioned there was a challenge of behaviour issues in the class. He was keen to support some of the pupils and I actually observed that he tried to interact with them. For example, he kept saying 'move forward' to Nick. He tried to encourage Sara by saying that:

> You're in a really good position here to score some goals. Do you understand how the game works now? It would blow me away if you started moving and trying to get this ball. Go on, Sara.
>
> (Kenny, 6 November 2018, first lesson)

Nevertheless, Sara was not willing to move at all throughout the lesson. Kenny said that 'I didn't give up on them and kept trying to think of ways of getting them involved' (Kenny, 15 January 2019, SC Interview on the first lesson). However, he seemed to keep running the lesson without any changes. This behaviour seemed to be a teacher-directed involvement. The teacher had to respond flexibly to the pupils' needs and problems and reflect whether the game form needed to change.

At School three, Luke was aware that some pupils in his class have additional support needs and he supported in a different way from the other teachers. He was the Principal Teacher with 11 years of teaching experience. His teaching behaviour in the first lesson was less autonomy support but moderate structure compared to the average for all the teachers. His pupils perceived need-supportive teaching behaviour at the average level. One of the clips for his SC Interview was a S3 badminton lesson with 22 pupils. Luke provided a task of net shot and moved on to a half court single game in the last section of the lesson. Luke offered that the pupils played a game with the same group or they could change group. When the pupils started a game, Luke approached Charlie (pupil) and Ronan (pupil).

> Luke: Charlie, Ronan, who are you with?
>
> Ronan: (Said something)

Luke: Who were you with before we went in to this one?
Ronan: I don't know who that was really then so ...
Luke: Cameron was with you, wasn't he? Cameron's here. Could one of you join this group? Okay. And Charlie could you join Hamish and George? Okay, so you're off to start, Ronan. Okay, and then once then rotate, I'll get you on for a game.

(Luke, 16 April 2019, first lesson)

Luke commented:

> Both of the two boys (Ronan and Charlie) have additional support needs. Now, one is autistic spectrum and the other one is autistic traits, you have to be a little bit more direct with them about what you are going to do, you make sure they understand what they are doing. I deliberately put Ronan into that group because I know he works quite well with Aidan and other people across the net, which is Jack. I know he will work quite well with them, and Charlie the boy I sent further up the court, I know that the wee boy George that's up there can be a wee bit challenging behaviour, he actually is very good with Charlie, he is very understanding of Charlie's additional support needs and he's very supportive of Charlie. I know I can put Charlie up to George and actually it helps George be less disruptive in the lesson because he becomes a more caring individual and he takes on more of a sort of understanding and kind of focus on Charlie rather than focusing on anything else.
>
> (Luke, 3 May 2019, SC Interview on the first lesson)

Luke used his knowledge of the pupils' friendship and social dynamics when assigning groups to work during an activity. He considered friendships and how pupils work together productively. I observed another scene in the second lesson where Luke organised a team grouping for a basketball game.

> Ava, could you go in the green team, please? Thank you. Charlie, could you go in the yellow team, please? No, in fact, no, Charlie, cancel that. Adam, you go in the yellow team, sorry. And that leaves us one, two, three, four, five and we got one more to go so ... we'll go ... Oscar, you go on that team. You guys are non-bibs.
>
> (Luke, 30 April 2019, second lesson)

In the SC Interview, Luke explained:

> I've tried to rather than have four girls in a team and then one in a team so it's two girls, so I've tried to pair them up. So that they have that pairing in there, perhaps a friend. Because, traditionally when you put the girls into the boys groups in basketball, the boys and the girls don't mix very well. So if I've got two girls, they might cooperate a bit more within it. I've kept Charlie and George together because again, that's quite a positive pairing. Some of the boys in here, there's a boy called Jack. He's got an inclusive mindset about him so he quite likes to include others. And Ava works quite well with him, so she's in that group here. What I did realize is, when I go into the games and they come up later, but when I got into the games and realized that I had Charlie and Will together, which isn't always the strongest pairing. I think I moved one of them later on to try and make that team because that team were kind of complaining that they weren't doing so well. So I moved that team about later when I realized that one of them would have to move.
>
> (Luke, 3 May 2019, SC Interview on the second lesson)

Luke talked about how some of the pupils worked together. When I asked the question what kind of issues he prioritised in his lessons, he said that:

> It's being aware of what barriers there are for young people. Whether that be an additional support need. Whether that be a social and emotional difficulty that they're having. Being able to adapt and work

> around those things and create a safe place that they know if they do have barriers, that you're going to try and help as much as possible to reduce them.
>
> (Luke, 8 May 2019, ST Interview)

I learned that additional support needs is one of Luke's priories in teaching to create 'a safe place' to learn. From the perspective of autonomy support teaching principles, offering pupils choice of grouping would nurture their psychological need satisfaction. Nevertheless, teachers might need to take control of pairing to produce intended learning outcomes considering social dynamics in the class. Luke seemed to know and observe the pupils well so that he created a learning environment that all the pupils could get involved in activities.

Thinking about pupils who have additional support needs was a shared concern among the teachers. The teachers had expectations of additional support needs pupils' behaviour and had intentions to cope with these behavioural issues, for example, by giving explicit instruction individually and creating a productive peering. However, they sometimes struggled with unexpected behavioural problems. I will return to this point in a later section. The teachers remarked that it is essential to prepare several strategies to support additional support needs pupils since individuals have different challenges. As Luke mentioned in this theme, making groups based upon understanding pupils' social dynamics was one of the strategies for additional support needs pupils. The next theme focuses on the approach to grouping. Grouping could be a critical moment because teachers seemed to have some intentions behind this action.

5.2.5 'There is a time for working with pupils you are not used to working with': grouping for developing relationships

There were a number of ways to create a group during the lessons with different intentions and purposes. What Luke did in the previous theme was one

strategy to create a productive pairing in a teacher-led way. Chloe (School five) also led grouping a team, but with a different purpose from Luke's intention. Chloe had a class of 16 girls only in the lesson. Chloe provided some tasks of dribbling with peers in the lesson. During the tasks, the pupils decided who work with. When they got into a game at the end of lesson, Chloe led assigning individuals in teams.

> Chloe: Now, can I get Amelia team one, Lily team two, Mia team three, Holly team four.
> Mia: [Said something like 'can I be with another team?']
> Chloe: I'm just gonna do it randomly, Mia.
>
> (Chloe, 1 October 2018, first lesson)

Chloe observed:

> I always do it random, just to make it fair. I just pick numbers, and you'll see the girls probably shuffling about the place to try and be with their friends, and try and be with who you want to be with, but it's just random. Sometimes I think there's a place for that and sometimes I think there's a place for putting them with their friends, because they can work better, they're more motivated. But I also think there's a time for working with pupils you're not used to working with, because you see how they cooperate when they're in a more challenging situation.
>
> (Chloe, 28 January 2019, SC Interview on the first lesson)

Although Mia complained about the team, Chloe encouraged the pupils to cooperate with others they are not familiar with. Her pupils recorded the highest score for relatedness need frustration among all the classes though its absolute value was low. The teacher's action might influence the relatively higher feelings of relatedness need frustration. Nevertheless, Chloe commented on the importance of having a good relationship with her pupils to manage to

organise groups. She said she usually has an individual conversation with a pupil if they did not engage in a team.

> I usually tend to bring them aside and have a conversation with them, and I tend to…I do generally have a good relationship and rapport with most of the students that I teach. I'd say that, yes, that is a new class that I was teaching there, so probably not the strongest relationships as what I do now if you came back and saw the lesson, but at the same time I think you can pull on your own experiences and how would that make everyone else feel if you're on the wrong foot side of that, how would that make you feel? You're able to bring them around. If that doesn't work, I sometimes say well look, you can be with your friends at some point, but this isn't one of those points. If you're not working well now, when you're put in a group with your friends you won't get that balance, so it's almost striking a balance with them and getting them to see that.
>
> (Chloe, 28 January 2019, SC Interview on the first lesson)

On the other hand, there was a scene where Kenny (School two) asked the pupils to volunteer to be team captains and allowed the captains to pick the rest of pupils.

> Kenny: We need five team captains. Now does anyone want to volunteer to lead their team to success? All right. Elly you go green. Megan, you go red. Mr. Black (a support teacher), do you want to pick a couple of pupils?
>
> Mr Black: Ah, I'll call Nick for blue.
>
> Kenny: Okay. Nick, blue team. I'll call Cameron for orange, and Edy for yellow. Okay. Right. And ... Elly you're going to choose first. We'll work our way down the line, then we'll start down the other side.

Once groups were decided, Joey approached Kenny.

Kenny: All right Joey?

Joey: [said something like 'I want to be on another team']

Kenny: Why do you want to be on another team?

Joey: Cause my best friends are on there ...

Kenny: I realize that okay, but what I want to see from you is being able to talk and get along with other pupils in the class, all right? Okay? Do it for me today? See how you get on? Alright? Thank you Joey.

(Kenny, 6 November 2018, first lesson)

Kenny reflected on this scene as follows:

Kenny: I hear Joey wasn't happy with this team? I'm just trying to get him to get along with this team here. Because he was kind of being a bit resistant.

Eishin: I am curious what the strategy was when you made a group?

Kenny: For this activity the majority of them really enjoy it. And if not all of them, actually. So, unlike other sports where I'm picking teams, I normally do it. Just, otherwise, they'll just pick. The strongest team, or their friends or whatever. But, for this I kind of let them choose who they wanted to go with. But, I make sure they're pretty fair. At the end I might've swapped a few pupils. Just to make sure that there wasn't one team that I thought was going to dominate over the rest.

(Kenny, 15 January 2019, SC Interview on the first lesson)

Although Joey asked Kenny if he could move to another team, Kenny encouraged him to get along with others in a team. Regarding the fact that captains selected team members, I did not hear any convincing explanations

from Kenny about why he did it in this way. There was no evidence on how the pupils felt about team grouping in this way so that I do not know how it affected the pupils' feeling and learning. At least, the statistical results showed that overall affective learning outcomes in Kenny's class were at the average level. I will have a discussion around this point.

The main intention of assigning pupils in groups was to create opportunities to work with those who are not familiar. Chloe and Kenny seemed to expect that some pupils prefer to be with their friends. These pupils might feel disconnected with assigned group members. However, Chloe and Kenny encouraged their pupils to get along with other pupils. There might be alternative approaches to grouping rather than teachers assigning pupils to groups. The next theme is a scene where a teacher assigned a pupil as a demonstrator.

5.2.6 'Could I use you as a demonstration?': caring for a demonstrator

Teachers often used pupils as role models when demonstrating new activities or new skills. Amelia (School seven) demonstrated herself to be a role model when introducing a lift shot. She emphasized that it is important to lunge forward and lift the racket up. After the instruction, the pupils worked on the lift shot. Amelia looked at every court and gave pupils feedback on their performance individually during the activity. Five minutes after the activity started, Amelia approached Katy and asked her 'could I use you as a demonstration ?' Katy agreed to perform a lift shot in front of the pupils. Amelia stopped the activity and gathered the pupils.

Amelia: I want you to watch Katy's technique here. In her lift, I want you all think, because I'm going to ask you at random what Katy is doing really well with her lift. Can I just see two or three, just in a row?

Katy performed a lift shot.

Amelia:	Excellent. Jenny, what was really good about Katy's lift?
Jenny:	(Said something)
Amelia:	Excellent. She wasn't stopping, she was following through with her racket. What happened when she followed through? What did that result in with her lift shot, Eva?
Eva:	(Said something)
Amelia:	It went further. It went higher and further. What else did Katy do, Emma?
Emma:	(Said something)
Amelia:	She lunged forward, exactly. What could she do now to make it even better? It's already up there, but what could be done to make it next level? Any ideas? No? What I would like you to do is, if you're managing to get your lifts high into the back of the court like Katy your partner is going to grab a hoop and they're going to place it somewhere past the green line. Katy is now going to start working on her accuracy. So apart from just lifting it, she will be aiming to get the shuttle to land in the hoop, which is quite a difficult thing to do.

(Amelia, 27 February 2019, first lesson)

In the SC Interview, Amelia reflected:

Amelia:	Here for those that did have the technique in the first lesson, I wanted them to work on accuracy, and then hopefully I wanted them to think about the decisions they would make when they're playing a game, as to where you would decide to play that, play that lift, and hopefully through the hoop drill, they would start to then think, "Okay why am I placing the hoop in different places, why

do I want to put it in different places?" Rather than just hitting over the net.

Eishin: What was your main purpose of asking questions?

Amelia: To reinforce the teaching points that I had at the start, and to make sure that they could identify that she was doing the lunge forward, which I'd asked for, was a success for the lift, where the shuttle was travelling, how she was following through the racket. So they could then think and identify that in her, and then hopefully through seeing Katy do it, they could see well, "Okay I've seen Miss ____ do it, but now that I've seen someone in my class do it, I can actually achieve this." So to just refocus them, and reintroduce the teaching points that some of them, when watching, had forgotten, especially the lunge forward, which was being missed.

(Amelia, 26 March 2019, SC Interview on the first lesson)

Amelia asked the pupils some questions to highlight the main teaching points of a lift shot after a pupil demonstrated as a good model. She not only reinforced what the points are to be successful, but also prompted them to move to the next level by asking the question what could be done to improve. She had a clear intention to use Katy for demonstration in order to motivate others. Also, it is worth noting that the teacher confirmed if Katy would feel comfortable giving a demonstration. This behaviour was an example of sensitivity to pupils' feelings.

On the other hand, there was an incident where Luke (School three) used a pupil as a demonstrator in a different way. Luke gathered the pupils around him to give an instruction at the beginning of the lesson. Luke wanted a volunteer for a demonstration, but the all pupils were reluctant to volunteer. Luke ended up choosing a girl (Laura).

> Any volunteers for a quick demo? Any volunteers? Kyle? Thomas? Laura? Volunteer? Come on, Laura. Good volunteering, Laura. Grab a racket quickly.
>
> (Luke, 16 April 2019, first lesson)

In the SC Interview, I asked Luke 'why did you chose this girl?'.

> Luke: Quite often I'll... I kind of do it two different ways, so I know the class quite well so I know that if I chose Loura she'll come up but I know that she might not volunteer, so there are two different ways, I'll sometimes do demonstrations. I'll maybe have them sitting down and ask if there is a volunteer for demonstration but in the back of my mind I know, if I pick, I know there is certain people to pick who would come up and I know the people who wouldn't necessarily come up. I also know her standard, she's a decent enough player as well, she's quite good at badminton I know that she'd be a reasonably effective demonstration, I hope. Sometimes the other thing that I do with demonstrations is, if it was during practice, this is obviously at the start, if during a practice and I see somebody doing well in that practice I'll pre-empt it and I'll say to them, "I'm going to use you for a demonstration" and I'll call everyone in so they are aware of what I'm going to ask them but at that moment in time I knew that Loura would be quite happy to come up, well she looked (groaning noise) but she will come up and do it with me.
>
> (Luke, 3 May 2019, SC Interview on the first lesson)

Luke choose Laura as he expected she would be happy to be a demonstrator. He mentioned that he sometimes asks a pupil to be a demonstrator in advance. However, at this time, he choose Loura without advance notice. I observed the

following scene where he used her as a kind of negative model compared to what the teacher did.

> Luke: Did anyone notice, who was keeping the shuttle lower?
> Pupils: You (the teacher), you did.
> Luke: Could anyone offer me an explanation or a reason ... what was I doing different from Laura, which allowed me to play it gently? Don't shout it out now. What was I doing differently, my technique, that Laura was doing differently and it made her hit it a wee bit higher?
>
> (Luke, 16 April 2019, first lesson)

Pointing out that the pupil has a fault in her technique might result in negative affect, but I could not catch up how Laura felt it. At least, it might be one of the reasons why no one wanted to volunteer for a demonstration.

There were two different stories when choosing a pupil as a demonstrator. Amelia chose a pupil who achieved the teaching points well and tried to reinforce the teaching points for all the pupils. As with her, Luke usually had a 'pre-empt' notion before assigning a pupil. However, he did not notice the demonstrator in advance in the observed lesson. Also, Luke used the pupils as a negative model, as opposed to what Amelia did. Pupils might have negative feelings unless teachers have sensitive intentions. Teacher sensitivity would be necessary as one of the proximal assets for practising pedagogies of affect. It would also be required when pupils complained and expressed displeasure, which is the focus of the next theme.

5.2.7 'She doesn't want to put a bib on': responding to pupil's complaint

In some of the lessons I observed, pupils made complaints. Chloe, a teacher in School five, had a comment when we saw a scene where a girl complained about something. This was a basketball lesson. At the middle of the lesson, the pupils

played a game. She noticed a girl who was standing out of the court. The girl named Bonnie apparently did not want to put a bib on. Chloe tried to persuade her to put a bib on and take part in a game.

Chloe: It's the same as everyone else. What happens if you don't get a bib on then the other girls won't know you're in that team and it'll start getting confusing. It doesn't matter about the smell, you're in PE. It's the last thing of the day.

Bonnie: (Still complaining)

Chloe: It doesn't matter about the smell and they get washed, I wash them all the time. So I need you to put it on. Be part of the team, don't let your team down. They're playing with three people right now.

(Chloe, 8 October 2018, second lesson)

In the SC Interview, Chloe said:

> She doesn't want to put a bib on. So you get certain girls in your class - it happens quite a lot - that they don't want to put a bib on and they say either it smells, or sometimes it can be because the bibs are too small. In which case, the bibs there, they're laid out in all different sizes now so that's not an issue. Sometimes it just appearance, you don't want to be seen with a different colour, they come in with a nice pink top like she has, and she doesn't want that covered up, she wants that showing. And there, it's just being picky. For that example, she just needs to put it on because group does that every single time and you'll get her and you'll say right, okay you're letting the team down. Look, they're playing with three players, the girls that you're doing, they're doing fantastically right now, you could be joining that, you could be helping out. And she does it. So it's not for any other reason than she lights her top.
>
> (Chloe, 28 January 2019, SC Interview on the second lesson)

Subsequently, when I asked the question how Chloe usually deal with these kind of problems, she responded as follows.

> I know Bonnie. I know if I had a conversation with her on her own, I could persuade her to put it on. It's like with most of the other girls in the class. If for example she didn't put it on, and she point blank refused to put a bib on I'd ask her to take a time out and just go and reflect on it and see that actually you're missing PE because you've not put a bib on - is that worth it. Then, my guess is that they would actually go and put the bib on. If it escalated further then you'd take it further, but it's just about refusing to carry out instructions. And it's a simple instruction to put on a bib, and you'd expect them to carry out instructions within the class, and that's just an expectation I have of everyone.
>
> (Chloe, 28 January 2019, SC Interview on the second lesson)

The teacher's behaviour was based on her expectation of Bonnie's behaviour. Chloe gave Bonnie a reasonable explanation why she need to put a bib on. Also, Chloe understood why Bonnie refused to wear a bib. Bonnie just did not want to wear a bib on her pink top. I observed that Bonnie ended up wearing a bib on and joined in the game. One of her pupils gave evidence that Chloe usually had a conversation individually when someone did not participate in an activity.

> If someone's mucking around and not letting you participate, then teacher could take them aside and speak to them and tell them why that it's important, and then they might stop and you can get on with it and they can also get on with it.
>
> (S2 girl, School five, 4 March 2019, FG Interview)

In another lesson, at School two, here was a girl named Sara in Kenny's class. Kenny mentioned that Sara had additional support needs. As I described before, Sara was not willing to take part in the lesson. In fact, before starting the lesson, Kenny found Sara was lying on the floor.

Kenny: You all right Sara? what's wrong? Stand up for me? Okay, sit on the bench then. What's wrong?

Sara: (Said something)

Kenny: You don't know how to play? That's all right, I'll help you through it. All you do is you've got one goalkeeper. So say you're on the blue team. What you're trying to do is score. See the big mat there? You're trying to hit it in that blue mat to get a point. You can pass the ball but you're not allowed to move the ball. To score a goal, someone on your team throws it out, you try to hit it like a volley with your hand. All right? Up you come. I'll help you though, don't worry about it.

(Kenny, 6 November 2018, first lesson)

In the SC Interview Kenny commented:

Kenny: Sara was on the floor. So sometimes Sara can just kind of refuse to do things and just kind of having a wee restorative chat here. So she didn't know the rules. So I was just kind of going over it again with her in more detail.

Eishin: Is it typical to happen with the girl?

Kenny: Sara requires just a little bit more time to process information. And she needs, sometimes, it's just finding strategies that work for her.

(Kenny, 15 January 2019, SC Interview on the first lesson)

Even though Kenny tried to explain the rules, Sara still refused to engage in a game. She stopped lying on the floor, but she was just standing and did not move at all during the whole lesson. Kenny reflected that 'when she (Sara) was swimming, she did really well. I don't know if it's because she was in the water. But any land based activity, we're struggling to get her going' (Kenny, 15

January, SC Interview on the first lesson). Kenny struggled to figure it out. There might be another reason why Sara did not want to take part in a lesson, but Kenny was unable to offer another explanation.

Pupils sometimes refused to follow instructions. Chloe had lots of experience of her pupils' refusal to put a bib on as she said that 'it happens quite a lot'. She seemed to understand girls' feelings why they do not want to put a bib on. This is so that she managed to deal with the problem eventually based on her experience. On the other hand, Kenny struggled to find out the reasons why Sara was not willing to take part in the lesson. It would be a significant discussion around how pedagogies of affect can provide a resourceful response to pupils' complaints and refusal of the planned instruction.

5.3 Chapter discussion

This chapter sought to understand physical education teachers' experiences of their observed teaching behaviour. The video clips for SC interviews were selected based on the criteria of need-supportive teaching behaviour since this is a proxy of pedagogies of affect. As a result, most of the themes emerged following the aspects of need-supportive teaching. The findings showed the teachers' awareness and interpretations in a particular situation. I found that the teachers had different intentions behind their teaching behaviour, although the teaching behaviour was recognisably similar. Overall, the findings suggest that how well teachers comprehend their pupils' feelings, needs, and social dynamics in class and also teachers' expectations of pupils' behaviour are crucial to implementing teaching for positive affective learning.

