

Orienteering Experiences to Procure Grit in Adolescents.

ABSTRACT

This aim of this study is to understand the value of orienteering exercises to grit procurement in adolescents. The relationship between the concepts of orienteering, grit and facilitation, and their relevance to the procurement of grit and well-being are explored. Mental well-being is a state where people are able to cope with the normal stresses of life whilst being productive and being able to contribute to their communities. Grit is a non-cognitive trait described as the: "passion and perseverance for long-term goals" Experiential learning maybe described as "Learning through reflection on doing". This study was carried out on three participants taking part in a session that included three challenges of various levels, to procure grit. The results revealed a decrease of perseverance being consistent in all participants. However, overall levels of perseverance remained higher than levels of passion. The procurement of grit using orienteering exercises is inconclusive, however, the robust evidence for grit as an indicator of success, suggests further research could be useful.

Introduction

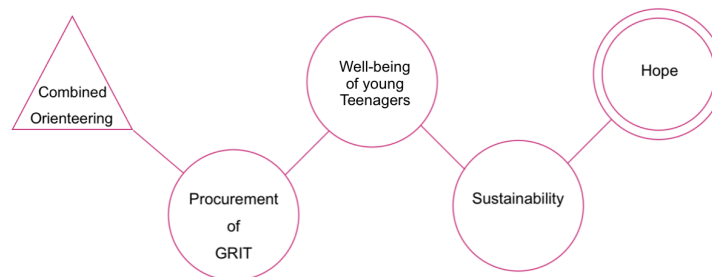
This report begins with the exploration of the relationship between the concepts of orienteering, grit and facilitation, and their relevance to the procurement of grit for the mental well-being of adolescents. The growing number of mental disorders faced by individuals in 2020 continues to impact social, economic and human rights issues across the world (WHO, 2019). 'Mental well-being is a state where people are able to cope with the normal stresses of life whilst being productive and being able to contribute to their communities,' whereas 'mental illness is an experience that interferes with day-to-day functioning' (Public Health Wales, 2019). Between 1995 and 2014 there was a six-fold increase in the number of children with a reported long-term mental health condition and a recent study by the Health Foundation found that 49% of children moving into adulthood did not receive the emotional support they needed when growing up (Nuffield Trust, 2018). The maintenance or reactivation of social networks and social activities is important (WHO, 2019) and the qualities of 'combined forms of orienteering' ('orienteering experiences'), referred to later, contribute toward these important networks and activities, as upstream interventions to poor health and well-being.

At a time when radical change may appear to be the only answer (Fit for Future Education in Wales, p.4), Educational Theorist, John Dewey, reminds us that operating blindly and in confusion, on departure from the old forms of education, will not solve problems (Dewey, 1983 p.25). This project is a reflective response to issues faced by adolescents today, and has been designed to procure grit. In a study on subjective well-being, Diener (2000) concludes that lasting happiness could result in part from working for one's goals, from close social relationships, renewable physical pleasures, and flow activities. 'Thus Grit could have an important role to play in achieving this' (Singh and Duggal, 2008). Drawing from 'the theory of grit as a predictor of success' (Duckworth, 2013), I visit the rigorous research that underpins this theory. Angela Duckworth spearheaded 'Grit' and developed the 'Grit scale' test in 2004 as a reliable indicator of success, since when it has been the subject of growing academic interest across the world. For grit to bring success to adolescents, I argue that in a 'less gritty' society, it may be necessary to find ways to procure grit in the first place, as a step towards long-term well-being. In other words, how will the facilitation of this orienteering experience procure 'grit' in adolescents, measured by the 'Grit Scale'?

When facilitating the orienteering experience, I take into consideration the whole picture - a holistic approach that collectively shares Bloom's affective, cognitive and psychomotor styles of learning and Dewey's 'concern for interaction, reflection and experience, and interest in community and democracy' (infed 2001). David Kirk writes 'arguably, in the face of rising precarity and its ill effects on the young people's mental health and wellbeing, there is a need for physical educators (facilitators) to develop pedagogies of affect, that take affective learning as its main concern'. (Kirk, D. 2018).

Theoretical perspectives informing the design of the experiential programme used to procure grit for well-being (Kirk, D. 2018). Kirk suggests here that learning about feelings, emotions and attitudes should receive greater priority in our present, uncertain, cultural climate. Although this project is concerned with the procurement of grit in the first instance, correlations between grit and positive affect may be revealed, that take this study into its next stage of development in understanding the strength of grit for long-term well-being.

