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An Exploration of the Perceived Health, Life Skill, and Academic Benefits of Dinghy Sailing for 9-13 Year-old School Children

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Abstract

Research evidence suggests that outdoor education offers significant potential in priming healthy physical activity behaviors, developing life-skills, enhancing self-esteem, and promoting improved academic performance. The aim of the current study was to explore from a cross-sectional perspective the perceived benefits of a dinghy sailing program on 9-13 year old school children. Participants (n=38) were drawn from a diverse range of relevant participation and stakeholder groups, including: school children, teachers, and sailing instructors. Semi-structured interviews (adults) and focus groups (children) were used to collect data, with inductive data analysis methods applied. Six superordinate themes arose from the data highlighting physical and mental health benefits as well as the potential to development key life-skills, self-esteem, and the possible interaction with other aspects of the school curriculum to enhance student learning.

Keywords: dinghy sailing, health, wellbeing, self-esteem, life skills

An exploration of the perceived health, life skill, and academic benefits of dinghy sailing for 9-13 year-old school children.

There is substantial evidence from across a variety of different domains that supports the conclusion that exercise can have health and wellbeing benefits (Penedo & Dahn, 2005), enhance academic performance (Donnelly et al., 2016; Ruiz-Ariza, Grao-Cruces, Marques de Loureiro, & Martinez-López, 2017), and raise self-esteem perceptions (Hunter et al., 2013). In line with the potentially positive impact of exercise on health and wellbeing the UK Chief Medical Officers' guidelines for exercise (Davies, 2012) recommends up to 75 minutes of vigorous intensity exercise per week or 150 minutes of moderate intensity exercise per week, or a combination of both, in order to access the benefits of regular physical activity. These guidelines are specifically designed for adults (age 19 years to 65 years). Recommendations for all children and young people (age 5-18 years) include: engaging in at least 60 minutes of moderate to vigorous intensity physical activity per day; to engage in vigorous intensity activities (strengthening muscle and bone) at least three times per week; and all children and young people should minimize extended periods of sedentary time.

However, In England in 2012, only 21% of boys (aged 5-15 years) and 16% of girls (same age group) met the recommended physical activity guidelines (Niblett, 2016). For the boys this represented a 7% decrease from 2008 to 2012, and for the girls a 3% decrease over the same period. This reduction is further compounded by the aggregated nature of these figures. For both boys and girls within the age group activity levels are highest in the 5-7 age range, and lowest in the 13-15 age range. These data suggest more needs to be done to develop an active future adult population, underpinned by positive behaviors and facilitative life skills.

While there are significant health benefits to being physically active, the positive impact of being active for adolescent populations goes beyond simply physical health. There is an increasing evidence base highlighting the impact that physical activity can have upon cognitive and academic performance (Ruiz-Ariza et al., 2017). This enhanced physical activity has also been suggested to improve student behavior in a learning context, and therefore could result in better concentration and academic performance (Singh, Uijtdewilligen, Twisk, van Mechelen, & Chinapaw, 2012). As a result, it has been suggested that programs that focus on enhancing physical activity levels could promote enhanced academic performance for adolescent students (Coe, Peterson, Blair, Schutten, & Peddie, 2013).

Participation in physical activity has also been linked to increased levels of self-esteem in adolescent populations. Self–esteem is important as it has been suggested to be a critical variable in both influencing and determining mental and social functioning (Mann, Hosman, Schaalma, & de Vries, 2004). In particular, elevated self-esteem has been highlighted to be a protective factor against a range of negative outcomes including: anxiety, depression, victimization, teenage pregnancy, eating disorders, suicide, and long-term unemployment (Hunter et al., 2013). Enhanced self-esteem is also linked to higher levels of psychological wellbeing and broader mental health (Crocker & Wolfe, 2001).

However, while there is strong evidence to support the importance of developing physically active lifestyles and tendencies, reported physical activity levels in adolescent populations suggest that physically active behaviors are not being developed, and active choices are not being made.

Embedding healthy behaviors in the school curriculum

Children and young people are given opportunities to take part in physical activity at school. Indeed, as school education is compulsory in the UK it offers a perfect environment in which to develop physical activity habits for later life. In England, the National Curriculum for physical education (Department for Education, 2013) states that schools should provide opportunities for pupils to become physically confident in a way that supports their health and fitness. The curriculum further states, at Key Stage 3 (11-14 years of age), that pupils should develop the confidence and interest to get involved in exercise, sports and activities out of school and in later life, and understand and apply the long-term health benefits of physical activity.

