Barriers and Facilitators to the implementation of The Daily Mile in Maltese Schools

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ABSTRACT

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The World Health Organisation recommends that children and youth should engage in at least an average of 60 minutes of moderate to vigorous physical activity every day (WHO, 2020b) and in Malta, a great number of children are not reaching these guidelines (Decelis et al., 2014). Schools have a great potential to help many children be more physically active and guide them to develop into active citizens (WHO, 2018). The Daily Mile is a school-based initiative, founded in Scotland in 2012 which became popular in schools worldwide, including Malta, for its simple and free implementation. A local case study measured changes in the students' fitness levels and gathered feedback from students, teachers/ LSEs and parents/guardians attending a Maltese state school (Bianchi & Vella, 2019). This current study aimed to conduct further research across different primary schools in Malta to help identify barriers and facilitators, from the perspective of teachers, that influence the implementation of the Daily Mile. Qualitative data was collected through remote interviews with four teachers and a Head of School from different primary schools who have experience implementing the Daily Mile. Through a thematic analysis of the data, it was confirmed that students enjoy participating in this inclusive physical activity and that teachers should adhere to the simple components to facilitate implementation. Participants in this study acknowledged that teachers who try the Daily Mile will quickly recognise the benefits associated with it and after some time it will fit well into their daily schedule. Ultimately, adequate outdoor facilities, possibly with areas of shade, support from an appointed person in school, and the teachers' effort and confidence to initiate participation, increases the chances of successful implementation.

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KEYWORDS: THE DAILY MILE, PHYSICAL ACTIVITY, TEACHERS, BARRIERS, FACILITATORS, MALTESE PRIMARY SCHOOLS

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Table of contents

List of Figures

List of Abbreviations

NCD – Non-communicable diseases

EU – European union

WHO – World Health Organisation

PA – Physical activity

PE – Physical Education

TDM – The Daily Mile

TDMF – The Daily Mile Foundation

SBRN – Sedentary Behaviour Research Network

SB – Sedentary Behaviour

CVD – Cardiovascular disease

MVPA – Moderate-to-vigorous physical activity

BMI – Body mass index

HBSC – Health Behaviour in School-Aged Children

UK – United Kingdom

SLT – School Leadership Team

TA – Thematic Analysis

LSE – Learning Support Educator

Chapter 1: Introduction

1.1 Introduction

The developments of globalisation over the past years have given rise to levels of physical inactivity and resulted in an increased prevalence of several non-communicable diseases (NCDs) (World Health Organisation [WHO], 2010). Obesity rates in Malta are the highest within the European Union (EU) for both adults and children, and inactive and sedentary lifestyles, combined with inadequate nutrition, are the main causes for this (European Observatory on Health Systems and Policies, 2019). WHO recommends that children and youth should be active on average at least 60 minutes every day (WHO, 2020), however, a study by Decelis et al. (2014), carried out amongst Maltese children aged 10–11 years, using objective measures, concluded that only an alarming 24% were reaching these recommendations.

WHO (2010) states that all children should have access to physical activity (PA) "irrespective of gender, race, ethnicity, or income level" (p. 18). While schools are the ideal setting for children to participate in PA, a decrease in time where students are active during school hours has been noted (Donnelly & Lambourne, 2011). Furthermore, while Physical Education (PE) offers students an opportunity to be active, school-based PA initiatives are growing in popularity to try to decrease the students' sedentary time. As recommended in Maltese policies, every school has the responsibility to provide sufficient PA opportunities to their students (Ministry of Education and Employment, 2015; Parliamentary Secretariat for Youth, Sport and Voluntary Organisations, 2019).

The Daily Mile (TDM) is an inclusive, 15-minute, self-selected pace activity for school students which was initiated by a headteacher of a school in Scotland in 2012 (The Daily Mile Foundation [TDMF], 2020a). The main aim behind this initiative is to increase students' PA levels and reduce the prevalence of childhood obesity. Since then, thousands of schools worldwide have introduced TDM to their students, including 38 schools in Malta (TDMF, 2020c).

This success has raised interest for researchers to investigate whether this PA break is as simple and effective as it is promoted to be. Amongst a considerable number of studies related to TDM, some reported improvements in different fitness components (Brustio et al., 2019; Chesham et al., 2018; de Jonge et al., 2020). Other studies also

recorded cognitive improvements (Booth et al., 2020; Morris et al., 2019) and positive effects in the social domain (Hanckel et al., 2019; Ward & Scott, 2019).

The first study conducted in Malta was carried out in one state school (Bianchi & Vella, 2019). It measured changes in the distance travelled during a 12-minute Cooper test and explored the different perspectives of students, teachers/LSEs, and parents/guardians through questionnaires. Further investigation of several aspects of TDM which were explored in that study could help make this initiative more successful in Malta.

The interest of the current study was developed with the aim to bridge the gap in research regarding PA initiatives, particularly TDM, and issues related to implementation success, specific to the Maltese context. Through the interviews conducted for this study, barriers and facilitators related to TDM, which were discussed in Bianchi and Vella (2019) and several international studies, could be investigated further. The conclusions and recommendations presented are targeted at individuals who play a role in the educational journey of Maltese children as they can potentially improve the intervention's success and contribute towards cultivating a healthier, more active generation.

1.2 Main aims of this study

As discussed briefly above, there have been several studies carried out internationally; however, data gathered from the Maltese context is still limited. This study mainly aims to explore factors that teachers find useful and others that pose a challenge when implementing TDM in a Maltese Primary school.

This study aims to answer the following research question:

- What barriers and facilitators are experienced by teachers when implementing the Daily Mile initiative with the aim of increasing physical activity in Maltese Primary schools?

The data which will help answer this research question is gathered through semi-structured interviews with Primary class teachers who have experienced the implementation of the TDM in their school. In order to get a good representation of

the Maltese context, the participants interviewed in this study are from different co-ed state schools and single-sex Catholic schools. The data gathered from Maltese teachers provides conclusions that schools in Malta can relate to and that can potentially help them avoid barriers and increase the chances of implementation success.

1.3 Overview of the dissertation

The following chapter, the Literature Review, provides an overview of the research compiled from local and international studies. It includes a discussion related to PA, the role of PA initiatives in schools, a detailed account of the core components of TDM, and factors that affect implementation.

The Methodology chapter includes the steps taken to select the research method and the participants, supported by the reasons behind these. It also includes an explanation of how the pilot study was carried out and how the method of analysis was selected. Finally, there is also an account of what was taken into consideration to ensure that this study is conducted ethically while producing valid and reliable results.

Chapters Four and Five present the results from the thematic analysis and a discussion of how these findings contribute to the local scenario. These chapters were carefully structured based on the data collected through the interviews carried out with participants who have experienced the implementation of TDM in Maltese schools.

The sixth and final chapter encapsulates the main findings along with recommendations that could guide schools in Malta to successfully increase PA opportunities for their students through TDM. The strengths and limitations of this study are also discussed in the concluding chapter, along with several recommendations for possible areas of future research.

Chapter 2: Literature Review

2.1 Introduction

While research clearly shows that regular participation in physical activity (PA) is greatly beneficial for health and well-being, there is still a lack of progress globally (WHO, 2018). One of the four main objectives presented in the WHO's global action plan is to create active citizens, and this includes providing sufficient PA opportunities for children, with a special focus on schools, so that children have equal access (WHO, 2018).

Amongst the main aims of the Daily Mile (TDM) initiative is to increase PA levels and help fight the current crisis of childhood obesity (TDMF, 2020a). TDMF (2020a) advocate that this 15-minute PA break should not replace Physical Education (PE) and one should adhere to the simple key principles of TDM to overcome common challenges.

This chapter will discuss the importance of PA, especially for children, and it will also explore PA opportunities at schools. TDM and its main principles will be described, while also addressing the role of teachers, schools and policies when it comes to increasing PA opportunities for children.

2.2 Physical activity and sedentary behaviour

PA is defined as "any bodily movement produced by skeletal muscles that results in energy expenditure" (Caspersen et al., 1985, p. 126). WHO (2018) justify that PA can take different forms at home or the place of work, and it can vary from simple activities, such as walking, to specific sport participation. It was also stated that regular participation in PA has been linked to several health benefits and there is a global effort to promote it amongst all ages and in all aspects of individuals' lives.

The Sedentary Behaviour Research Network (SBRN) recognised the need to establish standard definitions for common terms used in research related to sedentary behaviour (SB), to help differentiate between them and ensure their correct use (Tremblay et al., 2017). Among several definitions, the SBRN present a clear distinction between physical inactivity and SB. The final definition agreed upon for physical inactivity is "an insufficient physical activity level to meet present physical activity recommendations" (Tremblay et al., 2017, p. 9), while SB is defined as "any

waking behaviour characterized by an energy expenditure ≤1.5 metabolic equivalents (METs), while in a sitting, reclining or lying posture" (Tremblay et al., 2017, p. 9).

2.2.1 Guidelines on PA and SB

WHO (2020) recommend that adults should participate in at least 150 to 300 minutes of moderate-intensity, or 75 to 150 minutes of vigorous-intensity aerobic activity every week, with the addition of muscle-strengthening exercises involving all major muscles groups, on two or more days every week. Additionally, the latest guidelines by the WHO also recommend that individuals under the age of 18 should be involved in "at least an average of 60 minutes per day of moderate to vigorous intensity, mostly aerobic, physical activity, across the week" (WHO, 2020, p. 25). Apart from participating in aerobic-type PA, they should also be engaged in activities that strengthen muscles and bones at least three times a week. This can be achieved by partaking in recreation activities, PE lessons, active transport and planned PA, just to mention a few (WHO, 2020).

Furthermore, it was also acknowledged that the development of technology over the past decade has been contributing to higher levels of SB. For this reason, it is being recommended that "children and adolescents should limit the amount of time spent being sedentary, particularly the amount of recreational screen time" (WHO, 2020, p. 29).

2.2.2 The risks of physical inactivity and sedentary behaviour

The Department for Prevention of Noncommunicable Diseases collected data from 168 countries and found an increase in physical inactivity levels in high-income countries between 2001 and 2016 (Guthold et al., 2018). Having said that, the WHO (2018) has estimated that "1-3% of national health care expenditures are attributable to physical inactivity" (p. 16) not only in high-income countries but also in middle- and low-income countries. The main focal point of their global action plan for a healthier world was the noticeable decline in PA levels in many countries, which was specifically linked to their economic and technological development (WHO, 2018).

Physical inactivity is the fourth leading cause of mortality in the world, which leads to an estimated 3.2 million deaths per year around the world (WHO, 2018). Similarly, Malta related 4% of deaths in 2017 to insufficient levels of PA (European Observatory on Health Systems and Policies, 2019). Individuals who spend long periods engaged in SB have a 20 to 30% higher risk of mortality than those who reach the recommended levels of PA (WHO, 2014). The latest figures published by the State of Health in the EU's Country Health Profiles, show that Malta has the highest obesity rates amongst the 28 EU member states (European Observatory on Health Systems and Policies, 2019) and in 2019 there were 369 deaths specifically linked to obesity in Malta (Magri, 2020).

In addition, there are also risks amongst children who lead sedentary lifestyles, as it increases the likelihood of obesity which will further discourage participation in PA (WHO, 2007). A study by Mossberg (1989) followed up children who were overweight for a period of 40 years and reported that 47% of them were still overweight when they became adults. Excess weight increases the prevalence of health complications, which is why early interventions to help children lose excess weight is recommended. Dobbins et al. (2013) discuss that signs of cardiovascular disease (CVD) such as increased levels of blood lipids and blood pressure are appearing from a young age and will keep presenting harmful effects throughout life.

2.3 Benefits of PA

Participation in PA, apart from being an effective way to reduce the prevalence of noncommunicable diseases (NCDs), can also lead to significant gains contributing to individuals' well-being (WHO, 2018). While there might be some risks associated with being active, engaging in PA and limiting SB outweighs any risks (WHO, 2020). By following the PA guidelines mentioned above, children can benefit from holistic development in physical, social, as well as cognitive domains, which will be discussed further in the following sections (WHO, 2010).

2.3.1 Physical benefits

When compared to inactive children, those who participate in the recommended amount of moderate-to-vigorous physical activity (MVPA) benefit from "higher levels

of cardiorespiratory fitness, muscular endurance and strength" (WHO, 2014, p. 34). More physical benefits include improved bone and functional health, as well as the reduced prevalence of cardiovascular and metabolic risks. Dobbins et al. (2013) add that physical inactivity can develop an unhealthy body mass index (BMI) in children which can lead to cardiovascular complications in the future. Other risks in adulthood could also be reduced when children participate in PA on a regular basis (WHO, 2007). For instance, appropriate training during the younger ages is required for the maintenance of bone density, as it can otherwise lead to osteoporosis and other limitations in the elderly.

2.3.2 Psychosocial health

WHO (2007) stated that PA can be a great opportunity for social interaction between children and it can develop many values such as tolerance, and social skills such as teamwork and fair play. It was also stated that schools must persevere to create an active environment, to expose the students to opportunities where they can interact with others, help them improve their self-esteem and build towards a more positive perception of their image and competence. Moreover, it is less likely for students who engage in sports activities at school, to adopt undesirable habits in their future, such as smoking or using drugs (WHO, 2007).

PA can also have a positive impact on psychosocial health as it reduces the risk of suffering from anxiety and depression (Dobbins et al., 2013). This is an important finding to consider, especially since the latest statistics in Malta show that boys and girls, as young as 11 years of age, report feeling low and nervous more than once a week, with figures exceeding the HBSC average of 48 countries (WHO Regional Office for Europe, 2016).

2.3.3 Cognitive performance

School principals and teachers notice that after some time sitting, children will need to move in order to regain focus and be able to concentrate in class (Brown & Elliott, 2015). Cognitive performance at school relies on staying alert, reduced restlessness and good concentration levels, all of which can be improved through PA (WHO, 2007). Trudeau and Shepard (2008) also reported improvements in memory,

behaviour and school satisfaction after engaging in PA. Additionally, Dobbins et al. (2013) claimed that PA can contribute to better engagement from students and a reduction in the number of students who discontinue their studies at a young age. Moreover, a systematic review examining the association between participation in PA and academic performance reported a positive link, contributing to better grades and attendance rates (Rasberry et al., 2011).

Several studies stated that there is a positive relationship between PA and academic performance and that the latter will not decline if some of the time during the school day is dedicated to PA (Donnelly & Lambourne, 2011; Mavilidi et al., 2020; WHO, 2007). As a matter of fact, Donnelly and Lambourne (2011) reported that students who participate in more PA and have a healthy BMI achieve better grades in certain subjects at school than those with a higher BMI. PA opportunities at school, including PE lessons, opportunities for sport participation, and free active play, are a great contributor towards helping students meet the PA guidelines without it being detrimental to educational attainment (Trudeau & Shepard, 2008).

2.4 Childhood PA tracks into adulthood

Some studies claim that the association between PA patterns from childhood to adulthood is not strong (Boreham & Riddoch, 2001; Trost, 2006) and that healthy long-term benefits do not necessarily result from a physically active lifestyle during childhood (Twisk, 2001). Having said that, studies tracking PA from childhood to adulthood show that the development of a physically active lifestyle starts from early-childhood years and while correlations may not be high, especially among females, continuous participation in PA at a young age contributes to participation at an older age (Telama et al., 2005; Telama et al., 2014). Similarly, a study conducted in Australia found that while the correlation is rather weak, participation in PE and school sport led to more active behaviours later in life (Cleland et al., 2012).

As previously discussed, PA levels amongst children in Malta are rather low (Decelis et al., 2014), hence promoting PA during childhood years can have a positive impact on public health overall (Telama, 2009). Instilling healthy habits in children from a young age increases the chances of them leading healthy lifestyles as they grow

older (Dobbins et al., 2013). As stated by WHO (2007), “healthy children are the foundation for a healthy nation” (p. 1).

2.5 Factors that influence PA in children

Dobbins et al. (2013) stated that it may be difficult to increase levels of PA amongst children because many factors affect participation. They presented four main levels, including physiological factors such as age and gender, psychological factors such as attitude and self-efficacy, sociocultural factors such as support from family and friends, and lastly, ecological influence such as availability of facilities and equipment. Moreover, a systematic review by Hesketh et al. (2017) presented seven themes that affect PA participation in children. These include the personal preferences of the child, the influence at home, the influence of care providers, the interactions between parents and childcare providers, the environment, safety and weather.

A lot of children globally do not get the opportunity to participate in extracurricular sport activities, which may result in them leading inactive lifestyles during their childhood and possibly even through adulthood (WHO, 2007). In Malta, it was found that there are higher rates of obesity and lower PA levels amongst individuals who have not completed secondary education when compared to those who hold qualifications from higher education institutions (European Observatory on Health Systems and Policies, 2019). School-based PA opportunities will be beneficial for all students regardless of their situation; however, they will have the most pronounced impact on those who are at an increased risk of leading unhealthy lifestyles by helping them increase their daily MVPA (Dobbins et al., 2013).

2.6 PA and obesity levels of children in Malta

A study conducted in Malta in 2014 assessed PA levels and SB of a representative sample of 10- to 11-year-old Maltese children using objective measures, in this case, accelerometry, and found that the recommended period of 60 minutes of PA a day is only reached by 24.7% of participants, specifically 10% of girls and 39% of boys (Decelis et al., 2014). The same study also presented the time students spent in MVPA during the school day and reported that boys and girls were only active for a

duration of 20.8 and 15.2 minutes respectively, accounting for an average of just 18.1 minutes of PA during these hours.