The first theme was how aware were the teachers about offering choices. Amelia and Simon were able to explain why offering choices works effectively and were aware clearly that it was a teaching strategy to motivate their pupils and for them to take ownership of their learning. The data from Amelia's class reported in Chapter 4 showed higher perceptions of autonomy support on the

part of the pupils, which could lead to positive affective learning outcomes (Haerens et al., 2015). Simons' pupils stated that the teacher regularly provided choices of tasks and peers. Previous research showed that offering choices of activities was a teaching strategy for increasing motivation and affective learning in a girls-only class (Lamb, Oliver, & Kirk, 2018) and a co-educational class (Guadalupe & Curtner-Smith, 2019). In both studies, offering choices referred to negotiating and co-constructing a curriculum with pupils throughout the process of an activist approach. The findings of this theme emerged from the micro-level contexts within a lesson. For instance, teachers offered opportunities to pupils to create or choose a task according to their perceptions of their level of difficulty. Another significant finding was that teachers' willingness to learn from pupils was essential to offering choices. Teachers' willingness to respond to pupils' feelings and needs are consistent with the Building the Foundation of student-centred inquiry (Oliver, & Oesterreich, 2013). In another context where a pupil came late to the lesson, the teacher (Simon) prioritised the pupil's engagement and motivation by providing choices of tasks. Simon did not ask for any explanations of why the pupil was late because he knew that it was not unusual and the pupil was usually disengaged in school. Simon asked the pupil immediately what tasks he wanted to work on. This teacher's action could have a significant influence on positive affective learning for the disengaged pupil. This result implied that if teachers focus on the intention of affective learning, then they need to act patiently to achieve the goal, which can be a basis for pedagogies of affect.

Setting up differentiated tasks is another strategy for offering choices as pupils decide what level of difficulties they will work at within a task. Based on the findings reported in this chapter, Kenny differentiated levels of difficulty within a partner-balance. His pupils commented that the teacher usually allowed them to work at their own level and pace. Simon provided a different pattern of combination rallies from an easy level to a harder level. A teaching strategy of differentiation was adopted in several well-established teaching approaches. For example, within a framework of need-supportive teaching behaviour,

differentiation is an important aspect of autonomy support for increasing pupils' autonomy (Haerens et al., 2013). Teachers using differentiated tasks for pupils to work at their own pace is consistent with the TARGET guideline (Ames, 1992). Whipp, Taggart, and Jackson (2014) explored teachers' beliefs and experience of differentiated instruction within the differentiated instructional model developed by Tomlinson (1999). Tomlinson (1999) conceptualised differentiation as elements of content, process/support, and product. Differentiating for 'content' refers to the provision of varied activities, equipment, and rules according to pupils' ability. 'Process/support' indicates the provision of guidance, feedback, and direction that are differentiated by individuals. Differentiated teaching for 'product' is focusing on pupils' individual learning process, for example, using peer assessment and ongoing diagnostic evaluation. Considering the results within the concept of differentiation, the teachers (Kenny and Simon) were mainly involved in differentiating for 'content'. Although the teachers differentiated similarly, their reflections were different. Simon particularly wondered if he talked too much to explain the tasks. This notion indicated that teachers might have a dilemma about how much time they should spend to help pupils understand their differentiated instruction. If teachers intend to produce affective learning by differentiating tasks, it should be worth spending more time to set up the contents. Differentiating for process/support might apply for the discussion below of individual interaction and additional support needs.

The third theme articulated that teachers' beliefs about interacting individually, especially where teachers offered feedback, can lead to a positive relationship with pupils and affective learning. For example, Ben was aware clearly that using pupils' first name helps to personalise his interactions with pupils, while giving individual feedback increases his pupils' motivation and builds a positive relationship. This is consistent with a need-supportive teaching behaviour, especially for structure (Haerens et al., 2013). Although Ben expressed need-supportive notions in his interview, there was an episode where he offered corrective feedback without letting pupils solve the problem on their own. This

behaviour is inconsistent with autonomy support (Haerens et al., 2013). Comparing Ben with Amelia, who was Ben's colleague in School seven, Amelia frequently asked her pupils to come up with their own practices. Ben in contrast had little idea that he might learn from his pupils based on the observation and interview data. However, when looking at the results from Ben's pupils reported in Chapter 4, their perceptions of autonomy support and their affective learning outcomes were relatively high. The results indicated that Ben's overall teaching was not necessarily inconsistent with teaching for affective learning. A possible interpretation of the results was that it was a boys-only class and the boys preferred to receive immediate corrective feedback from the teacher because it could be helpful to improve their technique. In the cases of Lisa and Amelia, they had a similar notion when they observed their individual interactions while offering feedback to pupils. The interview data revealed that their priority was to build their girls' confidence. This notion was aligned with their general teaching priority. There were teachers' intentions of achieving pupils' affective learning (i.e., confidence) as a priority behind the behaviour of offering individual feedback, which was a new finding from this theme. Pedagogical research on confidence has been rarely done in recent years. Further investigation of how pupils can built their confidence through teacher-pupil interaction will be valuable. In the other case of Chloe, she mentioned that for her to join in with the practice instead of just telling can increase pupils' motivation and the intensity of the activity, which was a different strategy of individual interaction from the other teachers. Teachers joining in activities might be a significant influence pupils' feeling of relatedness, and consequently enjoyment (Domville et al., 2019).

The term 'additional support needs' is defined legally by the Scottish Government (2017). The category of additional support needs includes pupils with learning difficulties, disabilities, and disadvantaged social circumstances (Riddell & Weedon, 2016). There was a significant increase in the total number of secondary schools pupils in Scotland with additional support needs from around 10,000 in 2005 to approximately 55,000 in 2013 (Riddell & Weedon,

2016). The teachers in the study clearly recognised some pupils who need additional support for learning difficulties and behavioural issues. Bruggink et al. (2014) identified teachers' perceptions of additional learning support in terms of need for instructional support, need for on-task behavioural support, need for emotional support, and need for peer support. In the findings reported in this chapter, Simon, Steven, and Kenny also had perceptions of the need for instructional support and on-task behavioural support, whereas Luke mainly identified the need for peer support. In other words, the teachers knew about their pupils' expected behaviour (i.e., ADHD and Asperger's) and social dynamics in the class (i.e., friendships and productive peering). Some of the teachers seem to be well equipped to support pupils with learning and behavioural issue. A pupil (Darren) from Steven's class realised that the teacher's support was helpful to overcome his tendency to misbehave and be distracted. Nevertheless, it is worth noting that, in the field of special education, there was the issue of 'labelling' children with ADHD because it could simplify categories of disability and difficulties rather than understand its complexity (McMahon, 2012). Since the 'labelling' perspective was prevalent among the teachers, it should be a significant challenge to consider how teachers inform their pedagogies of affect for pupils with additional support needs. When looking back to the observation data, controlling teaching with teachers' directness was likely to occur when teachers were interacting with additional support needs pupils. For example, there was a moment where Steven stopped a pupil's (Jack of) talk and made him listen to the teacher's input first. In Luke's case, he had to lead to make a peer group for pupils with additional support needs. According to SDT, controlling teachers may adopt their own perspective and let their pupils behave in a specific way (Reeve, 2009). This seemed to be the case with these teachers' behaviour. However, the finding in this chapter revealed that the teachers intended to support additional support needs pupils to promote their understanding of a game and create a safe learning environment, which could be a basic pedagogies of affect. Therefore, there seems to be a difficult choice about the extent to which teachers minimise theory-driven controlling teaching because teachers arguably need to direct

pupils' behaviour to some extent in order to produce affective learning that is targeted at pupils with additional support needs.

Grouping and team selection have to be done carefully when considering pupils' affective learning. Chloe intended to make groups in a random way although she recognised that some pupils might be able to work effectively when they were with close friends. Cox, Duncheon, and McDavid (2009) suggested that pupils may have affective benefits from more opportunities to interact with many different pupils because the general degree of peer acceptance was more important than the quality of their closest friendship in class to their feeling of relatedness and motivation. Although making random groups may be a beneficial practise for facilitating affective learning, as I discussed in the previous section, teachers would also be required to consider carefully the ways of creating a productive matching for pupils who need additional peer support. On the other hand, Koekoek and Knoppers (2015) argued that pupils' learning occurred more effectively when they chose to work with their friends. Although the role of social support from peers plays a critical role in facilitate meaningful physical education, there is no conclusive evidence supporting the best group selection method (Beni, Fletcher, & Ní Chróinín, 2017). The literature suggested that teachers do not have to stick with one grouping method. Indeed, Chloe allowed her pupils to decide who they wanted to work with during the middle of the lesson, but she led assigning them to teams at the end of lessons. More importantly, teachers need to observe and understand their pupils' social circumstances in class to determine a method for grouping. In terms of Kenny's practice of assigning captains who can select team members, a practice that is generally frowned upon in the research literature (Cardinal, Yan, & Cardinal, 2013), the findings reported in this chapter offered no support for the idea that this method of team selection disrupted pupils' affective learning. Nevertheless, at least, some literature suggested that the practice of choosing teams by team captains should be avoided since a pupil who is picked last may feel humiliated and this might remain as negative experiences in physical education lesson (Cardinal, Yan, & Cardinal, 2013).

Teachers using pupils to demonstrate the intended contents was a common practice that may influence pupils' affective responses. Using pupils as positive role models is considered a teaching behaviour of structure (Haerens et al., 2013). In this sense, Amelia's way of nominating a demonstrator is a good example, while Luke's approach seemed to feed pupils' negative experience. The findings reported in this chapter revealed several methods of selecting pupils as a demonstrator, which has been little reported in the literature. Amelia's intention when selecting a demonstrator was to reinforce the intended teaching points and encourage her pupils to achieve them. Besides, as Amelia did, asking a particular pupil in advance if the pupil is happy to demonstrate would be a sensitive behaviour. On the other hand, Luke selected a girl and asked her to demonstrate with him in front of the all pupils, and consequently represented his technique as a positive model in comparison with the girl. Luke provided a sensitive notion for additional support needs pupils, but he might lack sensitivity for the girl on this occasion. Teacher sensitivity is a significant attribute to enhance positive teacher-pupils interaction (Koenen et al, 2019). Teachers' sensitivity in selecting a demonstrator might enhance pedagogies of affect.

The teachers often came across pupils' complaints. A need-supportive teacher is willing to listen to pupils' expressions of negative affect and try to figure out why pupils express negative feelings (Reeve, 2009). The results showed that two teachers (Chole and Kenny) tried to respond to their pupils' complaints and negative expressions. Chole dealt with her pupil's complaint, while Kenny struggled to overcome his pupil's disengagement. Chole explained that she could manage to deal with the problem because she expected that happens and understood why the pupil complained. Her pupil stated that she regularly spoke to them individually if someone was not willing to take part in activities. This result indicated that the teacher could anticipate her pupils' behaviour based on her experiences and her knowledge of pupils makes her resilient in the face of complaints.

It is worth noting additional findings from a methodological point of view. Evidence throughout this chapter suggested that SC interviews with videos can be beneficial to reveal their notions of ideal practice since it can promote teachers' self-criticism. For example, Simon had a critical view of talking too much when explaining differentiated tasks. Lisa reflected how she should have provided feedback differently. The results of teachers focusing on pedagogical aspects of their teaching were consistent with Tsangaridou and O'Sullivan (1997). On the other hand, some of the teachers did not provide their critical reflection. For example, Ben did not appear to be aware of his teacher-centred practice. Tsangaridou (2005) indicated that some teachers may struggle with reflection because they did not have subsequent knowledge of the teaching context and student. In the present study, knowing pupils better and being self-critical might be a significant condition to practice pedagogies of affect. The notion that teachers who practise pedagogies of affect might be likely to be self-critical has not been addressed empirically in the literature. Furthermore, ideally, I should leave no more than a few weeks between observation and SC interview. Still, some teachers had SC interview almost four months after observation because of their busy schedule. This should be a limitation of the SC interview data. In addition, pupils' reflection while watching the videos is another possible method to consider for the future, since this could embed their perceptions on their teachers' teaching behaviour more accurately.

In summary, this chapter showed that teachers' knowledge, intention, and expectation of their pupils had a strong influence on their teaching behaviour. Not only that, I expect that teachers' general views of teaching health and wellbeing may be a critical factor in teaching behaviour, which is the focus of the next chapter. It is crucial to understand what teachers intended to embody their teaching and pupils learning in health and wellbeing to established pedagogies of affect.

Chapter 6: 'Relationships are everything': pedagogies of affect in relation to the curricular topic of health and wellbeing

6.1 Introduction

In this chapter, I discuss further pedagogies of affect under the curricular topic of health and wellbeing. In Scotland, Curriculum for Excellence (CfE) allows teachers to work profession with a degree of independence to develop a curriculum that could enhance learning in response to the needs of pupils (Gray et al., 2018). What teachers generally intended to achieve for their teaching and pupil learning in health and wellbeing perhaps influence their own practices and pupils' learning (Gray, MacLean, & Mulholland, 2012). Research on teachers' and pupils' perceptions of health has been conducted across many countries in the past few decades (Harris et al., 2018). However, little has been reported how pupils and teachers conceptualised of health in Scotland, even though the Scottish curriculum aims to prioritise health and wellbeing.

As I noted in Chapter 2, the literature suggested that perspectives on health in physical education has been contested and developed over time. More recently, Moderate-to-Vigorous Physical Activity (MVPA) has been the main target in physical education for health promotion and disease prevention (Pate et al., 1995). This medico-health notion of the relationship of physical education to health seems to remain at present even though health is regularly described as physical, mental and social wellbeing at the curriculum level (Quennerstedt, 2008). Indeed, Harris et al. (2018) indicated that the limited corporeal views of health (e.g., exercise and physical fitness) were dominant among young people in England. Similar findings have been reported in the New Zealand context (Powell & Fitzpatrick, 2015), Canada and Australia (Kirk, 2020). In terms of teachers' conceptualisation of health, several studies reported that teachers

tended to be fully aware of corporeal matters and use the concepts of health and fitness interchangeably (Burrows & McCormack, 2012; Harris & Leggett, 2015).

This chapter includes data from the second teacher interview (ST Interview) with the eight teachers who participated in the self-confrontation interviews. Also, I analysed data from pupil focus group interviews (FG Interview). The participating pupils were selected by their teachers according to friendship and to include a range of ability and interest levels among pupils. A total of 11 groups participated in focus group interviews from Lisa's class, Steven's class, Kenny's class, Luke's class, Simon's class, and Chloe's class. Unfortunately, the pupils at Amelia's class and Ben's class did not manage to participate in focus group interviews. The findings reported in this chapter provide the current status of pupils and teachers understanding of health and wellbeing and suggest how pedagogies of affect should be in the future.

6.2 Findings

The findings in this chapter are reported under three main themes: pupils' and teachers' views on health and wellbeing, health resources to lead pupils' health and wellbeing, and the role of physical education for health and wellbeing. The first theme referred to how the pupils and teachers generally viewed health and wellbeing in their lives. The second theme focused on how and where the pupils seek information about health and wellbeing. The third theme was reflective about pupils' and teachers' views on how physical education contributed to pupils' health and wellbeing from the perspectives of teaching, learning, assessment based on the curriculum.

6.2.1 Pupils' and teachers' views on health and wellbeing

The first theme considered how the pupils and teachers conceptualised health and wellbeing in general. There were three critical subthemes. The first subtheme was associated with the notion that physical exercise, fitness, and

physical activity are essential to health. Another subtheme is highlighting the quality of health, which was associated with the area of affective learning (i.e., confidence , a positive mindset, and a positive relationship). The other subtheme was the teachers' understanding of health and wellbeing as a curricular priority.

6.2.1.1 'If you don't do any exercise, you're going to be unhealthy': exercise, fitness, and eating healthy food as a manifestation of health

Most of the pupils responded to a question about what health means by using the language 'exercise', 'fitness', and 'eating healthy food'. For example:

> Just eating healthy food in general and exercise. Not to be overweight.
> (S3 boy, School one, 21 February 2019, FG Interview)

> Go to the gym, trying to get in exercise.
> (S1 girl, School one, 15 February 2019, FG Interview)

> If you wanna stay healthy, you have to exercise and have a good diet.
> (S1 girl, School two, 26 March 2019, FG Interview)

> Have a good diet, exercise, get plenty of sleep.
> (S3 boy, School three, 8 May 2019, FG Interview)

> Watching what you eat and not eating whatever you want.
> (S3 boy, School five, 25 February 2019, FG Interview)

> To be fit and active. Like in sports and eating good food.
> (S2 girl, School five, 4 March 2019, FG Interview)

On the other hand, one pupil from Chloe's class described health from a different perspective. The pupil said:

> You're gonna live longer if you're healthy.
>
> (S3 girl, School five, 25 February 2019, FG Interview)

Moreover, when I asked a question about when they feel unhealthy, the pupils came up with a number of notions that health is represented in fitness and exercise. The responses below were made frequently, based on the notion that being sedentary in unhealthy, and so exercise is essential to being healthy. One pupil from Lisa's class said:

> Sometimes we just sit in the house and watch TV. That's not very healthy.
>
> (S1 girl, School one, 15 February 2019, FG Interview)

In another school, one pupil from Chloe's class said:

> If you don't do anything, if you don't do any exercises, you just sat about, you're going to be unhealthy.
>
> (S2 girl, School five, 4 March 2019, FG Interview)

Many pupils responded that health is to keep fit, to do exercise, to be active, and to have a healthy diet, even though the teachers intended to teach health and wellbeing as holistic and non-liner concepts, as I will describe later. The pupils recognised various behaviour issues when describing what people do to stay healthy. The following section offered a counter-narrative to this section.

6.2.1.2 'Being healthy isn't just about how many kilograms you can lift and weight stuff': pupils highlighting the quality of health

The previous section revealed that many of the pupils recognised health as exercise, fitness, and a healthy diet. Nevertheless, the data also showed that social, emotional, and mental aspects of health, such as confidence, a positive attitude, happiness, and relationships with others were also important aspects

of health. The comment below was a representative response that highlighted health as a holistic concept rather than merely focusing on fitness and exercise. One pupil from Kenny's class said:

> Being healthy isn't just about how many kilograms you can lift and weight stuff. If you're healthy, it's not just one aspect, it's multiple aspects. Being healthy can be if you're really fit, but healthy can also be having a good diet and mental aspects.
>
> (S1 boy, School two, 26 March 2019, FG Interview).

The term confidence was quite often mentioned by the pupils from different schools. The pupils identified that feeling confident about themselves is a sign of being healthy, as exemplified by another pupil from Kenny's class who stated:

> Usually when you're healthy you feel confident, you feel good about yourself. So that's how I can test if I'm healthy.
>
> (S1 boy, School two, 26 March 2019, FG Interview)

Also, feeling confident about yourself seemed to be in the context of competence. Another pupil in the same group commented:

> To me it (health) means being able to feel comfortable with my stamina and my physical abilities.
>
> (S1 boy, School two, 26 March 2019, FG Interview)

The term confidence came up in conversation in School five. A girls' group from Chloe's class discussed what health means as follow.

> Pupil 1: Feeling confident about yourself.
>
> Eishin: When do you feel confident?
>
> Pupil 1: When someone compliments you. If you do something good, then you feel good about yourself.

Pupil 2: When you do something to make yourself proud of yourself.

(S2 girls, School five, 4 March 2019, FG Interview)

In the previous section, the girls in this group started that people would be unhealthy if they did not exercise. The data in this section suggests that these pupils had a more holistic view of health. In another group at the same school, the notion of confidence in their competence was evident in a response from a pupil who described health as:

> You're not limited to what you can do, you can just do whatever you want to do.
>
> (S2 girl, School five, 4 March 2019, FG Interview)

Similar to confidence, many of the pupils mentioned that health means having a positive attitude and mindset. A girls' group from Lisa's class in School one discussed a positive attitude.

Eishin: Can you give me some examples of being healthy?

Pupil 1: You might healthy if you have a positive attitude, 'cause then if a lorry splashed water on you, you'd be like, yay, I'm wet! [group laughing]

Eishin: When do you feel a positive attitude?

Pupil 2: Maybe if you're doing something…in math and you don't know what to do, then you stay positive.

Pupil 1: Stay positive and try to learn it and stuff. And don't get upset even though you don't understand it and other people do.

(S1 girls, School one, 15 February 2019, FG Interview)

Again, we can see in the data from Lisa's class evidence that the pupils had a holistic view of health. In other schools, one pupil from Luke's class described what healthy persons are like. He expressed:

> (Healthy persons) have a positive mindset.
>
> (S3 boy, School three, 8 May 2019, FG Interview)

Similarly, one pupil from Lisa's class said:

> (Health means) having a healthy mind and a positive attitude.
>
> (S1 girl, School one, 15 February 2019, FG Interview)

One pupil from Kenny's class said:

> Being mentally healthy is as good as being physically healthy. Some people suffer from depression, and depression is an example of negative mental health. So staying on top and having positive mental health leads you to have a growth mindset and things that make you achieve more.
>
> (S1 boy, School two, 26 March 2019, FG Interview)

Some pupils conceptualised health as having a positive attitude and mindset even when they faced some difficulties in the daily life of their school. Also, they considered that healthy people could overcome these difficulties and achieve learning outcomes as long as they have a positive attitude and mindset. The term 'a growth mindset' seemed to be a technical concept. I will return this point later in the discussion.

Another conceptualisation of health was about relationships with others, especially friends and family. One pupil from Chloe's class commented:

> You feel happy and healthy when you have a good group of people around you, and you have support.

(S2 girl, School five, 4 March 2019, FG Interview)

The comment was fully endorsed by the other pupils in this group. In another group (School five), the girls from Chloe's class, who appear to have a holistic view of health, discussed how to manage good relationships with friends and family to keep good mental health.