An Orienteering Exercise to Procure Grit



Experiential learning maybe described as "Learning through reflection on doing"(Patrick, 2011 p.1003). 'Hands-on' learning, another form of experiential learning, typically excludes a reflective stage of learning (wiki). Influenced by Dewey and Lewin, educational theorist, Kolb, believes that "Learning is a process whereby knowledge is created through the transformation of experience" (1984, p.34). Grit is a non-cognitive trait described as the: "passion and perseverance for long-term goals" (Duckworth, A. 2016) or 'a student's ability to persevere, to face challenges and to overcome failure'. The word "facilitate" derives from the French and Latin word "facile" which means "easy". Literally, the process of facilitation in outdoor education is to make something easier and in this project, the tools of different orienteering forms have been combined to make grit-procurement easier in adolescents.

These tools were carefully assembled so the problems associated with the recruitment of adolescents into this activity could be achieved in the first place. Three adolescent males were involved in this project and grit-procurement measured using the 'Grit Scale' (Duckworth, 2004) before and after the activities. The theories underpinning grit and why it is of interest, will be discussed following an explanation of the orienteering exercises and their proposed use.

The positive attributes of orienteering and orienteering experiences fall into Bloom's three styles of learning:

- Affective: Feelings and emotions (attitude).

Grit level, growth mindset, motivation. social, cultural, interpersonal, intra-personal, self-control, conscientiousness.

- Cognitive: Mental skills (knowledge).

Navigation, environmental, technical, map-reading, distance judgement.

- Psychomotor: Manual or physical skills (skills).

Physical movements at selected levels, obstacle course training.

Orienteering includes family activities including running, biking, walking and navigation because they are:

- Popular.
- Inclusive and accessible.
- Relative to the needs of our targeted groups.

Popular

A popular point of entry into physical activity for many may be at a 'walking level'. Walking is the most popular recreational activity for people in England (Sport England 2006A). However, adolescents may find walking boring and an additional element such as obstacle course training and/or navigation makes it more appealing. Whole family participation is possible.

Inclusive and accessible

The activities are accessible to those living in both rural and urban areas. Adolescents can continue enjoying the activity within their local surroundings without the need for a coach, team or a specific playing field. Adolescents, children and adults of any age, sex and ability can compete together at one venue, on the same day and at a level of their choice, on a regular basis as is shown in the following example:

In May 2009, an orienteering event was held in the Forest of Dean. 1,024 different men, women, girls and boys between the age of three and eighty five competed in a number of competitions including a string course for young children through to a national level 1 event for elite competitors. In February 2010 a similar event was held, also in the Forest of Dean with 753 competitors. 44 of these were males over the age of 70 running over 4.4km

and 15 were females over the age of 70 running over 3.1km.

Orienteering is fully inclusive and can be non-competitive or competitive. The technical difficulties of orienteering vary from one to five. Competitive events are held across the country on a regular basis. Family members can compete at one venue, on the same day and at a level they choose. Parents do not need to spend many hours each weekend in the car, driving their children to different sporting events.

Orienteering is an activity, in multiple domains, that provides opportunities for reflection, before, during and after the activity for both the facilitator and the participator. Map-reading, reflection on route-choice and the story of the journey all contribute towards useful reflection.

Considered the founder of reflection, Dewey wrote that reflection is an "active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and further conclusions to which it leads" (Dewey 1933 p.118). The forms of orienteering and obstacle course training below, combine to create a programme of activities, referred to in this project as 'orienteering experiences' and developed from an informal and continual cycle of experiencing, reflecting, learning and planning, inherent of the Kolb's Lewin learning cycle. Progressively, this developed further into the less linear framework of the Argyris and Schön model, questioning the role of the framing and learning systems that underlie the actual goals and strategies.