In seeking to understand the behaviors that will underpin future active lifestyle choices post-compulsory education it is first important to understand the motives for participating in physical activity. Allender, Cowburn and Foster (2006) undertook a review of qualitative studies investigating what motivates children and adults to participate in sport and physical activity. This review reported that children (ages 5-15 years) were motivated by experimenting with new activities, taking part in unusual activities, if their parents supported them, and it was in a safe environment. Teenagers (ages 13-19) were motivated by improving their body shape, weight management, forming new social networks, and family and peer support. The barriers to participation in the review were identified as a competitive environment (more associated with the younger child and with females) and highly structured activities (young children). In addition, older children and teenagers were discouraged from taking part in physical activity if they had previous negative experiences, by peer pressure, and by overly competitive environments. Female teenagers cited such factors as identity conflict, physical education uniforms, and boys' dominance in class as being barriers to taking part. The authors highlighted that fun, enjoyment, and

social support for aspects of identity were reported more often as predictors of participation and non-participation than perceived health benefits.

There is also increasing evidence that the environment in which physical activity takes place in can also have a significant impact upon how the activity is perceived. Indeed, outdoor spaces have been suggested to offer greater potential to enhance health and wellbeing than more urban spaces (Depledge, Stone, & Bird, 2011).

Benefits of outdoors and adventure education

Research that has explored the benefits of outdoor and adventure education suggests that the benefits of being active outdoors go beyond physical and mental health benefits and include a collection of benefits termed "life skills" (Moote & Wodarski, 1997). According to Gilchrist, Schinke, and Maxwell (1987), life skills include "the ability to solve problems, to communicate honestly and directly, to gain and maintain social support, and to control emotions and personal feelings" (p. 75). Life skills are also reflected in the National Curriculum (Department for Education, 2013), which states that opportunities to compete in sport and other activities build character and help to embed values such as fairness and respect. Also, at Key Stage 3, where pupils take part in outdoor and adventurous activities which present intellectual and physical challenges and [are] encouraged to work in a team, building on trust and developing skills to solve problems, either individually or as a group.

A study in the USA (Sibthorp, 2003) reported that these life skills were likely to be applicable in the home environment after adventure and outdoor education courses had been completed. Sibthorp further suggested that learning outcomes went beyond learning practical skills and gaining self-esteem, and suggested that young people benefited from social interaction and that they developed efficacy in

undertaking necessary living tasks inherent in adventure settings. The participants in Sibthorp's study were all aged 13-18 years and had taken part in sail training and dive training courses.

A meta-analysis undertaken by Hattie, Marsh, Neill, and Richards (1997) identified 40 major positive outcomes in the literature exploring the benefits of outdoor and adventure education (e.g., Outward bound, but not as part of school-based education programs). Hattie and colleagues broadly grouped these benefits under the following headings: academic, leadership, self-concept, personality, interpersonal, and adventuresome. Pretty et al., (2007) investigated the effects of 'green exercise' (exercise in a natural environment) on health and psychological wellbeing. Ten case studies (including walking, cycling, horse-riding, fishing, canal boating and conservation activities) involving 263 participants (all in the UK) were included in the study. Results suggested that irrespective of duration, intensity and the type of activity green exercise can lead to a significant improvement in both self-esteem and mood.

Depledge and colleagues (2011) explored the different types of natural environments that can be used for promoting health and wellbeing. The authors reported that water was 'a particularly important trigger' as participants identified natural settings including water to be more appealing than those without water. Völker and Kistemann (2011) undertook a review of literature that reported on the impact of blue spaces (encompassing canals, rivers, lakes and the sea) and found 14 studies identifying positive emotional benefits; 15 studies identifying recreational benefits; and seven identifying direct health benefits of landscapes that include expanses of water. The authors state that recreational activity that takes place in blue spaces have the potential to have a high impact upon health. This perspective

suggests that physical activity undertaken on, or around water may have the potential to deliver enhanced health and wellbeing benefits, as well as the development of relevant life skills.