Farrugia Sant Angelo and Grech (2011) carried out a study amongst Maltese children and reported a 19% increase in obesity rates when the same cohort of students was measured over three years. It was reported that health complications related to obesity amongst children are becoming more common and children who are obese are likely to maintain an unhealthy weight in adulthood, leading to the increased risk of suffering from certain diseases.

Decelis et al. (2014) highlighted the need to provide PA opportunities in an environment that is appealing to both girls and boys in order to help more children reach the recommended guidelines. Moreover, it was concluded that targeting to increase MVPA during school hours would be ideal to help more children, especially those who are obese, reach higher levels of PA.

2.7 PA in schools

While parents play an important role, care providers outside the home can be very influential, since children spend long amounts of time at school (Hesketh et al., 2017). “Other than the family, no social institution has a greater influence on the lives of children than schools” (WHO, 2007, p. 1). Even though research has confirmed numerous PA benefits, physical inactivity has still been continuously increasing for many years, worldwide (Dobbins et al., 2013). Furthermore, Dobbins et al. (2013) also stated that even though schools are aware of the benefits of PA and the low levels of PA amongst children, they are still contributing to long hours of sedentary time. Several studies discussed this concern and recognised that schools have the potential to address the issues of physical inactivity and help combat the increasing rates of obesity amongst students in schools (Mantjes et al., 2012; Marchant et al., 2020). In fact, WHO (2018) stated that “school-based policy initiatives are an essential component of endeavours to create a more active society” (p. 17).

Harris, Jo and Cale (2018) stated that promoting PA in schools is imperative for several reasons: they reach a large number of students, have a great impact on the students’ behaviour, have the opportunity to provide enjoyable and effective PA, and

their efforts can transfer to families through the students. WHO reported that PA in schools takes place in different forms, including quality PE lessons, active transport and active breaks during and between lessons, and the opportunity of after-school PA (WHO Regional Office for Europe, 2018b). These recommendations are especially important since certain habits, such as shorter recess time and less frequent participation in active transport to and from school, have led to an overall decrease in PA over the past years (Pate et al., 2006). Furthermore, Harris, Jo and Cale (2018) also highlight the importance of the hidden curriculum when promoting PA, which includes elements such as appropriate facilities and equipment made available to students, and attractive displays promoting PA, such as posters, distributed around the school.

2.7.1 Physical Education (PE)

“Physical education is about encouraging every child and young person to become a lifelong participant in physical activity and supporting every child and young person on their physical literacy journey” (Hardman, 2011, p. 18). It is the only subject at school that has the potential to help students develop the essential motor skills, which will help them participate in sport and PA for life (Hardman, 2011). Regrettably, Donnelly and Lambourne (2011) reported a noticeable reduction in PE time in general over the years, and that the time in which students are active is insufficient due to limited space and lack of equipment to suit larger classes. Hollis et al. (2017) also determined that PE lessons often fail to reach the recommendation of engaging students in MVPA for at least 50% of the total lesson time (Centers for Disease Control and Prevention, 2010; Harris, Jo, 2020).

A Maltese national strategy recommended that students in both primary and secondary schools should have three hours of quality PE and sport every week (Superintendence of Public Health, 2012). As part of these three hours, schools should be providing students with four 30-minute PE lessons every week, but in most cases, this recommendation is not being met. It was also recognised that better facilities are needed to promote PA and be sufficient for the large number of students attending each school (Superintendence of Public Health, 2012).

Dobbins et al. (2013) stated that when school schedules are tight, PE lessons might be sacrificed to make up for the lack of time and this is why providing PA opportunities in schools, in addition to PE, will help children reach higher levels of PA.

2.7.2 PA interventions

Harris, Jo and Cale (2018) state that while PA breaks complement the benefits acquired through PE lessons, they should be considered as an additional PA opportunity and not as a replacement. A plan of action published in the United Kingdom (UK) recommended that schools should provide students with 30 minutes of PA every day (Department of Health and Social Care: Global Public Health Directorate, 2018). Moreover, a mental health strategy established in Malta for the period between 2020 and 2030 encourages PA at school as it can have a positive impact on the mental well-being of the students, especially with statistics showing above-average feelings of nervousness in children (Office of the Deputy Prime Minister: Minister for Health, 2019).

PA interventions are an effective way of reaching a lot of children, and they can be especially beneficial for those who are generally inactive to gradually start participating in reasonable levels of PA (Dobbins et al., 2013). Even though it might not satisfy the total recommended time, “doing some physical activity is better than doing none” (WHO, 2020, p. 25), and children should be encouraged to participate in order to gain some benefits (WHO, 2010).

Carlson et al. (2015) investigated the effects of classroom-based PA breaks such as *TAKE 10!, CATCH*, *Instant Recess* and *Energizers* and found that they increased PA levels and decreased the occurrence of negative behaviour such as lack of effort and motivation in the classroom. In agreement with this, a systematic review by Barr-Anderson et al. (2011) found that the majority of PA interventions have a positive impact on PA levels, improve BMI and improve attitude towards PA, particularly in girls.

A systematic review and meta-analysis on the effectiveness of PA initiatives concluded that they are not having the desired impact on children’s MVPA levels

throughout the day (Love et al., 2019). Having said that, it was stated that PA interventions can still be an effective tool to help target the increasing rates of inactivity and obesity. However, further research could help highlight why some interventions have limited effects and which adaptations might lead to the desired outcomes.

2.8 The Daily Mile

The PA intervention being investigated in this current study is recognised by many as The Daily Mile (TDM) and it is being carried out successfully by thousands of schools worldwide (TDMF, 2020a). TDM originated from a school in Scotland in 2012 when the head of school noticed a growing problem of obesity, inactivity and low fitness levels (TDMF, 2020a). This PA break is carried out by the class teachers by taking the students outside for 15 minutes to walk, jog or run along with their classmates, at a time selected by the teacher during the school day. It is stated that children who can maintain a steady running pace throughout the 15-minute duration, should cover the distance of approximately one mile.

There are 78 countries currently registered to be implementing this initiative in their local schools, helping thousands of children worldwide to be more physically active during their school day (TDMF, 2020a; TDMF, 2020c). This PA initiative has experienced this global popularity due to its simple implementation, and not requiring the use of any equipment or planning from the teacher (TDMF, 2020a). Since it started, TDM has not only shown physical benefits, but it has also been effective in showing improvements in the cognitive and social domains, as well as other general aspects such as improved sleep and concentration (Chesham et al., 2018; TDMF, 2020a).

TDM in Malta was initiated in 2018 (TDMF, 2018) and it has 38 schools registered to be doing TDM to date (TDMF, 2020c). Three months after its initiation, the founder of the TDM initiative stated that “this launch shows Malta leading the way in the Mediterranean and are committed to helping your children sustainably improve their health and well-being” (TDMF, 2018, para. 5). So far, one study has been carried out in Malta, in a Primary state school (Bianchi & Vella, 2019). This study measured the fitness levels of 66 students through a 12-minute Cooper test and distributed

questionnaires to 139 students, 123 parents/guardians and 17 teachers/Learning Support Educators (LSEs) in the same school. Results from this study will be discussed throughout the remainder of this chapter.

For a successful and sustainable implementation of TDM, it is recommended that schools follow the core principles suggested by TDMF (2020a). The following sections include a description of these, along with findings from several studies regarding PA initiatives in general, and others specifically addressing TDM.

2.8.1 It takes 15 minutes

Even though the name of the initiative indicates that children will run a mile every day, this distance is only an estimation and a guideline (TDMF, 2020a). It is stated that 15 minutes is an adequate duration for students to gain benefits but at the same time will not interfere too much with academic instruction. Measuring TDM by time rather than by the actual mile is preferred because teachers could make sure that it does not take too long and it also eliminates negative experiences for those who always finish last (Marchant et al., 2020). PA breaks of this duration “may be more feasible and appealing than longer bouts, especially for sedentary populations” (Barr-Anderson et al., 2011, p. 77). Additionally, Barr-Anderson et al. (2011) also stated that durations longer than 20 minutes are a lot more difficult to implement into a daily routine and to maintain it.

Having said that, teachers identify lack of time as being one of the major barriers when implementing PA breaks, including TDM, and even though they are in favour of increasing PA during the school day, time can be very limiting in some cases (Malden & Doi, 2019; Nathan et al., 2018; Naylor et al., 2015; Norris et al., 2015). Bianchi and Vella (2019) found that most teachers are aware of the importance of the initiative, but approximately one-third of the participants reported that due to time restrictions, it is not always possible to conduct TDM. In agreement with this, Hanckel et al. (2019) stated that due to the frequent school activities and busy schedules, some teachers feel that they cannot sacrifice the time and prioritise the curriculum over TDM**.** On the other hand, others believe that it is a matter of finding the time which would otherwise not be productive anyway among the hours spent at school (Marchant et al., 2020).

Apart from that, there were also instances where parents were concerned about TDM taking an additional 15 minutes from academic instruction and it led to the school having to make adjustments to implementation, such as incorporating it into PE or break, or shortening break time by 10 minutes to reduce the time lost from the classroom (Marchant et al., 2020). The students were not particularly fond of the fact that time is being taken away from PE or their free play during the break, and this affected their enthusiasm to participate.

2.8.2 It is promoted as an outdoor activity

Sallis et al. (2000) found that time spent outdoors is positively correlated with increased levels of PA in children. This supports one of the core principles of TDM, which is that the children get the opportunity to enjoy some additional time outdoors (TDMF, 2020a). This was one of the best aspects of TDM mentioned by students when asked to discuss their experience (Bianchi & Vella, 2019; Ward & Scott, 2019). Students appreciate the additional short break outside of their classroom and view it as an ideal way to release some of the academic pressure through the interaction with other students and without the restrictions faced in the classroom setting (Ward & Scott, 2019).

Several studies identified weather as being a major barrier to outdoor PA (Hanckel et al., 2019; Malden & Doi, 2019; Naylor et al., 2015). Marchant et al. (2020) reported that some teachers mentioned concerns related to hot temperatures and making sure that the children are well hydrated during the activity. Furthermore, teachers in this study also referred to additional pressures that the schools receive from parents who are concerned about the safety of carrying out PA in hot weather. In line with this, a parent from the study carried out in Malta commented that TDM should not take place when summer starts approaching and temperatures start to rise (Bianchi & Vella, 2019).

Having said that, Hesketh et al. (2017) discussed that certain weather conditions, such as running in light rain, can create a fun environment when carrying out PA. Furthermore, Hanckel et al. (2019) reported that TDM was carried out in different weather conditions and on the rare occasions when it was not held, that was due to extreme circumstances such as the school playground being flooded. In fact, it was

stated that weather was not a barrier, unless the ground surface was icy or if there was very heavy rain. In such instances, an indoor alternative might be found, or the teacher would allow some time for the conditions to improve.

2.8.3 It is social, non-competitive and fun

“Children should discover physical activity as a fun type of recreation and as a means of relaxation” (WHO, 2007, p. 22). Having the time to interact with friends is a very important aspect of PA for school-aged children, especially after working on some challenging academic tasks in the classroom (Ward & Scott, 2019). Mavilidi et al. (2020), studied the effects of two types of PA breaks, with and without mathematics combined, and concluded that the latter had the best results over “on-task behaviour and academic achievement” (p. 164).

Students, particularly girls, appreciate the time they get to talk in small groups as they carry out TDM (Hanckel et al., 2019; Ward & Scott, 2019). This was also found in the study by Bianchi and Vella (2019), where more than 90% of the student participants claimed that it is one of the reasons why they enjoy participating in TDM. While some children prefer doing TDM alone, the majority of students enjoy the social aspect of the initiative and find it more encouraging to continue when they receive support and see the teacher participating with them (Hanckel et al., 2019; Harris, Jennifer et al., 2019). These studies also reported that teachers find the time spent talking with students during TDM provides a unique opportunity to get to know them better and strengthens student-teacher relationships.

In line with what TDM promotes, WHO (2007) stated that schools should focus mainly on non-competitive PA, which can be more successful in promoting lifelong participation. This is due to the fact that the competitive element of sports might be discouraging for those who struggle with physical competence and pushes them away from PA overall. Having said that, some teachers choose to add an element of competitiveness to TDM such as races or collecting points after the completion of every round, and it was evident that students enjoy these added challenges (Hanckel et al., 2019). Others believe that they should stick to the simple components promoted by TDM because it might impede implementation success (Ryde et al., 2018).

2.8.4 It is fully inclusive

“School-based physical activity interventions like TDM are appealing because they include whole classes, hence they reach many children regardless of socioeconomic status, physical activity level or fitness level” (Chesham et al., 2018, p. 2). The simple structure of the initiative ensures that all children can participate and benefit from it during the school day and this was confirmed in several studies (Bianchi & Vella, 2019; Brustio et al., 2019). Ryde et al. (2018) also reported that teachers find the initiative suitable for students of different fitness abilities especially since it allows the possibility of a self-selected pace. Moreover, TDM was found to be effective in reaching students from different socioeconomic backgrounds and can be an effective way to promote PA amongst those who may face difficulties trying to maintain an ideal health status (Hanckel et al., 2019).

2.8.5 PA levels, improvements in fitness levels and awareness about health

A study by Chesham et al. (2018) carried out in primary schools in Scotland aimed to measure physiological changes in students who participate in TDM using accelerometers, 20-metre shuttle-run test, and skinfold callipers. The conclusions showed that this initiative can help students increase PA levels, reduce sedentary time, and improve fitness and body composition. Other studies also recorded improvements in the fitness levels of students, using instruments such as a shuttle-run test after 12 weeks of implementation (de Jonge et al., 2020), or through a 6-minute run test and standing long jump after 3 months of implementation (Brustio et al., 2019). In line with this, the Maltese study also found improvements in the fitness levels of the participants after four weeks of implementation, recording on average an 8% increase in the distance covered in the 12-minute Cooper test (Bianchi & Vella, 2019).

Parents and teachers have noted that all students can benefit from TDM, but those who have lower fitness levels and record lower levels of MVPA show greater progress from their daily participation (Hanckel et al., 2019). TDM has been found to help children reach on average 35.6% of the recommended 30 minutes of daily MVPA, which children should accumulate at school (Morris et al., 2019). Benefits from TDM are what would be expected from this 15-minute bout of exercise and

reasonably, it has been found that longer durations spent in PA are associated with greater health benefits (Dobbins et al., 2013).

Some educators also take the opportunity to teach students about the health benefits of PA during TDM (Hanckel et al., 2019). Teachers shared that students learn about different health-related issues such as how the increased heart rate helps them to become healthier, and some students also reported feeling healthier due to their participation in TDM.

2.8.6 No need for equipment, additional training or work for the teachers

As stated by Nathan et al. (2018), some schools find the limited supply of equipment in schools to be a barrier when implementing PA breaks. Not having to coordinate anything to implement TDM is a great advantage for teachers who are constantly restricted in time and might be concerned about the fact that it would take more than 15 minutes and disrupt their day too much (Hanckel et al., 2019).

Ryde et al. (2018) discussed that TDM is particularly appealing to schools and teachers because of its simple implementation which requires no preparation and no teacher training. Brown and Elliott (2015) identified that teachers' experience, level of confidence and motivation in leading PA breaks impact the outcome when carrying out PA breaks with their class. The same study also found that teachers would prefer to receive training to be able to implement PA breaks more effectively, but simple initiatives like TDM can be more encouraging for both the school and the class teachers.

2.8.7 Children run in their uniform

TDMF (2020a) specifies that for this aerobic PA break, children can stay in their school uniform without having to change shoes or into their PE kit. However, since some schools have poor running surfaces, they prefer to have the students change their shoes before going for TDM (Malden & Doi, 2019). It was further discussed that, while appreciating that the students will be more comfortable and more encouraged to be physically active when wearing running shoes, it can become a barrier when a lot of time is spent on this. Ryde et al. (2018) reported that time wasted for children to put on their jacket was a barrier to implement TDM daily and

that it is usually skipped on days when the students have PE. Additionally, some schools store children's jackets in a cloakroom far away from the classroom and it adds to the time required to implement this break.

Certain schools have considered these issues and adapted specifically to their situation. For instance, Ward and Scott (2019) mentioned that a particular school specifically assigned older students to carry out TDM in a field that requires them to change their shoes, since they can change quicker, and the younger students use the hard-surface playground, so they will not have to change. Another study stated that the particular school in the study required students to change their footwear to run outdoors even for break time and for this reason some classes preferred to do TDM before or after the break since the children will be already in the appropriate footwear (Harris, Jennifer et al., 2019).

Moreover, a great benefit of not having to change into the PE kit to carry out TDM, is that it avoids placing certain students, who are not confident with their body image, through uncomfortable situations in front of their peers (Dobbins et al., 2013). Such negative experiences associated with participation in PA at a young age could discourage students from leading active lifestyles. Bianchi and Vella (2019) reported some parents stating that they would prefer it if their children would be allowed to attend school in their PE kit so that they will be more comfortable and participate more freely. Since the study, state schools in Malta have switched to the school PE kit being their main uniform after consulting with students, parents and educators, and a complete shift is planned to come into effect by 2021 (The Times of Malta, 2019).

2.8.8 Students' performance in the classroom

Morris et al. (2019) conducted executive function and math fluency tests with students following their participation in TDM and recorded some improvements in math fluency in general. Moreover, Booth et al. (2020) found that students involved in 15-minute PA breaks such as TDM benefitted from improved cognition and well-being when compared to a control group and to a group of students who were involved in a near-maximal exhaustion activity.