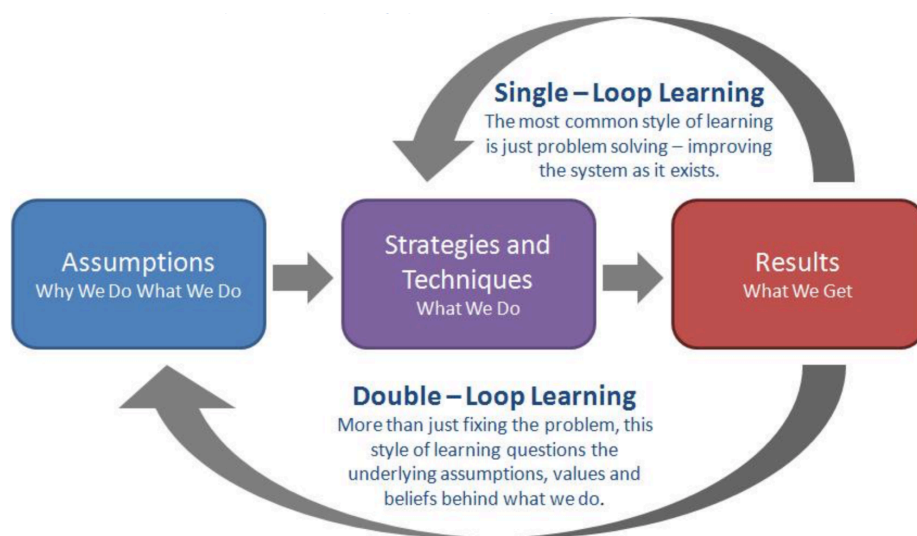


Diagram 1. Argyris and Schön model of learning.

Combined Orienteering Exercises for Grit Procurement

The participants in this study, three teenage boys (13-15), filled in the grit test (Appendix C) at the beginning of the activity and again at the end of the session. Younger non-participants also joined in the session. Over this time the adolescents were encouraged to be autonomous in solving problems of three types:

- I. Psychomotor: Setting up a safe obstacle course using gymnastics equipment which emulated the physical demands of a forest floor, and from which they could usefully role model and encourage other participants to engage in practice.
- II. Cognitive: Work out how to set up a navigation course using numbered cones and a master card.
- III. Affective: Following the viewing of a short youtube video Forest Jump (Dynamic Vision, 2012), use written guidelines to discuss as a group or individually, the organisation of an orienteering event to be held in a local forest, in six months time.

The students were given complete autonomy over the session (Lesson Plan: Appendix D), so that I could observe how long they would persevere with tasks that became too difficult. Reflection after the session took place as part of an informal discussion, using Dewey's five stage model (1938). The inspirational video was shown at the beginning and end of the session and included elements of free-running and orienteering. The obstacle course included a timing device. Whilst autonomy was encouraged, some of the concepts were new and therefore intervention was necessary.

In addition to the above, the following list shows how the combined forms of navigation, physical training and all-round development skills develop learning traits of grit.

Combined forms of navigation for develop knowledge.

- The Sport of Orienteering governed by the British Orienteering Federation (BOF).
- Orienteering as a military training exercise.
- Navigation as part of the 'Duke of Edinburgh Award Scheme' or an 'Outdoor Learning Centre'.
- Informal navigation, letter-boxing, geo-caching, treasure-hunting.

Combined forms of physical training to develop skills

- Obstacle course training influenced by George Hébert (Hébert, 1912).

- Gymnastics training influenced by Kirk and Physical Education Futures (Kirk, 2010)

Forms of training for knowledge, skills and affective learning

- Long Term Athlete Development Guide. Canada Orienteering.
- Theory of Multiple-intelligences. Howard Gardner (2020).

These resulted from a combination of observational research during facilitation, followed by theoretical research. Following ten years of coaching sports in primary schools and out-of-school clubs, in the year 2010 my focus as a facilitator of physical activity changed from a culture of 'playing to win', to 'participating for affect'. This followed a time of reflection, consideration and inner call for greater equality in whole class participation and out-of-school opportunities. Murphy & Dingwall described direct observation as the gold standard among qualitative data collection techniques (2007 p.1060). 'Observing people in their natural environment not only avoids problems inherent in self-reported accounts, but can also reveal insights not accessible from other data collection methods, such as structures, processes and behaviours the interviewed participants may well be unaware of themselves (Furlong, 2010).

As a process of continued reflection, I observed some significant points which, along with further reading, led to the development of the programme used in this study and the initiating theoretical research that underpinned the hypothesis:

- Whilst coaching cricket, hockey, football and orienteering in primary schools and out-of-school clubs, significantly more children were noticeably more actively involved and having fun when orienteering, than any other sport: This leading to my research on 'Physical Education Futures' (Kirk, D. 2010) and the role of gymnastics in the United Kingdom (and subsequent research).
- After emulating a talent-spotting letter from the English Cricket Board (ECB) to parents following a kwik cricket tournament, I was able to ascertain that parents were equally as likely to positively respond to an orienteering talent-spotting letter following a schools orienteering festival as they were to a cricket talent-spotting letter: This leading to my research on 'The Motivation Theory' (Pink, D.) and practical application of autonomy, mastery and purpose in programmes.