Benefits of participating in sailing

The literature investigating the benefits of water-based outdoor education activities such as sailing from a health, wellbeing, and life skill perspective is currently sparse. This is surprising since the benefits of outdoor education have been soundly documented and the benefits of undertaking leisure in blue space has been recognized. One theme that does arise from research though is the concept of elevated self-esteem. A 10-day voyage was undertaken by 27 teenagers of mixed gender (mean age 16.21 years) on a rigged sail-training vessel (Kafka et al., 2012). A control group of 33 teenagers (mean age 16.25 years) did not undertake the voyage. Those young people who undertook the voyage revealed increased levels of self-esteem and decreased gender prejudice (defined as having less negative conceptions of group members of the opposite sex), when compared with the control group. A second study, with 59 teenagers of a similar age in the sailing group and 47 in the control group (Kafka et al., 2012), replicated these findings and also found that these outcomes were maintained at up to five months after the voyage had taken place.

Other positive benefits of sailing-based activities reported in the literature have included increased self-concept (Capurso & Borsci, 2013; Henstock, Barker, & Knijnik, 2013), increased social confidence (McCulloch, McLaughlin, Allison, Edwards, & Tett, 2010), increased self-perception of the capacity to work collaboratively with others (McCulloch et al., 2010), a positive effect on the development of social relationships, motivation to study and a sense of purpose for learning (Henstock, et al., 2013). The specific context of the learning activities (i.e.

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sailing) is important as the context and place of learning have been highlighted to be important influencing factors in the learning process (Waite, 2013). It is important at this stage to highlight that the majority of the sailing-focused studies highlighted involved sailing training, where participants operated as part of a team on large masted and rigged vessels. Dinghy sailing as an activity while sharing some similarities in being sailing based is also very different. At the current time there is no literature that has explicitly focused on dinghy sailing.

Developing positive and enjoyable physical activity experiences during childhood appears to be a fundamental determinant of adult physical activity behavior. Research evidence to date suggests that outdoor education offers significant potential in developing future life skills and in priming adolescent physical activity behaviors. Contemporary evidence suggests that blue spaces offer even greater potential for positively influencing physical and mental health. However, while there are some studies exploring masted ships with teenage populations, which are quite inaccessible, there is no research that focuses on the use of small sailing vessels. As a result, the aim of the current study was to explore the perceived benefits of a dinghy sailing program on 9-13 year old school children; as perceived from the perspective of multiple stakeholders.

Method

Participants

The participants in this exploratory study (n=38) were deliberately drawn from a diverse range of relevant participation and stakeholder groups, all of who could offer an informed view on the perceived benefits of dinghy sailing to the target demographic of 9-13 years of age. Specifically, the participants in the project included: Representatives of the national governing body for sailing (RYA) (n=2);

sailing instructors (n=4); school children (who had recently, or were currently undertaking a sailing program delivered by a sailing-focused charitable foundation (n=22); school teachers (linked to the participating pupils) (n=3); charitable foundation staff (n=2); current sailors (n=2); and representatives of other relevant sailing organizations (including: Sea Cadets [n=1], National Student Sailing Association [n=1], and World Sailing [n=1]). The 9-13 age range was specifically utilized, as this was the age range of participants who were actively engaged in a dinghy sailing program that was at the time of the study being delivered as part of the school curriculum and the participating schools. Contact details for all participants were provided by the Charitable Foundation following agreement to participate in the study.

Procedure

A pragmatic approach to data collection was adopted, selecting the most appropriate data collection tools for the two distinct groups of participants in the current study: adults and children (Morgan, Fellows, & Guevava, 2008). All adult participants in the study were interviewed to gain an insight into their perceptions on child participation in dinghy sailing. The child participants in the study participated in focus groups as a way of collecting and understanding their perceptions and experiences both on and of the dinghy sailing program. Focus groups were specifically selected for the school pupil groups as "focus groups have the potential to generate discussion that might otherwise be difficult to obtain from children and young people in one-to-one interviews" (Millward, 2012, p.435).

Semi-structured interviews were conducted using interview guides specifically designed for the current study as articulated in Smith and Osborn (2003) four-step approach to designing semi-structured interview schedules. The specific steps

involved the researcher: (a) thinking about a broad range of issues; (b) putting these topics in the most appropriate sequence; (c) thinking of appropriate questions relating to these areas; (d) and thinking about possible prompts. All the interviews, which lasted between 30 and 45 minutes, took place either face-to-face or via Skype, and were recorded and transcribed verbatim to produce an accurate record of the conversations that took place. Skype interviews were used as a way to interview participants who would not of otherwise been able to participate in the study. This video-conferencing interview format has been used in previous studies either in place of or alongside face-to-face interviews (Hanna, 2012). Examples of questions asked during the interviews in the current study included: "What do you think would be the attraction of dinghy sailing to 9-13 year old children?" "Do you think learning to sail could complement other learning taking place in school?" and "What barriers might stop children from getting involved?"