While some teachers in Marchant et al. (2020) expressed that at times it is challenging to calm the students down when they return to class, it was also reported that participation in TDM has helped them to associate PA with more positive feelings, reduced stress and improved self-esteem and wellbeing. All these feelings can positively impact their attitude and performance during academic instruction. Furthermore, several studies reported a positive impact resulting from TDM. Some teachers shared that TDM helps children concentrate better when they are back in the classroom, so it helps the students academically and makes up for the time spent outside (Hanckel et al., 2019; Harris, Jennifer et al., 2019).

Bianchi and Vella (2019) found that the majority of the students claimed that they do not feel tired after TDM and it helps them feel more energised and concentrated in class. Teachers also claimed that the students' level of attention and concentration improve to some extent following TDM. Other studies that listened to students, reported mixed statements when it comes to concentration levels after TDM (Marchant et al., 2020; Ward & Scott, 2019). Some students stated that they can concentrate better and work more efficiently on classwork following this PA break, while others say that sometimes they are tired, and it takes some time until they manage to refocus upon returning to class. As discussed by Marchant et al. (2020), this might depend a lot on individual students and how well they can settle down and resume their classwork.

2.9 Teachers' perspective and influence

Brown and Elliott (2015) established that the teachers' perspective and attitude towards PA impacts the success of school interventions. The teacher's motivation and experience in PA was found to facilitate implementation, and for teachers to remain enthusiastic about the delivery of PA initiatives they must appreciate how the students are benefitting. Another study also reported that pupils find that the teacher's participation and words of encouragement give them a boost to keep going, while those whose teacher does not participate, claim that it has a negative effect on their interest (Marchant et al., 2020).

It is important that teachers view TDM as a beneficial part of the day for the students in several aspects and should not perceive it as another activity added to their busy

day (Harris, Jennifer et al., 2019). When teachers acknowledge the positive changes, such as improved levels of focus and energy following TDM, they are more likely to keep implementing it enthusiastically (Ryde et al., 2018).

2.10 Whole-school approach

Even though it is ultimately the responsibility of the class teacher to implement PA breaks such as TDM, the success of such PA interventions also depends on the school's management team. WHO (2007) highlights how the school environment can influence the success of PA initiatives, including the psycho-social environment, which includes matters such as teacher role models and peer reinforcement, and the physical environment of the school, including adequate facilities and strategies to prevent injuries. A Maltese policy on healthy eating and physical activity claims that school-based efforts can be very effective but not without the school addressing the existing issues related to nutrition and PA (Ministry of Education and Employment, 2015). The Active School Flag Award in Malta is an initiative that encourages schools to work with and for the students, and a whole-school approach is essential for schools to obtain this award (Directorate for Learning and Assessment Programmes, 2018). Schools must offer a range of activities before, during and after school, all of which should encourage an active lifestyle.

Ryde et al. (2018) found that all headteachers and class teachers that participated in the study believe that the school's support is crucial and a lack of it is related to poor implementation success. In some schools, continuous support from the school is the main reason why all classes managed to implement TDM every day (Malden & Doi, 2019). Similarly, Marchant et al. (2020) found that the support of the school, such as promoting the initiative on the school's social media, was vital in order to gain the support of the parents, while lack of involvement acted as a barrier. Naylor et al. (2015) confirm that models that include both the school management team and the teachers are more effective and have more successful outcomes.

2.11 Policies supporting PA

The number of countries that have published policies and strategies to address the lack of PA has increased and they have produced positive results (WHO Regional

Office for Europe, 2018a). WHO (2010) stated that policies targeting PA have led to an increase in PA levels in high-income countries and such policies need to ensure that school children are receiving adequate time of PE and PA, which form part of the school curriculum rather than being an external addition. “Policies at local and national levels are fundamental to promoting and sustaining physical activity programmes at schools” (WHO, 2007, p. 10).

Amongst the latest policies published in Malta, ‘Aiming higher’ is a National strategy aiming to increase the public’s interest in sport and PA (Parliamentary Secretariat for Youth, Sport and Voluntary Organisations, 2019). Education is the first of the seven main pillars targeted; due to the potential it has of reaching a large portion of the population. The importance of investing in facilities and increasing collaboration within the community was also noted. Another Maltese policy highlighted the importance that all children deserve the right to receive and participate in quality PE and PA opportunities during the school day (Ministry of Education and Employment, 2015). All this aims to ensure that all children, regardless of their background, comprehend and gain essential benefits which contribute towards a healthy lifestyle (Parliamentary Secretariat for Youth, Sport and Voluntary Organisations, 2019).

Several sources discuss that, while national policies are designed to help schools implement adequate PA interventions, they must be practical when applied in a school context and they must be monitored to ensure successful implementation (Brown & Elliott, 2015; Nathan et al., 2018; Naylor et al., 2015). While several governments around the world have created such policies, research shows that at times schools fail to successfully implement the recommended policy as intended (Nathan et al., 2018). When policies are being designed, the particular school context must be kept at the forefront, taking into consideration the existing pressures in schools and making sure they can be implemented (Brown & Elliott, 2015). Related to this, Dobbins et al. (2013) discuss the importance of having a curriculum that supports the teachers’ efforts to employ PA breaks and increase the time children spend active every day during school hours.

2.12 Conclusion

“Schools provide an important avenue through which to promote healthy, active lifestyles among children” (Harris, Jo & Cale, 2018, p. 6). Since a large number of children in Malta are not reaching the recommended 60 minutes of daily PA (Decelis et al., 2014), promoting initiatives such as TDM in all schools can have great benefits. TDM has shown to be greatly successful in several countries, especially in England and Wales, and the initiative’s success in promoting PA was also recognised by WHO Regional Office for Europe (2018b).

As stated in Malden and Doi (2019), collecting data from schools that have implemented this initiative can help establish common facilitators and barriers associated with it. A number of studies have already gathered similar data about this; however, data collected from the Maltese context is still very limited. Considering that different settings can impact the success of the implementation, hearing the experiences of local practitioners before extending TDM further would be valuable, and it could contribute to reaching the target of becoming a ‘TDM island’. The only study carried out in Malta gathered data quantitatively and from just one state school (Bianchi & Vella, 2019), which means that there is a need for a more in-depth investigation of the factors which affect the implementation of TDM in Maltese schools. A qualitative study can help evaluate facilitators which were found to be successful and act upon factors which are found to interfere with implementation.

Chapter 3: Methodology

3.1 Introduction

As researchers “we need to be clear about the objectives of our research and we need to have a sense of what kinds of things it is possible for us to find out” (Willig, 2009, p. 2). Researchers must reflect on which research methods will provide the best data to reach the aims of the research study and to help answer the research question. This chapter includes an explanation of the study’s purpose and research question. It also includes details on the methodology, the epistemological position adopted in this study and the rationale for selecting a qualitative research method. Details on how the data collected was analysed, which ethical considerations were acknowledged, as well as the validity and reliability of the study will also be discussed.

3.2 Purpose of the study

Taking into consideration the limited research in Malta on PA interventions, specifically on the Daily Mile (TDM), this study aimed to gather data from teachers who have experienced the implementation of the initiative in Maltese schools. Through qualitative methods, the study explored key facilitators and barriers which affect the success of the intervention, while it also investigated the perceived benefits of TDM highlighted by the teachers from state and Catholic schools. The impact and responsibilities of the school leadership teams (SLT), and physical activity (PA) policies are also discussed to establish existing facilitators and barriers which are beyond the class teachers’ control.

As stated by Williams (2007), every research aims to answer specific research questions and this study aims to answer the following: What barriers and facilitators are experienced by teachers when implementing the Daily Mile initiative with the aim of increasing physical activity in Maltese Primary schools? This study is essential as it provides data specific to the Maltese context and it can be referred to by other schools in Malta who are intending to introduce TDM into their daily routine. It can potentially help schools to successfully implement PA initiatives and increase PA levels for school children.

3.3 Choice of research method

The research strategy ensures that the research question is addressed as unambiguously as possible. The aim of the study evolved after carrying out thorough research on PA in general and on TDM, both locally and internationally. Different research methods were investigated to help select the method which best corresponds to the nature and aims of the study.

Williams (2007) suggests that the strengths and weaknesses of the three most common research methods (quantitative, qualitative and mixed) should be carefully considered in relation to the research question. Quantitative research methods are used in studies that need to collect numerical data, qualitative research is selected when textual data will contribute most to the research question and lastly, a mixed-methods approach is taken when both types of data are required (Williams, 2007). Furthermore, Jamshed (2014) states that qualitative data may be a better option when exploring new areas or for further investigation of certain issues. “Qualitative research is not done for purposes of generalisation but rather to produce evidence based on the exploration of specific contexts and particular individuals” (Brantlinger et al., 2005, p. 203). Since local data on TDM is limited, qualitative methods allowed for a more in-depth and meaningful data collection.

The interaction with the participants, along with an interpretive approach, provided paramount data to help answer the research question. The interpretive paradigm in research is described as being concerned for the individuals and believes that one cannot separate the individual from society (Cohen et al., 2018). “This approach emphasises social interaction as the basis of knowledge” (O’Donoghue, 2006, p. 9). The use of interviews in this study enabled the researcher to understand individual perspectives through interaction with the participants. Moreover, this approach also allowed the researcher to “understand how this reality goes on at one time and in one place and compare it with what goes on in different times and places” (Cohen et al., 2018, p. 20).

Several international studies investigating TDM took a similar approach when conducting their research. A study by Marchant et al. (2020) in South Wales adopted a mixed-methods approach, using quantitative measures to assess students’ fitness,

while qualitative semi-structured interviews with teachers and focus groups with students were used to reach the primary aim of their study. Another study conducted in Primary schools in Edinburgh and East Lothian adopted an interpretive approach to qualitative research through the use of semi-structured interviews, to explore teachers' understanding, experience and factors that affect the implementation of TDM (Malden & Doi, 2019). In addition, a similar study carried out within four schools in central Scotland also used semi-structured interviews to investigate what teachers experience when carrying out TDM on a daily basis (Ryde et al., 2018).

3.3.1 Interviews

Compared to quantitative research methods, as mentioned earlier, interviews allow more in-depth data collection as the researcher has the opportunity to confirm that the participants get a good understanding of the questions being asked and to ensure that responses satisfy what was intended by the question (DiCicco-Bloom & Crabtree, 2006; Jamshed, 2014).

Qualitative interviews can be categorised depending on how structured the questions are, and are commonly classified as unstructured, semi-structured or structured, with the latter producing mostly quantitative data (DiCicco-Bloom & Crabtree, 2006). Structured interviews may help reduce instances of bias as any changes in the wording of the questions applied in semi-structured or unstructured interviews "ceases to be the same question for each respondent" (Cohen et al., 2018, p. 273). Having said that, semi-structured interviews have the benefit of enabling the participants to explore their unique view and share experiences which can lead to more compelling findings (Cohen et al., 2018). This contributed greatly to this study since several aspects still needed to be explored.

When using interviews, one may face some challenges, including the fact that it can be time-consuming for both the researcher and the participant and it is more difficult to maintain anonymity when compared to other methods such as surveys (Cohen et al., 2018). Furthermore, another disadvantage that the researcher must acknowledge is how their subjectivity can influence the data provided by the participants. Naturally, the characteristics of the researcher and the interviewees might affect the data being collected, including the researcher's personal opinions,

preconceived ideas and unique view of the interviewees. All these can be unconsciously present when conducting research and it is very challenging to eliminate the influence that the researcher has on the participants.

Considering both the advantages and disadvantages of qualitative research methods, semi-structured interviews were found to be the most ideal to provide significant data. Semi-structured interviews were held with each participant once and included the use of prepared open-ended questions, with the addition of spontaneous questions which arose during the interview. Additionally, non-directive follow-up questions maintained a flowing conversation while also ensured that the researcher was not making any assumptions. As stated in DiCicco-Bloom and Crabtree (2006), for the interviewee to share substantive data, the interview must reach the “exploration phase” (p. 317). In order to eliminate elements of bias as much as possible, researchers must select the sample of participants sensibly, make good use of probing questions during interviews and choose words meticulously when asking the questions to ensure that the meaning of the questions is not altered (Cohen et al., 2018).

3.3.2 Remote interviews

With the global pandemic of COVID-19 impacting everyone’s lives, conducting research during this time brought on several exceptional challenges. Advancements in technology and a larger percentage of individuals having access to the internet, made it more feasible to conduct interviews virtually, while still collecting good quality data as face-to-face interviews (Archibald et al., 2019; Hanna, 2012). Offering the option to collect data remotely, in addition to face-to-face methods, is beneficial when contacting participants from different geographical locations and those with very busy schedules, but at times like these, they were essential to preserve the well-being of all those involved. Having said that, the possibility of face-to-face interviews was still offered to participants so that it reduces the chances of excluding participants who may not have easy access to the internet or do not feel confident using technology (Archibald et al., 2019).

Online research methods can include asynchronous methods such as e-interviews, or synchronous ones such as telephone or virtual interviews (Archibald et al., 2019).

Telephone interviews were investigated in a narrative study which aimed to gather data from a selection of participants who were involved in a specific scenario and who lived in various locations (Holt, A., 2010). Given that the subject of the study by Holt, A. (2010) was sensitive, the use of telephone interviews helped the participants feel safe when sharing their personal experiences, without having to reveal their identity or give any personal details such as their home address. Since the study was exploring sensitive issues, using telephone interviews enabled the participants to move around freely when family members interfered and at times even reschedule so that the interview can be conducted at a less hectic time for the participants.

While telephone interviews were considered for this study, acknowledging the lack of non-verbal communication and taking into consideration that this study does not involve the gathering of sensitive data, it was not found to be the most ideal method. In face-to-face and online interviews, there is interaction during the interview itself, and once again during the transcription and this is something that is lacking when conducting interviews over the telephone (Lo Iacono et al., 2016). Essentially, synchronous interview methods allow for better interaction, access to visual and sound effects, as well as the opportunity for the researcher to take notes throughout the interview (Archibald et al., 2019; Deakin & Wakefield, 2014). Deakin and Wakefield (2014) stated that researchers can collect data using different types of interview methods depending on the current situation and personal preference of the participants. In this study, face-to-face or virtual interviews were favoured to investigate facilitators and barriers associated with the implementation of TDM.

A very important element of conducting virtual interviews during the current global pandemic is that individuals can interact as they would in face-to-face interviews, but there is the assurance that there is no invading of each other's personal space (Hanna, 2012). Having said that, "the online interview should be treated as a viable option to the researcher rather than as an alternative or secondary choice when face-to-face interviews cannot be achieved" (Deakin & Wakefield, 2014, p. 604). Research carried out on virtual data collection has shown that the data can still be of good quality, with some participants feeling more comfortable discussing certain issues than they would in face-to-face interviews (Lo Iacono et al., 2016).

Deakin and Wakefield (2014) stated that using the software Skype to conduct interviews should be seriously taken into consideration by researchers, especially due to its flexibility which enables both the participants and the researcher to meet at a convenient time, without having to allocate additional time for travelling. It was also highlighted that a better response rate from potential participants can be experienced when offering the option of virtual interviews. Moreover, while Skype could be a viable option, Archibald et al. (2019) discuss Zoom as a research tool and highlight several features which make it very reliable and efficient. One main advantage of Zoom is that it has the Record feature which saves safely as soon the recording is stopped, unlike Skype which requires additional software to record a session (Archibald et al., 2019; Deakin & Wakefield, 2014). In addition, Zoom also has specific security features including “user-specific authentication, real-time encryption of meetings, and the ability to backup recordings to online remote server networks” (Archibald et al., 2019, p. 2). Furthermore, the software used to record the interview on Skype does not show the participant when the recording has started and even though the researcher must always clearly state when the recording has initiated, Zoom has the additional feature of automatically informing the participants of the recording (Lo Iacono et al., 2016). Participants who were interviewed over Zoom shared that they preferred it when compared to other programmes and it was even found that this method was better than face-to-face or telephone interviews (Archibald et al., 2019). Finally, it was found to be very convenient, user-friendly, and very easy to build a good rapport with the researcher.

Some issues related to virtual interviews include difficulties in the internet connection or lack of experience when joining the session, as well as poor quality of the call, but this can happen with any software (Archibald et al., 2019). Another issue for participants could be the fact that they may not feel comfortable being video-recorded, so the option to keep their camera off was suggested to all participants from the start. In addition, since participants are commonly at home or work when they do the interview, they must select an ideal time and place to minimise the occurrence of distractions during the interview (Deakin & Wakefield, 2014). Related to this, Lo Iacono et al. (2016) reflect on the fact that the researcher has no control over the location chosen by the participant, and it may have some issues if the

camera captures anything which participants would otherwise keep private, either through the range of the camera or through reflections in mirrors. For this reason, participants in this study were informed about these issues beforehand and it was recommended that the location is selected carefully.

After the vast research carried out, this study provided potential participants with the opportunity to select their preferred method for an interview, whether it is face-to-face or remotely using the software Zoom, which most teachers in Maltese schools have become familiar with during the last months of online schooling. All interviews in the study were ultimately conducted and recorded using Zoom, with some participants choosing to leave their cameras switched off during the recording phase. One participant requested the opportunity to review the interview questions by email before the interview and provide responses, which were then discussed in further detail during the interview on Zoom.

3.4 Selection of schools

The selection of participants who will be contributing to a study is a very important step as it reflects how accurately the researcher manages to answer the research question. Cohen et al. (2018) mentioned several factors which should be taken into consideration from the start, including sample size, access to sample and the type of research, amongst others.