Eishin: How would you keep good mental health?
Pupil 1: Have a good relationship with friends and family.
Pupil 2: Don't take everything people say to heart.
Pupil 3: If you argue with someone, try not to argue with people as much. And, if you do try and just makeup with someone, not like follow it, because then you'll struggle with friends.

(S2 girls, School five, 4 March 2019, FG Interview)

The significance of socialising arose from another group discussion. The girls from Lisa's class, talked about what makes them unhealthy in their life.

Pupil 1: Sometimes we don't really socialise or anything.
Eishin: So not socialising you would consider as being unhealthy?
All: Yeah.
Eishin: Why?
Pupil 2: Because you need to talk to people and not always be on your phone. You're kind of isolating yourself from the world.

(S1 girls, School one, 15 February 2019, FG Interview)

They considered that not socialising is unhealthy. The statement of 'not always be on your phone' was related to the use of social media. Girls were more likely to come up with the notion of relationships with friends as examples of health, whereas the notion was rarely considered by boys.

This subtheme focused on pupils conceptualising health as confidence, a positive attitude and mindset, happiness, and relationships with others. They provided examples of being healthy or unhealthy based on their experiences and learning either in school or in their daily lives. Most of the ideas related to this subtheme emerged from girls in School one and School five. The next section will focus on how teachers conceptualised health and wellbeing.

6.2.1.3 'Obviously all staff have a responsibility for health and wellbeing': teachers' understanding of health and wellbeing as a curricular priority

The teachers commented on the extent to which they believe health and wellbeing is their responsibility in teaching. I confirmed that all the teachers in this study understood their contribution to pupils' health and wellbeing is an important responsibility for them, as CfE clearly stated that it is the responsibility of all teachers in schools, particularly physical education teachers. For example, Luke (School three), who is the Principal Teacher in his department, commented as follows when I asked the question to what extent he believes health and wellbeing in his responsibility.

> I think that obviously all staff have a responsibility for health and wellbeing. It's just something that we're currently trying to push on a little bit in the school, particularly with the Personal Qualities and social skills across the whole the school. (…) I'm quite passionate about that. I think health and wellbeing, in terms of the physical, you're not going to make a huge difference in school, but we can get pupils engaged and enjoying physical activity. If they can enjoy physical activity they are much more likely to become physically active (…) I think obviously more and more in my teaching career, in the 11 years I've been teaching, I think I drafted quite considerably into how we develop young people mentally, emotionally and socially. And I would say one of our main things now is actually developing pupils in terms of their ability to work well with others, to be able to be more resilient and face challenges and

> push through those challenges, be able to communicate effectively, be able to show leadership skills. And I think a lot more of our subject now is about the development of the skills for life, the skills that they need to be an effective member of the community or to be good in the work place. So that motivation, determination, resilience, communication skills, I think that side of it, that wider aspect of developing a young person is vital because this is the one subject in school with the most social aspect of the curriculum.
>
> (Luke, 8 May 2019, ST Interview)

Luke recognised that he has shifted his attention towards social and affective learning throughout his teaching career. He used the language resilient, challenge, communication, and leadership that are all related to the affective domain. While he mentioned that the physical aspect of health is important, his focus seemed to be enjoyment and motivation towards physical activity since the time spent being physically active is 'not going to make a huge difference in school' due to their limited time schedule. Lisa (School one) was also in charge as the Principal Teacher in her department. In answer to the same question about responsibility for health and wellbeing, she said:

> Hugely, and it starts with our beings, our selves, and what we just talked about in terms of our relationships with pupils from the moment they come in the door. If greeting them, and saying hello to them and finding out who they are and making sure, that is because obviously mental, emotional, social, and physical wellbeing, certainly not just physical wellbeing. If you deliver the Curriculum for Excellence in the right way and have further planned across all the experiences and outcomes and assess using all the benchmarks, you should cover all aspects of mental, emotional, social wellbeing.
>
> (Lisa, 21 January 2019, ST Interview)

Lisa formed her idea of health and wellbeing alongside the significant aspects of learning in physical education, which is called the benchmarks (Education Scotland, 2017). She observed her pupils closely and tried to get know them, which was consistent with her notions within her self-confrontation interview. Relationships with pupils seemed to be a fundamental factor in developing all aspects of physical, mental, emotional, and social wellbeing for her consideration. Likewise, Simon (School five) mentioned health and wellbeing in relation to the curriculum and relationships with pupils. He is also the Principal Teacher in his department.

> I think if we look at health and wellbeing across the curriculum, I think it's everyone's responsibility (…) It's so hard to put a tangible measure or judgment on. I think it absolutely is vital for all of us to do. That is as simple as having good relationships and good ethos in the classroom. That's health and wellbeing as well. I suppose essentially the predominant view, of course, is health and wellbeing, that's the PE Department's job so physical health (...) I think that is only one part of it. I think there are loads of other elements there but no question that we've got a massive role to play in that.
>
> (Simon, 4 February 2019, ST Interview)

These clearly considered health and wellbeing as a holistic concept, including mental, emotional, and social aspects, not limited to the physical aspect only. Nevertheless, there were no surprising responses on teachers' conceptualisations of health and wellbeing in general as they understood health and wellbeing as the policy documents describe.

The first main theme described pupils' and teachers' views on health and wellbeing. Some pupils reported that exercise, fitness, and eating a healthy diet are essential to be healthy. Others mentioned social, emotional, and mental aspects of health. The teachers constructed their views on health and wellbeing as their responsibility for teaching. The pupils expressed their views with their

words based on their experience and learning in their everyday lives. The language pupils used differed from the language that the teachers used, for the most part, though some adopted specialist technical terms such as 'growth mindset' that they had encountered within at school or elsewhere. The teachers referred to the curriculum and policy documents to express their views on health and wellbeing as holistic concepts.

6.2.2 Health resources to lead pupils' health and wellbeing

The second main theme concerned health resources that the pupils could access and use in their daily lives. I identified health resources when the pupils shared their knowledge of what information about health they look for and who helps them to be healthy in their daily lives. The pupils received information about health from social media, friends, coaches, and family members. These health resources might have a significant effect on pupils' conceptualisation of health.

6.2.2.1 'Sometimes social media is not helpful for heath': divided views on apps, social media, and health

I was interested to know what makes pupils give such predominance to fitness and exercise as key aspects of health. Most of the pupils identified that an app on a smartphone is one of the featured resources in the contexts of being physically active and engaged in fitness activities. For example, a pupil from Chloe's class commented:

> An app counts how many steps you've done in a day and when you do 10,000, it means you're staying healthy.
>
> (S2 girl, School five, 4 March 2019, FG Interview)

Another girl in this group mentioned the app motivates her:

> It tells you your goal and how many steps you should have every day, and you want to reach that goal.
>
> (S2 girl, School five, 4 March 2019, FG Interview)

One girl added that, using another app she could:

> Scan ready meals, and an app tells you how many calories and how much fat is in it.
>
> (S2 girl, School five, 4 March 2019, FG Interview)

Most of the pupils felt these fitness and health apps were helpful to stay healthy since they kept track of what they did and ate. Furthermore, the pupils reflected that they could find information about health online. A pupil from Steven's class commented:

> If you look up "unbalanced diet" then you can find them online.
>
> (S3 boy, School one, 21 February 2019, FG Interview)

A number of the pupils recognised that they sometimes accessed to social media to look for information on health. For example, a pupil from Chloe's class said:

> YouTubers sometimes promote a healthy diet. If you see these people, you wanna look like them then sometimes they'll have their diet, and you can see what they eat and how they eat so you can look like that.
>
> (S2 girl, School five, 4 March 2019, FG Interview)

In another S2 girls' group from Chloe's class, they pointed out that online information is not always helpful. This was half way through the session, as we were talking about where they looked for information about staying healthy.

Pupil 1: On social media, like Instagram and Facebook they've got sometimes workout pages that tell you what to do and what to eat.

Eishin: Is it helpful?

Pupil 1: Yes.

Pupil 2: Sometimes. Sometimes it's not helpful because it's what you're eating already and then it's not very healthy because anyone can post on social media.

Pupil 3: They don't know what to do.

Pupil 2: Yeah, someone who's not very healthy could just post a diet and you might be following a really unhealthy diet.

(S2 girls, School five, 4 March 2019, FG Interview)

The girls talked about reliability of information that an unspecialised large number of people posted online. On the other hand, in another girls' group from Lisa's class at School one, they discussed a risk of becoming too skinny and how social media could amplify the risk.

Pupil 1: I've seen it on the news that loads of people are trying to commit suicide because of stuff that's on social media.

Pupil 2: Yeah, and like how to be very slim, and to be fit and healthy, and people self-shame there, and they end up committing suicide.

(S1 girls, School one, 15 February 2019, FG Interview)

In the same focus group, there was a discussion on the importance of talking with people and the effect of social media on social anxiety.

Pupil 1: It might make it harder for you to make friends if you're not used to talking to people, and if you're on your phone all the time you might see things on your phone that might make you depressed or something.

Pupil 2: Or you can get like anxiety.

Pupil 3: Social anxiety.

(S1 girls, School one, 15 February 2019, FG Interview).

In this subtheme, some of the pupils felt that social media could be useful because it keeps tracking steps and calories. They sometimes accessed sites online to look for a healthy diet. On the other hand, some girls knew there were adverse effects of social media on people's mental health. This point will be a significant part of the discussion below.

6.2.2.2 'What makes you healthy in your neighbourhood where you live?': perceptions of social environment, friends, coaches, and family members

Apart from apps and social media, another factor in leading healthy could be the neighbourhoods where the pupils live. They came up with the ideas of parks, fields, and gyms that make them healthy. A pupil from Steven's class commented:

> If there's a football pitch or something near your house, you'll be more inclined to go there because you won't have to travel very far.
>
> (S3 boy, School one, 21 February 2019, FG Interview)

Living close to places to play sport seemed to be important. At the same time, some pupils from Lisa's class showed awareness that walking to and from their school could contribute to their health:

> We live on a hill, down and up the hill to come to school.
>
> (S1 girl, School one, 15 February 2019, FG Interview)

> My friend's mum gives us a lift, so we don't walk so far (…) That's not very healthy.
>
> (S1 girl, School one, 15 February 2019, FG Interview)

Furthermore, friends were likely to influence whether or not they walked to school. Relationships with friends was be a significant factor in being physically active for health. One pupil from Lisa's class said:

> If you see other people walking with their friends, then you might feel lonely and then if you're walking with your friends, then you have someone to talk, and you're happier.
>
> (S1 girl, School one, 15 February 2019, FG Interview)

Another girl from Chloe's class said:

> If you see your friends more, you're active more, so you're walking, and that's exercise as well.
>
> (S3 girl, School five, 4 March 2019, FG Interview)

As well as friends, family members were identified as a resource to manage a healthy life in terms of diet. Some pupil from Steven's class commented:

> My dad does most of the cooking, there's never really one unhealthy meal he makes, there's always something healthy to it.
>
> (S3 boy, School one, 21 February 2019, FG Interview)

> My mum will normally get the things with less sugar.
>
> (S3 boy, School one, 21 February 2019, FG Interview)

Many of the pupils recognised that their family usually cooked and bought healthy foods, which helps to keep them healthy. Beyond that, some pupils mentioned that communication with their family members would be beneficial to keep healthy. For example, one pupil from Steven's class commented:

> You can discuss with your parents about dinner, lunch, how to keep yourself healthy through that.
>
> (S3 boy, School one, 21 February 2019, FG Interview)

The S2 girls from Chloe's class at School five acknowledged that family support and communication would be necessary to be in good health.

> Pupil 1: If you do something and they give you support what you do, and then that makes you feel healthy.
>
> Pupil 2: If you decide that you want to go on a diet and it's a bit tough then if your family are there to support you. It's gonna make it easier and make you healthy.
>
> (S2 girls, School five, 4 March 2019, FG Interview)

According to some of the pupils, not only their parents but also their siblings had a significant influence on their healthy behaviour. One pupil from Lisa's class said:

> My sister loves fruit and being healthy, and then she's like, come on, let's make a fruit salad, let's make a smoothie, and let's go somewhere.
>
> (S1 girl, School one, 15 February 2019, FG Interview)

Another common responses from the pupils to the question who helps them to be healthy was their sports coaches outside of school. Some pupils gave the reasons for this. One pupil from Lisa's class said:

> (My coaches) encourage me to keep going and prepare you for challenges that you could find when you're doing that stuff.
>
> (S1 girl, School one, 15 February 2019, FG Interview)

Another girl in the same group said:

> (My dance coach) teaches body conditioning.
>
> (S1 girl, School one, 15 February 2019, FG Interview)

One pupil from Chloe's class said:

> (My coaches) push you to be able to do something, set a goal and then that would make you more determined to do it.
>
> (S2 girl, School five, 4 March 2019, FG Interview)

At the same school, one pupil from Simon's class said:

> (My football coach) gives you guidance on what to eat.
>
> (S3 boy, School five, 25 February 2019, FG Interview)

The pupils seemed to feel what they experienced outside of school was helpful for their health. They perceived that their coaches' behaviour helped them feel motivated and determined to take part in an activity. They also learned health-related knowledge including a diet and body conditioning from their coaches.

In this subtheme, many of the pupils recognised that their social environments could influence their health and wellbeing, especially for playing sport and exercise. They often accessed nearby parks and fields from places they live. Walking to and from their school could contribute to secure time for exercise. Friends and families could support them to take more exercise and a healthy diet. Some pupils who participated in sport outside of school perceived that their coaches were helpful to maintain their commitment and gain health-related knowledge.

In summary, the findings in this second main theme revealed that the pupils cited various resources for supporting their health and wellbeing such as social media, public facilities, family members, friends, and coaches. The pupils perhaps received information about exercise, fitness, and a healthy diet from

their health resources. On the other hand, some girls remarked on a negative relationship between social media and mental health among young people. The next section demonstrates their views on health and wellbeing in physical education contexts.

6.2.3 The role of physical education for health and wellbeing

The third main theme is focused on how physical education help to develop young people's health and wellbeing. There were four critical subthemes. The first subtheme was pupils' views on physical education as opportunities to take exercise and be physically active. The second subtheme focused on pupils' affective learning in physical education. The data also showed that the teachers considered affective learning as a central outcome. The third subtheme was about the significance of relationships between teachers and pupils to enhance the effectiveness of teaching for affective learning. Finally, the fourth subtheme considered how the teachers assessed pupils' learning that related to health and wellbeing.

6.2.3.1 'A little break from textbook work': views on physical education to offer opportunities for exercise and physical activity

From the perspective of pupils, many of them emphasised that physical education is helpful in terms of the contexts of being physically active and exercising. For example, one pupil from Lisa's class said:

> At school when we're doing a sport [in physical education], and then if you lose some of your energy, you'll go to bed at a more reasonable time.
>
> (S1 girl, School one, 15 February 2019, FG Interview)

The girl valued physical education to set a particular time of being active and use up energy. Other pupils commented similarly that physical education

provides opportunities to be active and to exercise. One pupil from Kenny's class said:

> [Physical education] gives a little break from textbook work.
>
> (S1 boy, School two, 26 March 2019, FG Interview)

Another pupil from Luke's class said:

> When you've been told just to sit and listen to someone talk for 20 minutes straight, you have to just sit there and answer, whereas you'd like to just do it physically and learn how to do it.
>
> (S3 girl, School three, 8 May 2019, FG Interview)

Similarly, one pupil from Simon's class said:

> When you're at school for so many hours and you're sitting down quite a lot, it's good to get up and off your feet.
>
> (S3 girl, School five, 25 February 2019, FG Interview)

Also, a pupil from Simon's class responded that physical education is helpful for health especially when they have lessons in the fitness suite. He said:

> [Physical education is helpful] when in the fitness suite in the gym to go on the treadmill or do weights.
>
> (S3 boy, School five, 25 February 2019, FG Interview)

When I asked what factors motivate the pupils to engage in physical education, one pupil from Chloe's class answered:

> Doing different things. For a term, we'll do gymnastics and then now we're going to do tennis, and we done basketball for a while, and badminton. It's quite fun swapping and see what things you can do.

(S2 girl, School five, 4 March 2019, FG Interview)

Another pupil from Kenny's class said:

> [Physical education] helps to try new sports that you wouldn't really try in your own spare time.
>
> (S1 boy, School two, 26 March 2019, FG Interview)

Similarly, one pupil from Steven's class said:

> Teach you different skills and sports, people might get interested in one.
>
> (S3 boy, School one, 21 February 2019, FG Interview)

This subtheme highlighted that physical education provided opportunities to be physically active rather than sitting down for textbook work. The comments in this subtheme emerged from all the schools. There was a shared view on physical education as opportunities to try a new sport, which was a factor in motivating pupils to engage in physical education. This notion was also consistent with 'physical education as opportunities to be physically active', rather than learning health and wellbeing.

6.2.3.2 'Physical education makes you feel better about yourself': building confidence in physical education

In one of the focus groups from Chloe's class at School five, there was a discussion with the pupils about valuing physical education for health because it makes them happier.

Eishin:	How can physical education lessons contribute to your health?
Pupil 1:	Makes you happier (…) When you're in PE, you're motivated and happier.

Pupil 2: And you feel like it brightens up your day.

Pupil 1: Yeah, 'cause if you've got it near the start of your day. It feels like you have a good start to your day. You've got more energy.

Pupil 3: It improves your mental health if you're sad.

(S2 girls, School five, 4 March 2019, FG Interview)

The girls suggested that happiness can lead to a positive attitude and mindset. One of the group members commented:

> (Physical education) can make you feel better about yourself.
>
> (S2 girl, School five, 4 March 2019, FG Interview)

This comment was associated with confidence in yourself. The pupil continued saying:

> If you do something right, or if you almost do something that you never thought you could do, and then you do it, and then you feel good about yourself.
>
> (S2 girl, School five, 4 March 2019, FG Interview)

A pupil from Lisa's class shared her experience in a Basketball lesson as a reason why physical education was helpful to get healthy.

> Since I'm quite short in my height, I can never shoot, so I always got encouragement, and I made a hoop. And I was very proud of myself.
>
> (S1 girl, School one, 15 February 2019, FG Interview)

Some pupils conceptualised health as a feeling good about yourself and physical education can contribute to this feeling. However, one pupil from Chloe's class had doubts about a link between one's competence in physical education and health.

> Like gymnastics, it's fun, but it's not necessary gonna keep you healthy because that's good to be able to do a cartwheel, but it's not like going to keep you healthy, it's just being able to do it.
>
> (S2 girl, School five, 4 March 2019, FG Interview)

From the teachers' view, Amelia (School seven), Chloe (School five), and Lisa (School one) had a common notion. They commented that one of health-related issues in their work with pupils was building confidence. The three female teachers prioritised building confidence for girls.

> My main challenge within girls is probably their confidence. Their confidence to be able to perform within the class without the fear of other people judging them (…) but that confidence barrier is there, and I don't think it is ability or effort. I think it's the wall that they put up that they take a while to bring down for them to just have fun and enjoy themselves and achieve from it.
>
> (Amelia, 23 April 2019, ST Interview)

> One of the most challenging things for me is probably allowing some of the girls to realise their full potential and develop their confidence. (…) One of the most rewarding aspects is when they see their full potential and when they realise that they can do something. But getting them to that stage and allowing them to come out of their comfort zone and try something new is always quite challenging for them.
>
> (Chloe, 4 February 2019, ST Interview)

> One of my main things as a PE teacher, I want to build pupils' confidence at all times to enable them to access all of their parts of learning.
>
> (Lisa, 21 January 2019, ST Interview).

Lisa talked about her teaching approaches to building pupils' confidence.

> Setting realistic targets for them in your planning of lessons, small outcomes and targets for each of the pupils at that time. Lots of praise and a positive atmosphere and a "you can do it" and a growth mindset in an atmosphere and classroom (…) I believe it gives them the confidence to take on challenging tasks, and not have this negative mindset that they cannot do things. One thing you'll see is, "I can't do that!", and say, "Give it a try. Trust me, give it a try." And half of the time it's because they want the attention, "I can't do this, so come and look at me." (…) We teach them how to communicate. One of our lessons is about communication and how do we speak to pupils, and making that explicit so it's not about learning the layup, it's "How are we gonna discuss this with the pupils?" It must be positive. It must be immediate. It must be small chunks of information to help boost the other pupils' confidence to work on.
>
> (Lisa, 21 January 2019, ST Interview)

Lisa mentioned that creating a positive class climate and promoting peer communication was essential. Chloe (School five) and Luke (School three) commented that building confidence and enjoyment in physical education can be reflected outside of school contexts.

> You're building their confidence that they can do it by themselves and that they can go away and have that confidence to go into the gym more.
>
> (Chloe, 4 February 2019, ST Interview)

> In terms of the physical, you're not going to make a huge difference in school, but we can get pupils engaged and enjoying physical activity. If they can enjoy physical activity, they are much more likely to become physically active.
>
> (Luke, 8 May 2019, ST Interview)

These acknowledgements represented the notion of affective learning as a primary concern, which is a key principle of pedagogies of affect. Luke also answered the question what kind of issue he prioritises in his lessons as follows.

> I always say that my priority in a PE lesson is, if young people are engaged, enjoying it, or having fun or something around that, then that's your basis. And that basis comes from the relationship you have with the children. You could take them to any sport or activity and if you sell it to them in the right way, they'll come with you. And that's your real priority, is actually making the kids, the pupils want to work for you and you selling it to them, that this is the most amazing that's ever happened. And you're going to love this because they see that you love it. My priority in my first instance, when I'm actually teaching a class PE is to get them engaged and hook them in and usually that's by my relationship, my motivation, how I come across, how they perceive me in that context.
>
> (Luke, 8 May 2019, ST Interview)

Luke emphasised that building relationships with the pupils takes priority. He commented that a good relationship stimulates pupils' learning. Kenny (School two) also mentioned about the relationships with his pupils.

> Emotionally and mental I feel like they can come and speak to me anytime, and it's a two-way thing. They shouldn't feel shy or embarrassed or "I don't want to speak to Mr ___ because he's not very nice." I want to be able to have that kind of relationship with them where they can talk about anything that's going wrong in their life, or supporting them as much as possible.
>
> (Kenny, 6 February 2019, ST Interview)

Kenny said that building the relationships that the pupils can talk anything is his responsibility to enhance the mental and emotional aspects of health.