The data collection involving the school pupil participants was conducted via a number of face-to-face focus groups. The focus groups were developed in line with Morgan et al.'s (2008) recommendation to adopt a 'pragmatic' approach in line with the goals and aims of the research. Group sizes for focus groups within psychology-focused studies usually range in size with 6 to 8 participants deemed ideal (Millward, 2012). The focus group questions were developed building upon the initial question topics developed for the adult participants, then operationalized to better reflect the age of the participants. Questions included: "Why did you get involved"? "What do you like about sailing?"; "What do you enjoy most about sailing?"; and "What do you find most difficult"?

Informed consent for these participants was requested from either the parents or guardians of each child, and the child themselves via the School they attended at

the time of the study. The dinghy sailing experience referred to by some of the participants in the study (i.e., school pupils, teachers, and instructors) was a program of two (two-hour) sessions per week for six weeks. Data was collected post-experience and required participants to reflect upon their experiences.

The adult participants were interviewed to gain an insight into their perceptions on the benefits of participating in dinghy sailing. Initial contact with the participants was made via e-mail where the main focus of the project was explained in broad terms. The participants were asked to participate in a semi-structured interview lasting between 30 minutes and 45 minutes and afterward to review a verbatim transcription of the interview. All of the participants were informed orally of the aim of the research project, that data would be treated confidentially, that participation was voluntary, and that they could withdraw from the study at any time without consequences. Ethical approval was sought and approved by the University where both researchers worked at the time of the study. Informed consent was obtained prior to all data collection.

Data Analysis

Interview data was digitally recorded (Olympus WS-110) and then transcribed, with the voice recordings on the device deleted once transcribed. A reference copy of each digital recording was retained by the lead researcher of the study stored on a securely encrypted hard drive, and kept in a locked filing cabinet. Transcriptions were transferred to NVivo (QSR International Pty Ltd, 2016) for analysis. NVivo is a qualitative data organization computer program that helps the researcher to organize data efficiently during the analysis process. The data were analyzed using an inductive method (Patton, 2002), similar to the approach adopted by Elsborg, Diment and Elbe (2015). The transcripts of the interviews were read a

number of times and raw themes were identified. These raw themes were then organized into a coherent structure through the development of superordinate themes that grouped together specific sub-ordinate emergent themes. A non-foundational approach to judging the quality of qualitative enquiry was adopted in the current study (Smith & Caddick, 2012). The specific criteria for judging the quality of this research included: the contribution it makes to the field, its coherence, sincerity, resonance and credibility (Tracy, 2010). A key aim of this study was to co-construct knowledge that contributes to the understanding of sailing participant experiences and expectations working in the domain of sailing and to report substantive findings. This substantive report of the findings was also achieved by using detailed quotes from a number of specific participants when creating the results section of this manuscript. The coherence of the findings in this study was achieved via discussions with a critical friend (Didymus, 2017). These discussions during face-to-face meetings focused upon the interpretations made and the associated potential implications. In terms of sincerity and the truthfulness of the data, it appears that rapport was effectively gained as the participants spoke openly and fully about their experiences. Regarding resonance, the core aim was to produce findings that are valuable in educational contexts (Tracy 2010). The credibility of the data was enhanced by spending time with the participants, by sharing each interviewee's interview transcription with that individual electronically to encourage reflection and dialogue about the data that had been deemed most pertinent. This process was not though repeated for the focus group transcripts due to difficulties in achieving some degree of consensus.

Results

All of the data in the study were analyzed, resulting in six superordinate themes: perceived benefits of dinghy sailing, target demographic benefits, challenges

of dinghy sailing, barriers to participation, sailing and school curriculum links, and benefits to the school. A summary of these superordinate and associated sub-ordinate themes are presented in Table 1, and will form the basis of the first part of this discussion.

Table 1. About here!