TDMF (2020c) has 33 schools registered to be implementing TDM in Malta. As displayed in Figure 3.1 below, seven of these schools, which include two middle schools, three secondary schools, one resource centre and one migrant's unit, were eliminated due to the fact that their daily routine differs greatly from that of Primary schools. Data collected from these institutions would not correspond to that collected through Primary school teachers in international studies. For this reason, the main criteria for the selection of schools were predominantly that they are Primary schools that are implementing TDM or have experienced it in the past.

The process of selecting the schools started by separating the state from the Catholic Primary schools. All state schools in Malta are co-ed and they are grouped in different colleges depending on their geographical orientation. Out of a total of nine colleges, three were randomly selected and one school from each of these colleges was also randomly recruited to participate in the study. From the Catholic schools registered, one all-girls and one all-boys school were invited to participate in the study (refer to Figure 3.1). Finally, a total of five schools were selected, all of which bring their unique culture and beliefs to the study through the diverse background and cohort of students attending each school. This varied selection made it possible for the researcher to gather data that reflects the diversity present in Maltese schools and enabled the researcher to report conclusions that are more representative of the Maltese context.

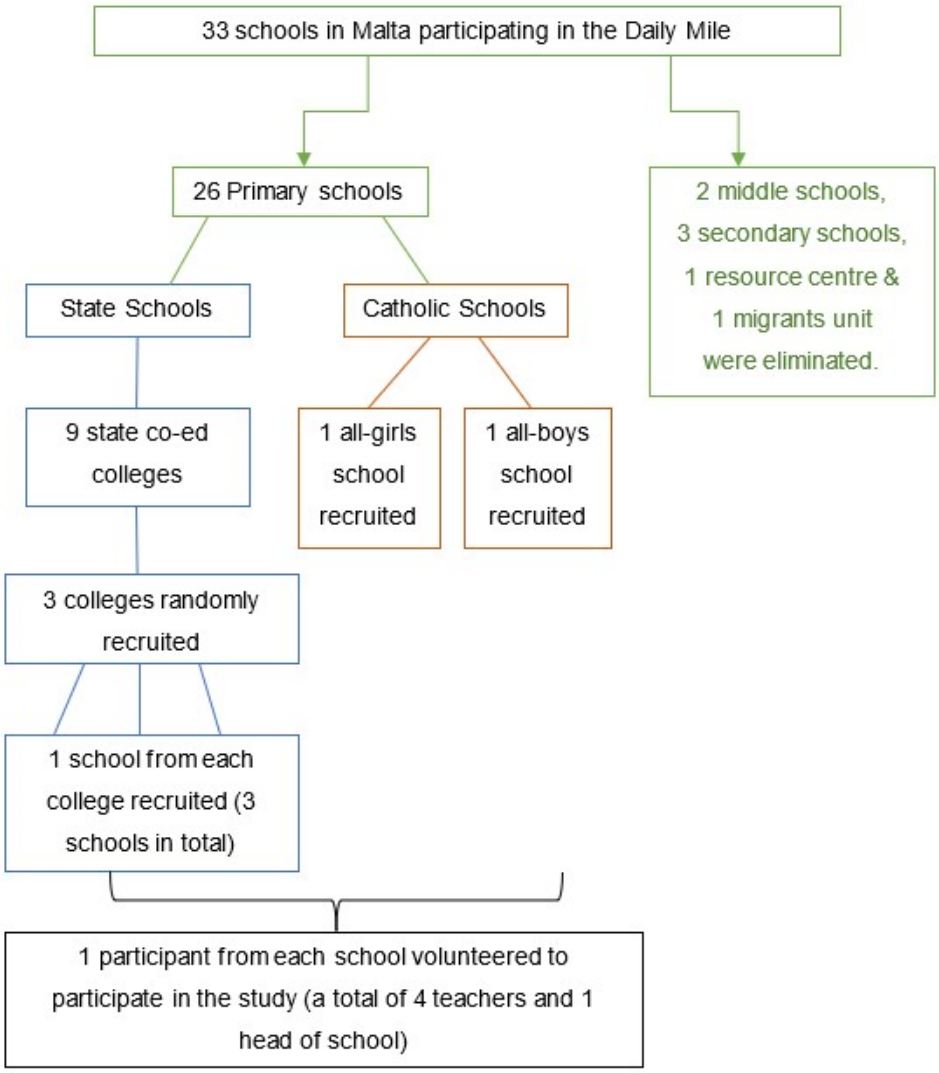

Figure 3.1 Schematic diagram of the selection of schools

3.5 Requesting institutional permission

In order to start contacting participants, as the procedure entails, permission from institutions and the heads of the schools was the first to be acquired. Obtaining the gatekeeper's permission to gain access to the targeted participants is a common procedure in research, and getting the authorisation is essential before data collection can start (Cohen et al., 2018).

The process to recruit the participants for this study started by acquiring permission from institutions in order to obtain access to state and Catholic schools. Permission from the Department for Curriculum, Research Innovation and Lifelong Learning (refer to Appendix B), as well as permission from the Secretariat for Catholic Education (refer to Appendix D), was obtained by providing the acceptance by the Faculty of Research and Ethics Committee (refer to Appendix A) of the University of Malta, along with other necessary information letters, consent forms and interview questions (refer to Appendices E to I). Upon gaining permission, heads of schools were contacted and provided with an information letter (refer to Appendix E) which provided all the details regarding the study. The heads of schools were asked to sign a permission letter (refer to Appendix F) and to distribute the teacher information sheet (refer to Appendix G) and consent form (refer to Appendix H) to class teachers, inviting them to participate in an interview.

3.6 Selection of participants

From the five schools recruited, the Head of School distributed the teacher's information sheet to teachers who have implemented the initiative. Interested teachers contacted the researcher and returned the signed consent form. In one school out of the five, the Head of School was responsible for TDM rather than the class teacher and this enabled the researcher to investigate facilitators and barriers associated with a different method of implementation.

In cases where there was a greater response, the first teacher from each school who communicated with the researcher was selected for the interview. The five teachers from different schools provided sufficient data and shared their personal experience

as they provided their responses to the interview questions (refer to Appendix I). The duration of the interviews ranged from 30 to 50 minutes.

3.7 Pilot interview

The pilot interview for this study was carried out with a second teacher from one of the schools who volunteered to participate. The pilot interview was carried out remotely, as a personal preference of the participant, through Zoom software which allowed the researcher to identify the optimal approach to commencing each interview and building a positive rapport, obtaining consent to record the interview and ensuring that the recording procedure is reliable. This was in line with suggestions published by Van Wijk and Harrison (2013) who stated that a pilot study should take place before the main study and it should be conducted in the same manner as the main study, with individuals who fall under the same criteria as the targeted participants.

Pilot studies have a very important role because they can help researchers identify issues and make changes accordingly, for improved quality of research (Van Wijk & Harrison, 2013). Furthermore, Van Teijlingen et al. (2001) also outline several other reasons, including “developing and testing adequacy of research instruments” and “assessing the proposed data analysis techniques to uncover potential problems” (p. 293), among others. Researchers who choose to omit this step and proceed immediately with the study lose the opportunity to identify any issues and risk facing the consequences in the main study (Van Wijk & Harrison, 2013).

As stated in Van Wijk and Harrison (2013), the pilot interview in this study enabled the researcher to recognise that some questions were unclear or misunderstood. The order of some questions was also changed to have similar topics grouped and avoid alternating between topics. While participants were given the time to respond to questions according to their personal experiences, possible probing questions were established to help participants when necessary. Recognising this during the pilot interview was fundamental for the study as amendments improved the outcome of the subsequent interviews.

The pilot interview also helped the researcher to establish the safest way to encrypt and store recordings, personal notes and transcripts in a password-protected hard drive. Finally, going through the whole process of the interview was an opportunity for the researcher to reflect on personal interviewing skills and become aware of aspects that can strengthen the main study.

3.8 Method of analysis

Data analysis is a thinking process carried out by the researcher by "simultaneously looking for relationships and trying to identify patterns" (Corbin & Strauss, 2014, p. 86). Ethics involved in qualitative research require the researcher to avoid making any assumptions but rather look at all the possible outcomes and confirm with the participants or against data where necessary (Corbin & Strauss, 2014). Taking into consideration two similar analytic methods, content analysis and thematic analysis (TA), which are similar to one another, it was concluded that the latter will contribute more to the nature and research question of this study (Vaismoradi et al., 2013). Braun and Clarke (2006) explain how TA can be used in a large variety of studies and is used as a way to analyse the data and identify themes, while also interpreting several aspects related to the topic. Furthermore, Braun and Clarke (2006) also explain how this method "works both to reflect reality and to unpick or unravel the surface of reality" (p. 81).

This method has grown in popularity, especially in the field of sports and exercise (Braun & Clarke, 2019). However, it is evident that some still do not recognise it as an independent method of analysis and there are also several misunderstandings associated with it. Through an interpretive approach, the data collected from the interviews was analysed and common themes were identified through reflexive TA. This flexible method is a descriptive qualitative approach to data analysis, and it allows the researcher freedom to identify and collate common threads, as long as consistency is maintained throughout the analysis (Braun & Clarke, 2006). The process of reflexive TA includes several steps which are not linear and should be revisited throughout the process to ensure that data is interpreted correctly, and to make sure that important codes, which are embedded in the data, are not overlooked (Vaismoradi et al., 2013).

The process in this study started by making the researcher familiar with the data through the transcription of each interview, which was carried out as soon as the interview was concluded. Transcribing of data goes beyond simply converting the audio recording into a transcribed version; it should be viewed as an essential first step to qualitative data analysis (Bird, 2005). Considering that there are multiple ways of conducting TA, there is no one correct way of transcribing the data (Braun & Clarke, 2006). The interviews of this study were transcribed through the intelligent verbatim method. This method helped to create more readable transcripts by omitting certain fillers and insignificant non-verbal communication while ensuring that the intended messages provided by the participants are maintained (Chege, 2019).

Subsequently, reading and re-reading the transcriptions and taking down notes enabled the researcher to start coding useful information. It is imperative that researchers explore the multilayers of the data available and are aware of several interpretations (Braun & Clarke, 2006). Following this, the themes were established and reviewed to help draw a thematic map for a visual presentation of what was found through this analysis. Towards the end, the themes could be defined and named accurately, before finalising the following chapters of this dissertation (Braun & Clarke, 2006; Corbin & Strauss, 2014). Throughout the process of data analysis, data was used carefully and dealt with sensitively.

This method was ideal for this research study due to the fact that there has not been a similar study conducted in Malta to date, and this made it possible to code interesting points and collate them into relevant themes. It allowed the researcher to be reflective in the analysis and to review data from different perspectives throughout the process (Vaismoradi et al., 2013). After the data collection, an inductive approach led to the identification of patterns that developed the themes relevant to the Maltese context and these were then compared to themes already recognised in international studies. Identifying themes at an interpretive level goes beyond simply describing what was gathered but also finding meanings and patterns. Furthermore, research also recommends that novice researchers in qualitative methods should use TA, as it can provide an essential base which will be helpful when utilising other qualitative analysis in the future (Braun & Clarke, 2006).

3.9 Ethical considerations

“The research community and those using the findings have a right to expect that research is conducted rigorously, scrupulously and in an ethically defensible manner” (Cohen et al., 2018, p. 109). Even though this study does not provoke many serious ethical dilemmas, as stated by Orb et al. (2001), “ethical issues are present in any kind of research” (p. 93). This study followed the ethical guidelines presented by the University Research Ethics Committee at the University of Malta. Key ethical considerations in this study focused mainly on the teachers' participation and the respective schools, to make sure that they are respected throughout.

In relation to this, Cohen et al. (2018) describe four critical elements of informed consent to ensure that the participants' rights have been respected. These include: “competence, voluntarism, full information and comprehension” (p. 122). Lo Iacono et al. (2016) added that participants need to have time to read the consent form carefully, be asked whether the interview could be recorded, be aware of when the recording has started and have the freedom to withdraw from the study at any time. Furthermore, the participants should be free to select the method of interview, the time and the location of the interview. Keeping in mind that participants may choose to conduct the interview virtually, obtaining verbal consent at the beginning of the interview, in addition to the signed consent which could be sent by email, needs to be taken into consideration (Deakin & Wakefield, 2014).

Any recordings or notes taken during the interviews were stored safely, with only the researcher having access to this data to make sure that the responses of all participants remain confidential to others. Van Wijk and Harrison (2013) recommend that in order to protect the identity of the school and that of the participants, pseudonyms such as numbers or fictitious names are used when referring to participants in the study. For this reason, the following chapters will make use of the pseudonyms P1, P2, P3, P4 and P5, which were given to participants according to the order in which the interviews were conducted.

Additionally, there are instances where the researcher is faced with ethical dilemmas which ethics boards cannot foresee. It is the responsibility of the researcher to make decisions that are informed by ethical reasoning and which follow any related

guidelines (Cohen et al., 2018). Banks et al. (2013) discuss challenges in ethical procedures for community-based participatory research, which are also applicable to social research, and emphasise the importance of researchers to go beyond procedural ethics and consider qualities and approaches based on virtue ethics and ethics of care. The welfare of the participants needs to be kept at the forefront even though the participants of this study are not regarded as vulnerable. There will not be any betrayal or deception, and there will be full disclosure of information. Carrying out a pilot interview not only helps researchers to find inaccuracies in the research methods but will also help to ensure that all the ethical procedures during data collection and analysis are followed (Van Wijk & Harrison, 2013).

On a more general note, as recommended by Cohen et al. (2018), researchers should present themselves as being competent, respectful and trustworthy to the participants who are making the study possible. While Archibald et al. (2019) noted that building a rapport with the participants was not an issue in remote interviews, Deakin and Wakefield (2014) stated that it may be more challenging than face-to-face interviews, especially with participants who have reserved personalities. For this reason, as recommended by Deakin and Wakefield (2014), several emails were exchanged before the interview to help such participants feel comfortable so they could contribute more to the study. Lastly, as a sign of appreciation, a message of gratitude is included at the beginning of the dissertation, whilst ensuring that anonymity is respected.

3.10 Validity and reliability

Both quantitative and qualitative approaches require researchers to ensure that the data gathered is valid and reliable. A distinct difference between quantitative and qualitative approaches is that quantitative research is highly dependent on research tools, whereas in qualitative methods the skills of the researcher greatly influence the study's credibility (Golafshani, 2003). While data in quantitative methods can be measured and verified through the instruments and tests utilised, validity in qualitative research can be more challenging to secure. Having said that, the interaction between the researcher and the participants allows for the acquisition of

rich data since important remarks discussed during interviews can be verified and investigated, while unrelated discourse can be receded (Stenbacka, 2001).

In qualitative data, validity and reliability are often associated together and Golafshani (2003) discusses how at times they can be referred to using different terms “such as credibility, transferability, and trustworthiness” (p. 600). In relation to this, Kitto et al. (2008) also discuss that since qualitative studies differ from quantitative approaches in their “frameworks, sampling approaches, size of sample and goals” (p. 243), the quality and trustworthiness of a study is measured through rigour, credibility and relevance.

As recommended by Nowell et al. (2017), for clarity in the study, this chapter presented explanations and reasons for every decision taken related to the methodology and analysis. The selection of a sensible, homogenous sample of participants, rather than selecting a convenient sample, was important for this study so that the drawn conclusions reflect a representation of schools in Malta. To further strengthen the validity of the study, the use of semi-structured interviews through open-ended questions, allowed the participants the freedom to share their true experiences about the topic, with minimal influence by the researcher. Moreover, the researcher clarified any uncertainties with the participants immediately throughout the interviews to make sure that the interpretation of the data is correct, and made use of an inductive approach to generate the themes. The safe storage of audio recordings of interviews was a very important step so that dependable transcripts could be compiled by the researcher and referred to as necessary during data analysis.

The six phases of TA, discussed by Braun and Clarke (2006), were used as guidance to help interpret the data correctly and elicit trustworthy and credible results. This complex process was initiated when the interviews were conducted, transcribed and the first thoughts were noted by the researcher. Following the interviews, codes were identified, reviewed and later refined, until the final themes could be established. Since this study did not involve other researchers, the recordings and the intelligent verbatim transcripts of the interviews were constantly

being re-checked to retain rigour, reduce bias, and maintain consistency throughout the TA.

The strategies adopted in this study to ensure validity and reliability were part of the planning process from the start; otherwise, errors might be overlooked or discovered at a point towards the end of the study where amendments cannot take place (Cypress, 2017). Ultimately, as stated by Cypress (2017), it is up to the researcher to be “proactive and take responsibility in ensuring the rigour of a research study” (p. 261).

3.11 Conclusion

This chapter encompassed the purpose and main aims of the study, as well as which research method was adopted to reach the targeted results. An outline of the criteria utilised to select the participants and gather relevant data was also included. A description of why TA was the most viable option and how the data was analysed can also be found in this chapter. Finally, the ethical considerations and validity and reliability in relation to this qualitative study were explored. The upcoming chapter will present the themes established from the data gathered through the semi-structured interviews.

Chapter 4: Findings

4.1 Introduction

Data for this study was gathered through five semi-structured, remote interviews, conducted with four primary class teachers and a head of school, from Catholic and state schools in Malta. The selection of these participants was based on their role in executing the Daily Mile (TDM) within their school, which was either single-sex or co-ed. This chapter presents the findings from these interviews which enabled the researcher to examine different perspectives and experiences.