In this subtheme, the term confidence was emphasised by both pupils and teachers, which can be representative of affective learning. The pupils commented that they can feel good about themselves when they achieved something that they were not able to do before. The teachers prioritised building their pupils' confidence to be able to perform the intended learning content. There were teachers' beliefs that building positive relationships with their pupils could lead to enhanced pupils' confidence. The next section will elaborate further on the significance of teachers' relationships with pupils for health and wellbeing.

6.2.3.3 'Relationships are everything': socialising and building trusting relationships

Physical education can promote pupils' socialisation that helps develop good relationship with others and contributes to their health socially and mentally. One pupil from Steven's class commented that physical education is:

> Very sociable, and you can talk to a lot of people when you're playing.
>
> (S3 boy, School one, 21 February 2019, FG Interview)

Another boy in the other group at the same class described in more detail that physical education provides opportunities to learn communication skills and develop inclusive minds.

> In PE, you get put into different groups, you have to talk to different people so it helps your social skills, because you need to work in a team. So people may be a bit shyer, and you need to just make sure you include everyone so they can start talking (…) You can make friends with people through it, but almost just helping speaking up a bit because some people obviously try and take charge of the group, and you just gonna have to let everyone do it with the group and try let everyone's opinions be told.

(S3 boy, School one, 21 February 2019, FG Interview)

Furthermore, there was evidence that most of the pupils liked working with others since developing good relationship with others contributed to good health. For example, one pupil from Lisa's class said:

> If you don't work with other people then you'd be bad at socialising and talking to people you don't know. If you're not friends with people then you might make friends with them for a group task or something. If you maybe don't like someone then it's helping you to accept them if you're working in a group together because you might realise you have similar interests.
>
> (S1 girl, School one, 15 February 2019, FG Interview)

Another benefit of working with others was to teach and learn from each other. This was exemplified by pupils who commented that each individual may have different and complementary talents. One pupil from Chloe's class said:

> Someone might be good at gymnastics, but another friend might be good at tennis then you can teach each other that makes you improve individually.
>
> (S2 girl, School five, 4 March 2019, FG Interview)

Sharing ideas was also seen in a positive light. One pupil from Lisa's class said:

> If you were made to sit in silence and do your work by yourself then it wouldn't be very fun because you wouldn't share your ideas.
>
> (S1 girl, School one, 15 February 2019, FG Interview)

Moreover, one pupil from Luke's class commented on the significance of relationships with others for motivation.

> If you see your friend and see they're trying harder than you or they're not trying as much, you can motivate them to just try as hard as you. Or they can motivate you to try as hard as you can go. So it's good that you're always getting that.
>
> (S3 boy, School three, 8 May 2019, FG Interview)

Building a trusting and positive relationship with pupils could be a key consideration for pedagogies of affect. The comments below appeared to suggest the importance of teachers knowing their pupils. For example, Simon (School five) commented that pupils were likely to engage in their lesson if the teacher has a good relationship with them.

> I think relationships are everything. I mean I think they are absolutely key to all teaching (…) I think if you can get the relationships right with your pupils they'll work really hard for you, they'll do really well. If you don't have that relationship you can teach the best lesson and they just do not engage with it at all.
>
> (Simon, 4 February 2019, ST Interview)

When I asked him how he got to know the pupils, his response was that he tries to have informal conversations with individuals and also look at formal documents of pupils' background. He seemed to use this information to adjust his teaching.

> The first thing is about trying to get to know them, welcoming them at the door, saying hello to them, finding out what they're like, listening to conversations, listen to what they've got to say, if I can, try to share a joke with them, try to find common ground (…) I suppose there are more formal things as well where we have, where we get information about the background of pupils, and situations that have cropped up, seeing them around the school (…) So trying to pull that all together so that you have an empathetic view of what learning looks like for that young

> person and what their experience is there. And then trying to manipulate and adjust my behaviour accordingly to let you do that.
>
> (Simon, 4 February 2019, ST Interview)

I asked the same question to Steven (School one). He said:

> If you don't know your pupils and you don't know their learning styles, then how do you know if what you're teaching maybe doesn't work. We all learn different. If you're kind of aesthetic learners, which most of us in PE are by doing it, but you put notes on the board, some pupils would prefer to talk to you about it, some would rather just see it, some want to experience it actually with a demonstration and take part. Knowing how pupils work. Some pupils are quite competitive, so for them you can set them a task or a challenge. "You've got 30 seconds to do this." Other ones might be put off with that challenge, so it's setting ... they're all doing the same task but I might need to use a different way to motivate you, to motivate somebody else. Others need a wee bit more support and a wee bit of encouragement. That's why you need to get to know your pupils. If you don't know your pupils, you don't build up positive relationships. If you don't build up positive relationships in my experience is where you don't then get the same quality, you don't then get the same work from the young people.
>
> (Steven, 21 January 2019, ST Interview)

There was evidence that Steven tries to observe his pupils closely to know how they behaved and worked in lessons and figure out their 'learning style' individually. He used a different teaching strategy depends on individuals for affective learning even though he provided the same task. He also emphasized that teachers needed to know pupils to build a good relationship.

What was important to Chloe (School five) was having conversations with her pupils. She said:

> If you do have a moment where a pupil is tired or a pupil is not as engaged as what they are normally you can go up and have that conversation with them and see, "what were you doing last night?", and they'll start chatting and they'll tend to get engaged in the conversation and then you can swing it around to, actually what we're going to do today, and before they know it they're saying, "I'm going to do this this and this." Because the level of engagement has risen, just in you chatting to them, they're starting to want to work for you as a teacher because they're engaged in your conversation, they're engaged in your chat, and they're engaged in the relationship you have with them as well as the activity that's there.
>
> (Chloe, 4 February 2019, ST Interview)

Chloe commented that having conversations help her teaching to change them from disengaging to engaging well. She noted that having an informal conversation outside of physical education lessons was also significant to get more knowledge of individuals.

> It's really important…just have conversations with them outside of school. What we're going to do today, what do you think we're gonna learn, or what do you think the purpose of today's lesson is, or what have you done that weekend, or how's your week been, or how many pets do you have, or just getting to know them on a wee bit more personal level. Understanding that you're interested in them as an individual rather than just what they're going to produce in the class.
>
> (Chloe, 4 February 2019, ST Interview)

A group of the girls from Chloe's class commented that they trusted her as she builds a good relationship and treats them fairly.

> Pupil 1: She creates a good connection and you guys feel closer.

Pupil 2: You can trust your teacher, 'cause if you don't have a very good relationship, then you're not going to trust them.
Pupil 3: You wouldn't listen.
Pupil 4: You wouldn't believe it's going to impact on you.
Eishin: Why you can trust your teacher?
Pupil 3: They're kind.
Pupil 2: Yeah, if they're nice to you and if they treat you fairly and equally.

(S2 girls, School five, 4 March 2019, FG Interview)

Chloe seemed to be successful in terms of building positive relationships. How much teachers can build a positive relationship with their pupils would enhance the effectiveness of teaching and learning.

Lisa (School one) mentioned that knowing the pupils made them trust the teacher. A trusting relationship brought confidence to complete challenging tasks.

> They trust me, and they know that I'm interested in them. And they trust that I'm invested in them, and they are not just turning up, and saying "this is your learning intentions", and teaching a class, and teaching them as pupils. I'm not teaching them a lesson, I'm teaching them (…) I believe it gives them the confidence to take on challenging tasks, and not have this negative mindset that they cannot do things. One thing you'll see is, "I can't do that" and say, "Give it a try. Trust me, give it a try." I think they take on challenging tasks.
>
> (Lisa, 21 January 2019, ST Interview)

Kenny (School two) commented on the importance of getting know the social dynamics of the class when I asked what kind of information he tries to get about the pupils.

> Who their friendship groups are. You kind of pick that up as you teach the lesson. You can see who's friendly with who. So those two are quite important and that helps the dynamics of the class. Who works well with who. Who needs to improve on working with other people. So you're building a picture.
>
> (Kenny, 6 February 2019, ST Interview)

Luke (school three) clearly stated the importance of building relationships with pupils. He pointed out that some teachers struggle with this, but teachers need to build a good relationship to achieve desired pupils' learning.

> I would say it one of the most important... Obviously it's really important to teach and make them learn and then to achieve good results and get qualifications (…) But I believe that the PE teachers that I have seen struggle with teaching in various schools are the ones that struggle to connect with pupils because you'll always have that element of pupils who come to PE and they might not be bothered today, they can't be bothered with physical activity, they don't really like physical activity and you need to have that tool-kit or that ability to form the relationship, so you can motivate, challenge them if need be, intervene, support, whatever it might be. I think developing relationships in a PE context is absolutely vital. I think it's equally as important as anything else that we do.
>
> (Luke, 8 May 2019, ST Interview)

Furthermore, Luke commented that having informal conversations in the corridor or the changing room would be the biggest strength of physical education teachers to interact on a social level with young people, which is more difficult in the classroom. His comment reminds me that he tried to get to know his pupils to create 'a safe learning environment' as I recounted in Chapter 5. In a focus group interview, the girls from his class said that:

Pupil 1: He always talks to you when you're feeling down, whenever you're struggling with something and scared to ask about it. He can see that you're struggling. He'll just come over and help you with it.

Pupil 2: They know you're struggling or the other way round, they know that you're capable. They can tell, they don't just let you stand there.

Eishin: Do you think that your teacher knows you well?

Pupil 2: They get to know you individually rather than as a class. If something happens in the class, they don't associate it with the full class. They'll get to know what's happened.

Pupil 1: They knows what you're capable of doing because you spend so much time with them in the department.

(S3 girls, School three, 8 May 2019, FG Interview)

The girls commented that they felt the teacher knows them well and is supportive during lessons. Luke was successful in terms of knowing his pupils and building a positive relationship with them.

This subtheme considered the significance of relationships between teachers and pupils and among pupils. The pupils felt that working with others was fun and valued because they could help each other to improve. Also, they commented that they came up with more ideas together rather than working individually. There was a notion about a climate in a class. For example, one pupil said that if everyone else in class was involved in activities more fully, individuals worked harder as well. The teachers acknowledged that building a trusting relationship with their pupils was crucial to enhance the effectiveness of teaching and learning. Moreover, they suggested that having informal conversations in the corridor or the changing room could be significant moments to know their pupils and build positive relationships.

6.2.3.4 'We take a holistic approach to assessment': assessment of health and wellbeing

The teachers understood health and wellbeing as a multi-dimensional concept. Then I was interested to know how the teachers assessed pupil learning in health and wellbeing, in particular in the affective domain. For instance, Amelia (School seven) commented that she usually observed the class and asked questions to interact with her pupils.

> I know them quite well. I can tell sometimes if they're determined or if they're motivated. Within group work, I like to walk round, see who's taking on that leadership role, who's becoming a natural captain of that team. Apart from observing them, hopefully through my questioning and the way they interact with each other, I can gauge what they've gotten out of it and whether they were motivated to succeed.
>
> (Amelia, 23 April 2019, ST Interview).

Amelia used her professional judgment to 'gauge' the level of motivation and determination among pupils. She seemed to be confident in herself that she knows pupils well. She can find out information such as who is taking a leadership role within group work and how they are motivated, which are her criteria for pupils' affective learning.

Similarly, Kenny (School two) mentioned that observing and communication on a regular basis was a way of understanding the pupils' emotional and mental wellbeing.

> They all do fitness and we'll test their stamina. We'll test their strength. We'll test their flexibility. And it's interesting because we'll retest and see if there's made improvements after doing a six-week fitness block (…) We don't test per se what our emotional, mental wellbeing is, but I think that is more, for me anyway, it's more being able to read the signs of, you

> know, if someone's coming in Monday morning with a face like down to the ground, you can tell, you can sense something's not right. So it's being able to perceive that in advance and come up with ways of helping that person, whatever the issue is.
>
> (Kenny, 6 February 2019, ST Interview)

Kenny had a test to assess the pupils' physical fitness and competencies. However, he did not have a formal assessment of emotional and mental wellbeing. Instead of having a test, he perceived pupils' feelings from their behaviour.

Luke (School three) provided information on what he does when he assesses the Personal Qualities and gave some examples of criteria.

> Respect and tolerance is a focus and you're trying to see if young people, through a simple thing such as, "I will shake hands with my opponent after every game." If you're seeing young people do that you're going to highlight to them "Well done, very good." But also that might be a specific, formal learning, but your professional judgment is seeing what else is happening (…) If somebody's not quite as good as them, a lower ability person, you deliver or put them with someone who's going to be more nurturing and more tolerant of them and involve them a bit more. And you're using your professional judgment to see that all the time. We also do formal assessment. We do a little questionnaire with young people. They do observations as well. They'll observe each other, do peer feedback and they'll do formal written tasks. They'll also do homework tasks as well which are more written based (…) But we take a holistic approach to assessment. It's about, "Did it achieve the success criteria that you've planned in the formal learning?" If it's focused on Personal Qualities "What do you see as your personal judgment? What do you observe in class?" And you've got also written assessment tasks. For instance, in an S1 class at some point you'll be asked to lead a warm up to

> the rest of the class. So at that point we're also looking at leadership. We're assessing their leadership qualities. At some point in S1 or S2 they'll be asked to give written feedback to someone else, written feedback. They'll be asked to give verbal feedback. So how good they are at communicating.
>
> (Luke, 8 May 2019, ST Interview)

Luke usually used both informal observation and formal written tasks. Observation is a typical practice for assessment of affective learning. He considered the role of homework to achieve planned learning outcomes. He expressed that he took 'a holistic approach to assessment' to gather as much information as possible to make his professional judgements.

On the other hand, Lisa (School one) seemed to have difficulty with assessment of pupils' Personal Qualities. When I asked how she assesses the Personal Qualities as a significant learning outcome, she said:

> Very difficult. Particularly in a short block, say if we're doing the football block and it's about managing emotions at that point, and that's what's appropriate for those children. We moderate it, we find it very difficult to watch, but we film at the end of every block. We film two or three pupils from our own class. So just before we finish, we've all moderated what does that look like and discuss (…) If we're looking at communication we'll get right and film the pupils and decide what good communication. We allow them to self-assess as well, but ultimately it's through moderation department going back to watch it, and then making judgements from there. And feeding it into, we've got a tracking system, and watching that throughout the three years. It's difficult to watch them and see everything that you want to see all times, and particularly back to one of the constraints that what you're talking about in the time frame.
>
> (Lisa, 21 January 2019, ST Interview)

Lisa sometimes filmed a class and discussed with other teachers how much the class achieved the success criteria. She sometimes referred to pupils' self-assessment. School one where Lisa was working has a tracking system. It seemed to be helpful to record pupils' achievements.

Finally, Simon (School five) remarked his notion about the nature of health and wellbeing in the curriculum. He said:

> A lot of learning through the curriculum is very linear (…) whereas health and wellbeing is absolutely not like that at all. You come in one day and you can be in an absolutely great place where your health and wellbeing is wonderful, your confidence is great, your determination is great, your resilience is brilliant, but something happens during that day then you can go home that day and you're at a completely different level (…) What we would tend to talk about more is that if pupils were able to talk about what confidence means, and how they would assess their self, it's more about their understanding of confidence, resilience, determination that would be almost like our level of assessment as opposed to what their level of confidence and resilience actually is.
>
> (Simon, 4 February 2019, ST Interview)

Simon emphasised that health and wellbeing is not a linear process. He assessed health and wellbeing based on communication with pupils, what they said, and their self-awareness. He also pointed out that the assessment of health and wellbeing is different from other academic achievements in the curriculum.

This subtheme revealed that the teachers adopted a range of ways of assessing health and wellbeing. Observation and communication were a typical practice for assessment based on the criteria of the Personal Qualities. Some teachers offered self-assessment with informal and formal written tasks. I will discuss below how assessment might be developed for pedagogies of affect.

In summary of this third main theme, the experiences of physical education could be a significant resource to learn and conceptualise health and wellbeing for young people. While most of the teachers considered affective learning as a central outcome in the area of health and wellbeing, their pupils had divided views on how physical education was helpful in their health and wellbeing. Many pupils commented that physical education could provide opportunities to take exercise and physical activity. At the same time, some of the pupils valued physical education for building confidence. The teachers also intended to build their pupils' confidence as one of their priorities. To achieve the intended learning outcomes, the teachers remarked about the significance of relationships with their pupils. Having conversations and observing them closely could be a significant way for them to get to know their pupils and building a trusting relationship. These teachers' actions were also related to their ways of assessing learning of health and wellbeing, particularly the Personal Qualities. They relied on professional judgement with observations, talking, self-awareness, and written tasks.

6.3 Chapter discussion

This chapter revealed how the pupils and teachers conceptualised health and wellbeing and the contribution physical education made. Participants were the eight teachers who engaged in the self-confrontation interviews and their selected pupils except for Amelia's and Ben's classes. The findings in this chapter showed both shared and divided views on health and wellbeing between the pupils and teachers. The pupils mentioned several health resources that may influence their understanding and knowledge of health. The teachers used a range of terminology related to the curriculum when they talked about health and wellbeing. One of the important findings in this chapter was that building a trusting relationship with their pupils was crucial to enhance the effectiveness of teaching and their intended learning for health and wellbeing. Building upon chapter 5, this chapter considered how the teachers build a positive relationship with their pupils and what they know about them.

The first theme focused on pupils' perspectives and knowledge of health, which has been a research topic in the past few decades. A recent study pointed out that young people have been likely to consider increased physical activity and fitness contribute to their heath (Harris et al., 2018). The findings in this chapter showed that most of the pupils had similar concepts of health. As I discussed in Chapter 2, this particular concept of health captured in 'exercise = fitness = health' triplex was called healthism (Kirk & Colquhoun, 1989). Healthism is a particular concept of health as corporeal and individualistic consciousness (Crawford, 1980). The predominance of healthism can be traced back to the 1980s. Even 40 years after its emergence, the limited conceptualisations of health has remained among young people. There was no literature that can answer a question of why the predominance of healthism has been still remaining. Harris et al. (2018) concluded that the limited conceptualisations of health might be taught unconsciously by teachers who also hold the limited conceptualisations of health or influenced by the popular media. Nevertheless, based on the findings in this chapter, all of the teachers in this study seemed to have significant attention to mental, emotional, and social aspects, not limited to the physical aspect only. There might be a significant influence of social media on the limited conceptualisations of health, which was consistent with the suggestion by Harris et al. (2018). I will discuss this point later in the section of health resources.

On the other hand, some of the pupils reported that confidence, a positive attitude, a growth mindset, happiness, and relationships with others are necessary to be healthy. While Harris et al. (2018) did not have any data on young people's social and affective aspects of health, the findings in this chapter showed the pupils' understanding of health as a holistic concept rather than merely focusing on fitness and exercise. Highlighting the quality of health among young people might be a new finding in the literature. The teachers' awareness of responsibility for health and wellbeing as a curricular priority could influence pupils' learning in health and wellbeing as a holistic concept. In

particular, girls were more likely than boys to talk about relationships with others as an aspect of health. This result could be explained by the notion that girls may be keener to connected with others (Einberg, Lidell, & Clausson, 2015). Considering the background of the girls, they were taught by female teachers in girls-only classes. Therefore, in line with the findings in Chapter 4, teaching in a same-sex class, especially for girls, might significantly promote their holistic understanding of health and wellbeing. Another possible explanation would be, as Thorburn and Dey (2017) reported, that a larger part of health and wellbeing was seemingly assigned to Personal and Social Education (PSE) rather than time spent in physical education. PSE in Scotland is a timetabled lesson which covers a holistic view of health and wellbeing in responding to mental health issues among young people (Scottish Government, 2019). The pupils in this study did not mention PSE, but learning in PSE could influence pupils' conceptualisations of health and wellbeing. For example, one pupil used the term 'a growth mindset' when explaining mental health. Dweck (2006) argued that people who have a growth mindset believe their attributes could be developed and value new ideas and learning. The pupil could have learned this technical term in school.

The findings in this chapter showed that the teachers understood health and wellbeing as a holistic concept, referring to particular language in the curriculum such as physical, mental, emotional, and social wellbeing. This finding has not been mentioned in previous studies, which tend to report instead that physical education teachers were likely to express fitness as the concept of health rather than as a multi-dimensional understanding of health (Harris & Leggett, 2015; Varea, 2018). The teachers in this study may intend to implement teaching health and wellbeing in accord with their school documents and national policy documents (Hardley, Gray, & McQuillan, 2020). The teachers also potentially considered health and wellbeing as a teachable and measurable outcome that can inform teachers' practice (Hardley, Gray, & McQuillan, 2020). Moreover, the evidence I quoted in this theme emerged from Luke, Lisa, and Simon, who were the Principal Teachers in their physical education department.

They had over ten years of teaching experiences and had knowledge about policy changes. Also, their leadership of other teachers in their department could be influenced this holistic perspective on health and wellbeing. Even though the interview questions that I asked teachers and pupils were different, the teachers seemed to be fully aware of their 'responsibility' when they were asked anything about health and wellbeing in school.

The main second theme was concerned with health resources. The idea of health resources is formed in a relationship between individuals and the social, cultural and natural environments they inhabit (Quennerstedt, 2019). When discussing health, Quennerstedt (2019) highlighted the importance of strengthening people's health resources for health development. The findings in this chapter highlighted that many of the pupils used social media to find information about fitness, exercise, and diet. Goodyear, Armour, and Wood (2019) provided evidence that many young people accessed health-related materials that motivate them to eat a healthy diet and engage in regular physical activity. Similarly, the pupils in this study said that using an app that counts steps and calories motivates them to stay healthy. The pupils identified that social media influences their health-related behaviour. In relation to pupils' conceptualisation of health, the development of health-related apps and social media might have a significant influence on the predominance of healthism. At the same time, the pupils in this study identified that social media could amplify a risk of becoming too skinny or increasing social anxiety (i.e., isolation), which was consistent with previous studies that reviewed potential risks of using social media to mental health (Goodyear & Armour, 2018; Shaw et al., 2015).