Perceived benefits of dinghy sailing

The first superordinate theme related to the broader perceived benefits of dinghy sailing. A further 25 subordinate themes were outlined including: being outside, the club atmosphere, confidence, fun and enjoyment, holiday activity, learning and skill development, mental activity, Olympic profile [of the sport], can take risks, social, develop thinking skills, develop social skills, accessibility, challenges, competition, different to traditional sports, family traditions, a gentle cruise, individual sport, love for the sport, physically active, racing, a sense of achievement and adventure, the speed of the sport, variety of the sport. The thrill of engaging in sailing was articulated by instructor three who summarized that:

> For the participant, I think the sense of freedom, the sense of adventure, the kind of adrenalin, the skill development, so the kind of learning curve; people thrive on that, and the sort of challenge of . . . I suppose managing yourself and your equipment in an inherently hazardous environment and you know managing the risks and feeling that exhilaration!

The engaging nature of sailing was also, understandably highlighted by one of the active sailors (sailor one) in the study:

> It's a sort of exhilarating sport, because of the speed you're going across the water. It's good fun, because I mean you could go in a bigger boat, it's sort of good teamwork and sort of working as a group to get the boat going as fast as

> you can, and some of the bigger boat sailing . . . I've done that you've got a team of sort of eight to twelve, there's shouting, there's screaming, it's fast, it's exciting, it's tiring!

The diversity of the interest groups was highlighted by teacher two as an appealing aspect of the sport "I think it's, it's across the ages, across the abilities, it doesn't make a difference if boy or girl; it doesn't make a difference if you are 8 or 14".

Crucially, the school pupils also supported some of these suggested benefits. For example, focus group one stated that "well it's fun and exciting, being in the water is great, and also just being out of school".

Target demographic benefits

The second superordinate theme focused on the specific perceived benefits to the target demographic group (9-13 year old school children). Thirteen subordinate themes were outlined including: being outside, developing interpersonal skills, endurance development, fun and enjoyable, physical sport, social, time out of school, confidence, empowerment, a sense of excitement and freedom, escapism, and a technical development.

The social and fun benefits were particularly highlighted by instructor one who described that:

> A lot of the time they're [the school pupils] coming down to hang out with their mates and go sailing with their friends. And that worked for me when I was a kid. I hated it [sailing] until I made friends. So I think it's playtime basically, for them to get on the water and have some fun with their friends.

The importance of freedom and empowerment was highlighted by one of the sailing organization participant one who stated that:

> You have a lot of freedom. You've got your own boat; you're in charge of that vessel. You have people telling you where you need to go, but actually you're steering it and you're in charge and you know there's a huge amount of empowerment I think that kids get, and from that sort of comes confidence and you know just their self-esteem as well, but because you've got that responsibility at a very young age.

Another reoccurring theme in the interviews was the potential contributions sailing could make in terms of developing self-confidence. Instructor three reflected that:

> It's a greater way of building confidence around the water, and it is sort of, it's fun, it's wet, it's, you're in control. I mean the kids at that age, they're let loose out on a boat by themselves, they're going to be in control of it, which is something they're really not used to doing.

Challenges of dinghy sailing

The next superordinate theme was the main challenges to being a dinghy sailor. Twenty-one subordinate themes emerged including: competition [for time], cost, fear factor, seen as an individual sport, location, can't just stop, personal barriers, requires a lot of planning, perceived to be elitist, time demands, technical aspects, the weather, wide age range, confidence, a dynamic environment, kit/equipment, need to be fit and active, the sport is not high profile, physically demanding, psychologically challenging.

Sailor two highlighted the challenge associated with a dynamic and changing environment, reflecting that:

> Well, the challenges are dealing with the dynamic environment that you operate in. So you know dealing with the wind, dealing with the water, waves,

> you know it can be quite a choppy current, tide, you know the environment is the biggest challenge.

The school pupils also highlighted the water as a factor with focus group two reflecting, "Being in the water can be a bit scary, especially if you are not a good swimmer".

Linked to the environment was the challenge of being able to access a sailing facility. For example, teacher one in the study summarized:

> Then there is the challenge of actually getting to the facility, if we're taking the broader definition of challenges of being a dinghy sailor. Not everybody lives that close to a suitable body of water, whether that's a river or a lake or a reservoir or the sea, so it, society-wise it's not necessarily peoples' first choice.

Preconceptions of the sport were highlighted across a number of different groups within the study. One example of this was provided by instructor four who stated "Most people see it as a very elite sport, lots of money, you either go sailing or horse riding; that's how many people often see it".