- Primary school girls, in the strength of their teams, were proud athletes throughout their time in secondary school, and did not give-up being physically active: This leading to my research on 'The same old story' (Kirk, D. 2014).

As a professional horticulturist and landscaper, the shift away from coaching sport to win, to facilitating outdoor experiential learning activities,, combined with physical activity for well-being, was a natural one. An understanding of Blooms three learning styles, steered me towards the facilitation I sought to deliver. Gestalt psychology looks at the human mind and body as a whole and in procuring grit, this mindset I argue, is important because the 'will' to move is driven by the mind and not the body. Despite my aim to work alongside co-researchers, with the concept of procuring grit being new, I worked more easily within the Kolb learning process.

This point is affirmed by Kirk. 'Quality early learning experiences not only develop physical competencies but, crucially, also perceptions of competence that underlie the motivation that is vital to continuing participation' (Kirk, 2005).

Characteristics of Grit and Grit-procurement.

"Duckworth herself is the first to say that the essence of grit remains elusive. It has hundreds of correlates, with the nuances and anomalies, and your level depends on the expression of their interaction at any given point." (Perlis, M. 2013). Perlis explains five grit characteristics defined by Duckworth:

Courage: The management of fear is a a predictor of success and thus courage is director indicator of grit levels. Orienteering exercises demand progressive levels of courage that can, by choice, ultimately lead to running through a forest with a map and torch, in the dark. For most, this demands courage, however, to reach this level, there are several steps to aspire to beforehand. However, for this specific project, the role models encouraged each other to show courage as they attempted two specific moves they selected: The shoulder role (a safety landing) and the kong (requiring grit, if to be achieved).

Conscientiousness: One of the big five character traits, this is achievement oriented vs. dependable: According to Duckworth this characteristic is most closely associated with

grit. However, conscientiousness is not associated with easy-going peoples and therefore, I question if an easy-going person can procure grit? Although the sample size is too small to ascertain this in the study, it is, in my opinion worthy of further research. Can, for example, orienteering exercises procure grit in individuals who lack both motivation and have low levels of grit?

Long-term goals and endurance: Follow through: Duckworth writes: "...achievement is the product of talent and effort, the latter a function of the intensity, direction, and duration of one's exertions towards a long-term goal". It is a repeated fact that it takes 10,000 hours of practice to reach elite standards. The goal of holding an orienteering-based event in six months time is a dangling carrot that I have

Resilience: Optimism, confidence and creativity. "Everything will be alright in the end, and if it is not alright, it is not the end." I would argue that a person who is not conscientious may be resilient and therefore, capable of being gritty.

Excellence vs. perfection: Gritty people strive for excellence rather than perfection. To procure grit in the first instance, a carrot is used to persuade participants to become involved, in the case of this project, in a social, competitive and non-competitive event that will take place in six months time. To reach the end goal, observations of how the adolescents respond to the short-term goals, will be made.

Since Duckworth's Grit (TED Talk, 2013) the popularity of Grit has swept across the world in academic circles. The reason for this is that Duckworth managed to produce robust research for grit in a variety of settings (Duckworth, 2016). The conclusions were unanimously in favour of grit for success. The grit test, however, is divided into two parts, firstly with regard to passion and secondly, for perseverance. This is important in because whilst the goal of 'success' maybe a procurement of grit, it may not lead to well-being. Duckworth responded to this question on her webpage:

"I can't tell you whether happiness or achievement is more important. That's a question of values, not science. I can say that when you measure both, you find they tend to go together more than they split apart. In other words, while we can all think of someone we know who is happy but not successful, or successful but unhappy, these are exceptions. The grit paragons I've interviewed over the years are on the whole quite happy and

successful. While I would not call them “carefree” or “laid back,” I would say that they are tremendously satisfied with their lives—even if that includes never being satisfied with their level of skill or achievement. I myself think, daily, about what I could do better. And yet I’m happy.” (Duckworth, 2020).

These are certainly words worthy of reflection in the procurement of grit hypothesis.