As discussed in the previous chapter, the data collected was analysed using thematic analysis (TA) and four main themes were generated. The themes which were established and will be reviewed in detail in this chapter include:

- Factors affecting the implementation of TDM
- Students' response to TDM
- Teachers' perspectives
- The role of others in supporting TDM implementation

The following sections will present each of these themes, along with the findings in relation to the research question.

4.2 Theme 1: Factors affecting the implementation of TDM

This theme explores how factors such as time, space, and weather impact implementation and participation in different contexts. It is noticeable that some factors have different effects on the delivery of TDM, depending on the school context.

First and foremost, two important features contributed to the successful implementation amongst all the participants. Firstly, all participants described that TDM is carried out by timing this physical activity (PA) break, rather than measuring an actual mile. Secondly, is that it takes place outdoors in the school's yard, without the use of any equipment. Other factors; however, varied between schools for several reasons and these will be discussed in the following sections.

4.2.1 The time when TDM takes place

P1 conducts TDM at different times during the school day but avoids starting or finishing the day with it, as implementing it in between lessons acts as a break from academic work and contributes to the students' learning. All the other participants declared that it is scheduled always at the same time. This was either the teacher's choice or due to restrictions in space or timetable. For instance, P3 always carries out TDM after the break and P5 remarked that scheduling it was especially important:

> When it (TDM) was first introduced, I didn't like it at all as we didn't have time allocated for it and it had to be taken from other lessons. Consequently, I didn't do it as much as I was supposed to. I simply couldn't find the time with twenty-five 6-year-olds (P5).

Teachers can feel very restricted with their timetables and this was clearly stated by P5 who shared that it would be difficult to implement unless it is scheduled. Related to this, P4, who is a Head of school, has taken the responsibility upon himself to conduct TDM, with the 150 students who attend breakfast club (service provided to students who report to school earlier), rather than trying to amend the timetable and find time for the teachers:

> I don't believe it should be timetabled because of the school ground that we have (plenty of space) and I let them (teachers) free to do it as they please and when you let them free to do as they please, the timetable prevails. They don't really fit it in their timetable (P4).

4.2.2 School facilities

P2 elaborated on how efforts to carry out TDM at different times have failed due to the school's small yard which is shared with another school. The participant reported that trying to implement it at random times was a constant challenge with PE lessons to fit in the small yard and manage the noise levels of all the students. It was also attempted straight after the break, but it was also difficult as the other school students come for their break:

> It was difficult to keep an eye on everyone to see if they are still on the perimeter or whether they joined school B, playing in the middle (P2).

P1 identified that the school facilities limit the teachers considerably when it comes to increasing PA levels for their students. Apart from the fact that the yard is very small, there are other issues:

> On the side of our yard, there are the gutters, sometimes children fall in them when they're running because I tell them to run around the perimeter, you know, so it takes them a bit longer to go round (P1).

Teachers appreciate the fact that for TDM you do not need to plan anything or require the school to own any particular equipment. P2 compared TDM to the weekly PE lesson with her class which can present several challenges:

> It makes a difference because when the equipment is shared between a lot of people, it will not be in a very good condition, they leave everything in a mess, broken, missing etc. So that takes a lot of time. For the PE lesson, I usually try to plan activities which do not require any equipment from the PE room (P2).

4.2.3 Time restrictions

An advantage experienced by P4, who carried out TDM during breakfast club, is that it never clashes with any of the school activities. Due to the busy schedule in Maltese schools, P1 and P5 declared that they do not go for TDM on days when the students have their PE lesson and other peripatetic lessons. P2 shared that at times when time is tight, TDM is carried out for 10 minutes instead of 15 or skipped completely and P3 explained that TDM is carried out for a duration of five to seven minutes.

4.2.4 Uniform

All participants from state schools acknowledged that since students started reporting to school in their PE kit every day, it has helped students to participate more comfortably in TDM:

> Their uniform was very uncomfortable. The fact that they're always using their PE kit, I think it was very, very, very beneficial (P1).

Having said that, participants stated that the school uniform did not hinder the students' participation since it is a simple activity:

> We used to do it regardless of whether they were in their school uniform or their PE kit, it didn't use to make a difference (P2).

4.2.5 Weather conditions

Since TDM is carried out outdoors, weather can affect its implementation and in fact, there were different experiences related to this. It was discussed that instances of heavy rain, which interfere with implementation, were not very common. Heat, on the other hand, was more of a concern for some. While P3 mentioned that the air conditioner in the class helped the students to cool off after TDM, P1 and P5 commented on how participation decreases as the temperatures start rising towards the end of the scholastic year:

> Heat is very much of a concern, especially in the summer months like May and June. Sometimes it is too hot to take the children down and we only have very limited space of shade (P1).

While heat is not an issue for P3, windy days, which are quite common in Malta, creates some issues. So much so, that at times parents ask the teacher to avoid TDM on windy days since some students will need to make use of the inhaler following participation.

4.3 Theme 2: Students' response to TDM

The second theme explores data provided by the participants related to how the students respond to TDM. It includes details on the students' reaction to participation, the way they behave and interact during this time, its effect on academic work and how differences in abilities, fitness levels and gender can bring about different reactions to the initiative.

4.3.1 Different aspects

All participants concurred that the majority of students enjoy participating in TDM, specifically highlighting that they enjoy the freedom of running outdoors:

> In class we are not free all the time, everything is structured but there they are free and that is very important as well (P5).

At times when TDM would have to be skipped due to extreme weather conditions or school activities, the students are disappointed and often try to convince the teacher to go as usual.

Whether the students are more interested in the physical or the socialising aspect, participation in this initiative is welcomed positively by most students. P5, a teacher in an all-boys school, described the atmosphere during TDM as having most of the class using this time to run and only slowing down occasionally for a brief chat. All schools, regardless of whether they are co-ed or single-sex, showed that boys are mostly active during TDM, while the social element is more evident amongst girls:

> The boys used to go off running, you know, but the girls walking and chatting (P2).

> They (female students) are like those women that you see walking outside early in the morning in our streets, in our village streets. You see them walking around, talking to each other about what's happening (P3).

Having said that, participants agreed that all students enjoy the social aspect of TDM, especially since in the classroom students do not have a lot of time to socialise and during recess, they do not always interact with students from their class. P4 stated that:

> If you allow the socialising between children, it will always be interesting, I think (P4).

P1 and P2 even observed that TDM provides some students with the opportunity to socialise with different students, as they group up with those of similar fitness abilities.

Additionally, P1, P2 and P3 acknowledged that TDM encourages students to feel more comfortable talking to their teachers and LSEs and helps them get to know each other better:

> In class we don’t have time, we have five to 10 minutes in the morning, however, there, I’m more free to listen, you know, I'm not, “Hurry up, we have to do that”. We are all a little bit relaxed, even me (P1).

4.3.2 Students’ performance in class

P3, who teaches in an all-girls school, imparted that in the afternoon it becomes challenging to maintain the attention of the students and by implementing TDM after recess, the attitude of the students is positive, and they always work hard upon returning to class. Similarly, P1 and P2 also reported that the students’ behaviour improves, and it has a positive effect on their academic performance, but it takes some time after returning to class before they see these benefits. Additionally, P1, P2, and P5 confirmed that TDM motivates the students to work harder during their work in the classroom so that they will have time for it:

> They like it so much that I use it like, not a punishment, but you know, like a consequence. I tell them that if they waste time, we will not have time to do it (P5).

P2, who carries out TDM straight after the morning assembly, expressed how important it is particularly for those students who arrive at school early:

> What I used to like about doing it in the morning is because certain students used to behave better in class, especially those who used to attend the breakfast club, and then assembly. That run used to be very important (P2).

4.3.3 Students of lower fitness abilities

Four out of the five participants spoke about their experience with students who are not very inclined towards PA. All students were able to participate, but it was common to have a few students who required regular encouragement during TDM:

> Sometimes they (two boys who are not very physically fit) just start walking and they will tell me “Miss, I have to stop because I am tired”, they just sit on the floor, in the middle, in the sun, and then I encourage them “come on, come on, come on, let's see”. But I don't put a lot of pressure on them (P5).

Interestingly, P2 indicated that two students, who are not accustomed to PA, reduced their complaining considerably towards the end of the year and they would do TDM without the need for constant encouragement. While none of the participants could confirm changes in the students' fitness levels, P2 added that:

> I also noticed that my class were complaining less when we go on outings, telling me "Miss, I'm tired. How much further are we walking? Can we sit down?" (P2).

4.3.4 Students with special needs

Participants were also asked to elaborate on the fact that TDM aims to overcome barriers and ensure the participation of all students. P5 explained that there was an instance when an LSE assisted a student who depended on a wheelchair to join in TDM and it had a very positive effect:

> He used to be very, very happy, sometimes he used to be so happy outside there that he didn't want to come into class. He used to cry (P5).

Other participants did not experience similar circumstances, but they recognised that TDM can be an opportunity to promote inclusion:

> I think if there was a person who is dependent on a wheelchair if the LSE helps by moving the child around, it's another opportunity for inclusion, actually, not something that hinders inclusion (P3).

> Thinking about it now, it depends because for example, if they are in a wheelchair, they won't be doing physical exercise, but if they will walk with the other children, there is the social aspect. I can't imagine telling them to wait in class, they come with us (P2).

Moreover, P1 shared her experience when carrying out TDM with an autistic student in the class. The participant explained that it was particularly challenging for the student to participate in this initiative and was doubtful whether he was gaining any benefits:

> It's not easy to tell him "Okay let's go down", for him it's not break time, and then again "OK, we're ready" and he's thinking "How come we're ready? How

> come we're on our own (in the yard)?". For him, he doesn't understand the concept that he has to walk around all the time. So, he throws himself on the ground and doesn't move about. And then on the way he might see something, he likes, so he stops. It's not as easy as it looks (P1).

4.4 Theme 3: Teachers' perspectives

This is the third theme generated from the qualitative data collected and it delves into how influential the knowledge and attitude of the class teacher can be when it comes to the success of initiatives like TDM. This theme will explore the importance of acknowledging the lack of PA opportunities for students at schools and recognising the teacher's role in promoting an active lifestyle. It also highlights how the perspective of the teacher impacts the implementation of this PA break and which factors may influence the teachers' motivation to maintain consistent participation.

4.4.1 PA and sedentary time during the school day

The participants were all aware that students spend long hours sitting down in class and focus greatly on academic content:

> Unfortunately, academics are still the highlight of our education system. Children their age in the Scandinavian countries don't start reading or writing before the age of 7 or 8. Their learning is informal and takes place outdoors while the children are moving. Then, here in Malta, we expect the children to be sitting down and pay attention (P5).

> I used to say to myself, I'm not doing enough, not even with the Daily Mile, I need to do more. And that's why I kept on doing at least the Daily Mile. It's something that is the bare minimum I can do for these kids (P3).

Related to this, it was noted that certain students are not enrolled in extracurricular sports activities, leading to TDM being one of the very few opportunities for PA. Some teachers feel the responsibility to offer PA opportunities to help students be more active:

> So, I think this is, apart from break time, because during break time they move about a lot as well, this is one of the only opportunities they have to move

> about while at school. And for example, some of them even come to school by car, so that 10 to 15 minutes in the morning and the afternoon, they miss it too (P1).
>
> That puts more pressure on me to involve them in PE and to do the Daily Mile during the week (P3).

Several participants were also aware that TDM allows them to promote healthy lifestyle habits:

> I love doing the Daily Mile with the children. They see the teacher being active and we talk about being active. Students get together, gather around you and they want to speak about it (P1).

Having said that, an additional benefit mentioned by P2, P3, and P4 is the fact that this PA break is not related to the curriculum or assessments in any way:

> That's what I like most about it, that you don't have anything...related to assessment or to the syllabus, no it's free from all those restrictions. It's just free time for us to enjoy some fresh air (P3).

4.4.2 Believe in it and give it time

Apart from being aware of the need for PA opportunities at school, P1, P2, and P5 also expressed that the class teacher needs to appreciate how TDM can benefit its participants and try it out. P2 recognised that some students were often restless in class and struggled to stay focused, which increased the interest in PA breaks as it can help improve the situation in the classroom. P3 and P4 emphasised that it is the teacher that must be motivated and find time for it, day after day.

P1 and P2 highlighted the importance of setting some rules from the start and keep enforcing them until TDM becomes part of the school routine. Both reported that after some time it gets easier, and the students would need minimal guidance and instructions during this time:

> In the beginning, it was a little bit more challenging. They got overexcited, "We're going down to the yard!", they waste a lot of time and then they come

> back, it takes ages to settle. Then as time went by, they realised if we don't do this quickly, it will never happen again (P1).
>
> Instead of the rules in the classroom, we have the rules for the yard when doing the Daily Mile. Once you maintain control, the children really got used to the routine, I wasn't correcting a lot towards the end and calling out student names (P2).

4.4.3 Recognise the students' enjoyment

Some teachers acknowledged that realising how happy the students are when they participate in TDM, was a motivating factor to keep implementing it:

> The smile on their faces when I say, "Okay, you've been good, you've worked hard, let's go down for the Daily Mile!", the smile on their faces and their enthusiasm makes me, the next day and the next day, want to do it again because I know that if they're enjoying it, if they say, "Ohh, I don't want to go", then I say, "OK, we won't do it". But they never say that (P1).
>
> I really enjoy seeing the boys happy, enthusiastic, red-faced, and healthy (P5).

4.4.4 Teachers' approach

P1, P2, and P5 reported that they allow the students to select a pace of preference and they can switch between walking, jogging, or running as they feel comfortable. They believe that TDM should have minimal restrictions, while others explained that they felt more comfortable giving some structure to TDM:

> I kind of enforce that they walk behind each other, but you will have the children that will run around and cross across, cut across (P4).

P3, who has a class of year 2 girls, controls TDM by leading 1-minute intervals for the students which gradually progress in intensity. The teacher starts by instructing the students to walk and then increases the pace every minute until they reach a total of five to seven minutes, after which they cool down and return to class. The participant also added that at times they are also a bit creative:

> We used to do, for example, a Daily Mile associated with animals. So, we start just the same with walking, but then we used to run like dogs and trot like a horse. The one that they used to adore was, slither like a snake, and you can see all of them on the running track, all their uniforms they become white (P3).

P3 and P4 believe that the structure that they provide is beneficial in their situation:

> What worries me about that (leaving them free to select their preferred pace), is maybe our children, our school children are always so much into structure, if they have such a structured day that maybe they would demand having structure even in it (in TDM) (P3).

4.4.5 Being a role model

All five participants recognised the importance of being a good role model by being active with the students during TDM:

> I think, if the pupils see that their role models, the head of school and their teachers are active, it helps, it helps a lot because they identify with us (P4).

> For me, it's important that the children see the teacher as part of it and believe in it. If I am telling them that physical activity is important, that walking is important, I am preaching and then I do not do anything, I am on the side, the example that I give isn't the message that I am trying to get through. There has to be a balance between what you are saying and what you are doing (P2).

P5 is even motivated to try and start jogging with the students in the coming years, rather than simply walking, in order to be more exemplary to her students.

4.4.6 Teachers' personal benefits

Another element that was discussed during the interviews was the fact that by participating with the students, the teachers can also acquire some benefits. Among several benefits of TDM, teachers appreciate that they get the time to be more active:

> Personally, I was lacking from physical activity, I felt fitter and I think it was beneficial for me as well that I was more active (P2).

This was an important aspect for the Head of School who was one of the participants in this study:

> The teachers actually take it as an opportunity to do physical exercise themselves. So that's where, that's why it works because the teachers see the benefits for themselves (P4).

4.5 Theme 4: The role of others in supporting TDM implementation

This is the final theme generated in this research study and it presents experiences of the participants related to the support and feedback they received from the school, colleagues, and parents.

4.5.1 The role of the School Leadership Team (SLT)

There were mixed findings related to this issue, with some stating that the SLTs involvement makes a substantial difference, while others have emphasised that it all depends on the teacher's attitude.

P1 and P2 believe that the SLTs have an important role to play in the success of TDM. P1 explained that the role of the head of school was essential to get it started and to maintain participation throughout the years:

> At first, I was made to do it, you know, but then as it went along, when I saw the positives, the pluses of it, I wanted to do it without anyone making me. So, at first, there has to be a little push from the SLTs (P1).

P2 started implementing TDM after the head of the school promoted it during one of the morning assemblies, but support from the school after that was very limited and the SLTs were not aware whether it was still taking place:

> I didn't find a lot of support from the school. The Head had mentioned it once, but for example, she never came to the class and congratulate the students about their effort, you know maybe a simple "well done, keep it up" you know, nothing (P2).

P5, appreciated the support received from the school when a slot for a daily PA break was scheduled in the timetable to help teachers implement it. Moreover, the support of the PE teacher was extremely helpful when it came to introducing the initiative to her students and the PE teacher even prepared a timetable on which teachers would tick every time they went for TDM. It was also remarked that having the school more involved in TDM, encouraged the teachers to be more consistent in their participation:

> I used to see the calendar with the ticks and my class didn't have as many ticks, I used to feel like it was a red bell, I used to feel sort of ashamed that I was not taking my class out (P5).

P2 discussed that the role of the PE teacher can have a positive impact and recommended that TDM could be introduced during the PE lesson and then hand over the responsibility to the class teachers once the students become familiar with it:

> The children will be getting used to it and then maybe when the class teacher tries it out, she will be less discouraged because the children will already be used to it a bit, not to be rough, how they will go round (P2).

P3 and P4 are aware that support from the SLTs can be helpful; however, they believe that it is the teacher's responsibility to make it successful:

> The school has a very important role in doing and in encouraging, but as you say, you can take the horse to the water, but you can't force it to drink. So, then it depends on the attitude of the teacher, is the binding factor in this thing.