Also, an issue was highlighted relating to confidence. While there had been an acknowledgement that dinghy sailing could be good for building confidence a lack of confidence in the early stages was seen as a potential challenge. This perspective was summarized by sailing organization representative two who reflected:

> Being confident I think. Making sure that . . . you think oh I know where the wind's coming from, but it's how you deal with that, it's what you do when the wind moves. You come one day, and you're on your course and you think right, the wind's coming from this direction, this is what I need to do. The next day the wind's coming from a completely different direction and if you did the

same thing you wouldn't get off the shore.

Barriers to participation

The next superordinate theme focused on the perceived barriers to participation. Seven core subordinate themes emerged including: gender imbalances, poor marketing, pre-conceptions and stereotypes, ability to swim, inactive lifestyles, lack of parental support, schools.

In reflecting on potential barriers, sailing organization participant three highlighted a range of important factors "First it [dinghy sailing] can be highly technical, you have to be fit, you have to be rich; you have all those sort of things. Practical, 'real' barriers are also things like do you swim or not"!

A less obvious potential barrier was highlighted by sailing organization participant two:

> I think the teachers' may be a potential barrier, I think the school is a potential barrier as well. It's not due to them personally, it's due to the amount of noise that they have to deal with and other sports and other recreational activities and other activities that are trying to sort of draw them away.

A pragmatic approach to considering the potential barriers was adopted by sailing instructor two who summarizing that:

> There's only so many weeks that they [the teachers] have in a term, and there's only so much funding that they have to do school trips, and you know they will probably budget twenty pound a head to go to a science park, or to go to an outdoor educational center, and we probably pitch in the same bracket of that. So I think sailing needs to do a better job of marketing itself, to make the awareness of the opportunities. And I think you know where we see the connection with schools and sailing clubs or sailing center, it's where you

> have an inspired teacher, a sailor, who has made that connection personally and they make that connection to the school. So trying to get more sailors to be teachers or teachers to be sailors I guess is one of the things that could happen.

The practical challenges of time and exposure for sailing were also highlighted by the teachers in the study. Teacher three reflected that:

> Well sailing is maybe not as mainstream as let's say football and hockey, things like that, which happen every single day, maybe at school and things, or rugby, whatever, sailing is not really seen as a sport that's accessible for maybe schools or individuals. It may be more accessible here, because obviously we're by the coast, but maybe inland or something, it maybe a little bit trickier.

The participants in school pupil focus group two also articulated specific barriers, that were often more pragmatic "Well fear of water, and getting to the venue could be a problem". These concerns are important to address as they have the potential to impact upon participant confidence.

Sailing and school curriculum links

The fifth superordinate theme was described as links between sailing and the curriculum. Six potential core links were identified including: hands on practical experience, supports the national curriculum, develops required behaviors, develops thinking skills, social skills, and subject-specific benefits (e.g., geography, maths, science, physical education).

A lot of parallels were drawn between dinghy sailing and core subjects in the national curriculum. The members of pupil focus group one articulated that:

> Things like Physics, you know about how the boat works in the water and how the sail works and things like that. Obviously you know fitness and PE and things like that. So I did sport from like as a specialty subject at GCSE and I specialized in Sailing as my sport for that.

Understandably the teachers in the study were able to highlight a significant range of potential links with the curriculum. For example, teacher one reflected:

> So in terms of science technology, engineering, maths, it is, and also geography to be honest, about rivers, currents, you know wind, meteorology, topography, all that sort of stuff, I don't know of a better environment for teaching all of those things, or for complementing the teaching of those things.

There was also an acknowledgement by the sailing organization participant two that they could do more to support schools in linking sailing to the curriculum "We could provide far better resources and far better education for teachers to help them and to understand how they could use the sailing experience to complement those other things".

There was also a perspective, predominantly articulated by sailing instructor participants in this study that dinghy sailing could well provide an outlet for pupils who otherwise might struggle in school. For example, instructor two stated:

> If you took them [children that might struggle in class] out of the classroom and linked sailing into the curriculum, you could walk them on a boat and say what we're going to do, we're going to look at the boat, we're going to measure the size of this boat, and you would do that and they would enjoy it, whereas if you sat them in a classroom and said there's a box, measure that box and work out the area, they would just think it's a maths lesson. Because they are physically looking at something they are going to use, there's more

> education in sailing that we could draw out if we could get the answer, a chance to do it, to actually sort of teaching out of the classroom and bring them to a facility like this [the sailing center], and going let's look at the geography, let's look at the physical aspect of sailing, let's look at the areas of mathematics and all the different things and forces, and well how does that pulley block work, let's put a bigger sail up and they would do all that, where if you did it in a classroom they would sit there and go, this is just kind of rubbish.

Benefits to the school

In this final superordinate theme twelve subordinate themes emerged including: access to a different sport, engage inactive children, life experience, Olympic legacy venue, potential career option, supplement the curriculum, children might not have experienced open water, inclusive, not age restrictive, personal skill development, proximity to sailing center, sailing is a 'leveler'.

The view that involvement in sailing could help to reinforce a range of learning outcomes the schools might be looking to achieve was articulated by a number of participants in the study. Sailing instructor two reflected that:

> I mean you do have the educational side, which is the development of the child, by having new experiences, which are outside the bubble of the school. So you've got very easy opportunities to go and to get the kids into a different environment so they're learning by being in a different world. But you have those challenges of being able to conquer and master a new sport, which you know we would certainly improve somebody's education. It would, you know I think the social, the confidence that it gives the children, not just an experience of doing the sports, but also by achieving the status of being a

sailor.

The development of life skills and the personal growth and development of the pupils was highlighted by a number of participants in the study. In particular, sailing organization participant four emphasized that:

> It's the development of life skills that is so important. It's not just their education, it's for the child's development, and that I think is more important than anything else. We want to send children out as well-rounded, whole individuals, who have confidence in themselves, have empathy with people around them, and to encourage them to do something they wouldn't normally do. It's almost as though so many children now go, I can't do that, I can't do that, and they don't even try. And I think schools have that responsibility to give them that experience so that they can try it and see, because we could have the next Ben Ainslie and wouldn't know it, because it's they've never had that opportunity. So you know it's to empower all children to have the same opportunity.

Discussion

The core focus of this study was to explore the perceived benefits of a dinghy sailing program on 9-13 year old school children as perceived by multiple stakeholder groups. As such, a range of key benefits to participation in dinghy sailing emerged in the current study including: fun and enjoyment, social skills/interpersonal skills, thinking skills, life skills, mental health and wellbeing, as well as a broader appreciation for the benefits of outdoor education.

The positive 'fun' experiences associated with dinghy sailing reported in this study are important in both developing and reinforcing desirable behaviors in the target demographic. A number of studies have previously highlighted the importance

of fun and enjoyment in positively reinforcing desired behaviors (Bisson & Luckner, 1996). With the potential for sport and outdoor activities specifically highlighted as having the potential to provide fun and enjoyable experiences (MacPhail, Gorely, Kirk, & Kinchin, 2008).

The findings in this study also support the broader view that formalized programs that have youth development at their core can enhance a range of important individual characteristics including: self-efficacy, social competence, cognitive ability, and emotional development (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004; Coe et al., 2013). Each of these factors has been highlighted as being crucial to growth and development (Petitpas, Cornelius, & Van Raalte, 2008), and it is interesting to note that sailing-based activities have previously been highlighted as having the potential to contribute to more holistic personal growth in later childhood (Sibthorp, 2003).

The current study also suggests that engagement in dinghy sailing can enhance core thinking or executive skills. This point is also important in child development as neuropsychological research has identified late childhood as being a key development window for executive functions that impact upon a range of behaviors and social skills important to normal human functioning and growth (Anderson, Northam, Jacobs, & Catroppa, 2001).

Another key benefit that emerged from the current study was the potential for participation in dinghy sailing to enhance and develop life skills. These finding support claims previously made in the literature regarding the benefits of outdoor education in enhancing life skills (Moote & Wodarski, 1997), and in particular in the development of problem solving, communication, providing social support, and control emotions and personal feelings (Gilchrist et al., 1987). The development of

these life skills in a sporting/outdoor education context is even more important as there is evidence to support the transfer of these skills to other aspects of the individual's life including school (Holt, Tink, Mandigo, & Fox, 2008) and the home environment, with benefits lasting after the outdoor education course has completed (Sibthorp, 2003). Building upon this point, there is increasing evidence supporting the use of sporting and adventurous activities more broadly to develop life skills as part of the school curriculum, with an increasing number of studies highlighting the potential for positive development (Gould & Carson, 2008; Holt et al., 2008; Sproule et al., 2013).

A number of the benefits reported in the current study emphasized potential beneficial links with other academic subjects such as maths, geography, and science. This supports the recommendations from previous studies that have highlighted the potential for outdoor learning to be simultaneously linked to more than one academic subject (e.g., Dyment, 2005; Farmery, 2015). Also, enhanced self-esteem, and leadership were also highlighted in the current study, both of which have previously been reported by a number of studies (Hattie, et al., 1997; Hunter et al., 2013). Also, more broadly the physical benefits associated with participation in activities such as dinghy sailing can also increase general academic performance, and behavior in other subject classes (Coe, et. al., 2013).

The current findings also support previous research conducted in the sailing domain that has reported a range of benefits including increased levels of self-efficacy (Kafka et al., 2012; McCulloch et al., 2010), enhanced self perception (Capurso & Borsci, 2013) and enhanced social skills (Henstock et al., 2013).

Finally, the benefits of engaging in dinghy sailing in relation to mood, wellbeing and broader mental health were also highlighted by participants in the

current study. This outcome supports the perspective adopted in recent reviews of the physical activity and mental health literature that physical activity is valuable in the prevention and treatment of a number of mental health conditions including depression, schizophrenia, eating disorders, substance use disorders, anxiety conditions, and post-traumatic stress disorder (Stanton, Rosenbaum, Reaburn, & Happell, 2014). Indeed, Booth, Gordon, Carlson, and Hamilton (2000) suggested there is no single intervention with greater promise than physical activity to enhance mental health and promote wellbeing. It is also true though that while physical activity offers great potential to positively influence mental health there is currently a lack of clarity regarding key factors such as intensity, dose, and duration (Morgan, Parker, Alvarez-Jimenez & Jorm, 2013). As a result, it is crucial that schools and colleges explore innovative and creative ways to embed physical activity in the curriculum, and in particular to seek ways to utilize green and blue spaces to maximize mental health as well as physical health benefits (Völker & Kistemann, 2011).

While there are important outcomes from this research it is important to recognize limitations. The current study is limited by the data representing individual perceptions, rather than presenting measurement of constructs. It does suggest a framework with which to examine actual benefits, possibly by implementing a longitudinal program of research that seeks to collect objective data representing pre and post involvement in a dinghy sailing course. Also, no data was collected from participants regarding socio-economic group, or whether they were from the same families. Both of these factors could better contextualize the results that emerged from the study, and as a result future research should seek to explore these factors as well.

Future research could explore whether the perceived benefits highlighted in the current study represent actual benefits. This research supports the use of dinghy sailing in order to promote social, interpersonal, thinking and life skills. The findings may have implications for pedagogical practice in schools and colleges both in the UK and abroad.

Conclusions

The current study suggests that engaging in dinghy sailing can be a highly beneficial activity for 9-13 year old school children. In particular, this study supports the potential for sailing participation to develop personal feelings of confidence and competence; key personal and interpersonal skills (including social interaction skills, problem-solving, decision-making, planning, concentration skills, resilience, communication skills, and leadership); specific life skills, sailing specific technical skills; physical fitness; and good general mental health. These benefits also crucially map well to significant national public health agendas in the UK (United Kingdom Government, 2015) and educational agendas (Sport England, 2016; Department for Education, 2013). These outcomes are also supported more broadly in the sailing training literature (see Schijf, Allison, & von Wald, 2017, for a review).

These data also serve to offer guidance in terms of the next steps for exploration of the benefits of dinghy sailing, sailing more broadly, and engagement with blue environments. Prior to this study there was a lack of clarity in terms of the perceived benefit relating to dinghy sailing. In particular, there were no studies that reported the perceived benefits of engaging in sailing-based activities from multiple perspectives. This research seeks to offer the first clear guidance regarding what the benefits of adolescent involvement might be.

However, it is important to note that these data present individual perceptions;

these data in themselves do not represent fact, but do offer a framework with which to examine the actual benefits in greater detail. Future research should look to implement a longitudinal research design that seeks to objectively collect data pre-and post-involvement in a dinghy sailing program. This data will then serve to answer the question of whether these perceived benefits represent actual benefits.

Finally, it is important that all stakeholder groups are 'on the same page' in terms the implementation of such activity programs. Clarity in terms of what each group is seeking to achieve (outcomes) and how this can be achieved (process) should be clearly articulated to ensure consistency in the design, description and delivery of such programs that can achieve maximum positive impact as a result of this coherence.

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