Results

Grit scores: Passion + Perseverance:

Increase in Grit: + 0.3 + 0.2 + 0.2

Minimum score: 2.9 / 5.0

Maximum score: 3.9 / 5.0

Increase Passion: + 0.6 + 1.2 + 0.6

Minimum score: 2.0 / 5.0

Maximum score: 3.8 / 5.0

Increase in Perseverance: - 0.2 - 0.6 - 1.0

Minimum score: 3.2 / 5.0

Maximum score: 4.8 / 5.0

CRITICAL DISCUSSION

Ethics

This project was approved by the UWTSD ethics committee. Following a meeting with the head of the school, an agreed amendment was made to the Grit Scale questionnaire and it was renamed 'About me'. A copy of the consent form to parents can be found at the end of this report (Appendix A) and ethics form (Appendix B).

The idea that orienteering exercises could procure grit was hypothesised, with three adolescents taking part in the study. This number of adolescents was insufficient to effectively validate the results.

The decrease of perseverance was consistent in all participants. However, overall levels of perseverance remained higher than levels of passion. Further study will be required to understand how effective the orienteering exercises are for procuring grit. Furthermore, the length of study was possibly inadequate, although verbal feedback indicated that the participants were keen to continue organising the event after the study.

This brings me onto my facilitation for this study. The activities were based on four levels and in this order:

- An inspirational video featuring adolescents free-running and orienteering through a forest setting.
- The setting up of an obstacle course that emulated the forest floor, included an easily achievable (shoulder roll) and more challenging (kong) practice. Learning was through role-modelling.
- The setting up of a cognitive challenge that involved a reasonably complicated gridwork of cone-placement. The subsequent role-modelling and activities (see appendix 1), challenged the participants with a possible five levels of navigation.
- The assembly of participants and distribution of an 'event organisation' sheet. I was particularly interested to find out how the participants handled this part of the challenge, with it being unfamiliar material.
- Final showing of video, prior to filling out the grit scale test once again. The purpose of this was influence their positive psychology with an inspirational video rather than a tough challenge before completing the test for a second time.

Dewey's 5 Stage Model of reflection was used in this project, because I did not want to interrupt the observation of the participants whilst undertaking various tasks. Dewey believed that for reflection to happen, the action needed to be halted.

1. Identify a problem.
2. Observe and refine to create greater understanding.
3. Develop an understanding of the problem and what maybe required to overcome it.
4. Subject the solution to scrutiny.
5. Put the solution into practice.

During the obstacle course practice, I needed to intervene as I observed a potential danger. We stopped and discussed the danger (slippery stepping-stones used for precision jumping) and a participant came up with a solution by placing additional stepping stone, requiring less stretching). The final challenge was the most difficult in maintaining self-efficacy, with the daunting idea that they were to discover how to organise and event. Interestingly, although the tasks themselves were not challenging, it appeared that their unfamiliarity caused issue and for two boys, to give-up on the task. We completed the session at that point and again discussed the issues using Dewey's model of reflection.

Experience in coaching helps considerably in understanding the characters of individual children, using insight to be able to respond to various characters and styles of learning. However, this facilitation exercise has been very useful in helping me reflect more on my own facilitation (rather than simply 'doing') and I now find an urge to understand other forms of facilitation and reflection practiced across the world.

'Reflection is doing something overtly to bring about the anticipated result, and thereby testing the hypothesis' (Dewey, 1916, p.115).

In addition, I am interested in taking forward the idea of the procurement of grit from orienteering exercises, because, from this study, I am alerted to the possibilities and potential uses that go beyond the well-being of adolescents. For example, grit is an affective trait and thus grit-procurement maybe a robust form of social prescribing, in this age of precarity (Kirk, D. 2018). Correlations between 'Positive and Negative Affect, and Grit as predictors of Happiness and Life Satisfaction' have been

Conclusion

This aim of this study is to understand the value of orienteering exercises to grit procurement in adolescents. The relationship between the concepts of orienteering, grit and facilitation, and their relevance to the procurement of grit and well-being are explored. Mental well-being is a state where people are able to cope with the normal stresses of life whilst being productive and being able to contribute to their communities. Grit is a non-cognitive trait described as the: "passion and perseverance for long-term goals" Experiential learning maybe described as "Learning through reflection on doing". This

study was carried out on three participants taking part in a session that included three challenges of various levels, to procure grit. The results revealed a decrease of perseverance being consistent in all participants. However, overall levels of perseverance remained higher than levels of passion. The procurement of grit using orienteering exercises is inconclusive, however, the robust evidence for grit as an indicator of success, suggests further research could be useful.