P4, who forms part of a school's SLT, does not believe that this should be enforced by the school and opted immediately to implement the TDM before school starts to avoid disrupting the timetable and having to impose it on the teachers. When asked about trying to encourage the teachers to implement it during school hours, P4 was not convinced that it would work:

> During school hours, it might be a little bit difficult to enforce it and it should not be enforced, you know, it should come from the teachers wanting to do it (P4).

4.5.2 Feedback from parents

Most participants did not have any particular feedback from parents, with three of the five participants in this study stating that they never spoke about TDM with the parents. P3 mentioned that the parents supported the initiative, as long as the students are receiving positive benefits and they are enjoying it. On the other hand, P2 reported that there had been a few comments from parents about TDM being a waste of time and that it was not necessary for the students, first thing in the morning. P2 emphasised the importance of having the school promote the initiative on social media to raise awareness:

> It is promoted by the head of school but the parents weren't aware of it, and that's why some parents might not support it, because there was a lack of awareness that the school supports it, not just the class teacher (P2).

4.5.3 Communication with colleagues

All participants determined that the assistance, cooperation, and support provided by the LSEs were essential when implementing TDM. P2 appreciated that the LSEs work hand-in-hand to make sure they find time for it and P5 valued the LSEs dedication to take the students for TDM on their own when needed.

P1 explained that due to limited space in the yard, communication with other teachers is essential to avoid having too many students in the yard at once. Unfortunately, in other schools, communication seems to be lacking and TDM is not commonly discussed amongst colleagues:

> During the first two, three weeks we used to talk about it, but then I realised that there isn't much interest, I didn't use to keep insisting "come on, try it out", you know (P2).

> I'm not that kind of person who goes over a colleague and tells her, "why are you not doing it?" They know that I am doing it, so if they want to join, they are

> free to do it, even if they just join along and I guide them through and I help them (P3).

4.6 Conclusion

This chapter presented the four themes generated from the data through TA, which contribute to answering the research question. This data provided an insight into the Maltese context and in the following chapter, this will be related to local and international studies. This will highlight specific factors which should be taken into consideration when Maltese schools attempt to implement this initiative and increase daily PA opportunities for students.

Chapter 5: Discussion

5.1 Introduction

The Daily Mile (TDM) was initiated with the aim of improving the fitness levels of students and it was created to fit into the context of Primary schools (TDMF, 2020a). It is promoted as an initiative that overcomes the barriers which are usually present when implementing other physical activity (PA) initiatives and which may lead to their disintegration (TDMF, 2020b). Considering the successful results experienced by several schools, it would be ideal to have as many schools as possible in Malta adopting this simple initiative. TDM can be an easy and effective way to target the high obesity rates reported amongst Maltese children (European Observatory on Health Systems and Policies, 2019) and this study explores which factors facilitate or interfere with the implementation of TDM in the Maltese context. This chapter presents an in-depth account of the results discussed in the previous chapter and how they correspond to findings from similar studies conducted recently in several countries.

5.2 Theme 1: Factors affecting the implementation of TDM

This study reports successful attempts in different contexts, including state and Catholic schools, as well as co-ed and single-sex schools. On most occasions, this simple initiative allows freedom and authority to the class teacher to implement it in any manner and at any time of preference; however, certain issues create barriers and limitations.

This study found that TDM is being implemented successfully at random times during the school day or in permanent slots, such as first thing in the morning or after recess. Implementation of TDM at different times was also reported in other studies, with different effects and benefits (Dinkel et al., 2017; Malden & Doi, 2019). The oldest class included in this study was the only one that utilised TDM at times when the students needed a break from academic content. For another participant, even though she would prefer to implement it at different times, having it scheduled straight after assembly was the only way that it could be implemented because it was the only time that there was space available in the yard.

On the other hand, others scheduled it at a particular time of the day as it facilitated implementation and helped avoid the continuous readjustment of the timetable. Teachers of younger age groups explained how important the daily structure is and it was evident that scheduling TDM at the same time facilitates their day. Furthermore, another participant conducts TDM every day before school with the Breakfast Club students to avoid shifting the timetable; however, while all the school students are invited to join, most students do not go to school earlier and miss this PA opportunity. Implementing PA breaks with all the students during school hours would be a preferred method over this so that more students can be reached (Chesham et al., 2018; Hanckel et al., 2019). In fact, WHO (2010) highlights the importance of offering equal opportunities to all students in schools.

Findings from this study show that younger ages and limitations in school facilities lean more towards selecting a permanent slot in the timetable for TDM and this might help avoid the risk of omitting it altogether. The comfort of establishing a common time to carry out TDM was also found in Malden and Doi (2019), but one has to be careful when doing this. As shared by a student participating in a study by Ward and Scott (2019), the benefits of TDM acting as a break are minimised when teachers schedule it always at the same time. While some benefits are lost when it is implemented always at the same time, students are always acquiring the physical benefits, which is the primary aim of TDM.

This study found that attempting to implement PA breaks is a constant battle against time due to the demanding curriculum and other school activities, and similar findings were also reported in other studies (Naylor et al., 2015; Norris et al., 2015; Ryde et al., 2018). All participants, including those who teach children as young as five years old, have expressed that the pressure to cover the material in the curriculum can be overwhelming and a lot is expected at such a young age. This is unfortunate, especially when compared to other educational systems, such as that in Nordic regions, which recognise the importance of holistic development for children, beyond the academic outcomes achieved in the classroom (Sandseter & Lysklett, 2016). Sandseter and Lysklett (2016) discuss the philosophy of Nordic countries and state that students spend a lot of their time outdoors, learning and interacting with others. Other studies also found that countries that utilise outdoor learning, such as

Denmark, expose students to higher levels of PA and this is also possible in childcare centres (Bentsen et al., 2010; Byrd-Williams et al., 2019; Mygind, 2007). Naturally, a demanding curriculum makes it a lot more challenging to implement PA breaks as teachers feel that they cannot afford to take time away from their work in the classroom (Malden & Doi, 2019). In line with this, lack of time due to the demanding curriculum was amongst the main reasons mentioned by Maltese Primary class teachers in a National Audit carried out in 2010 as to why they do not conduct the recommended 30-minute PE lesson every day, especially with Year 4, 5 and 6 classes (National Audit Office, 2010).

As mentioned in the previous chapter, all participants timed a 15-minute duration during which students are active. That is ideal because, as found by Marchant et al. (2020), instructing students to complete one mile could result in some students requiring an extended period of time to finish, and it can have a negative impact on their self-esteem. Furthermore, Barr-Anderson et al. (2011) stated that PA breaks should not exceed 20 minutes so that they will not discourage such students, while Holt, E. et al. (2013) also reported that PA breaks of 20 minutes were very challenging for teachers to fit into their daily schedule. It is important to point out that, as recommended by TDMF (2020b), the 15 minutes should include preparation time before and after TDM because, as explained by a participant in this study, a class of five-year-old students takes a long time to prepare and settle back down.

While teachers should try not to exceed 15 minutes, they should have as much active time as possible. Chesham et al. (2018) reported that on average TDM accumulates approximately nine minutes of MVPA from the 15 minutes, which means that the participant in this study who claimed to be carrying out TDM for five-to-seven minutes is exposing the students to a very short time of MVPA, limiting the benefits being accumulated. These factors are important to consider, especially since the latest study recording PA levels of children in Malta through accelerometry found that they are only active for an average of 18.1 minutes during the school day (Decelis et al., 2014). Since children spend a substantial amount of their weekdays at school (Hesketh et al., 2017), TDM can contribute to the 60 minutes a day of aerobic PA which children should accumulate every day (WHO, 2020). A plan of action against obesity in the UK recommended that students should accumulate 30

minutes of PA during the school day (Department of Health and Social Care: Global Public Health Directorate, 2018) and Morris et al. (2019) reported that TDM can contribute to 35.6% of this recommendation.

In contrast to data gathered by Marchant et al. (2020), none of the participants incorporated TDM into PE lessons, but two participants stated that they skipped TDM on days when they had PE lessons due to time restrictions. The Superintendence of Public Health (2012) published results from 2008 which show that only 9% of state schools and none of the Catholic schools in Malta were allocating more than two hours a week for PA. It was planned that by 2015 schools should be providing 30 minutes a day, and three hours per week of PA in schools, which does not seem to have been reached in the schools involved in this study. Carlson et al. (2015) stated that PA breaks are essential to help children participate in at least 30 minutes of PA during school hours, which is why skipping TDM when students have a PE lesson will be removing the additional benefits which could be acquired on such days.

While time is always a challenge, teachers in this study agreed that TDM is an initiative that does not require a lot of preparation time and effort to implement. TDM has the benefit of overcoming the barriers of lack of planning time often experienced by class teachers (Bartholomew & Jowers, 2011; Nathan et al., 2018). One participant compared the time it takes to deliver the weekly class of PE to the time it takes to implement TDM and explained that it is very encouraging since there is no related planning, setting up and clearing up. In fact, one of the main principles of TDMF (2020a) recommends that teachers should keep the implementation as simple as possible without adding elements of competition or trying to find alternatives. Marchant et al. (2020) reported mixed findings regarding this, with some teachers stating that some competition is essential to encourage participation, while others claiming that it was demotivating for students who struggle in PA. Teachers in this study did not see the need to include a competitive element and did not place a lot of pressure on their students to cover a certain distance. The only sort of competition which was discussed in this study was that which the students engage in naturally, most especially between groups of boys. One has to be careful when promoting

competition, because doing so may create unnecessary issues between students and require more planning by the teacher.

A great facilitator to TDM is the fact that schools are not required to provide any financial support or invest in any additional equipment for teachers to implement TDM (Martin et al., 2010; Naylor et al., 2015). However, the availability of outdoor space is essential. Two participants reported that they have very limited outdoor space, and it was discussed that better facilities would make TDM more encouraging for teachers and more enjoyable for the students. Having sufficient outdoor space for PA would allow the possibility of more than one class in the yard safely participating in TDM or even happening at the same time with PE lessons, hence facilitating implementation. In consonance with this, National strategies and policies recognise the importance of developing better facilities and of increasing PA opportunities amongst the Maltese population, specifically for children in schools (Parliamentary Secretariat for Youth, Sport and Voluntary organisations, 2019; Superintendence of Public Health, 2012).

It is important to note that a participant who has ample outdoor space at their school explained that even if all schools have the ideal facilities, there will still be teachers who choose not to try it out. In fact, two schools that have sufficient facilities for PA did not report participation by the whole school, leading to the impression that having the ideal facilities does not guarantee higher participation rates. In congruence with this, Black et al. (2019) stated that while school sport facilities can contribute towards more active lifestyle habits, more strategies need to be in place to help students reach higher levels of PA, rather than simply investing in facilities.

While facilities alone cannot guarantee a successful active school environment, the availability of safe and adequate space for PA is essential (Harris, Jo & Cale, 2018) and such outdoor space is especially important for PA interventions such as TDM, as it facilitates daily implementation. Additionally, it would also make it possible for teachers to implement TDM at different times and it would yield further benefits.

Studies such as Malden and Doi (2019) and Ryde et al. (2018), discussed issues related to changing shoes and putting on jackets which take time away from academic work, but in Malta these issues are not present, especially since a National

policy is allowing students to attend school in their PE kit (The Times of Malta, 2019). Teachers in this study stated that students used to participate eagerly even when they were in their full uniform, but this change had a positive impact as students are a lot more comfortable in sportswear.

Another factor affecting implementation which is commonly mentioned is the consequences of extreme weather conditions. As reported in several other studies, participants mentioned issues related to certain weather conditions which can create challenges when conducting outdoor PA breaks (Hanckel et al., 2019; Nathan et al., 2018; Naylor et al., 2015). Similar to what was found by Marchant et al. (2020), some participants in this study shared that they are not as consistent with TDM when the weather starts getting warmer, especially since there are no areas of shade. For other schools, heat is not so much of an issue, particularly one school which is equipped with air conditioning in the classroom and for those who conduct TDM in the morning. Rain was not identified as a barrier as the simplicity of the activity allows teachers to carry it out even if the ground is slightly wet; however, TDM would be skipped on the rare occasion it is raining heavily at the time.

5.3 Theme 2: Students' response to TDM

Overall, participants in this study described their experience during TDM as a positive one, having the majority of the students participating enthusiastically and being disappointed when they have to skip it. As indicated by several international studies, this initiative can be perceived as fun by all students as it suits different interests and abilities (Hanckel et al., 2019; Ward & Scott, 2019). Additionally, regular participation in PA has been associated with enhanced mental health, including positive moods and reduced symptoms of depression, amongst children and adolescents (WHO, 2020). Knowing that the students enjoy participating in TDM and recognising that it can have such benefits on their well-being can encourage teachers to implement it regularly.

Participants pointed out that generally boys are very active and energetic, while girls are more inclined to the social aspect. Higher PA levels by boys and higher social interactions amongst girls were also reported by Hanckel et al. (2019), who observed

students during TDM, and by Ridgers et al. (2011), who examined PA levels of students during recess.

Moreover, TDM offers a unique opportunity where teachers can get to know students better and strengthen their relationship (Harris, Jennifer et al., 2019). Participants in this study shared that time to get to know the students in the classroom is very limited at times and TDM allows them the opportunity to get to know what certain students may be going through and provide adequate support when necessary. Furthermore, Yunus et al. (2011) present a strong argument that developing a stronger student-teacher relationship also has a positive impact on the students' performance in the classroom since it improves their motivation to learn. These benefits connected to TDM are a great source of encouragement for class teachers who may find it challenging to fit it into their daily schedule.

Similar to findings from other studies, this study found that after returning to class students are better behaved and more cooperative (Holt, E. et al., 2013; Malden & Doi, 2019), are more focused and alert, with an attitude to continue with their academic work (Evenson et al., 2009; Trudeau & Shepard, 2008), and demonstrate improved time on task (Bartholomew & Jowers, 2011). McPherson et al. (2018) stated that there is a positive relationship between PA and cognition, as well as academic performance. While some studies report that further research is required to explore this relationship, there is no evidence indicating that time dedicated to PA will interfere with academic achievements (Howie & Pate, 2012; Maher et al., 2016). This may increase the sustainability of such interventions as teachers realise that their efforts directed towards PA are having a positive impact, even on academic content (Ryde et al., 2018).

Brown and Elliott (2015) suggested that since teachers tend to put unassessed activities to the side, assigning some sort of grade and increasing monitoring can aid the initiation and sustainability of PA breaks. Having said that, as stated by Mavilidi et al. (2020), participants in this study agreed that the fact that TDM is not related to the curriculum or grading, offers additional benefits since the students get a break from academic content and appreciate their time outdoors. While classroom-based PA breaks have shown positive results, TDM serves as an active break from the

stresses related to curriculum tasks (Ward & Scott, 2019). As explained by one of the participants, conducting TDM after an intense task helps students to relax and return to class ready to continue with their school day. As reported in Hanckel et al. (2019) and Harris, Jennifer et al. (2019), another participant in this study stated that, even though there are students who struggle with academics, she still manages to execute TDM when time is tight as it avoids having a long day of one lesson after another and helps students re-focus when they start getting tired. Moreover, consistent with Ward and Scott (2019), most participants reported that TDM encourages students to work harder to ensure that they have time to go for the 15-minute outdoor PA break. Raising awareness about this with class teachers can help encourage them to implement PA breaks and increase PA levels for their students without feeling that they must sacrifice academic time.

A participant in this study explained that one must examine the particular context of a class and experiment to see what is most successful. Marchant et al. (2020) also stated that every class is different and what was found to be successful with one class will not necessarily have the same results for another. For instance, one participant in this study considered scheduling TDM always at the same time, since an autistic student was struggling to understand the concept, and the disruption of his routine was a cause of stress, with very few benefits. Research shows that autistic students benefit from a structured and consistent daily routine at school and teachers can employ strategies such as displaying the daily schedule in the classroom (Lindsay, S. et al., 2014). Additionally, in cases where there are any changes to their routine, it would be helpful to inform the students what will be happening to help them prepare themselves for it.

Furthermore, this study found that TDM is successfully implemented with students of diverse mobility abilities. This is in line with TDMF (2020b), which states that all students should be encouraged and supported to participate. One participant shared a personal experience of including a student with a physical disability and agreed that it had a positive impact on the student’s well-being. WHO (2020) also recommend that children with disabilities should be encouraged to participate in PA which is adequate for them, while also highlighting that participation in PA is not only encouraged for the physical benefits but also the cognitive ones. Participants in this

study who have not experienced conducting this PA break with students who have physical limitations agreed that it could be a great opportunity for students in the class to socialise and could be an opportunity to promote inclusion. Egilson and Traustadottir (2009) highlighted that the school environment needs to be easily accessible to all the students, especially those with mobility difficulties, otherwise they are at great risk of being excluded. Additionally, it was also stated that students with a disability usually benefit when there is some structure and some basic rules, especially during activities where students are active in an open space. This is why, in such circumstances, making small amendments to TDM may be required to suit the specific context and make it more successful and beneficial for all.

5.4 Theme 3: Teachers' perspectives

All the participants in this study were aware that students spend long periods of time engaged in SB and recognised their role in promoting PA with their students. Some stated that implementing TDM is the minimum that teachers should be doing for their students. Teachers must be aware that PA interventions have various positive effects on young students and must recognise the potential that the school environment has to help tackle the obesity crisis (Dobbins et al., 2013). Brown and Elliott (2015) confirm this as they claim that teachers must be motivated and able to recognise the extensive benefits that are made available to students when these breaks are integrated within the school day. Recognising these will increase the probability that teachers start implementing such breaks independently and enthusiastically (Ryde et al., 2018). This corresponds to what was discussed by the Head of School who participated in this study and by Langille and Rodgers (2010), who emphasized the importance of having the teachers on board for PA interventions to be successful.