The data showed that the pupils recognised various resources for health, not only social media, but also friends, family members, and coaches. The pupils felt that their friends and family members were usually supportive to be more physically active and eat a healthy diet. Hill, Weston, and Jackson (2014) also showed that having social support from friends and family predicted positive physical health outcomes. The data in this study indicated that family and

friends were also a significant factor in supporting social and mental health. Moreover, the pupils seemed to learn health-related knowledge and behaviour from their sport coaches outside of school as well as their teachers in school. Mazzer and Rickwood (2015) reported that sports coaches were typically aware about their significant role for supporting young people's mental health. I did not have time to ask in details how their coaches behaved and supported in relation to their health and wellbeing, but there should be significant benefits of researching further on the role of sports coaches for pupils' health and wellbeing.

The third main theme of this chapter addressed how physical education could develop pupils' health and wellbeing. At first, the data highlighted pupils' perceptions of physical education as opportunities to have a break from textbook work. This could be one of the benefits of physical education in relation to motivation and enjoyment. However, this perception also illustrated young people's desire to be physically active for health and wellbeing. Røset, Green, and Thurston (2019) also discussed that this benefit of physical education could be seen as physical activity recreation rather than education. The notion of physical education as opportunities to try a new sport could be interpreted in a similar way. Although the finding supported the idea that the pupils were keen to be physically active and try new sports, this enthusiasm may not contribute to a holistic perspective on health and wellbeing.

At the same time, some of the pupils valued physical education because they believed it builds their confidence in themselves. The teachers also commented that building confidence was one of the intended affective learning outcomes in general, especially for girls. The teachers also addressed the significance of confidence when they interacted with their pupils and offered feedback to them in Chapter 5. Similarly, in this chapter, the teachers commented that building positive relationships with their pupils can lead to enhanced pupil confidence. To enable all young people to become 'confident individuals' is one of the four purposes of CfE along with 'successful learners', 'responsible citizens', and

'effective contributors' (Scottish Government, 2009). The teachers were conscious of building confidence in accordance with the intended purposes of the curriculum. Not much pedagogical research has been reported on pupils' confidence in recent years, except Kirk, Lamb, Oliver, et al. (2018) provided evidence that a teacher understood that lack of girls' confidence was a barrier to engage in physical education lessons. The findings in this chapter provide new empirical evidence that girls achieved their confidence and their teachers simultaneously intended to teach the learning outcome for health and wellbeing. Nevertheless, I should not neglect the fact that one pupil had a notion that feeling competent is not necessary to keep healthy. It might be one of the teachers' responsibilities to teach why and how the things their pupils learn in physical education is important to their health and wellbeing.

The subtheme 'socialising and building trusting relationships' focused on relationships within a class. There was evidence that the pupils recognised socialising and working with others as one significant aspect of physical education that contributed to their health and wellbeing. 'Socialising' is the nature of the pupils' classroom agenda in the student social task system, as it is characterised in the classroom ecology perspective (Allen, 1986). Social interaction with both peers and teachers enhanced pupils' meaningful experiences of physical education (Beni, Fletcher, & Ní Chróinín, 2017). The pupils in this study learned communication skills and inclusion that might add to their meaningful experiences. Moreover, in relation to relationship among classmates, a boy remarked on the significance of class climate for motivation towards physical education lesson. He said that if everyone else in class worked harder, individuals got more involved. This phenomenon can be explained by the term 'group polarization' that has been mainly used in the field of social psychology. Group polarization means that individuals tend to behave and make their decision following more extreme views in a group (Lamm & Myers, 1978). In physical education contexts, the literature articulated that teachers focusing on individual's effort and progress created a positive class climate (Harwood et al., 2015). Besides, the finding suggested that a positive class climate can

facilitate individuals' effort, engagement, and learning. In terms of relationships between teachers and pupils, the teachers were aware that building a trusting and positive relationship with pupils is a key to their teaching for affective learning. Indeed, the previous section also addressed that relationships build pupils' confidence, a key learning outcome that the teachers intended to teach. Building on the findings in Chapter 5 that teachers need to know their pupils' social dynamics and expected behaviour, this subtheme elaborated the teachers' notions of how they get to know their pupils. For example, the teachers tried to have informal conversations with individuals outside of lessons such as conversations in the corridor and the changing room. O'Donovan and Kirk (2007) highlighted that the changing room is a key site to have conversations with their pupils to deal with their attendance and orderliness. The teachers in this study had conversations intentionally to know their pupils' personal level including their interests, situational feelings, family, and friends. Also, Chloe's additional practice of asking her pupils what they think the purpose of today's lesson was an example of student-centred inquiry. From the perspective of pupils, the pupils from Luke's class perceived that Luke knows well what they are capable of. Given the findings in this chapter, it appears to be necessary for teachers to have conversations with their pupils about their daily lives at home and at school generally, not only in a gym, to receive information that optimizes pedagogies of affect.

The final subtheme considered assessment of health and wellbeing in physical education. Thorburn and Dey (2017) identified that most teachers in Scotland did not have a formal assessment of health and wellbeing since experiences and outcomes in health and wellbeing are not easily measurable. Even though the teachers in this study raised difficulties in assessment, they usually adopted various approaches. For example, they used observations, communications, formal written tasks, and peer-assessment. These practices can be identified as an alternative assessment over traditional approaches such as tests of knowledge and fitness (López-Pastor et al., 2013). Simon seemed to have a critical view of traditional forms of assessment that were adopted in other

school subjects because health and wellbeing is not 'a linear process'. This statement was reflected in a salutogenic notion of health (Quennerstedt, 2008). Concerning pedagogies of affect, it is necessary to focus on pupils' learning process and effort using a holistic approach to the intended learning outcomes.

This chapter explored what the pupils learn about health and wellbeing and what the teachers generally intended to achieve for pupil learning in relation to health and wellbeing. In summary, I suggest that it would be a good idea to conclude this chapter under a salutogenic perspective because it is useful to understand the relationship between health and physical education as an umbrella concept embracing affective learning. The first theme revealed that the pupils conceptualised health with both pathogenic and salutogenic perspectives, while the teachers had a holistic view of health. The pupils recognised health resources such as social media, friends, family members, and coaches, which was the focus of the second theme. Physical education can be a powerful health resource for pupils. The third theme focused on physical education contexts. The findings in this chapter suggested that 'relationships are everything' to strengthen pupils' health and wellbeing, particularly in the affective domain. Teachers need to know their pupils to create a safe learning environment, build trusting relationships, and take a holistic approach to assessment. These actions lead the intended pupils' holistic health and wellbeing, and affective learning.

Chapter 7: Conclusion

7.1 Introduction

This thesis sought to explore the practice of pedagogies of affect in physical education. Pedagogies of affect emphasise learning in the affective domain as directly intended educational outcomes in alignment with curriculum, teaching, and assessment (Kirk, 2020). Research on pedagogies of affect is important because the evidence for enhancement of affective learning could produce positive benefits to young people's health and wellbeing, including their mental health. In order to observe existing pedagogies of affect and ascertain their impact on pupils' learning, teachers who had expressed the importance of the affective domain in their daily practice were recruited. The fieldwork for data collection was conducted with seven secondary schools in Scotland from October 2018 to May 2019. This research adopted a pragmatic mixed methods approach with two main phases in consideration of the nature of the research questions. The first phase (i.e., Study 1) employed observations and questionnaires to measure teacher behaviour and teacher-pupil interactions during lessons. I used Self-Determination Theory (SDT) as a lens in this phase because it provides multi-dimensional framework that focuses on the affective domain. SDT was useful to analyse and interpret the data from the first phase, as reported in Chapter 4. In the second phase (i.e., Study 2), I conducted two audio-recorded interviews with eight teachers and focus group interviews with their pupils. The first half of this phase aimed to investigate teachers' course of action in detail during the observed lessons with the use of self-confrontation interviews. The findings from this study suggested that teachers need to know their pupils in term of expected behaviour and social dynamics in a class, as reported in Chapter 5. After that, in the second half of this phase, I explored how teachers and pupils talked about health and wellbeing and how physical education could make a contribution. This question was important because teachers' conceptualisation of health and wellbeing might significantly influence

their teaching as a prioritised curricular area in Scotland (Gray et al., 2012). A salutogenic perspective offers a useful analytical lens to understand the relationship between health promotion and physical education (Quennerstedt, 2008). The findings reported in Chapter 6 showed how teachers and pupils enacted their understanding of health and wellbeing in general and in and through physical education in particular.

The following section reiterates the key findings of this thesis, as reported in Chapters 4, 5, and 6, and aims to provide responses to the research questions. Afterwards, I provide the key messages of this thesis with regard to implications and recommendations for practice, professional development, and educational policy. The strength and limitations will be mentioned after this. Finally, I conclude this thesis by considering how I will use my experiences and findings of this doctoral study for the future.

7.2 Key findings

This study posed three research questions. The first research question referred to teacher-pupil interactions for affective learning and considered how teachers and pupils perceived teaching behaviour. The findings in response to the first research question were reported in Chapter 4. In this chapter, I started off with assessing the factors of observed teacher behaviour. Then, I investigated the relationships between observed teaching behaviour, teachers' and pupils' perceived teaching behaviour, and pupils' affective learning outcomes. The second research question focused on teachers' reflections of their own teaching behaviour. The findings reported in Chapter 5 corresponded to the second research question. The third research question considered how teachers and pupils conceptualised health and wellbeing. Answers to the third research question were reported in Chapter 6. The findings dealing with this research question contributed to underpin the established pedagogies of affect throughout Chapter 4 and 5.

7.2.1 Research question one: how does observed teaching behaviour relate to pupils' affective learning outcomes and how do pupils perceive teaching behaviour?

The relationships between observed teaching and pupils' affective learning were presented in Chapter 4. In line with SDT, the results showed that observed need-supportive teaching behaviour (i.e., autonomy support and structure) significantly increased pupils' need satisfaction and autonomous motivation, and reduced pupils' need frustration. Also, it is worth reporting that there was a direct and indirect effect of need satisfaction on positive affect through autonomous motivation, while there was a direct and indirect effect of need frustration on negative affect through amotivation. Additionally, the findings suggested that female teachers were potentially more engaged in need-supportive teaching than male teachers, especially in single-sex classes. In terms of pupils' perceptions, the results revealed that the factor of observed structure could predict pupils' perceived autonomy support and structure. Pupils' sex and age were significant factors to predict their perceptions of teaching behaviour. In particular, both girls or younger pupils were likely to feel more teachers' provision of autonomy support and structure than boys and older pupils, respectively. However, what pupils actually felt about teaching differed from their teachers' perceptions of own teaching. This finding implied that teachers behaved differently towards different pupils. The following qualitative findings addressed the case of individual teacher-pupil interaction through interviews with teachers and pupils.

7.2.2 Research question two: to what extent are teachers aware of their teaching behaviour for affective learning and why do they behave in the ways they do?

Having investigated the prevalence of teaching behaviour and affective learning outcomes in the first phase, the next phase of this research identified teachers' perspectives behind the observed teaching behaviour. I selected eight teachers

and asked them to talk through what was happening during the observed lessons while watching selected video clips (i.e., self-confrontation interviews). The scenes were selected when need-supportive teaching was clearly observed. As a result of the self-confrontation interviews, seven themes emerged to show how the eight teachers were aware of their own teaching behaviour and why they behaved in the ways they did.

First, the teachers were aware that offering choices was a significant teaching strategy because they had technical knowledge that this strategy could enhance their pupils' motivation and ownership of their learning. Offering choices meant that teachers provided opportunities to pupils to create or choose a task according to their perceptions of their level of difficulty. The findings in this theme highlighted that teachers were willing to learn from their pupils. This belief might be critical to implementing pedagogies of affect.

The second theme was also related to offering choices, which was about spending time to set up differentiated levels of difficulties within a task. This strategy allowed pupils to work at their own pace (Ames, 1992). The findings suggested that teachers cannot differentiate lesson content unless they know their pupils' current levels. At the same time, it is worth noting that a teacher had a dilemma about how much time they should have spent to help pupils understand their differentiated tasks in consideration of time for being active. Some teachers perhaps felt that reducing activity time is undesirable, but they would require to consider to maximise the quality of activity by setting up differentiated tasks if they have the intentions of teaching for affective learning.

The third theme was teachers' beliefs about individual interactions with their pupils. In other words, this behaviour was about differentiating for process and support (Whipp, Taggart, & Jackson, 2014). The teachers tried to interact with their pupils individually as much as possible because they intended to achieve their ambition to enhance pupils' motivation and confidence. One teacher was aware that addressing pupils by their first name helps to personalise, which is

consistent with an important aspect of the provision of structure (Haerens et al., 2013). Other teachers, especially female teachers, had intentions of individual interactions because they believed that this behaviour helped pupils to enhance their confidence. Teachers' prioritisation of pupils' confidence will be an important theme in the next section of the third research question.

The fourth theme addressed teachers' behaviour towards pupils with additional support needs. There are outstanding issues to discuss how teacher respond to additional support needs in Scotland (Riddell & Weedon, 2016). Some teachers in this research perceived the importance of instructional support, on-task behavioural support, and peer support. In order to implement this teaching strategy, they needed to know about their pupils' expected behaviour and social dynamics in the class. However, the findings implied that there should be a significant discussion around the dominant practices of labelling (e.g., 'he has got ADHD') because this might oversimplify pupils' learning difficulties (McMahon, 2012). Also, there seems to be a dilemma about the extent to which teachers use a direct teaching style because they were aware that they sometimes needed to control pupils' behaviour to produce affective learning that is targeted at pupils with additional support needs.

The fifth theme was about teachers' awareness of the incidents when they were involved in grouping and team selection in lessons. One teacher remarked that they made groups randomly because they intended to facilitate social interactions among pupils. Alternatively, another teacher made groups deliberately in order to create an effective peer matching. The findings suggested that a method of grouping varied according to teachers' intentions. In any case, the teachers seemed to be aware of the importance of making groups and peers to produce affective learning.

The sixth theme pointed to what the teachers intended when they nominated a demonstrator from among their pupils. As far as I viewed the observed lessons, some teachers were likely to use a pupil as a role model even though their

pupils did not always come forward as a demonstrator. The findings suggested that it would be important for teachers to inform a demonstrator in advance whether the pupil is willing to demonstrate in front of the other pupils. Otherwise, pupils might experience negative feelings about physical education.

The seventh theme addressed incidents where teachers responded to pupils' complaints and negative expressions. The findings showed that teachers could be successful in supporting pupils to be resilient as long as the teachers understood why the pupils expressed negative feelings.

In conclusion, observed teaching behaviour was ascribed to teachers' knowledge, intentions, and expectations of their pupils. Also, teachers' awareness of their own teaching behaviour reflected their views on the nature of pedagogies of affect. The most important finding in relation to the second research question was that teachers could practise pedagogies of affect most effectively when they know their pupils well.

7.2.3 Research question three: how do teachers and pupils conceptualise health and wellbeing including the affective domain as a curricular topic?

The third research question considered the current conceptualisation of health and wellbeing by teachers and pupils. Consequently, the data showed in what way the pupils get information to form their understanding and knowledge of health and wellbeing. This information can be called health resources (Quennerstedt, 2019). In the end, it is important to conclude how physical education could contribute to the curriculum area of health and wellbeing in Scotland.

In terms of pupils' conceptualisation of health and wellbeing, the literature revealed that young people are likely to consider that being healthy involves increased physical activity and physical fitness (Harris et al., 2018). The findings in this study also confirmed that a limited conceptualisations of health and

wellbeing was evident among some of the pupils. On the other hand, the other pupils expressed health as a positive attitude, a growth mindset, happiness, and relationships with others. They clarified that being healthy is not limited to being physically active but also includes social and emotional wellbeing. In the meanwhile, the teachers understood health as a holistic concept including all aspects of physical, social, mental, and emotional wellbeing. All the teachers seemed to use terminology referring to the curriculum. They were keen to support their pupils' health and wellbeing as the policy documents clarify that it is the responsibility for all teachers in Scotland.

With regard to health resources, the findings featured that many of the pupils used social media to find information about fitness, exercise, and diet that could form their limited conceptualisation of health and wellbeing. Some of the pupils recognised that people sometimes feel social anxiety when they spend time on social media. The use of social media may have a significant influence on health-related behaviour and mental health among young people (Goodyear, Armour, & Wood, 2019; Goodyear & Armour, 2018). Additionally, the pupils in this study suggested that their friends, their family members, and their sports coaches were usually supportive of them being healthy. They also reported that they learned health-related knowledge and behaviour in their daily lives.

Physical education can be considered as a significant health resource for young people. When I asked the pupils how physical education helps them to be healthy, many of them remarked that physical education is helpful to be healthy because it provides opportunities to have a break from textbook work. In this sense, the pupils were keen to be physically active and exercise in physical education. Meanwhile, some of the pupils commented that physical education helps them to be healthy because it builds their confidence. The notion of building confidence also emerged from the teachers. Moreover, the findings revealed that social interactions in class were a significant factor in contributing to health and wellbeing for the pupils. In terms of relationships between teachers and pupils, the teachers recognised that building a trusting

relationship with pupils is key to effective teaching of health and wellbeing. This finding was exemplified by a teacher's statement that 'relationships are everything'. Building upon the main finding for the second research question, the data suggested that teachers could get to know their pupils better by having informal conversations with individuals outside of lessons.

To conclude, while the teachers emphasised a holistic view of health, their pupils conceptualised health within both pathogenic and salutogenic perspectives. In physical education contexts, building confidence and relationships were shared views between the teachers and pupils as key to affective learning in the area of health and wellbeing.

7.3 Key messages

The focus of this thesis was young people's affective development in physical education in response to an urgent mental health issues in today's society. Quantitative data showed that need-supportive teaching behaviour could facilitate pupils' motivation, basic psychological need satisfaction, and positive affect. These affective learning outcomes fit within a broad construct of mental health. In the meantime, the data indicated that it would be essential to consider the classroom environment. Setting up a same-sex class might be ideal for pedagogies of affect. Qualitative data highlighted how and why the teachers engaged in need-supportive teaching behaviour. A key message from these findings was that teachers cannot be need-supportive unless they know their pupils well. A number of specific teaching practices were exemplified as pedagogies of affect beyond need-supportive teaching. For example, when teachers interacted with additional support needs pupils, SDT may not be helpful to guide on optimal teaching that is targeted at them. Besides, as a means of linking with the Scottish national curriculum, the ways in which teachers and pupils conceptualise health and wellbeing could be of significant consequences for mental health. While some of the pupils were aware of the importance of mental health and physical education's contribution to it, others

viewed physical education as an opportunity to be physically active, for fitness, and to exercise. The teachers had a clear notion that they have to support pupils' mental health as part of health and wellbeing. The findings suggested that building a trusting relationship with pupils is crucial for affective learning and mental health. Teachers' everyday practice for building trustful relationships with pupils have important implications for the practice of pedagogies of affect.

The findings reported in this thesis supported an argument that there is a need for teacher professional learning to implement pedagogies for affective learning (Kirk, 2020). For example, the methodological strategy of the self-confrontation interview may be able to advocate supporting in-service physical education teachers to develop critical views of their own teaching. The findings suggested that being self-critical might be a significant contribution to practice pedagogies of affect. In contrast, some of the teachers seemed to feel confident about their own teaching was already well developed for using pedagogies of affect. Teachers may need to collaborate to improve on-going teaching practices. Receiving feedback from peers and colleagues at school could facilitate teachers' reflection (Eather et al., 2019).

Another key message in relation to teacher professional learning was that researchers would need to share research findings with teachers and maintain contact with schools over the longer-term. During the fieldwork in this study, I provided all the teachers with a feedback sheet (Appendix L) that described the results of pupils' perceptions of teaching and their affective learning outcomes. I have no evidence of how the teachers utilised this information, but at least some of them expressed their interest in the usefulness of the information. Moreover, this kind of fieldwork would be necessary for pre-service teachers' professional development. Indeed, I had a chance to observe one student-teacher with the same methods for the observation. The information from the student-teacher was omitted in this thesis, nonetheless, observing student-teachers' teaching practices in placements would be beneficial to their learning and assessment.

This thesis may be able to make a suggestion to the educational policy. The current curriculum discourse does not seem to be closely aligned with teachers' practices (Gray, Mulholland, & MacLean, 2012). The findings in this research referred to teachers' regular practices and their knowledge of the curriculum. Some of the teachers, especially Principal Teachers, had a holistic notion of health and wellbeing that reflected the policy documentation. They had a passionate belief in teaching health and wellbeing in and through physical education. A key message for policymakers would be that the findings can be useful to promote communication with physical education teachers in order to put practical and empirical knowledge into the curriculum area of health and wellbeing. Moreover, throughout the fieldwork, I was able to observe a variety of pedagogical practices that could produce affective learning. This was due to teachers' full use of professional autonomy. The government probably needs to support teachers to perpetuate this privilege and encourage them to run pedagogies of affect that can meet their pupils' needs in specific local contexts.

7.4 Strengths and limitations

One of the major strengths of this thesis was the adoption of a pragmatic mixed methods approach. The use of mixed methods enabled the collection of a range of data sources to reveal the complexity of pedagogical practice. In particular, the combination of observations and self-confrontation interviews allowed the generation of two different facets in relation to the same phenomena. Observing teaching behaviour itself made a new contribution to SDT research because it is robust evidence on teaching as it happened in real-life contexts (Haerens et al., 2013). Data from self-confrontation interviews revealed the hidden information behind the observed teaching behaviour. Moreover, the qualitative findings help to develop the observation tool as a means of clarifying specific examples of teaching behaviour to be assessed.

However, there are some limitations that need to be considered. First, as reported in Chapter 4, I was not able to find the effect of the observed need-thwarting teaching behaviour on the affective learning outcomes since the internal consistency for this dimension was weak. It may be important to examine the degree to which teachers restrict need-thwarting teaching behaviour for the desired learning outcomes. Second, as I reported in Chapter 5, I should have organised self-confrontation interviews within a week after the observations. Even though I made my best effort to conduct self-confrontation interviews with the teachers as soon as possible after the observations, it was difficult to arrange an ideal timeline because of their busy schedules. The teachers may struggle to recall what they were thinking on a particular occasion. Third, it might be better to ask pupils to reflect on the observed lessons with the use of self-confrontation interview. Data could be interesting because pupils' voices could embed their perceptions on teaching more accurately than self-report questionnaires. Fourth, during the fieldwork, it might be helpful to analyse interview data promptly because it can lead to asking new questions and gathering further data as the fieldwork progresses (Charmaz, 2014). Nonetheless, in reality, the schedule for school visits was too tight to analyse and collect data concurrently. This strategy should reflect on future research. Fifth, this thesis was cross-sectional research. Longitudinal data would be able to capture pedagogical practices more dynamically. Also, the use of repeated measures at the same schools would help teachers' professional development and assessment for pupils' learning.

7.5 What next?

To conclude this thesis, I would like to argue that pedagogies of affect currently exist in Scotland. I observed outstanding practices of physical education teachers in secondary schools for affective learning as part of health and wellbeing. There was the fact that Scottish pupils were successful in learning as described within the curriculum. However, further efforts will be needed to examine how physical education supports pupils' positive changes in affective

learning over time. There were a number of methodological points that need to be improved. One of my next challenges is to offer international perspectives on pedagogies of affect since the topic is a growing concern across the world. The findings of this thesis can be potentially used for international comparative research if I have a chance to engage in more fieldwork with the same methods and measurements in another country. For example, it will be possible to gather data in the Japanese context where I come from. There should be a demand for international comparative research findings in the field of physical education.

It is worth noting that my experiences of this project provided useful insight into how I will be able to engage proactively in pedagogical research in the future. I understand that the nature of pedagogical research is to explore what is happening in schools. In doing this, I learned that communication with teachers is crucial. The experiences of negotiating with the teachers were valuable to develop my communication skills to establish trust in each other. It is important to make clear what I am looking for and what the benefits are for schools. Also, I needed to convey a sense of enthusiasm for the research. In the meantime, the fieldwork allowed me to understand how busy teachers are in schools. During the interviews, I devoted myself to listening carefully and trying to understand the true meanings of words participants said. This process was required for a high-skilled technique. My interview skills were not perfect, but the more interviews I conducted, the more confident I became. This experience should come in useful when I conduct fieldwork next time.

As a final remark, this thesis informed me of the importance of connectivity between actual practices and pedagogical research. Now I have the responsibility to return my research findings to schools in Scotland. I will continue to work on optimising the research findings of this thesis for the future.

References

Abós, Á., Sevil, J., Julián, J. A., Abarca-Sos, A., & García-González, L. (2017). Improving students' predisposition towards physical education by optimizing their motivational processes in an acrosport unit. *European Physical Education Review, 23*(4), 444-460.

Aelterman, N., Vansteenkiste, M., Haerens, L., Soenens, B., Fontaine, J. R., & Reeve, J. (2019). Toward an integrative and fine-grained insight in motivating and demotivating teaching styles: The merits of a circumplex approach. *Journal of Educational Psychology*, *111*(3), 497-521.

Aelterman, N., Vansteenkiste, M., Van Keer, H., De Meyer, J., Van den Berghe, L., Haerens, L. (2012). Students' objectively measured physical activity levels and engagement as a function of between-class and between-student differences in motivation toward physical education. Journal of Sport & Exercise Psychology, 34, 457-480.

Allen, J. D. (1986). Classroom management: Students' perspectives, goals, and strategies. *American educational research journal*, *23*(3), 437-459.

Amade-Escot, C. (2005). Using the critical didactic incidents method to analyze the content taught. *Journal of Teaching in Physical Education*, *24*(2), 127-148.

Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of educational psychology*, *84*(3), 261-271.

Ang, S. C., & Penney, D. (2013). Promoting social and emotional learning outcomes in physical education: Insights from a school-based research project in Singapore. *Asia-Pacific Journal of Health, Sport and Physical Education*, *4*(3), 267-286.

Antonovsky, A. (1979). Health, stress and coping (San Fransisco, CA, Jossey-Bass).

Antonovsky, A. (1996). The salutogenic model as a theory to guide health promotion. *Health promotion international*, *11*(1), 11-18.

Babic, M. J., Morgan, P. J., Plotnikoff, R. C., Lonsdale, C., White, R. L., & Lubans, D. R. (2014). Physical activity and physical self-concept in youth: systematic review and meta-analysis. *Sports medicine*, *44*(11), 1589-1601.

Bailey, R., Armour, K., Kirk, D., Jess, M., Pickup, I., Sandford, R., & Education, B. P. (2009). The educational benefits claimed for physical education and school sport: an academic review. *Research papers in education*, *24*(1), 1-27.

Bardid, F., De Meester, A., Tallir, I., Cardon, G., Lenoir, M., & Haerens, L. (2016). Configurations of actual and perceived motor competence among children: associations with motivation for sports and global self-worth. *Human Movement Science*, *50*, 1–9.

Barkoukis, V., Tsorbatzoudis, H., & Grouios, G. (2008). Manipulation of motivational climate in physical education: Effects of a seven-month intervention. *European Physical Education Review, 14*(3), 367-387.

Beasley, E. K., & Garn, A. C. (2013). An investigation of adolescent girls' global self-concept, physical self-concept, identified regulation, and leisure-time physical activity in physical education. *Journal of Teaching in Physical Education*, *32*(3), 237-252.

Behzadnia, B., Adachi, P. J., Deci, E. L., & Mohammadzadeh, H. (2018). Associations between students' perceptions of physical education teachers' interpersonal styles and students' wellness, knowledge, performance, and intentions to persist at physical activity: A self-determination theory approach. *Psychology of Sport and Exercise*, *39*, 10-19.

Belmont, M., Skinner, E., Wellborn, J., & Connell, J. (1988). *Teacher as social context: A measure of student perceptions of teacher provision of involvement, structure, and autonomy support* (No. 102). Tech. rep.

Beni, S., Fletcher, T., & Ní Chróinín, D. (2017). Meaningful experiences in physical education and youth sport: A review of the literature. *Quest*, *69*(3), 291-312.

Bortoli, L., Bertollo, M., Vitali, F., Filho, E., & Robazza, C. (2015). The effects of motivational climate interventions on psychobiosocial states in high school physical education. *Research Quarterly for Exercise and Sport, 86*(2), 196-204.

Brolin, M., Quennerstedt, M., Maivorsdotter, N., & Casey, A. (2018). A salutogenic strengths-based approach in practice–an illustration from a school in Sweden. *Curriculum studies in health and physical education*, *9*(3), 237-252.

Bruggink, M., Meijer, W., Goei, S. L., & Koot, H. M. (2014). Teachers' perceptions of additional support needs of students in mainstream primary education. *Learning and Individual Differences*, *30*, 163-169.

Bunker, D., & Thorpe, R. (1982). A model for the teaching of games in secondary schools. *Bulletin of physical education*, *18*(1), 5-8.

Burns, R. D., Fu, Y., & Podlog, L. W. (2017). School-based physical activity interventions and physical activity enjoyment: A meta-analysis. *Preventive medicine, 103*, 84-90.

Burrows, L., & McCormack, J. (2012). Teachers' talk about health, self and the student 'body'. *Discourse: Studies in the Cultural Politics of Education*, *33*(5), 729-744.

Casey, A., & Goodyear, V. A. (2015). Can cooperative learning achieve the four learning outcomes of physical education? A review of literature. *Quest*, *67*(1), 56-72.

Cale, L., & Harris, J. (2013). 'Every child (of every size) matters' in physical education! Physical education's role in childhood obesity. *Sport, Education and Society, 18*(4), 433-452.

Cardinal, B. J., Yan, Z., & Cardinal, M. K. (2013). Negative experiences in physical education and sport: How much do they affect physical activity participation later in life?. *Journal of Physical Education, Recreation & Dance*, *84*(3), 49-53.

Cash, T. F. (2004). Body image: Past, present, and future. *Body Image, 1(1), 1-5.*

Charmaz, K. (2014). Constructing grounded theory (2nd Edition). London: Sage.

Chen, A., Darst, P. W., & Pangrazi, R. P. (1999). What constitutes situational interest? Validating a construct in physical education. *Measurement in Physical Education and Exercise Science*, *3*(3), 157–180.

Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Deeder, J., ... & Sheldon, K. (2015). Psychological need satisfaction and desire for need satisfaction across four cultures. *Motivation and Emotion*, *39*(2), 216-236.

Chen, S., & Chen, A. (2012). Ninth graders' energy balance knowledge and physical activity behavior: An expectancy-value perspective. *Journal of Teaching in Physical Education*, *31*(4), 293-310.

Chen, W., & Hypnar, A. J. (2015). Elementary school students' self-determination in physical education and attitudes toward physical activity. *Journal of Teaching in Physical Education*, *34*(2), 189-209.

Chu, T. L., & Zhang, T. (2018). Motivational processes in Sport Education programs among high school students: A systematic review. *European Physical Education Review*, *24*(3), 372-394.

Claire, C. (2018). Wellbeing, being well or well becoming: who or what is it for and how might we get there?. In *Wellbeing, Education and Contemporary Schooling* (pp. 13-26). Routledge.

Cosma, A., Whitehead, R., Neville, F., Currie, D., & Inchley, J. (2017). Trends in bullying victimization in Scottish adolescents 1994–2014: changing associations with mental well-being. *International journal of public health*, 1-8.

Cox, A., Duncheon, N., & McDavid, L. (2009). Peers and teachers as sources of relatedness perceptions, motivation, and affective responses in physical education. *Research quarterly for exercise and sport*, *80*(4), 765-773.

Crawford, R. (1980). Healthism and the medicalization of everyday life. *International journal of health services*, *10*(3), 365-388.

Deci, E. L., & Ryan, R. M. (2000). The " what " and " why " of goal pursuits: human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227–268.

De Meester, A., Maes, J., Stodden, D., Cardon, G., Goodway, J., Lenoir, M., & Haerens, L. (2016). Identifying profiles of actual and perceived motor competence among adolescents: associations with motivation, physical activity, and sports participation. *Journal of Sports Sciences*, *34*(21), 2027-2037.

Demetriou, Y., & Höner, O. (2012). Physical activity interventions in the school setting: A systematic review. *Psychology of sport and exercise, 13*(2), 186-196.

De Meyer, J., Tallir, I. B., Soenens, B., Vansteenkiste, M., Aelterman, N., Van den Berghe, L., ... & Haerens, L. (2014). Does observed controlling teaching behavior relate to students' motivation in physical education?. *Journal of Educational Psychology*, *106*(2), 541-554.

Ding, H., Sun, H., & Chen, A. (2013). Impact of expectancy-value and situational interest motivation specificity on physical education outcomes. *Journal of Teaching in Physical Education*, *32*(3), 253-269.

Dodge, R., Daly, A. P., Huyton, J., & Sanders, L. D. (2012). The challenge of defining wellbeing. *International journal of wellbeing*, *2*(3), 222-235.

Domville, M., Watson, P. M., Richardson, D., & Graves, L. E. F. (2019). Children's perceptions of factors that influence PE enjoyment: A qualitative investigation. *Physical Education and Sport Pedagogy*, *24*(3), 207-219.

Dweck, C. S. (1986). Motivational processes affecting learning. *American psychologist*, *41*(10), 1040-1048.

Dweck, C. S. (2006). *Mindset: The new psychology of success.* New York, NY: Random House.

Eather, N., Riley, N., Miller, D., & Imig, S. (2019). Evaluating the Impact of Two Dialogical Feedback Methods for Improving Pre-Service Teacher's Perceived Confidence and Competence to Teach Physical Education Within Authentic Learning Environments. *Journal of Education and Training Studies*, *7*(8), 32-46.

Eccles, J. S., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J. L. (1983). Expectancies, values and academic behaviours. In: Spence, J.T. (ed) *Achievement and achievement motivation*. San Francisco, CA: W. H. Freeman; pp.75–146.

Education Scotland. (2017). Benchmarks Physical Education. March 2017. Retrieved from : https://education.gov.scot/improvement/Documents/HWB PhysicalEducationBenchmarksPDF.pdf

Education Scotland. (n.d.). Curriculum for excellence: health and wellbeing experiences and outcomes. Retrieved from : https://education.gov.scot/Documents/health-and-wellbeing-eo.pdf

Einberg, E. L., Lidell, E., & Clausson, E. K. (2015). Awareness of demands and unfairness and the importance of connectedness and security: Teenage girls' lived experiences of their everyday lives. *International journal of qualitative studies on health and well-being*, *10*(1), 27653.

Eisenberg, M. E., & Aalsma, M. C. (2005). Bullying and peer victimization: Position paper of the Society for Adolescent Medicine. *Journal of Adolescent Health*, *36*(1), 88-91.

Epstein, J. (1989). Family structure and students motivation: A development perspective. In C. Ames and R. Ames (Eds), *Research on motivation in education: Vol 3,* New York: Academic, pp. 259-295.

Erwin, H. E., Stellino, M. B., Beets, M. W., Beighle, A., & Johnson, C. E. (2013). Physical education lesson content and teacher style and elementary students' motivation and physical activity levels. *Journal of teaching in physical education*, *32*(3), 321-334.

Escartí, A., Gutiérrez, M., Pascual, C., & Llopis, R. (2010). Implementation of the personal and social responsibility model to improve self-efficacy during physical education classes for primary school children. *International Journal of Psychology and Psychological Therapy*, *10*(3), 387-402.

Fernandez-Rio, J., Sanz, N., Fernandez-Cando, J., & Santos, L. (2017). Impact of a sustained Cooperative Learning intervention on student motivation. *Physical Education and Sport Pedagogy*, *22*(1), 89-105.

Field, A. (2018). Discovering statistics using IBM SPSS statistics. 5th edition. Sage publications.

Gano-Overway, L. A. (2013). Exploring the connections between caring and social behaviors in physical education. *Research quarterly for exercise and sport*, *84*(1), 104-114.

Gao, Z., Lee, A. M., & Harrison, L. (2008). Understanding students' motivation in sport and physical education: From the expectancy-value model and self-efficacy theory perspectives. *Quest*, *60*(2), 236-254.

Garn, A. C., Cothran, D. J., & Jenkins, J. M. (2011). A qualitative analysis of individual interest in middle school physical education: Perspectives of early-adolescents. *Physical Education & Sport Pedagogy*, *16*(3), 223-236.

Gil-Arias, A., Harvey, S., Cárceles, A., Práxedes, A., & Del Villar, F. (2017). Impact of a hybrid TGfU-Sport Education unit on student motivation in physical education. *PloS one, 12*(6): e0179876.

González-Cutre, D., Sicilia, Á., Sierra, A. C., Ferriz, R., & Hagger, M. S. (2016). Understanding the need for novelty from the perspective of self-determination theory. *Personality and Individual Differences*, *102*, 159-169.

Goodyear, V. A., & Armour, K. M. (2018). Young people's perspectives on and experiences of health-related social media, apps, and wearable health devices. *Social Sciences*, *7*, 137.

Goodyear, V. A., Armour, K. M., & Wood, H. (2019). Young people and their engagement with health-related social media: New perspectives. *Sport, education and society*, *24*(7), 673-688.

Goodyear, V. A., Casey, A., & Kirk, D. (2014). Hiding behind the camera: Social learning within the cooperative learning model to engage girls in physical education. *Sport, education and society*, *19*(6), 712-734.

Gray, S., MacLean, J., & Mulholland, R. (2012). Physical education within the Scottish context: A matter of policy. *European Physical Education Review*, *18*(2), 258-272.

Gray, S., Mitchell, F., Wang, C. J., & Robertson, A. (2018). Understanding students' experiences in a PE, health and well-being context: a self-determination theory perspective. *Curriculum Studies in Health and Physical Education*, *9*(2), 157-173.

Gray, S., Mulholland, R., & MacLean, J. (2012). The ebb and flow of curriculum construction in physical education: a Scottish narrative. *Curriculum journal*, *23*(1), 59-78.

Gray, S., Sproule, J., & Morgan, K. (2009). Teaching team invasion games and motivational climate. *European Physical Education Review*, *15*(1), 65-89.

Gu, X., & Solmon, M. A. (2016). Motivational processes in children's physical activity and health-related quality of life. *Physical Education and Sport Pedagogy*, *21*(4), 407-424.

Guadalupe, T., & Curtner-Smith, M. D. (2019). 'It's nice to have choices: 'influence of purposefully negotiating the curriculum on the students in one mixed-gender middle school class and their teacher. *Sport, Education and Society*. Advance online publication. DOI: 10.1080/13573322.2019.1674275.

Haerens, L., Aelterman, N., Van den Berghe, L., De Meyer, J., Soenens, B., & Vansteenkiste, M. (2013). Observing physical education teachers' need-supportive interactions in classroom settings. Journal of Sport & Exercise Psychology, 35, 3-17.

Haerens, L., Aelterman, N., Vansteenkiste, M., Soenens, B., & Van Petegem, S. (2015). Do perceived autonomy-supportive and controlling teaching relate to physical education students' motivational experiences through unique pathways? Distinguishing between the bright and dark side of motivation. *Psychology of sport and exercise*, *16*, 26-36.

Haerens, L., Vansteenkiste, M., De Meester, A., Delrue, J., Tallir, I., Vande Broek, G., Goris, W., & Aelterman, N. (2018). Different combinations of perceived autonomy support and control: identifying the most optimal motivating style. *Physical Education and Sport Pedagogy*, *23*(1), 16-36.

Hardley, S., Gray, S., & McQuillan, R. (2020). A critical discourse analysis of Curriculum for Excellence implementation in four Scottish secondary school case studies. *Discourse: Studies in the Cultural Politics of Education*, 1-15.

Harris, J., Cale, L., Duncombe, R., & Musson, H. (2018). Young people's knowledge and understanding of health, fitness and physical activity: issues, divides and dilemmas. *Sport, Education and Society*, *23*(5), 407-420.

Harris, J., & Leggett, G. (2015). Influences on the expression of health within physical education curricula in secondary schools in England and Wales. *Sport, Education and Society*, *20*(7), 908-923.

Harter, S. (1985). Manual for the Self-Perception Profile for Children. Denver: University of Denver.

Harter, S. (1999). *The construction of the self: A developmental perspective*. Guilford Press.

Harter, S. (2012). Self-perception profile for children: Manual and questionnaires (revision of the self-perception profile for children, 1985). University of Denver; Department of Psychology.

Harvey, S., Gil-Arias, A., Smith, M. L., & Smith, L. R. (2017). Middle and elementary school students' changes in self-determined motivation in a basketball unit taught using the tactical games model. *Journal of human kinetics*, *59*(1), 39-53.

Harvey, S., & Jarrett, K. (2014). A review of the game-centred approaches to teaching and coaching literature since 2006. *Physical Education and Sport Pedagogy, 19*(3), 278-300.

Harvey, S., Kirk, D., & O'Donovan, T. M. (2014). Sport education as a pedagogical application for ethical development in physical education and youth sport. *Sport, Education and Society*, *19*(1), 41-62.

Harwood, C. G., Keegan, R. J., Smith, J. M., & Raine, A. S. (2015). A systematic review of the intrapersonal correlates of motivational climate perceptions in sport and physical activity. *Psychology of Sport and Exercise*, *18*, 9-25.

Haslem, L., Wilkinson, C., Prusak, K., Cgristensen, W., & Pennington, T. (2016). Relationship Between Health-Related Fitness Knowledge, Perceived Competence, Self-Determination, and Physical Activity Behaviour of High School Students. *Journal of Teaching in Physical Education,* 35, 27-37.

Hastie, P. A. (2012). *Sport education: International perspectives*. Routledge.

Hastie, P. A., de Ojeda, D. M., & Luquin, A. C. (2011). A review of research on Sport Education: 2004 to the present. *Physical Education and Sport Pedagogy, 16*(2), 103-132.

Hastie, P. A., Rudisill, M. E., & Wadsworth, D. D. (2013). Providing students with voice and choice: lessons from intervention research on autonomy-supportive climates in physical education. *Sport, Education and Society*, *18*(1), 38-56.

Hastie, P., Sinelnikov, O., Wallhead, T., & Layne, T. (2014). Perceived and actual motivational climate of a mastery-involving sport education season. *European Physical Education Review*, *20*(2), 215-228.

Hayes, A. F., & Rockwood, N. J. (2020). Conditional process analysis: Concepts, computation, and advances in the modeling of the contingencies of mechanisms. *American Behavioral Scientist*, *64*(1), 19-54.

Hellison, D. (2003). Teaching responsibility through physical activity (Second edition). Champaign: Human Kinetics.

Hellison, D., & Wright, P. M. (2003). Retention in an urban extended day program: A process-based assessment. *Journal of Teaching in Physical Education, 22*(4), 369-381.

Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational psychologist*, *41*(2), 111-127.

Hill, P. L., Weston, S. J., & Jackson, J. J. (2014). Connecting social environment variables to the onset of major specific health outcomes. *Psychology & health*, *29*(7), 753-767.

Inchley, J., Currie, D., Young, T., Samdal, O., Torsheim, T., Auguston, L., Mathison, F., Aleman-Diaz, A., Molcho, M., Weber, M., & Barnekow, V. (2016). Growing up unequal: gender and socioeconomic differences in young people's and well-being. Health Behaviour in School-aged Children (HBSC) study: international report from the 2013/2014 survey. Retrieved from: http://www.euro.who.int/en/publications/abstracts/growing-up-unequal.-hbsc-2016-study-20132014-survey

Jaakkola, T., Washington, T., & Yli-Piipari, S. (2013). The association between motivation in school physical education and self-reported physical activity during Finnish junior high school: A self-determination theory approach. *European Physical Education Review*, *19*(1), 127-141.

Jachyra, P. (2016). Boys, bodies, and bullying in health and physical education class: implications for participation and well-being. *Asia-Pacific Journal of Health, Sport and Physical Education*, *7*(2), 121-138.

Johnson, C. E., Erwin, H. E., Kipp, L., & Beighle, A. (2017). Student perceived motivational climate, enjoyment, and physical activity in middle school physical education. *Journal of Teaching in Physical Education*, *36*(4), 398-408.

Johnson, D.W., & Johnson, R.T. (1994). *Learning together and alone. Cooperative, competitive, and individualistic learning*. Allyn and Bacon.

Katz, I. (2017). In the eye of the beholder: Motivational effects of gender differences in perceptions of teachers. *The journal of experimental education*, *85*(1), 73-86.

Kaushik, V., & Walsh, C. A. (2019). Pragmatism as a Research Paradigm and Its Implications for Social Work Research. *Social Sciences*, *8*(9), 255.

Kerner, C., Haerens, L., & Kirk, D. (2018). Understanding body image in physical education: Current knowledge and future directions. *European Physical Education Review, 24*(2), 255-265.

Kirk, D. (1992). Defining physical education. *The social construction of a school subject in postwar Britain*. London: Falmer Press.

Kirk, D. (2006). The 'obesity crisis' and school physical education. *Sport, Education and Society*, *11*(2), 121-133.

Kirk, D. (2010). *Physical Education Futures*. London: Routledge.

Kirk, D. (2017). Research for physical education, health and wellbeing in turbulent and precarious times. Paper presented to the 4th International Conference of CRIFPE, Montreal, May.

Kirk, D. (2018). A new critical pedagogy for physical education in turbulent times: what are the possibilities? In: Pringle R, Larsson H and Gerdin G (eds) *Critical Research in Sport, Health and Physical Education*. Routledge, Milton Park, Abingdon, Oxon, pp. 1-25.

Kirk, D. (2020). *Precarity, Critical Pedagogy and Physical Education.* London: Routledge.

Kirk, D., Bardid, F., Lamb, C., Millar, J. and Teraoka, E. (2018). Redesigning Physical Education in Scotland. In: Lawson, HA. (2018, ed) *Redesigning physical education: Legitimate peripheral participation*. London: Routledge.

Kirk, D., & Colquhoun, D. (1989). Healthism and physical education. *British journal of Sociology of Education*, *10*(4), 417-434.

Kirk, D., Lamb, C. A., Oliver, K. L., Ewing-Day, R., Fleming, C., Loch, A., & Smedley, V. (2018). Balancing prescription with teacher and pupil agency: spaces for manoeuvre within a pedagogical model for working with adolescent girls. *The Curriculum Journal*, *29*(2), 219-237.

Koekoek, J., & Knoppers, A. (2015). The role of perceptions of friendships and peers in learning skills in physical education. *Physical Education and Sport Pedagogy*, *20*(3), 231-249.

Koenen, A. K., Vervoort, E., Kelchtermans, G., Verschueren, K., & Spilt, J. L. (2019). Teacher sensitivity in interaction with individual students: the role of teachers' daily negative emotions. *European Journal of Special Needs Education*, *34*(4), 514-529.

Krapp, A., Hidi, S., & Renninger, K. A. (1992). Interest, learning and development. In K. A. Renninger, S. Hidi, & A. Krapp (Eds.), The role of interest in learning and development (pp. 3-25).

Lamb, C. A., Oliver, K. L., & Kirk, D. (2018). 'Go for it Girl'adolescent girls' responses to the implementation of an activist approach in a core physical education programme. *Sport, Education and Society*, *23*(8), 799-811.

Lambert, L., Lomas, T., van de Weijer, M., Passmore, H. A., Joshanloo, M., Harter, J., ... & Kawakami, T. (2020). Towards a greater global understanding of wellbeing: A proposal for a more inclusive measure. *International Journal of Wellbeing*, *10*(2), 1-18.

Lamm, H., & Myers, D. G. (1978). Group-induced polarization of attitudes and behavior. In *Advances in experimental social psychology* (Vol. 11, pp. 145-195). Academic Press.

Lang, C., Feldmeth, A. K., Brand, S., Holsboer-Trachsler, E., Pühse, U., & Gerber, M. (2016). Stress management in physical education class: an experiential approach to improve coping skills and reduce stress perceptions in adolescents. *Journal of Teaching in Physical Education, 35*(2), 149-158.

Lang, C., Feldmeth, A. K., Brand, S., Holsboer-Trachsler, E., Pühse, U., & Gerber, M. (2017). Effects of a physical education-based coping training on adolescents' coping skills, stress perceptions and quality of sleep. *Physical Education and Sport Pedagogy*, *22*(3), 213-230.

Lee, A. M., Carter, J. A., & Xiang, P. (1995). Children's conceptions of ability in physical education. *Journal of Teaching in Physical Education*, *14*, 384–393.

Leptokaridou, E. T., Vlachopoulos, S.P., & Papaioannou, A. G. (2016). Experimental longitudinal test of the influence of autonomy-supportive teaching on motivation for participation in elementary school physical education. *Educational Psychology, 36*(7), 1138-1159.

López-Pastor, V. M., Kirk, D., Lorente-Catalán, E., MacPhail, A., & Macdonald, D. (2013). Alternative assessment in physical education: a review of international literature. *Sport, Education and Society*, *18*(1), 57-76.

Lüdtke, O., Köller, O., Marsh, H. W., & Trautwein, U. (2005). Teacher frame of reference and the big-fish–little-pond effect. *Contemporary Educational Psychology*, *30*(3), 263-285.

MacLean, J., Mulholland, R., Gray, S., & Horrell, A. (2015). Enabling curriculum change in physical education: The interplay between policy constructors and practitioners. *Physical Education and Sport Pedagogy*, *20*(1), 79-96.

Mangan, J. A. (1981). *Athleticism in the Victorian and Edwardian public school,* Cambridge, Cambridge University Press.

Marsh, H. W. (1997). The measurement of physical self-concept: A construct validation approach. In K. R. Fox (Ed.), *The physical self: From motivation to well-being* (p. 27–58). Human Kinetics.

Marsh, H. W., & Shavelson, R. (1985). Self-Concept: Its Multifaceted, Hierarchical Structure. *Educational Psychologist*, *20*(3), 107–123.

Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American psychologist, 56*(3), 227-238.

Mazzer, K. R., & Rickwood, D. J. (2015). Mental health in sport: coaches' views of their role and efficacy in supporting young people's mental health. *International Journal of Health Promotion and Education*, *53*(2), 102-114.

McCuaig, L., & Quennerstedt, M. (2018). Health by stealth–exploring the sociocultural dimensions of salutogenesis for sport, health and physical education research. *Sport, education and society*, *23*(2), 111-122.

McEvilly, N., Verheul, M., Atencio, M., & Jess, M. (2014). Physical education for health and wellbeing: a discourse analysis of Scottish physical education curricular documentation. *Discourse: Studies in the Cultural Politics of Education*, *35*(2), 278-293.

McIntosh, P. C. (1952). *Physical education in England since 1800*. Bell.

McKenzie, T. L., & Lounsbery, M. A. (2009). School physical education: The pill not taken. *American Journal of Lifestyle Medicine*. *3*(3), 219-225.

McKenzie, T.L., Sallis, J.F., Rosengard, P., & Ballard, K. (2016). The SPARK Programs: A Public Health Model of Physical Education Research and Dissemination. *Journal of Teaching in Physical Education, 35*(4), 381-389.

McKenzie, T. L., Stone, E. J., Feldman, H. A., Epping, J. N., Yang, M., Strikmiller, P. K., ... & Parcel, G. S. (2001). Effects of the CATCH physical education intervention: teacher type and lesson location. *American Journal of Preventive Medicine*, *21*(2), 101-109.

McMahon, S. E. (2012). Doctors diagnose, teachers label: The unexpected in pre-service teachers' talk about labelling children with ADHD. *International Journal of Inclusive Education*, *16*(3), 249-264.

Mercier, K., & Silverman, S. (2014). High school students' attitudes toward fitness testing. *Journal of Teaching in Physical Education*, *33*(2), 269-281.

Mertens, D. M. (2019). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods*. 5th edition. Sage publications.

Metzler, M. W. (2017). Instructional models in physical education. 3rd edition. Routledge.

Mitchell, F., Gray, S., & Inchley, J. (2015). 'This choice thing really works…' Changes in experiences and engagement of adolescent girls in physical education classes, during a school-based physical activity programme. *Physical Education and Sport Pedagogy*, *20*(6), 593-611.

Mitchell, S., Oslin, J., & Griffin, L. (2006). *Teaching sport concepts and skills: A tactical games approach* (2nd ed.). Champaign, IL: Human Kinetics.

Moksnes, U. K., & Reidunsdatter, R. J. (2019). Self-esteem and mental health in adolescents–level and stability during a school year. *Norsk Epidemiologi*, *28*(1-2), 59-67.

Mollo, V., & Falzon, P. (2004). Auto- and allo-confrontation as tools for reflective activities. *Applied ergonomics*, *35*(6), 531-540.

Mouratidis, A., Barkoukis, V., & Tsorbatzoudis, C. (2015). The relation between balanced need satisfaction and adolescents' motivation in physical education. *European Physical Education Review*, *21*(4), 421-431.

NHS Health Scotland. (2019, August 15). Overview of mental health and wellbeing. Retrieved from: http://www.healthscotland.scot/health-topics/mental-health-and-wellbeing/overview-of-mental-health-and-wellbeing

NHS inform. (2019). Self-harm. Retrieved from: https://www.nhsinform.scot/illnesses-and-conditions/mental-health/self-harm#introduction

Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological review*, *91*(3), 328-346.

O'Brien, J., Ginis, K. A. M., & Kirk, D. (2008). The effects of a body-focused physical and health education module on self-objectification and social physique anxiety in Irish girls. *Journal of Teaching in Physical Education*, *27*(1), 116-126.

O'Donovan, T. M., & Kirk, D. (2007). Managing classroom entry: an ecological analysis of ritual interaction and negotiation in the changing room. *Sport, education and society*, *12*(4), 399-413.

Oliver, K. L., & Kirk, D. (2015). *Girls, gender and physical education: An activist approach*. Routledge.

Oliver, K. L., & Oesterreich, H. A. (2013). Student-centred inquiry as curriculum as a model for field-based teacher education. *Journal of Curriculum Studies*, *45*(3), 394-417.

Pardo, B. M., Bengoechea, E. G., Clemente, J. A. J., & Lanaspa, E. G. (2016). Motivational outcomes and predictors of moderate-to-vigorous physical activity and sedentary time for adolescents in the sigue la huella intervention. *International Journal of Behavioral Medicine, 23*(2), 135-142.

Pate, R. R., Pratt, M., Blair, S. N., Haskell, W. L., Macera, C. A., Bouchard, C., ... & Kriska, A. (1995). Physical activity and public health: a recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. *Jama*, *273*(5), 402-407.

Powell, D., & Fitzpatrick, K. (2015). 'Getting fit basically just means, like, nonfat': children's lessons in fitness and fatness. *Sport, Education and Society*, *20*(4), 463-484.

Pozo, P., Grao-Cruces, A., & Pérez-Ordás, R. (2018). Teaching personal and social responsibility model-based programmes in physical education: A systematic review. *European Physical Education Review, 24*(1), 56-75.

Priestley, M., & Sinnema, C. (2014). Downgraded curriculum? An analysis of knowledge in new curricula in Scotland and New Zealand. *Curriculum Journal*, *25*(1), 50-75.

Quennerstedt, M. (2008). Exploring the relation between physical activity and health—a salutogenic approach to physical education. *Sport, Education and Society*, *13*(3), 267-283.

Quennerstedt, M. (2019). Healthying physical education-on the possibility of learning health. *Physical Education and Sport Pedagogy*, *24*(1), 1-15.

Quennerstedt, M., Annerstedt, C., Barker, D., Karlefors, I., Larsson, H., Redelius, K., & Öhman, M. (2014). What did they learn in school today? A method for exploring aspects of learning in physical education. *European Physical Education Review*, *20*(2), 282-302.

Reeve, J. (2009). Why teachers adopt a controlling motivating style toward students and how they can become more autonomy supportive. *Educational psychologist*, *44*(3), 159-175.

Riddell, S., & Weedon, E. (2016). Additional support needs policy in Scotland: challenging or reinforcing social inequality?. *Discourse: Studies in the Cultural Politics of Education*, *37*(4), 496-512.

Ritchie, H., & Roser, M. (2018). Mental Health. *Published online at OurWorldInData.org.* Retrieved from: https://ourworldindata.org/mental-health (Online Resource).

Røset, L., Green, K., & Thurston, M. (2019). Norwegian youngsters' perceptions of physical education: exploring the implications for mental health. *Sport, Education and Society*. Advance online publication. DOI:10.1080/13573322.2019.1634043.

Rutten, C., Boen, F., Vissers, N., & Seghers, J. (2015). Changes in Children's Autonomous Motivation Toward Physical Education during Transition from Elementary to Secondary School: A Self-Determination Perspective. *Journal of Teaching in Physical Education*, *34*(3), 442-460.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, 55 (1), 68-78.

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: basic psychological needs in motivation, development, and wellness*. Guildford Press.

Sallis, J. F., & McKenzie, T. L. (1991). Physical education's role in public health. *Research quarterly for exercise and sport*, *62*(2), 124-137.

Sallis, J. F., McKenzie, T. L., Alcaraz, J. E., Kolody, B., Faucette, N., & Hovell, M. F. (1997). The effects of a 2-year physical education program (SPARK) on physical activity and fitness in elementary school students. Sports, Play and Active Recreation for Kids. *American journal of public health*, *87*(8), 1328-1334.

Sallis, J. F., Prochaska, J. J., Taylor, W. C., Hill, J. O., & Geraci, J. C. (1999). Correlates of physical activity in a national sample of girls and boys in grades 4 through 12. *Health psychology*, *18*(4), 410-415.

Sanchez-Oliva, D., Sanchez-Miguel, P. A., Leo, F. M., Kinnafick, F. E., & García-Calvo, T. (2014). Physical education lessons and physical activity intentions within Spanish secondary schools: A self-determination perspective. *Journal of Teaching in Physical Education*, *33*(2), 232-249.

Schmidt, M., Valkanover, S., Roebers, C., & Conzelmann, A. (2013). Promoting a functional physical self-concept in physical education: Evaluation of a 10-week intervention. *European Physical Education Review, 19*(2), 232-255.

Scottish Government. (2009). Curriculum for excellence: Building the curriculum 4: skills for learning, skills for life and skills for work. Retrieved from: https://www2.gov.scot/resource/doc/288517/0088239.pdf

Scottish Government. (2017). Supporting Children's Learning: Statutory Guidance on the Education (Additional Support for Learning) Scotland Act 2004 (as amended). Code of Practice (Third Edition).

Scottish Government. (2019). Review of Personal and Social Education: preparing Scotland's children and young people for learning, work and life. Retrieved from: https://www.gov.scot/publications/review-personal-social-education-preparing-scotlands-children-young-people-learning-work-life/

Shaw, J. M., Mitchell, C. A., Welch, A. J., & Williamson, M. J. (2015). Social media used as a health intervention in adolescent health: A systematic review of the literature. *Digital health*, *1*, 1-10.

Sicilia, Á., Sáenz-Alvarez, P., González-Cutre, D., & Ferriz, R. (2016). Social physique anxiety and intention to be physically active: A self-determination theory approach. *Research quarterly for exercise and sport*, *87*(4), 354-364.

Siedentop, D. (1994). *Sport education: Quality PE through positive sport experiences*. Human Kinetics Publishers.

Smith, W. D. (1974). *Stretching their bodies: the history of physical education*. David & Charles.

Soenens, B., Sierens, E., Vansteenkiste, M., Dochy, F., & Goossens, L. (2012). Psychologically controlling teaching: Examining outcomes, antecedents, and mediators. *Journal of Educational Psychology*, *104*(1), 108-120.

Standage, M., Duda, J. L., & Ntoumanis, N. (2005). A test of self-determination theory in school physical education. *British Journal of Educational Psychology, 75*, 411-433.

Stidder, G. (2012). Training to teach physical education in an opposite-sex secondary school: A qualitative analysis of trainee teachers' experience. *European Physical Education Review*, *18*(3), 346-360.

Stroet, K., Opdenakker, M. C., & Minnaert, A. (2013). Effects of need supportive teaching on early adolescents' motivation and engagement: A review of the literature. *Educational research review*, *9*, 65-87.

Sutherland, R. (1949). Some aspects of health education, *Journal of Physical Education, 41*, 24-30.

Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, *48*(6), 1273-1296.

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., ... & Stewart-Brown, S. (2007). The Warwick-Edinburgh mental well-being scale (WEMWBS): development and UK validation. *Health and Quality of life Outcomes*, *5*(1), 63.

The Prince's Trust. (2019). The Prince's Trust eBay Youth Index 2019. Retrieved from: https://www.princes-trust.org.uk/about-the-trust/research-policies-reports/youth-index-2019

Thompson, E. R. (2007). Development and validation of an internationally reliable short-form of the positive and negative affect schedule (PANAS). *Journal of cross-cultural psychology*, *38*(2), 227-242.

Thorburn, M. (2017). Evaluating efforts to enhance health and wellbeing in Scottish secondary schools. *Journal of Curriculum Studies*, *49*(5), 722-741.

Thorburn, M. (2018). Personal well-being and curriculum planning: a critical comparative review of theory, policy and practice coherence. *Educational Review*, 1-15.

Thorburn, M., & Dey, D. (2017). Health and wellbeing and wider achievement: An analysis of teachers' practices and learners' experiences in Scottish secondary schools. *Studies in Educational Evaluation*, *52*, 24-34.

Tomlinson, C. A. (1999). The Differentiated Classroom: Responding to the Needs of All Learners. Alexandria, VA: Association for Supervision and Curriculum Development.

Tsangaridou, N. (2005). Classroom teachers' reflections on teaching physical education. *Journal of Teaching in Physical Education*, *24*(1), 24-50.

Tsangaridou, N., & O'Sullivan, M. (1997). The role of reflection in shaping physical education teachers' educational values and practices. *Journal of teaching in physical education*, *17*(1), 2-25.

van Aart, I., Hartman, E., Elferink-Gemser, M., Mombarg, R., & Visscher, C. (2017). Relations among basic psychological needs, PE-motivation and fundamental movement skills in 9–12-year-old boys and girls in Physical Education. *Physical education and sport pedagogy*, *22*(1), 15-34.

Van den Berghe, L., Cardon, G., Tallir, I., Kirk, D., & Haerens, L. (2016). Dynamics of need-supportive and need-thwarting teaching behavior: The bidirectional relationship with student engagement and disengagement in the beginning of a lesson. *Physical Education and Sport Pedagogy*, *21*(6), 653-670.

Van den Berghe, L., Soenens, B., Vansteenkiste, M., Aelterman, N., Cardon, G., Tallir, I. B., & Haerens, L. (2013). Observed need-supportive and need-thwarting teaching behavior in physical education: Do teachers' motivational orientations matter?. *Psychology of Sport and Exercise*, *14*(5), 650-661.

Van den Berghe, L., Vansteenkiste, M., Cardon, G., Kirk, D., & Haerens, L. (2014). Research on self-determination in physical education: Key findings and proposals for future research. *Physical Education and Sport Pedagogy*, *19*(1), 97-121.

Varea, V. (2018). Mixed messages: Pre-service health and physical education teachers' understandings of health and the body and the expectations of the Australian curriculum. *Sport, Education and Society*, *23*(3), 244-256.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology*, *54*(6), 1063-1070.

Wellborn, J., Connell, J., Skinner, E.A., & Pierson, L.H. (1988). Teacher as social context: A measure of teacher provision of involvement, structure and autonomy support. (Tech. Rep. No. 102). Rochester. NY: University of Rochester.

Whipp, P., Taggart, A., & Jackson, B. (2014). Differentiation in outcome-focused physical education: Pedagogical rhetoric and reality. *Physical Education and Sport Pedagogy*, *19*(4), 370-382.

Whitehead, J. R. (1995). A study of children's physical self-perceptions using an adapted physical self-perception profile questionnaire. *Pediatric Exercise Science*, *7*, 132–151.

WHO. (1948). Constitution of the World Health Organization: Principles. Retrieved from: http://www.who.int/about/mission/en/

WHO. (2018). Mental health: strengthening our response. Retrieved from: https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response

Wright, P. M., & Burton, S. (2008). Implementation and outcomes of a responsibility-based physical activity program integrated into an intact high school physical education class. *Journal of teaching in physical education*, *27*(2), 138-154.

Yli-Piipari, S., & Kokkonen, J. (2014). An application of the expectancy-value model to understand adolescents' performance and engagement in physical education. *Journal of Teaching in Physical Education*, *33*(2), 250-268.

Zhang, T., Solmon, M. A., & Gu, X. (2012). The role of teachers' support in predicting students' motivation and achievement outcomes in physical education. *Journal of Teaching in Physical Education*, *31*(4), 329-343.

Appendices

Appendix A: List of observed teaching behaviour

Autonomy support

Participative

1	The teacher gives pupils the opportunity to give input first, instead of always giving instructions themselves, and tries to avoid unnecessary information by asking questions.
2	The teacher offers an option choice (= which exercises).
3	The teacher offers an action choice (= with whom, for how long, in what order, etc).
4	The teacher provides exercises to encourage the pupils to take responsibility (e.g., the pupils are given the opportunity to lead the game as referees, the pupils are responsible for their own learning process).
5	In the final interview, the teacher listens to the pupils' opinions about the lesson.
6	The teacher asks the pupils about their interests, problems, values or wishes (e.g., "what exercise do you find difficult", "how do you like the lesson to be built up", "Have you understood the explanation?). This may also include non-PE topics.
7	The teacher gives the pupils the opportunity to indicate when they want help.
8	The teacher uses open (e.g., "what did you think of the lesson?") rather than closed (e.g., "did you understand?") questions.

Attuning

9	The teacher acknowledges comments, irritation, displeasure, lack of courage and fear among the pupils instead of suppressing them.
10	The teacher offers varied activities.
11	The teacher consciously integrates exercises that stimulate the enjoyment of the pupils (forms of play, optimal challenge, etc).
12	The teacher offers innovative and unique activities.
13	The teacher uses verbs such as being able, suggesting, trying, rather than having to, obliging, expecting.

14 The teacher explains why specific teaching objectives and structure are chosen.

15 The teacher tries to respond flexibly to the wishes, proposals and suggestions of the pupils (e.g., chose music for dance that you would like to hear).

16 The teacher offers the pupils a specific explanation for agreements made or for carrying out certain tasks or assignments (e.g., "this is important because..., placing your foot forward promotes balance, keep the balls still during the explanation so that everyone can understand me well and the exercises can be started up quickly"). This can also be about explaining the importance of an exercise.

17 The teacher reacts positively and curiously to irritation or displeasure among the pupils.

Structure

Guiding

18 The teacher gives the pupils the opportunity to experience, try out, experiment, practice/work and solve problems consciously without the teacher's intervention (e.g., before the lay-up is explained the pupils can practice themselves, pupils do an exercise without immediate attention being given). There must be a purpose behind it.

19 The teacher offers work points that can be improved and gives concrete tips during the exercises or during the instruction that will help the pupils to perform the exercise well/better. The teacher provides concrete corrective feedback.

20 The teacher encourages the pupils to persevere (e.g., "come on, you can do it or you can do it like this."). (*Note*: Assess this item quantitatively, regardless of the content or the way the teacher encourages.)

21 The teacher provides concrete positive feedback.

22 The teacher asks the pupils questions about the content of the lesson (e.g., problems with the exercises and ambiguities).

23 The teacher uses open (e.g., "what was the problem with the previous game form?") rather than closed (e.g., "did you find it difficult to fit in with each other?") questions.

24 The teacher examines whether help (during the exercises) is required by asking questions.

25 The teacher offers verbal and/or physical assistance to students during the exercises.

26 The teacher prepares exercises of different levels of difficulty so that the pupils can practice at their own level.

27 The teacher emphasizes sufficiently what the pupils are doing well, even if he/she gives corrective feedback.

28 The teacher chooses one or two work points for each exercise.

29 The teacher provides task-oriented rather than person-centred feedback.

30 The teacher focuses on progress rather than comparison between students while providing feedback.

31 The teacher encourages the pupils to come up with their own solutions.

32 The teacher organizes intermediate steps and adapted exercises. (*Note*: Gradual build-up is also scored.)

33 The teacher identifies the goals that have been achieved and the efforts that have contributed to them.

34 The teacher challenges the pupils (e.g., to take the next step in the learning process, to give the best of themselves).

Clarifying

35 The teacher expresses his/her confidence in the competence of the pupils.

36 The teacher provides an overview of what will be addressed in a series of lessons or period on a specific subject.

37 The teacher gives an overview of what will be dealt with in the lesson and how it is structured (e.g., the teacher formulates objectives, indicates how exercises fit in with the whole lesson). (*Note*: if an overview is given without objectives, it is never scored 4.)

38 The teacher gives clear instructions so that the pupils know what is expected of them during the exercises.

39 The teacher supervises consistent compliance with oral instructions linked to the content of the lesson (e.g., the pupils carry out exercises as required).

40 The teacher gives disciplinary, behavioural, guidelines and instructions (e.g., requires clothes to be in order, the pupils should keep ball still during the explanation, indicates where students should gather).

41 The teacher supervises consistent compliance with disciplinary guidelines (e.g., clothing is in order, the pupils keep the ball stationary during the explanation). (*Note*: this item should only be scored if the teacher shows this behaviour effectively, i.e., if the teacher repeats the guidelines when the students do not follow them. Do not score this item if the pupils simply keep their appointments and do score if the teacher gives verbal instructions and the pupils ignore them.)

Controlling teaching

Demanding

42	The teacher does or says everything during the instruction and/or exercise, without letting the pupils discover the problem themselves (e.g., during a game situation the teacher himself indicates the problem instead of asking all pupils what the problem is or he shuts down the game and says that the pupils should keep the field wider).
43	The teacher puts pressure on the pupils to meet certain deadlines (e.g., "by the end of the lesson, you should have mastered the lay-up", "at the end of this semester, you should have mastered it").
44	The teacher provides exercises to be followed by all the pupils, regardless of their personal level.
45	The teacher orders the pupils to use controlling language (e.g., "do...", "I expect...", "you must...", "what did I just say, Pete?" or "can you imagine how I expect it?") or often uses imperatives (e.g., do this or that, come...).
46	The teacher emphasizes results and/or threatens to take the exam (e.g., "this is an important exercise because you will be judged on it at the exam").
47	The teacher is shouting and roaring. (*Note*: this does not apply if the teacher calls to exceed the noise of, for example, colliding balls.)
48	The teacher punishes or threatens to punish for poor performance or results, or for not following guidelines (e.g., "if you are not wearing the right sports equipment, you will get a lower grade).
49	The teacher obliges certain pupils to answer a question during a learning interview.

Domineering

50	The teacher makes social comparisons or promotes social comparison among the pupils (e.g., the most talented pupils can choose the players for their group or "who has succeeded in doing X," "if he can, then you should be able to do it,"). (*Note*: only code if it is pronounced, not if it is implicitly present through the exercises themselves.)
51	The teacher exercises power, by interrupting the pupils and demanding respect. This can be done verbally (e.g., "I am still the boss here. or "It is time that you show some respect") or present as non-verbal (e.g., attitude of the teacher, the teacher looks threatening towards the pupils).

52 The teacher puts pressure on students by appealing to their self-esteem or pride (e.g., "pupils of your age should master these exercises anyway", "there are some of you who make mistakes, you will know who...") or responds to the guilt and shame feelings of the students to encourage them (e.g., "you are real diapers", "you disapprove of me...", "I would have expected better...").

53 The teacher criticizes the pupils for not acting as expected (e.g., "no, this is not how I did it, is it really so difficult?", "that's going to be wrong, you think you know better again").

54 The teacher humiliates the pupils based on performance, gives negative feedback.

55 The teacher does not allow input from the pupils or responds negatively to input from them.

56 The teacher uses the pupils as negative role models.

Chaos

Abandoning

57 The teacher is irritated and loses patience.

58 The teacher doesn't care about unmotivated students.

59 The teacher just let the pupils do what they want.

60 The teacher ignores the complaining or the fear of the pupils.

61 The teacher breaks off an exercise when he/she sees that it's not going well after all.

62 The teacher gives up on the pupils who don't develop or don't behave.

Awaiting

63 The teacher allows chaos and disorder, and allows the pupils to do their own thing.

64 The teacher provides ambiguous, unclear feedback on how exercises are performed. It is not clear to the pupils whether they are doing well or not.

65 The teacher uses an illogical, incoherent structure within warm-up and/or exercises or in the transition between exercises.

66 The teacher provides unclear or confusing explanations or instructions.

67 The teacher intervenes only when a problem arises.

Appendix B: Teacher report of Teacher as Social Context Questionnaire (T-TASCQ)

Involvement

1 The pupils are easy to like.

2 I enjoy the time I spend with the pupils.

3 The pupils are difficult to like.

4 Teaching the pupils isn't very enjoyable for me.

5 I know a lot about what goes on for the pupils.

6 I know the pupils well.

7 I don't understand the pupils very well.

8 I don't know very much about what goes on for the pupils outside of school.

9 I spend time with the pupils.

10 I talk with the pupils.

11 When the pupils do not do as well as they can, I can make time to help them find ways to do better.

12 The pupils can count on me to be there for them.

13 Sometimes I feel like I can't be there for the pupils when they need me.

14 I can't always be available to the pupils.

Structure

15 When I discipline the pupils, I always explain why.

16 I let the pupils get away with things I normally wouldn't allow.

17 I find it hard to be consistent with the pupils.

18 I don't always have time to follow through with the pupils.

19 I talk with the pupils about my expectations for them.

20 I try to be clear with the pupils about what I expect of them in class.

21 I change the rules about activities for the pupils.

22 Sometimes I feel I don't make my expectations clear to the pupils.

23 When the pupils don't comprehend the material, I take a different approach.

24 When the pupils don't understand something, I explain it a lot of different ways.

25 I can't tell when the pupils are keeping up with me.

26 It's hard to know when the pupils are ready to go on to new material.

27 I show the pupils different ways to solve problems.

28 I find it difficult to tell when the pupils need help.

29 I find it hard to teach the pupils in a way they can understand.

Autonomy Support

30 I try to give the pupils a lot of choices about classroom assignments.

31 My general approach with the pupils is to give them as few choices as possible.

32 It's better not to give too many choices to the pupils.

33 I have to lead the pupils through their activities step by step.

34 When it comes to assignments, I'm always having to tell the pupils what to do.

35 I find myself telling the pupils every step to make when it comes to activities.

36 I let the pupils make a lot of their own decisions regarding activities.

37 I can't let the pupils do things their own way.

38 I can't afford to let the pupils decide too many things about activities for them.

39 I explain to the pupils why we learn certain things in PE.

40 I encourage the pupils to think about how activities can be useful to them.

41 It is difficult to explain to the pupils why what we do in PE is important.

Appendix C: Teacher report of Psychologically Controlling Teaching (T-PCT)

1 I always try to change my pupils.

2 I clearly show that my pupils have hurt my feelings when they failed to live up to my expectations.

3 I am less friendly with my pupils if they do not see things my way.

4 I am strict with my pupils if they have disappointed me.

5 I make my pupils feel guilty when they have dissatisfied me.

6 I avoid talking with my pupils when they have disappointed me.

7 I often interrupt my pupils.

Appendix D: Student report of Teacher as Social Context Questionnaire (S-TASCQ)

Teacher Involvement

1 My teacher likes me.

2 My teacher really cares about me.

3 My teacher knows me well.

4 My teacher just doesn't understand me.

5 My teacher spends time with me.

6 My teacher talks with me.

7 I can't depend on my teacher for important things.

8 I can't count on my teacher when I need him/her.

Teacher Provision of Structure

9 Every time I do something wrong, my teacher acts differently.

10 My teacher keeps changing how he/she acts towards me.

11 My teacher doesn't make it clear what he/she expects of me in class.

12 My teacher doesn't tell me what he/she expects of me in school.

13 My teacher shows me how to solve problems for myself.

14 If I can't solve a problem, my teacher shows me different ways to try to.

15 My teacher makes sure I understand before he/she goes on.

16 My teacher checks to see if I'm ready before he/she starts a new topic.

17 My teacher gives me a lot of choices about how I do the activities.

Teacher Provision of Autonomy Support

18 My teacher doesn't give me much choice about how I do the activities.

19 My teacher is always getting on my case about the activities.

20 It seems like my teacher is always telling me what to do.

21 My teacher listens to my ideas.

22 My teacher doesn't listen to my opinion.

23 My teacher talks about how I can use the things we learn in school.

24 My teacher doesn't explain why what I do in school is important to me.

Appendix E: Psychologically Controlling Teaching (PCT)

1 My teacher is always trying change me.

2 My teacher clearly shows that I have hurt him/her feelings when I have failed to live up to him/her expectations.

3 My teacher is less friendly with me, if I do not see things his/her way.

4 My teacher is strict with me if I have disappointed him/her.

5 My teacher makes me feel guilty when I dissatisfied him/her.

6 My teacher avoids talking with me when I have disappointed him/her.

7 My teacher often interrupts me.

Appendix F: Positive and Negative Affect Schedule (PANAS)

I am feeling…

1 Upset.
2 Hostile.
3 Alert.
4 Ashamed.
5 Inspired.
6 Nervous.
7 Determined.
8 Attentive.
9 Afraid.
10 Active.

Appendix G: Basic Psychological Need Scale-Revised (BPNS-R)

Autonomy Satisfaction

1 I felt a sense of choice and freedom in the things I undertake.

2 I felt that the activities reflect what I really want.

3 I felt like the way the lesson was taught reflect what I want myself.

4 I felt like what we have been doing during the lesson really interests me.

Competence Satisfaction

5 I felt confident that I could do the activities well.

6 I felt capable at what I did

7 I felt competent to achieve my goals

8 I felt I could successfully complete difficult tasks.

Relatedness Satisfaction

9 I felt that the class members I care about also cared about me.

10 I felt connected with the class members who care for me, and for whom I care.

11 I felt close and connected to the class members who are important to me.

12 I experienced a warm feeling with the class members I spend time with.

Autonomy Frustration

13 Most activities I did felt like “I have to”

14 I felt forced to do many activities I wouldn’t choose to do.

15 I felt pressured to do too many activities.

16 I felt obligated to do certain things.

Competence Frustration

17 I had serious doubts about whether I could do the activities well.

18 I felt disappointed with many of my performances.

19 I felt insecure about my abilities.

20 I felt like a failure because of the mistakes I made.

Relatedness Frustration

21 I felt excluded from the group I want to belong to.

22 I felt that class members who are important to me were cold and distant towards me.

23 I had the impression that the class members I spend time with disliked me.

24 I felt the relationships I had with class members were just superficial.

Appendix H: Behavioural Regulation in Physical Education Questionnaire (BRPEQ)

"I put effort in this PE class…"

Autonomy motivation

Intrinsic motivation

1 because I enjoy this PE class

2 because I find this PE class a pleasurable activity

3 because this PE class is fun

4 because I get pleasure and satisfaction from participating in this PE class

Identified regulation

5 because I find this PE class personally meaningful

6 because I fully recognize the usefulness of this PE class

7 because this PE class is personally important to me

8 because I value the benefits of this PE class

Controlled motivation

Introjected regulation

9 because I have to prove myself

10 because it is the only way to be proud of myself

11 because I would feel like a failure if I didn't

12 because I would feel guilty if I didn't

External regulation

13 because I otherwise get criticized

14 because others will appreciate me less

15 because it is the only way to please others

16 because I felt the pressure of others to participate in this PE class

Amotivation

17 I don't see why this PE class is part of the curriculum

18 I don't see why I should bother participating in this PE class

19 I don't see the point of this PE class

20 I think this PE class is actually a waste of time

Appendix I: Self-confrontation interview schedule

First question:

- Could you please talk me through what was happening here?

Prompt questions:

- What was your teaching point here?
- What was the issue here?
- What were you thinking at that moment? (e.g. while you monitored the activities)
- Can you tell me more about this pupil
- Is this typical? Or is this unusual?
- Does he/she do all the time?
- Did the students response as you expected?
- What was your main concern here?
- Tell me more about her/him?
- What other things to try with her/him?
- Having seen this, how successful was that?
- What would you have done differently?
- How did you interpret your own teaching behaviour overall? (in the sense of language, behaviour, and interactions.)

After the video watching:

- What do you think about the selection of the clips?
- Is it a good representation of your teaching?
- Have you anything to add this lessons?

Appendix J: Second teacher interview schedule

Their experience of teaching physical education

- Why did you choose to become a physical education teacher?
- What do you find the most interesting in your experience of teaching?
- What are your main challenging issues as a teacher/as a principal teacher?

Their main goals and priorities

- What is your teaching philosophy?
- What kinds of issues do you prioritize in your lessons? and Why?
- What kinds of learning outcomes are you trying to achieve in physical education?
- Do you try to be the same in every areas? Is it different when you teach swimming or rugby?

Their use of CfE in planning physical education lessons

- Are CfE policy documents sufficiently clear for planning?
- How do you use these policy documents?
- How has CfE helped you to access pupils' learning?

Relationship with pupils

- How do you get to know your pupils?
- What kinds of things do you get to know about your pupils?
- To what extent is it important to you? And Why?
- How does this you to be effective teachers in the personal quality area (in particular)?

Their understanding of their contribution to pupils' health and wellbeing

- To what extent do you believe HWB in your responsibility?
- What do you do in your teaching to enhance pupils' HWB?
- How do you assess HWB?
- What is the prevalence of negativity among pupils? (Give examples if needed e.g. disengagement, poor body image, mental health abuse…). How do you deal with that?

Appendix K: Pupil focus group interview schedule

Their view on their health

- What does it mean to be healthy?
    - Can you give examples of health / being healthy?
    - When do you feel healthy?
    - When do you feel unhealthy?
- How do people in general stay healthy?
- What do you/friends/family members do to be healthy?
- What other things do you try to do to stay healthy?
- Where do you look for information about staying healthy? (prompt for the internet, social media, apps?)
- Thinking about your neighbourhood (where you live), what kind of things help you to stay healthy? Is there anything in your neighbourhood that makes you unhealthy?
- Who helps you to stay healthy?
- What do you need to stay healthy?

Their view on how PE contributes to their health

- Do you think physical education helps you to be healthy? Why? What part?
- How does your PE teacher help you to be healthy? In what ways ?
- What factors motivate you to engage in PE?
    - Do you ever get to decide which equipment/activities you would like you use/do in PE?
    - Do you feel good about yourself? When? How?
    - Do you feel you are good in PE?
    - Do you get satisfaction about the relationship with your friends/teacher? How do you like working with others?
- When do you feel motivated to participate in PE?
- When does PE feel most enjoyable for you?
- What kind of things prevent you from wanting to participate / try hard?

Appendix L: Example of feedback sheet

Dear ____

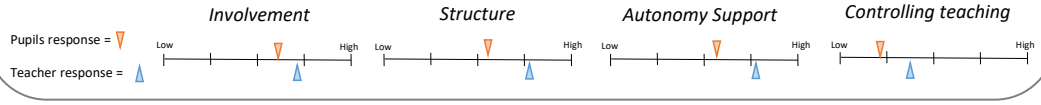
Thank you for taking part in the study. This is a preliminary feedback. We will code the videos of your teaching and examine the relationship between observed teaching behaviour and pupils' experiences of certain feelings with the overall average of other schools. We will report the full analysis information by the end of this academic year. Please let me know if you have any questions.

Perceptions of Teaching Behaviour

General Information. *Teacher Involvement* includes teachers' affection and understanding about the pupils. *Teacher Provision of Structure* refers to the clarity of expectations, contingency, and instrumental help and support. *Teacher Provision of Autonomy Support* refers to acknowledging the importance of pupils' opinions and feelings, providing choices, and encouraging pupils to follow their own interests. *Controlling Teaching* refers to the use of intrusive behaviour that pressure pupils to act, think, and feel in particular ways. A 5-point scale offers the scores.

Result.

- Pupils perceived of teacher behaviour in a good level, which can lead to flourish their psychological wellbeing and motivation.
- Pupils felt less controlling teaching, which is good to optimise their engagement.
- Teachers' perceptions were a bit higher than what pupils really felt.

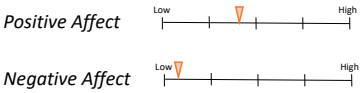


Positive and Negative Affect

General Information. *Positive Affect* reflects the extent to which a pupil feels enthusiastic, active and alert. In contrast, *Negative Affect* is a general dimension of subjective distress including upset, fear, and nervousness.

Result.

- Pupils felt positive after the lessons, particularly they felt determined and active.
- Pupils felt less negative after the lesson.

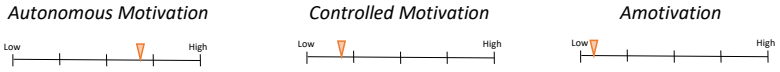


Motivation

General Information. *Autonomous motivation* is considered the most optimal form of motivation. Those who are autonomously motivated participates in the PE lesson because they feel the PE lesson is of interest, enjoyable, and has the personal significance. *Controlled motivation* refers to the pressured engagement in the PE lesson. *Amotivation* is a state of lacking any motivation.

Result.

- Pupils motivated autonomously towards the lessons.
- The level of controlled motivation and amotivation were low.



Psychological Need Satisfaction

General Information. *Need for autonomy* refers to feelings of a sense of psychological freedom when carrying out activities. *Need for competence* refers to feelings of effectiveness when mastering tasks. *Need for relatedness* refers to feelings of connectedness and intimacy with others.

Results.

- All the three needs satisfaction for autonomy, competence, and relatedness were secured.

Appendix M: Ethical approval for the pilot study

Ethics Approval

Linsey Baxter <linsey.baxter@strath.ac.uk>
Tue 21/11/2017 16:12

To: David Kirk <david.kirk@strath.ac.uk>
Cc: Eishin Teraoka <eishin.teraoka@strath.ac.uk>; Farid Bardid <farid.bardid@strath.ac.uk>; Ian Rivers <ian.rivers@strath.ac.uk>; Virginie Theriault <v.theriault@strath.ac.uk>

Type 1 Ethics Application - Approval

Our ref: 826 21-Nov-17

Dear All

Understanding secondary school teachers' and pupils' perceptions of health and wellbeing through physical education: A pilot study

CI David Kirk Other Investigator Eishin Teraoka

I can now confirm full ethical and sponsorship approval for the above study.

Regards
Linsey

Linsey Baxter, RaKET Administrative Assistant (Research and KE support team)
Faculty of Humanities and Social Sciences
University of Strathclyde
LH 340, Level 3 Lord Hope Building
141 St James Road
Glasgow
G4 0LT
0141 444 8418
linsey.baxter@strath.ac.uk

Appendix N: Ethical approval for the main fieldwork

Ethics Approval
Linsey Baxter
Sent: Tuesday, April 10, 2018 4:08 PM
To: David Kirk
Cc: Farid Bardid; Eishin Teraoka; Eugenie Samier

Type 1 Ethics Application - Approval

Our ref: 839 10-Apr-18

Dear All

Exploring pedagogies of affect in physical education for the development of young people's health and wellbeing

CI	David	Kirk	Other Investigator	Eishin Teraoka & Farid Bardid

I can now confirm full ethical and sponsorship approval for the above study.

Regards
Linsey

Linsey Baxter, RaKET Administrative Assistant (Research and KE support team)
Faculty of Humanities and Social Sciences
University of Strathclyde
LH 340, Level 3 Lord Hope Building
141 St James Road
Glasgow
G4 0LT
0141 444 8418
linsey.baxter@strath.ac.uk