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APPENDICES

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APPENDIX A

Michaela da Cunha
UWTSD
Research Project : SHOE7002

ParcoursO 'O' Club: Measuring 'Free-will'.
Training & Research Project November - December 2019

[Informed Consent Form for _____]

Training Group: Females aged 7 to 12 Participants

Female & Males 13+ Volunteers

Name of Principle Investigator: Michaela da Cunha
UWTSD

'Measuring Grit Procurement in children aged 12+'

This Informed Consent Form has two parts:

- Information Sheet - to share information about the study with you.
- Certificate of Consent - for signatures if you agree that your child may participate.

You will be given a copy of the full Informed Consent Form

Part I: Information Sheet

Introduction

I am Michaela (Kyla) and I presently study the pedagogy of outdoor education at the University of Wales, Trinidad St. David. I am doing some research to help children become more driven by their 'Free-will'. In the research I'll be asking the children to answer a simple questionnaire that has been ethically modified to ensure they do not feel judged. A copy of the questionnaire will be attached and we ask that we can have your permission, and that of your child, to answer the questions. Both of you have to agree independently, before I can begin. If there is anything you do not understand, please ask me, now, during or after the research is complete.

Purpose

The purpose of the study is to measure levels of 'Free-will' in participants before and after ParcoursO training activities and then again, following an orienteering event. During the training, methods to encourage self-empowered 'Free-will' will be used.

During the study each participant will receive attention to assess their preferred methods of communication to maximise 'Free Will'. Ryan and Deci, 'Does Psychology Need Choice, Self-Determination, and Will' (2006), and their 'Self-determination Theory' (2000) will be considered. Likewise, the influence of rapid societal change and screen-use on children will be addressed and the robustness of Lovelock's 'Theory of Gaia' relative to the recovery-elastic resilience discussed by Fleming (2010). These authors, amongst others, will be visited to address the perceived barriers and barriers to 'Free Will'.

This study is relevant to understanding the significance of genuine out-of-school linked activities to levels of 'Free Will' in children, when participating in extra-curricular activities in school. This in turn, implicates the long-term well-being of children measured by the United Nations *SDG3.

*Sustainable Development Goal.

Type of Research Intervention

Briefly state the intervention. This will be expanded upon in the procedures section.

A questionnaire will be used in the first and last session of the study to quantify changes in the levels of 'Free-will' amongst participants. Some changes to the questionnaire may compromise its validity, however, for this age group the questions have been ethically considered, and the adjustments will be evaluated and analysed in the project report at a later date.

Selection of Participants

Although initially we intended to open this research to both boys and girls between the ages of 7 and eleven, I decided that to research an all-girls group. This is because ParcoursO can be perceived as being a predominantly boys activity if associated with Parkour. However, girls also enjoy running, jumping and leaping and it is their perception and feelings of intimidation that can distract them from their free will. Older teenagers (boys and girls) will also be present during the sessions whilst volunteering as part of their Duke of Edinburgh Award Scheme.

Voluntary Participation

You do not have to agree that your daughter answers the questionnaire. You can say no and any training will continue without inclusion in the research project. Please ask as many questions as you like.

Procedure

The questionnaire will be taken at the beginning of the session on the 4th November. It will then be repeated at the end of the session on the 11th November. On the 11th November, prior to the questionnaire being filled in, the children will also be given information about the event being held on the 8th December, 2019 at Kings Wood, Monmouth. At this point the children will feel confident that they have learnt the skills needed to attend such an event, when fully explained using a video clip to help them build up a visual picture of what to expect.

The volunteer teenagers will be building up their own skills in parallel to organise and event in 2020. They will also be role-modelling, a procedure we use to help children improve on their own skills through self-will.

No observations will be made during the training sessions and all information regarding the research will be obtained from the questionnaires.

If your daughter does not wish to answer some of the questions included in the questionnaire, she may skip them and move on to the next question. The information recorded is confidential and no-one else will have access to her questionnaire, which will be destroyed after the experiment.

Benefits

There maybe immediate and direct benefits to your child through this research, but either way, your child's participation is like to help us find out more about how we can improve girls participation in physical activity and outdoor education.