Dinkel et al. (2017) reported that a barrier to implementing PA breaks is the challenge to settle the students back in the classroom but findings from this study show that as time goes by, it gets easier to implement. A common suggestion by participants in this study was that teachers must allow some time until a routine is established and students become accustomed to the procedure. Just as students have rules and procedures in the classroom, students will also have these for TDM,

which must be enforced to facilitate implementation. Carrying out TDM every day will help students get used to it faster, facilitating implementation even further.

This study found that giving students the authority to control their own pace makes TDM accessible for students of different fitness levels and it can provide a positive experience of PA to every participant. Students who do not lead active lifestyles can complete it to the best of their abilities, while those who have higher fitness levels, can get additional benefits as they engage in higher levels of MVPA. Three participants in this study highlighted that the students' freedom is a vital part of TDM and there is no cause for concern when TDM is implemented at a self-selected pace. Harris, Jennifer et al. (2019) found that allowing students to select a pace that suits their abilities increases the students' motivation to participate and helps make it more meaningful. The participant with the all-girls class stated that some structure seemed to help her Year Two students but considers allowing more freedom with a class of older students. The other participant, who feels safer instructing students to walk throughout the entire duration, agrees that children often show that they would like to run. Allowing students the freedom to select their preferred pace shows higher levels of student enjoyment and inclusion, and it does not seem to jeopardise the safety of the students.

While Chesham et al. (2018) reported several health benefits in students participating in TDM, none of the participants in this study could confirm improvements in the fitness levels of the students. Having said that, one participant noted that her students were complaining less during long walks when compared to other classes. Furthermore, it also needs to be acknowledged that some participants were not carrying out TDM every day and some were carrying it out for shorter durations. This naturally limits progress, but it is still better than not including any PA at all (Martin et al., 2010; WHO, 2020). The physical benefits that students are getting when participating in TDM should be of great interest to teachers, not only for their well-being but also because it contributes to their performance in the classroom. Helping students who have a higher BMI to improve their fitness levels and possibly help remove excess weight can positively impact time on task in the classroom (Bartholomew & Jowers, 2011).

All participants acknowledged that the benefits discussed are also accessible to the class teacher and LSEs who participate along with the students. Moreover, students enjoy it when teachers participate with them and it was also found to increase student engagement (Marchant et al., 2020; Ryde et al., 2018). All participants agreed that if they took on a role of supervision during TDM, it would negatively impact the students' enthusiasm to participate and they would miss out on the opportunity to interact with the students. As a class teacher, being a role model is imperative and participating with the students strengthens their effort in promoting PA to the students. Related to this, Cheung (2020) concluded that students record higher levels of PA when PE teachers were active during the lesson and confirmed that the teacher has an important role in encouraging students to be active.

Three participants in this study shared that they are the only ones in their school who implement TDM, as the other teachers chose not to try it out. Several teachers choose not to adopt any PA break due to a lack of interest or confidence in this area (Evenson et al., 2009; Martin et al., 2010). Research shows that certain elements such as teachers' motivation and confidence (Brown & Elliott, 2015), and training and self-efficacy (Mâsse et al., 2012), have a great impact on the success of implementing PA breaks. While teachers in this study agree that TDM does not require any teacher training, certain qualities as those mentioned here could be an asset. Furthermore, teachers generally prefer to receive more information and assistance about how PA breaks can be implemented successfully and how effective these can be for the students (Dinkel et al., 2017). This shows that promoting the benefits of TDM and sharing success stories of others who are implementing it can inform other teachers in the school about the initiative and provide the confidence they require to increase participation.

Dinkel et al. (2017) found that teachers who are still in the first few years of teaching often have a more positive approach to trying new initiatives. However, this was not consistent with results from this study, as all the participants, who have a variety of teaching experience, have implemented it enthusiastically. As a matter of fact, the participant who had 20 years of teaching experience initiated implementation without any support or guidance from the school. The number of years in teaching does not seem to be a factor in this study.

5.5 Theme 4: The role of others in supporting TDM implementation

Mâsse et al. (2012) concluded that establishing and developing adequate policies and guidelines which suit the school context is an essential step in supporting PA initiatives. Holt, E. et al. (2013) investigated how teachers reacted to a policy that was mandated by the district, and while only 39.9% of teachers managed to include the recommended 20 minutes of PA every day, it was still contributing to increased levels of MVPA and a reduction in sedentary time for the school students. One teacher in the study of Dinkel et al. (2017) stated that policies are not necessary as it should be the teacher's decision to ensure adequate levels of PA; however, more than half of the participants did not agree and recommended that there should be clear guidelines about how often PA breaks should be implemented. Maltese guidelines and policies, such as the recommendation that students should partake in 30 minutes a day of PA (Superintendence of Public Health, 2012), should be enforced because, as specified by Mâsse et al. (2012), it is vital to ensure that PA initiatives are being utilised. Three participants out of five in this study claimed to be the only teacher conducting TDM, which indicates that teachers are, either, as stated by Dinkel et al. (2017), not aware of such policies, or that follow-up measures of current policies in Malta might not be taking place. Langille and Rodgers (2010) discussed how a top-down approach on its own cannot ensure that the changes will take place. As explained by Ryde et al. (2018), schools in Scotland have received a lot of support from the government, but it is up to those in schools to make the implementation a success.

When it comes to the support from SLTs, some participants in this study do not believe that it has a lot of impact when discussing PA breaks, while others have insisted that they play a very important role. Two participants were in agreement with Langille and Rodgers (2010) who claimed that ultimately it is the responsibility of the class teacher to make sure students are more physically active. The Head of School, who was a participant in this study, insisted that TDM should not be enforced by the school since teachers already have very tight schedules and it may be portrayed as yet another task being imposed by the school. On the other hand, other participants mentioned that the school must be involved by promoting it with all the teachers, checking up on everyone's participation and supporting their efforts accordingly. One

teacher even recommended that they could participate with classes from time to time to encourage PA initiatives. Supporting this, Mâsse et al. (2012) claim that the sustainability of PA breaks does not only rely on the teacher's efforts but also requires a supportive school environment.

Among several factors, studies found that a supportive school environment can have a significant role in the success of PA interventions (Naylor et al., 2015; Ryde et al., 2018) and in fact, three out of five participants in this study viewed the SLTs as the ones who should initiate and lead such initiatives. This was found to be effective by a teacher in this study as it was explained that most classes have been implementing TDM consistently for a few years and that this whole-school success was a result of the support and monitoring provided by the head of school. Another participant explained that she received a lot of support from the PE teacher and described successful implementation across the primary year groups. The most successful implementation was in schools that had reported involvement and motivation by the SLTs to start and maintain participation, while the two participants who did not believe that SLTs are necessarily influential, did not have other teachers in the school implementing TDM.

Overall, this study found a lack of involvement from the administrative school staff and, as shown in Martin et al. (2010), teachers tend to rely on this support to start adopting PA breaks into their daily routine, and lack of support from the school makes it a lot more challenging to sustain implementation (Naylor & McKay, 2009; Ryde et al., 2018). One must consider that since some class teachers may lack the confidence to start implementing PA breaks, placing all the responsibility on them may be problematic and unsuccessful (Langille & Rodgers, 2010).

Schools require the head of school to make decisions about the policies, teachers to utilise any PA opportunities, and a strong influence which can be provided by specific personnel in schools responsible for promoting PA. All these elements were discussed by participants in this study and they were found to be successful. Appointing persons in schools to promote healthy initiatives, ranging from the head of school to PE teachers, encourages teachers to adopt healthier habits at school

(Langille & Rodgers, 2010). The two schools that had multiple classes implementing TDM both had a person in the school promoting and encouraging participation.

When discussing the participants' communication with parents, it was evident that it is very weak, and this can limit the success of implementation. Most of the participants were unsure whether the parents were aware of their children's participation in TDM and never discussed it to gather their perspective. One teacher shared that some parents were not fully supportive as they did not believe that it was necessary to start the day with a 15-minute PA break and that this time could be utilized better academically. Parents have a very influential role when it comes to matters related to the lifestyle habits of their children and not only should they be aware of such initiatives, but there should be a positive collaboration and continuous support (Lindsay, A. et al., 2006). TDMF (2020b) reported that the reason for TDM's success has been linked to the support received globally from the students and teachers, and also from parents. A participant in this study shared that the parents' support is essential and that the school should take charge of promoting it. This way parents will see it as a whole-school approach, rather than an activity that one teacher chose to implement. It was stated that there should be more promotion of TDM on social media to raise awareness about its successful results and how it contributes towards increasing PA levels and reducing sedentary time. In fact, Marchant et al. (2020) found that communicating with parents can help them understand how this initiative is being beneficial for their children, so that they can provide their support to sustain implementation.

Apart from the lack of communication with the parents, it was also evident that communication between colleagues is also limited. Teachers in this study who were the only ones in the school implementing TDM did not manage to encourage more teachers to start and did not get a lot of opportunities to discuss it. Dinkel et al. (2017) reported that teachers would appreciate the opportunity to discuss TDM during regular school meetings so that there could be more collaboration between teachers and SLTs. Overall, as also concluded by Brown and Elliott (2015), this study found that a supportive school environment, including strong communication with other teachers, support from SLTs, and receiving guidance from an appointed individual in school, are great facilitators when implementing PA breaks. As Naylor

and McKay (2009) put it, “environmental and whole-school approaches offer the most promise for children” (p. 12).

5.6 Conclusion

The present study reported several factors which facilitate the implementation of PA interventions and these include being simple and adaptable, providing observable benefits, and including the support and involvement of administration and parents. These facilitators were also reported by Naylor and McKay (2009), along with other factors that are promoted by TDMF (2020a), including having adequate outdoor space and following the core components. Having said that, it was evident from this study that what could be a facilitator for one class or school could have a different outcome for another, which is why teachers must remain adaptable and coordinate TDM in accordance with their specific context.

Ultimately, the success in implementing TDM requires input from policies that provide guidelines about how much PA students should be involved in and what can be done to reach the recommended levels of PA. Apart from that, teachers must be aware that PA opportunities such as TDM have the potential to help increase PA levels of students, which are rather low in Malta. This should be done along with the support of SLTs, of appointed persons in schools and of parents. It is possible that, with a little contribution from everyone, TDM can be successfully implemented in most Primary schools in Malta and provide physical, social and cognitive benefits to all its participants.

Chapter 6: Conclusion

6.1 Introduction

As discussed earlier in this study, recent figures show that Maltese citizens have the highest obesity rates in the EU (European Observatory on Health Systems and Policies, 2019) and a large percentage of Maltese children are not reaching the recommended levels of physical activity (PA) (Decelis et al., 2014). The literature review discussed how increasing PA in schools can be effective because they reach a high proportion of the population, reduces socio-economic disadvantages (Chesham et al., 2018) and can be very influential on the lives of children (Harris, Jo & Cale, 2018). PA interventions such as the Daily Mile (TDM) can contribute to the recommended 60 minutes a day of PA which children should engage in and even if they do not manage to reach this, it is always better than not doing any at all (WHO, 2020). This study conducted interviews with teachers and a head school to help answer this study's research question: What barriers and facilitators are experienced by teachers when implementing the Dail Mile initiative with the aim of increasing physical activity in Maltese Primary schools?

6.2 Research outcomes

Findings from this study confirmed that adhering to the main principles recommended by TDMF (2020a) has successful outcomes in different contexts. The fact that there is no need for equipment, and it is recommended not to exceed 15 minutes in total, facilitates implementation. Participants appreciated the fact that there is no need to plan anything, and students can participate even if they are in their full uniform. While school facilities alone did not guarantee an active school environment, it was observed from this study that having adequate outdoor space, or lack thereof, has a great impact on implementation. Having the availability of outdoor space, possibly with some areas of shade, allows teachers to conveniently conduct TDM at any time during their school day, throughout the school year and ensure the safety of the students as they engage in MVPA.

All participants in the study agreed that the majority of students participate enthusiastically, whether it is for the physical or socialising aspect. It is evident that students enjoy the freedom of PA during this time, and it suits different fitness levels. Teachers find that TDM improves the students' performance in the classroom as it

helps them focus during academic instruction upon returning to class and none of the participants agreed that TDM should be in some way aligned to curricular content. It was reported that TDM provides an opportunity to strengthen the student-teacher relationship given that due to their busy schedule, time for this in the classroom is fairly limited. Another facilitator is that since the initiative has a simple structure, it is very inclusive and students of different abilities and interests can participate at a comfortable pace. Having said that, at times teachers considered making some amendments to the core principles of TDM such as the instance of the participant who had an autistic student in class who struggled to understand the concept that TDM was taking place at different times every day.

The participants also recognised their responsibility to include more PA into the students' sedentary routines at school and affirm that their personal participation motivates students to make an extra effort. This study found that once teachers experience TDM and recognise the benefits, they will be intrinsically motivated to spare some time for this PA break. Once it becomes part of the daily routine, with established rules and procedures, there will be less time required for class management and the benefits will quickly outweigh any concerning issues.

Furthermore, participants who reported to be the only teacher in the school implementing TDM reported a lack of involvement by SLTs and poor communication between school staff. The Head of School who participated in this study shared that such initiatives should not be imposed onto the teachers; however, providing teachers with guidance, encouragement, and support to try it out, seems to enhance its success. It was also evident that the promotion of TDM by the school was minimal and, in some cases, parents were not in favour of the class teacher utilising the students' time at school for this PA break.

6.3 Recommendations

Based on the findings, one can notice the potential that TDM has to be successfully implemented in Maltese schools and help increase the PA levels of students. The following recommendations were established from this study and aim to increase the chances of sustaining participation over a long period.

6.3.1 Policymakers

Top-down support in favour of schools creating an active environment is essential and initiatives such as TDM, which are inclusive and have several holistic benefits, should be promoted. While this initiative does not require the school to invest in any specific equipment or software, there needs to be adequate outdoor space that suits the number of students in the school. Having access to some areas of shade would be an asset to encourage participation throughout the year. This will allow everyone to participate safely in such activities and associate positive feelings with PA. While this is a short and simple initiative, it is also beneficial that the curriculum supports such aims and empowers teachers to integrate PA into everyday practice.

6.3.2 Heads of College network and Secretariat for Catholic Education

Heads of College network in state schools and the Secretariat for Catholic Education can contribute towards helping Malta become TDM island. Heads of College Network can achieve this by promoting it with the Heads of state schools in their college and possibly even create opportunities for collaboration between the schools within or between state colleges. The secretariat for Catholic Education who work closely with the Church Schools Association, could discuss TDM and encourage implementation of the initiative within their schools. Heads of schools, who form part of the Church Schools Association, could support each other as necessary to improve the success rate of TDM in schools of their sector. Any opportunity where educators would be able to share and learn from those who are in a similar context can help overcome barriers and increase awareness about its benefits.

6.3.3 School Leadership Teams (SLTs)

Teachers who reported successful participation by several classes in the school confirmed that they received support from the SLTs. Strategies that were found to be successful include the introduction of TDM, and continuous encouragement by the head of school, helping teachers find time for it when they are experiencing difficulties, as well as creating incentives such as a calendar where all classes will log in their daily participation. Such support can be provided by an appointed person in the school such as the PE teacher, or a member of the SLT. Such an individual

would be able to acknowledge each class' effort in this regard to help maintain consistency in participation and perhaps even raise awareness amongst other classes who are lacking the confidence to try it out.

Since some participants in this study shared their difficulties related to inadequate outdoor space, SLTs could also see if they can optimise all possible spaces in the school to have sufficient space for PA. Moreover, schools could also encourage teachers to share their progress or difficulties related to TDM with colleagues during regular school meetings. Additionally, promoting the school's participation on social media will show that it is a whole school initiative, and it will clearly indicate the expectations of the school from all aspects. This way class teachers who make the extra effort and manage to include it into their daily schedule, will not find resistance from others.

6.3.4 Class teachers

This study confirmed that it is most effective when one adheres to the core principles established by the initiative such as not exceeding the 15-minute duration, allowing students to manage their pace, and avoid including the use of equipment. Having said that, TDM is flexible in its structure that allows teachers in specific circumstances to adapt the original structure and make the implementation more successful, and beneficial for them and their students.

Ultimately teachers must recognise their role in increasing PA levels for their students and they must have a positive approach towards such initiatives. Teachers need to be aware that they are role models for their students, and it is very effective when they participate with them, especially for students who are not very inclined towards PA. One of the main outcomes of the National Curriculum Framework specifies that by the time students finish Primary school, they must be able to adopt "a healthy and active lifestyle, conscious of the long-lasting implications of their decision in this respect" (Ministry of Education and Employment, 2012, p. 23). This does not fall only upon the responsibility of the PE teacher, but as a school, there needs to be a joint effort to ensure that students develop into independent learners who are conscious of the importance of leading an active lifestyle.

Fundamentally, teachers need to be aware of their role in providing students with opportunities where they can be active, must be willing to implement TDM, make sure they establish rules from the start to facilitate implementation and allow some time until it embeds into everyday practice.

6.3.5 PE teachers

Amongst the extensive list of aims that appertain to PE teachers, they must “ensure that pupils continue with physical activity after leaving school” and “promote health and freedom from illness – especially cardio-vascular health” (Whitehead, 2010, p. 16). It is essential that PE teachers comprehend that their role goes beyond the delivery of the subject content and they have other responsibilities such as supporting the delivery of TDM in their school. As previously suggested, the PE teacher could assume the responsibility of monitoring the implementation of TDM in the school. PE teachers could also discuss the initiative with school staff to raise awareness about its benefits and even initiate whole-school incentives to encourage participation.

As suggested by Whitehead and Woodhouse (2010), PE teachers need to make sure that all students are feeling successful when being active and TDM is an excellent activity where students can be praised for their effort and also encouraged to challenge themselves adequately. PE teachers could take on the role of personally introducing the initiative with the students, before passing on the responsibility to class teachers for daily implementation.

6.4 Strengths of the study

The main strength of this study was the fact that the researcher was also one of the main researchers in the previous study carried out in Malta, which investigated TDM using quantitative research methods (Bianchi & Vella, 2019). This provided sound knowledge regarding TDM and enabled the researcher to collect data that builds upon findings from that local study.

Studies in Malta about PA interventions, in general, are lacking and while this study was specific to TDM, the findings can be utilised to increase PA opportunities in Primary schools as recommended in recent policies.

Another strength is that the selection of participants provided a fair representation of schools in Malta since it included a representative from an all-girls and an all-boys Catholic school and another three from different state colleges in Malta. Furthermore, since one of the participants implementing TDM was also the head of school, the study could also gather the perspective of a member of the SLT.

6.5 Limitations of the study

Even though the participants were heterogeneous, since there were only five interviews conducted, the data collected might be limited. Furthermore, the teachers who volunteered to participate were mostly from younger age groups and still eager about implementation, which might have affected the nature of the data gathered.

Since the study was based on data that was collected only from teachers and one head of school who are implementing TDM, some areas could not be explored. Focus groups with students or SLTs would have allowed for triangulation of data and increase the validity of the study.

6.6 Recommendations for further research

Future research could gather qualitative data from focus groups held with students who participate in TDM, as this was missing in this research and their input is vital when attempting to increase their PA levels and instilling healthy lifestyle habits. Additionally, data could be gathered from participants with different views about the initiative, including individuals who support TDM, others who have stopped, or never attempted it, and perhaps even members from the SLT, to further investigate issues that were established in this study.

TDM could also be compared to other PA breaks which may be taking place in Maltese schools, by comparing groups of students participating in two different initiatives and a control group. Tests performed with students could measure changes in physical and academic performance and compare outcomes.

A larger-scale study could also involve the distribution of surveys to all schools in Malta, including independent schools, to collect data on their experience with PA

breaks. This could be followed by focus groups or interviews, with a mix of participants to discuss initiatives like TDM and their holistic impact on the students.

Finally, since several studies about TDM are still taking place globally, researchers from different countries could work together to gather data from schools in their area and bring the data together for analysis, which could determine whether differences in culture can influence the success of such initiatives.

6.7 Conclusion

This chapter presented the findings which emerged from this study, along with strengths and weaknesses, and possible areas for future research. This study investigated how TDM is being implemented in schools and presented recommendations that could inform entities and members of schools about common challenges and guide them towards successful implementation. The findings support that TDM is a simple initiative that is being successfully implemented and it could be promoted amongst all schools in Malta and potentially becoming TDM island. This PA initiative can help increase PA levels and target the unfavourable obesity rates amongst children in Malta. Additionally, it has the potential to inculcate healthy and active lifestyle habits which the students can transfer into their lives beyond their Primary school years.

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Appendices

Appendix A: Acceptance by the University of Malta Research Ethics Committee

L-Università ta' Malta

Faculty of Education
University of Malta
Msida MSD 2080, Malta

Tel: +356 2340 3058/2932
educ@um.edu.mt

www.um.edu.mt/educ

23rd July 2020

RE: Application for Research Ethics Clearance [redacted]

Dear Ms Vella,

With reference to your application [redacted] for Research Ethics clearance, I am pleased to inform you that **FREC finds no ethical or data protection issues in terms of content and procedure**.

You may therefore proceed to approach potential informants to collect data using the tools/documents outlined in this application.

You are reminded that it is your responsibility - under the guidance of your supervisor - to distribute Information Letters and Consent/Assent Forms that are written in appropriate and correct English and Maltese.

Yours sincerely

Prof. Suzanne Gatt
Chairperson Faculty Research Ethics Committee
Faculty of Education

Appendix B: Permission from Department for Curriculum, Research Innovation, Lifelong learning and Employability

DIPARTIMENT GHALL-KURRIKULU, TAGHLIM TUL IL-HAJJA U IMPJEGABILITA'
FLORIANA FRN 1810

DEPARTMENT FOR THE CURRICULUM, LIFELONG LEARNING AND EMPLOYABILITY (DCLE)
FLORIANA FRN 1810

Directorate for Research, Lifelong Learning and Employability

Tel: 25982743 **researchandinnovation@ilearn.edu.mt**

PERMISSION TO CONDUCT RESEARCH STUDY

Date: 25th June 2020

Ref: [redacted]

To: **Head of School**
From: **Director**

Title of Research Study: ***Barriers and Facilitators to the implementation of the Daily Mile in Maltese schools.***

The Directorate for Research, Lifelong Learning and Employability would like to inform that approval is granted to **Michelle Vella** to conduct the research in State Schools according to the official rules and regulations, subject to approval from the Ethics Committee of the respective Higher Educational Institution.

The researcher is committed to comply with the General Data Protection Regulation (GDPR) and will ensure that these requirements are followed in the conduct of this research. The researcher will be sending letters with clear information about the research, as well as consent forms to all data subjects and their parents/guardians when minors are involved. Consent forms should be signed in all cases particularly for the participation of minors in research.

For further details about our policy for research in schools, kindly visit www.research.gov.mt.

Thank you for your attention and cooperation.

Claire Mamo
MA Ed (Open)
Research Support Teacher
Directorate for Research, Lifelong Learning and Employability

f/ Alex Farrugia
Director
Directorate for Research, Lifelong Learning and Employability
Great Siege Road | Floriana | VLT 2000
t: +356 25982443 e: alex.farrugia@gov.mt | www.education.gov.mt

MINISTRY FOR EDUCATION AND EMPLOYMENT

MINISTERU GHALL-EDUKAZZJONI U X-XOGHOL
MINISTRY FOR EDUCATION AND EMPLOYMENT

Appendix C: Permission letter for the Secretariat for Catholic Education

Permission Letter – Secretariat for Catholic Education

Date:

Dear Director for Educational Services in Schools,

I am Michelle Vella, a postgraduate student reading for a Master's in Teaching and Learning in Physical Education at the University of Malta. As part of this course I will be carrying out research in order to write a dissertation, under the supervision of Dr Andrew Decelis.

The title of my dissertation is *Barriers and Facilitators to the implementation of the Daily Mile in Maltese schools*. I will be investigating what factors make the Daily Mile easy or challenging for teachers to implement in Maltese schools. I would be grateful if you would give me permission to conduct this research study at _____(School name) and _____ (School name).

Should permission be granted, I will be conducting interviews with 2 teachers from 2 church schools and 3 teachers from 3 state schools who have experienced the implementation of the Daily Mile and who volunteer to participate. Questions will investigate barriers and facilitators faced by teachers who are implementing this physical activity break or who have implemented in the past. These 30 to 45-minute interviews will be carried out face-to-face, on- or off-school premises or remotely, depending on circumstances and participant preference. Interviews will be audio-recorded on their consent (otherwise notes will be taken instead).

Participation in the study is voluntary and they can stop participating at any time without any negative consequences. I will first ask the respective Heads of School for their kind permission to carry out the data collection in their schools and they will be kindly asked to forward an information letter and consent form to the teachers in the school. The participants' identity and details of the school will remain entirely confidential in the study. No names of participants or schools will be used in the study and specific codes will be assigned and used when referring to them in the study. Any notes taken and recorded data will be securely stored and will be accessed only by myself. Recordings will only be used for the purpose of transcription and upon the final submission of the dissertation, all the data will be safely discarded. Any data collected from participants who wish to withdraw from the study will not be used.

I would like to assure you that I will abide by all the ethical guidelines issued by the University Research Ethics Committee of the University of Malta throughout the course of my research.

Should you require further information, please do not hesitate to contact me or my supervisor using the contact details provided below.

Thank you for your kind consideration.Sincerely,

Michelle Vella

_____

Researcher's signature

Supervisor's Details:

Dr Andrew Decelis

Appendix D: Permission from Secretariat for Catholic Education

Segretarjat għall-Edukazzjoni Nisranija
16, Il-Mall, Furjana FRN 1472
Num. ta' Tel. 27790060
Num. Tal-Fax 27790078

Secretariat for Catholic Education,
16, The Mall, Floriana FRN 1472
Tel. No. 27790060
Fax No. 27790078

The Head
[redacted]

2nd July 2020

Ms Michelle Vella, currently reading for a Masters Degree in Teaching and Learning in Physical Education at the University of Malta, requests permission to conduct audio-recorded interviews with two (2) Teachers at the above mentioned schools.

The Secretariat for Catholic Education finds no objection for Ms Michelle Vella, to carry out the stated exercises subject to adhering to the policies and directives of the schools concerned.

Rev Dr. Charles Mallia
Delegate for Catholic Education

Appendix E: Permission letter for the Head of school

Permission Letter - Head of school

Date:

Dear Head of School,

I am Michelle Vella, a postgraduate student reading for a Master's in Teaching and Learning in Physical Education at the University of Malta. As part of this course I will be carrying out research in order to write a dissertation, under the supervision of Dr Andrew Decelis.

The title of my dissertation is *Barriers and Facilitators to the implementation of the Daily Mile in Maltese schools*. I will be investigating what factors make the Daily Mile easy or challenging for teachers to implement in Maltese schools.

I would be grateful if you would give me permission to conduct interviews with teachers at your school.

Should you give me permission, I would like to conduct an interview with 1 teacher in your school who has experienced the implementation of the Daily Mile and who volunteers to participate. Questions will investigate barriers and facilitators faced by teachers who are implementing this physical activity break or who have implemented in the past. These 30 to 45-minute interviews will be carried out face-to-face, on- or off-school premises or remotely, depending on circumstances and participant preference. Interviews will be audio-recorded on their consent (otherwise notes will be taken instead).

Participation in the study is voluntary and participants will suffer no negative consequence should they choose not to participate. Furthermore, they can stop participating at any time without any negative consequences. The participants' identity and details of the school will remain entirely confidential. Any data collected from participants who wish to withdraw from the study will not be used. Any notes taken and recorded data will be securely stored and will be accessed only by myself. Recordings will only be used for the purpose of transcription and upon the final submission of the dissertation, all the data will be safely discarded.

It would be greatly appreciated if an Information sheet and Teacher consent form is distributed to the teachers in your school who implement/ed the Daily Mile. Should you require further information, please do not hesitate to contact me or my supervisor.

Thank you for your kind consideration.

Sincerely,

Supervisor's Details:

Michelle Vella

Dr Andrew Decelis

_____

Researcher's signature

Appendix F: Permission from Head of School

Permission from Head of school

Barriers and Facilitators to the implementation of the Daily Mile in Maltese schools

I, _____ hereby give consent to Michelle Vella to conduct an interview about the Daily Mile with a teacher in:

School: _____

College: _____

_____ _____

Signature of Head of School

School stamp (if available)

Date: _____

Thank you,

_____

Researcher: Michelle Vella

Appendix G: Information sheet for Teachers

Teacher Information sheet

Date:

Dear Teacher,

I am a postgraduate student reading for a Master's in Teaching and Learning in Physical Education at the University of Malta. I would like to invite you to participate in the study entitled Barriers and Facilitators to the implementation of the Daily Mile in Maltese schools, under the supervision of Dr Andrew Decelis.

This study will investigate the barriers and facilitators associated with the implementation of the Daily Mile through interviews. Questions will explore factors which make this initiative easy or challenging for teachers to implement in Maltese schools. A 30 to 45-minute interview will be carried out face-to-face, on- or off-school premises or remotely, depending on circumstances and preference. Should you agree to participate, you are kindly requested to sign the consent form and send a scanned or photographed copy by email. Interviews will be audio-recorded for the purpose of the study, however, should you wish not to be recorded, I will take notes instead. If you agree to take part in the study, your identity and that of the school will remain confidential. As a participant, you will not be at any risk of any harm. I will keep your identity, and that of the school, confidential, and your identity will be anonymised in my write-up through the use of a pseudonym. I would like to interview 5 teachers and, in the event that more teachers give consent, the first 3 teachers from state schools and 2 teachers from church schools who volunteer, will be selected to participate.

Participation is voluntary and you are free to withdraw from the study at any time without suffering any negative consequence. Should you choose to withdraw, any collected data will not be used in the study, and it will be destroyed. Any notes taken and recorded data will be securely stored and will be accessed only by myself. Recordings will be used for the purpose of transcription. Upon the final submission of the dissertation, all the data will be safely discarded.

Please feel free to address any queries or difficulties towards me or my supervisor for immediate clarification. If you agree to participate in the interview, kindly sign the consent form attached and contact me using the contact details provided below.

Yours sincerely,

Michelle Vella

Supervisor's Details:

Dr Andrew Decelis

_____

Researcher's signature

Appendix H: Teacher consent form

Teacher Consent Form

Barriers and Facilitators to the implementation of the Daily Mile in Maltese schools

I confirm that I have read the attached *Teacher Information Sheet* for this study and that I have had the opportunity to ask questions and discuss the study.

On the basis of the information given, I agree to allow Ms Michelle Vella to conduct an interview with me and audio-record the interview for the purpose of the study.

I give my consent on condition that all details and data remain anonymous and that Ms Michelle Vella will safely store the data collected and discard it upon completion of the study.

_____ _____

Teacher's name Teacher's signature

Teacher's contact information (email/contact number) _____

Date: _____

_____

Researcher: Michelle Vella

Appendix I: Interview questions

1. How long have you been teaching and how many years in this school?
2. Which year group do you teach?
3. Is physical activity a major focus at this school? (PE lessons, facilities, extra-curricular activities, physical activity programmes during break time).
4. Do you think the children you teach should be more physically active?
5. Do you notice that children are inactive for most of the day? Are there noticeable issues such as obesity, generally unfit, common conditions like asthma etc.
6. How are your students when receiving academic instruction?
7. How well do they listen and follow instructions? (Particular times of the day when they are more disruptive/easier or more challenging to teach? Are there children who require additional support needs?).
8. What is your understanding of what the Daily Mile actually is? (How do you implement it – time of the day? Do you measure a mile or a specific duration? Is it timetabled or do you go at random a random time? Are the children left free to walk/jog/run?)
9. How did you feel about it when it was first introduced to you? And did your feelings change when you started? (Were you confident that it would be successful and that you will experience the benefits? Did these thoughts change once you started?).
10. Does it ever replace other physical activity time such as PE? (Is it still performed when they have PE or other physical activity?).
11. Some schools in Malta and abroad, have added certain elements to the Daily Mile, such as adding obstacles along the track or distributing tokens every time the child finishes a lap. Did you ever implement it this way or you try to stick to the simple recommendations of the Daily Mile?
12. What would you say are the main effects of the Daily Mile on children? (Effects on physical activity levels and overall health? Improved attitude towards physical activity. Effects on their academic performance (on-task behaviour). Improved behaviour in class? Maybe in some students more than others? Strengthens existing relationships or builds new ones during the Daily Mile itself? Improves

your relationship, as their class teacher, through conversations taking place during the Daily Mile).

13. The first school to use the Daily Mile has an all-weather track around the playground for children to use. Do you think the playground at your school is adequate for the Daily Mile to take place? (Is there enough space? Do you think good sport facilities makes a difference to motivate teachers and students to engage in physical activities? Do you think other resources/ facilities would help sustain the Daily Mile in the school?)
14. Can you elaborate on any barriers you experienced when implementing the Daily Mile? (Weather, restricted time, not fully, lack of interest from the students, students more interested in socialising, school uniform limits them when running, students find it boring).
15. What do you think the children think of the Daily Mile? (What encourages /discourages them to participate? Like/dislike about it).
16. Could there be opportunities of bullying during the Daily Mile?
17. Do you think it makes a difference for the students whether you, as a teacher, are active with them during the Daily Mile?
18. Do you think the Daily Mile could be the main source of physical activity for some children?
19. How do you think parents feel about their children taking part in the Daily Mile? (Are they aware of it and support it?)
20. How feasible is it to implement the Daily Mile at this school, and keep it running daily? (Does it require a lot of effort to implement it? Is the participation declining over the years?).
21. Some teachers also believe that assigning a grade to it (like other academic subject) might encourage teachers more to carry it out regularly. From your experience, do you agree with that?
22. What is the response from other colleagues? (Do the majority of teachers participate? Ranging from year 1 to year 6 – which age would be more challenging?).
23. How important do you think support from the school is to help maintain it (from PE teacher/ SMTs)? (They check on progress, encourage participation, help

plan logistics so that the whole school can participate, allow the use of indoor space when there are difficult weather conditions etc.).

24. Considering everything discussed so far, do you think the introduction of the Daily Mile has been a positive initiative overall?
25. What would you say is the best thing about it? (No need for planning / problems of limited classroom space to conduct brain breaks in class).
26. What motivates you to keep implementing it? (Students' enjoyment, better concentration levels after, to increase physical activity levels, to help students get a mental break etc).
27. Do you think it would be possible to have all schools in Malta implementing the Daily Mile, leading to Malta becoming the Daily Mile island?
28. Is there anything else you would like to add?