Confidentiality:

We will not be discussing or sharing any information about your daughter outside of the research team. The information we collect from this research project will be kept confidential. Information about your child will be put away and only myself will be able to see it. The data may collectively be viewed, without identification of individuals, to the UWTSD, my tutor and my fellow students.

We cannot guarantee complete confidentiality of information that your child shares with us in a group discussion or with friends outside the research group, however, we will ask children not to share information outside the group.

Sharing of Research Findings

At the end of the study, we will share be sharing what we have learnt with the participants and with the community. We will do this by meeting first with the participants and then with the larger community. Nothing that your child will tell us in the questionnaire will be shared outside the research team and nothing will be attributed to her by name. A written report will also be given to the participants which they can share with their families. We will also be presenting our results to other university students on the MA Outdoor Education course. A further report will be available to the tutor of this course.

..

Right to refuse or withdraw

At any time, your child can withdraw from or ask to be excluded from the research project which will not in any way impact their ability to participate in any of the training sessions.

Who to Contact

This research project has been approved by the UWTSD (Prof. Graham Harvey), whom you can contact directly on: 01267 225122 Email: gharvey@uwtsd.ac.uk

PART II: Certificate of Consent

Certificate of Consent

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it _____ and any questions that I have asked have been answered to my satisfaction. I consent voluntarily for my child to participate as a participant in this study.

Print Name of Parent or Guardian _____

Signature of Parent or Guardian _____

Date _____ Day/month/year

Statement by the researcher/person taking consent

I confirm that the parent was given an opportunity to ask questions about the study, and all the questions asked by him/her have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

APPENDIX B



PG2 / E1 FORM

APPLICATION FOR ETHICAL APPROVAL

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

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

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

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

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

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

SECTION A: About You (Principal Researcher)

Full Name:	Michaela da Cunha		
Tick all boxes which apply:			
Member of staff:	☐	Student:	☒
		Honorary research fellow:	☐
Faculty/School/Centre:	School of Sport, Health and Outdoor Education		
Campus:	Carmarthen		
E-mail address:	g.harvey@uwtsd.ac.uk		
Contact Telephone Number:	01267 225122		
For students:			
Student Number:	1803464	Undergraduate	☐
Programme of Study:	Pedagogy of Outdoor Education	Taught Postgraduate	☐
Director of Studies/Supervisor:	Dr. Graham Harvey	Research	☐

SECTION B: Approval for Research Activity

Has the research activity received approval in principle? (please check the Guidance Notes as to the appropriate approval process for different levels of research by different categories of individual)	YES	☒	NO	☐
				Date
If Yes, please indicate source of approval (and date where known):	Research Degrees Committee	☐		
	Faculty Research Committee	☐		

APPENDIX C

The Grit Test (Duckworth, A. 2004)

About Me (revised version)

	Definitely not me	.			Exactly like me
1. If I come up with a new great idea or project, I may have to put the last idea or project I was working on to one side.	5	4	3	2	1
2. When things aren't going to plan I don't give up.	1	2	3	4	5
3. I often decide what I'm going to do and then I change my mind.	5	4	3	2	1
4. I enjoy working hard.	1	2	3	4	5
5. If something's going to take a few months to finish, I struggle to keep interested.	5	4	3	2	1
6. I enjoy finishing something if I have started it.	1	2	3	4	5
7. Every year I enjoy trying new things.	5	4	3	2	1
8. If I start something, I have to finish it off.	1	2	3	4	5
9. When I start out on something new I am obsessed with it, but then I get fed up with it.	5	4	3	2	1
10. I always find a way to solve problems so I can finish off what I started.	1	2	3	4	5



APPENDIX D

SESSION 3 HOURS

DATE: MONDAY 25TH NOVEMBER

No. Participants: 3 (M) + 3 (F)

Procuring Grit from Orienteering Exercises

- 3.30 - 3.45 Introduction to session and video: Freerunning & Orienteering.**
- 3.45 - 4.30 Obstacle Course Training.**
- 4.30 - 4.40 Social Break & Reflection.**
- 4.40 - 5.30 Navigation Challenge.**
- 5.30 - 6.10 Event Organisation.**
- 6.10 - 6.20 Clear up time.**
- 6.20 - 6.30 Social & Reflection.**

NOTES: POST REFLECTION

What went well:

What needs improvement:

