

Prince, Heather ORCID: <https://orcid.org/0000-0002-6199-4892> (2020) The lasting impacts of outdoor adventure residential experiences on young people. *Journal of Adventure Education and Outdoor Learning*, 21 (3). pp. 261-276.

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The lasting impacts of outdoor adventure residential experiences on young people

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Journal of Adventure Education and Outdoor Learning doi:10.1080/14729679.2020.1784764

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Abstract

Evidence from four retrospective empirical research studies on lasting impacts (> 12 months) of outdoor residential experiences for young people in the UK since 2015 are examined through a form of systematic review of papers and datasets. Thematic and comparative analysis identified lasting impacts as: self-confidence, independence and communication. Respondents also identified confidence, teamwork, life skills, intra-personal skills and the take up of new opportunities/activities as the impacts of use in young people's lives since their residential experience. A steps of change process within a theory of change model is used to examine the causal chains and attributes influencing outcomes. The intensity and challenge of the outdoor adventure residentials, and the power of groups, influence lasting impacts. These findings from large datasets across a range of contexts have implications for funders and policy makers for the provision of outdoor adventure residentials for young people.

Key words: outdoor adventure residentials, lasting impacts, young people, UK, theory of change

The impacts of outdoor residential programmes in terms of personal and social development, health and wellbeing and cognitive attainment have been well researched and documented.

However, most research has concentrated on short-term outcomes and 'long-term' impacts, if determined, relate to those within six months or less of the intervention.

This study analysed evidence from extensive empirical research studies, which elicited data from participants and other stakeholders more than a year (and often substantially longer) after an outdoor adventure residential experience in the UK. It examined commonalities and differences in the lasting impacts of these experiences on the lives of those young people. By identifying the key factors influencing lasting impacts, a model of steps of change was created using data from one type of outdoor adventure residential within a theory of change to support policy makers and funders in the UK and internationally in assessing the efficacy and impact of such experiences.

Long-term impacts of outdoor residential experiences

Research into long-term impacts relating outdoor residential experiences has been sparse (Stott, Allison, Felter & Beames, 2013) and the literature is ‘thin’ in respect of long-term influences of non-academic outdoor education programmes and residential school programmes (Beames, Mackie & Scrutton, 2018). Takano (2010) and Stott et al. (2013) indicated that, at the time of writing, there were few retrospective studies looking at impacts beyond one year and five years respectively and none in the UK. Kendall & Rodger (2015) in their evaluation of Learning Away (an initiative that developed, piloted and evaluated residential programmes involving clusters of schools in the UK to enhance children’s learning, achievement and wellbeing) state that, ‘It would be valuable for future research to explore further the longer-term impact of residential experiences’ (p.99). This is a call echoed in other outdoor residential contexts such as outdoor centres for people with disabilities (Crosbie, 2014) and sail training (Noble, Kenley & Patel, 2017). Researchers have called for more studies to examine long-term benefits in outdoor education research more generally to tell us about the maintenance (or not) of short term outcomes further into the future (O’Mara-Eves, Fiennes, & Oliver, 2016a; Stott et al., 2013) or the manifestation of short term outcomes into other outcomes – important for policy makers and funders (Morrison & Schon, 2013). Even after a few months, the follow up measures often are not as strong as measures taken post-intervention (Kendall & Rodger, 2015).

‘Longer’ or ‘long’-term is usually defined in studies as beyond three months or 13 weeks after the intervention finished. Studies that purport to include long-term impacts and examine the changes in measures investigating the effect of a residential often elicited data pre- (close to the start of the residential when participants are committed to attend), post- (at the end of the residential or within a few days of its completion) and ‘long’-term e.g. three months or

less after the residential (Christie et al., 2014), 10 weeks (Scrutton, 2015). In a systematic review of the outcomes of 16 sail training voyages, Schijf, Allison & Von Wald (2017) found that seven performed some sort of longer-term research to study the longevity of the changes experienced by participants as a result of a sail training voyage (defined as three months or more). O'Mara-Eves et al.(2016a) in a systematic review involving a broader definition of outdoor adventure residential programmes, examined 'long'-term studies that ranged from three to 21 months.

This study uses the term 'lasting' to denote impacts at 12 months or more, as these might suggest that impacts and effects of the residential will be sustained. There are now more datasets available detailing retrospective studies or 'alumni' studies, where participants are asked to look back on their residential experience and reflect on the impact that this has or has not made in their lives. Of course, this approach can be problematic particularly with respect to response rates, which will be detailed later. 'Lasting' impact research studies examined here in their entirety used conflated data, i.e. data that, in addition to participant responses, were combined with current data from more recent participants and other respondents e.g. parents/carers, staff and other stakeholders, such as sponsors or commissioning organisations. Thus, although the main focus is on young people (under 25, with the majority 11-19 years of age) the data were identifying with the experiences at that stage of people's lives, even though the respondents may have been far from 'young' at the time of response. Some also included responses from people with two different roles at different life stages, for example as a school student and as a member of staff. However, retrospective studies have the capacity to reveal fascinating findings regarding outcomes and the processes through which they can be achieved (Stott et al., 2013; Scrutton & Beames, 2015).

‘Outdoor adventure residentials’ are those experiences that take place predominantly using the outdoor environment and involve at least one overnight stay, although often comprise multi-day experiences. They may be educational in nature and use an outdoor education or outdoor learning approach; the residentials under consideration here also included an element of adventure or adventurous activities such as watersports (e.g. canoeing, sailing, kayaking) or land-based activities (e.g. climbing, mountaineering, caving). The definition includes expeditions in which participants were moving through an environment and using tents, bivouacking or staying in huts or on board a boat, for example, or where the participants stayed in a single outdoor centre or camp.

Typologies of outdoor adventure residentials

The interest in the lasting outcomes of residentials originates in the author’s research and interest in sail training in which there is limited research into longer term outcomes (Prince & Fletcher, 2019). Sail training voyages (STVs) can be seen as ‘bounded’ or ‘boundaried’ residentials where the boat provides a physical boundary in which the crew (participants) experience working, living and sailing together on an offshore adventure. Young people on these voyages usually are more actively engaged in formal and informal activities taking place on the boat with consequent peer-to-peer and peer-to-staff interactions (McCulloch, 2002; 2007). As the outcomes have been shown to be predominantly related to personal and social development constructs and ‘many of the characteristics of sail training can be attributed to experiences that do not occur on a boat’ (Schijf et al., 2017, p.177) with participant experiences not necessarily related to the vessel or the rig (Allison, McCulloch, McLaughlin, Edwards & , 2007), sail training voyages are included as outdoor adventure residentials. This provides a broader scope of experiences, which are likely to capture greater evidence about outcomes relevant to a spectrum of residentials with adventure components,

as in the protocol of O'Mara-Eves et al. (2016b), and to give a range of options for funders and policy makers.

Outdoor adventure residentials also include multi-day expeditions that may stand alone or be part of a longer programme of outdoor activities or community service that can be based in an outdoor centre, school or non-formal setting. Expeditions have been subject to outcome-based research, normally pre- and post- expedition (e.g. Beames, 2010; Stott & Hall, 2003) review (Stott et al., 2013). They may also include adventurous activities that take place from a residential base, and environmental education or field study activities but those that are solely focused on these latter elements are excluded from this study.

Thus, the characteristics/typologies of outdoor adventure residentials are important for inclusion in this study, rather than the type of activities experienced. The research examined the outcomes of the residential that in comprising 'adventure' involved some degree of challenge and probably intensity of experience, more than focusing on whether it was a sailing or land-based expedition, for example.

Theoretical framework

This research uses a deductive model of a theory of change (logic model). A theory of change is a 'map of causal links, which seeks to explain why and how an intervention has impact' (Noble et al., 2017, p. 1). It reflects the processes involved in making change happen and the relationship between elements or variables included in an intervention. It can be positioned alongside or as part of an outcomes framework where an 'outcome' is identified as 'a consequence of something that happens as a result of something else' (McNeil, Millar & Fernandez, 2019, p. 9). However, such a framework does not normally include methods or processes that might be influential in effecting change and 'organisations will need to explain

to themselves and others, preferably through a theory of change, how their methodology is intended to lead or contribute to (young) people achieving particular outcomes' (McNeil et al., 2019, p.9). Critics of theory of change modelling argue that it does not include a randomised control trial and therefore lacks objectivity (Pawson, Greenhalgh, Harvey & Walshe, 2005).

Practitioners engaged in organisations where a theory of change is embedded have interrogated the model to try to ascertain what activities within the intervention are likely to lead to lasting impacts at the level of the individual. How and what facilitates learning is important for researchers seeking to explain educational processes or outcomes with any kind of specificity (Seaman, Brown & Quay, 2017). Experiential Learning theory, where participants are engaged in hands-on, task-oriented activities in real-life situations seems an apposite theoretical framework to apply to outdoor adventure residential. The outcomes from such 'quite subjective embodied experiences' (Bell, 1993) cause us to consider experiential learning in its widest psychological and social dimensions (Seaman, Brown & Quay, 2017)

The theory of change model can take account of multi-stranded and complex inter-related elements, 'a systematic and cumulative study of the links between activities, outcomes and context of the initiative' (Fullbright-Anderson, Kubisch & Connell, 1998, p. 16). Through modelling 'steps of change' between the activities and outcomes, for example, it can examine in detail the attributes in causal chains that influence outcomes. Often, organisations might refer to the(ir) Theory of Change, that is a theory of change that is contextualised for the intervention that is the focus of their work.

Theory of change enables a portfolio of data to be collected (Laing & Todd, 2015) and '...might be the most effective approach to evaluation when no baseline data are available,

expected outcomes are likely to outlive the project, or outcomes are hard to define'(p.22), all of which may be applicable to longer term studies. It is useful for practitioners in understanding the process and outcomes of the experience or intervention they provide, and for other practitioners to ascertain whether or not they might achieve the same outcomes with that intervention in their context. Its success as a methodology, particularly through the steps of change model, is partly due to its visual nature (Laing & Todd, 2015). There is a growing awareness of the need for practitioners and researchers to work together to understand further the strength of the evidence base for practice and the impact of interventions or experiences (Hedges, Loynes & Waite, 2019). It can combine quantitative and qualitative evidence, which in this research is collated from literature and datasets to articulate the context, processes and intended outcomes of outdoor adventure residential experiences. It is a realistic way to look at causality in applied research.

Furthermore, Fiennes et al., (2015) in their review of the evidence base for the effectiveness of outdoor learning, lamented the lack of citation or use of a theory of change model in UK research to provide evidence for practitioners to plan and justify their interventions. Hoffman et al., (2014) note that although the evaluation of interventions is a major research activity, greater impact is achieved by combining evidence between studies. Thus, through its use of combined datasets, this research contributes new and rigorous knowledge to adventure education and outdoor learning theory and practice. It elicits commonalities and differences about the effects of outdoor adventure residential, their lasting impacts for young people and the relationship between short term and lasting outcomes of these residential.

Specifically, this research focuses on the following research questions (RQ):

(RQ1) What are the lasting (> 12 months) impacts of outdoor adventure residential experiences for young people?

(RQ2) What skills and learning are identified by respondents as useful in young people's lives since their residential experience?

(RQ3) Do lasting impacts vary between the type, intensity and duration of outdoor residential?

(RQ4) What are the 'steps of change' between short term and lasting outcomes in an outdoor adventure residential?

Method

A systematic review was undertaken to attempt to collate extant evidence that fitted the pre-specified eligibility criteria to answer the research questions. It identified, selected, synthesised and summarised studies using systematic methods to reduce bias (Moher et al., 2015). Originating in health contexts using quantitative experimental data, this methodology has embraced qualitative studies and has gained traction in education (Andrews, 2005; Suri & Clarke, 2009). Following the widely adopted PRISMA protocol, a systematic review should comprise: clearly stated objectives (questions), a systematic search that attempts to identify all studies meeting the eligibility criteria, an assessment of the validity of the findings of the studies included and, systematic presentation and synthesis of the characteristics and findings of those studies (Moher et al., 2015). Andrews (2005) states that, most importantly, the method can identify gaps in the field or methodological shortcomings.

The focus for inclusion here is on 'lasting impact' data, which have been gathered at least 12 months after the experience (RQ1, 2). This review sought evidence from retrospective studies (looking back to an experience that has already occurred and which may not have been researched at the time) on outdoor adventure residentials, as defined above, from the UK in English. It examined datasets obtained since 2015 that have not been part of previous

systematic reviews as these have already been synthesised and evaluated (RQ3). These eligibility criteria construe the review within a narrow definition and produce evidence reflective of similar research methodologies.

The search strategy was based on a web-based search (to ensure reports and datasets were accessed), Menderley open datasets, Google Scholar, ResearchGate, Academia, and the electronic databases (including EThOS – unpublished theses) at the University of Cumbria using the terms ‘residential’, ‘outdoor adventure’, ‘sail training’, ‘expeditions’, ‘UK’, ‘alumni’/’alumnae’, ‘retrospective’ and use of Boolean operators.

From the initial search, documents and datasets were read and filtered according to the criteria defined. Four retrospective empirical research studies were identified within scope. The evidence from each study was sourced from reports and, in addition, a published paper for one study and primary dataset for another. This does mean that the primary data have already been summarised, analysed and interpreted. The descriptive characteristics and the characteristics of the intervention and data collection of the research studies are summarised (Tables 1 and 2 respectively) to make an assessment of the validity of the findings.

Table 1: Descriptive characteristics of research on lasting impacts of residential experiences in the UK

Study	n	Age at time of residential (years)	Study design	Recruitment strategy	Type of residential
Wigan Outdoor Centres Alumni (Brathay Trust, 2018)	691	7 – 11 (77%) 11 – 18 (13%) 18+ (2%) >1 visit (8%)	Cross-sectional retrospective	Alumni network	Local authority outdoor education centres (2)
Gordonstoun (Beames, 2016)	1183	11 – 18 (alumni)	Cross-sectional retrospective	?	Out-of-classroom learning experiences including sail training voyages and expeditions in boarding school environment
	235	n/a (parents)	Cross-sectional	*Included in above	
	100	11- 18 (current)			
	50*	11 -18 (alumni)			
	30*	n/a (parents)			
	22	n/a (staff)	Ethnographic		
Beames, Mackie & Scrutton, 2018)	1174	11 – 18 (alumni)	Cross-sectional retrospective	Alumni database	
Ocean Youth Trust North (Prince & Fletcher, 2019)	708	12 – 25	Cross-sectional	Participants (end-of-voyage)	Sail training voyages
	29	16+	Cross-sectional retrospective	Subscribers to OYT newsletter	
	13	Various			
Outward Bound (OB Trust, 2017)	86	15 -19 (Skills for Life)	Cross-sectional	Participants	Outward Bound course
	26	15 -19 (Skills for Life)	Cross –sectional retrospective		
	34	School students	Cross-sectional retrospective	?	Outward Bound course

Table 2: Characteristics of intervention and data collection of research studies into lasting impacts of residential, UK (2016 onwards)

Study	Data collection instruments	Role at time of residential	Length of residential experience	Period of time since residential experience (years)	Dates of residential	Date of data collection
Wigan Outdoor Centres Alumni (Brathay Trust, 2018)	Online survey	Some visiting staff, some school students, some both	?	44 - 1	Various from 1973 to 2017	15.1.18 – 23.2.18
Gordonstoun (Beames, 2016; Beames, Mackie & Scrutton, 2018)	Online surveys Focus groups Observations Informal conversations Secondary data (expedition reviews, student blogs) ----- Online survey Focus groups	School students, parents of current students, school staff ----- School students	? ----- ?	? Some current ----- 62+ - 2	? ----- Various from before 1954 to 2014	10 month period ----- ?
Ocean Youth Trust North (Prince & Fletcher, 2019)	Real time survey Online survey Semi-structured interviews	Crew Crew, volunteer sea staff, stakeholders	1 night – 6 days Most > 5 days	Current <1 - 29	2013 – 2016 2018, 1998, 1992, 1989	2013 – 2016 8.12.18 – 5.1.19
Outward Bound (OB Trust, 2017)	Questionnaire (Life effectiveness) (Neill, Marsh & Richards, 1997) Interviews	Participants in Skills for Life course Outward Bound course	19 days 5 days	1 3-5	2015	2016

A thematic analysis (Braun & Clarke, 2006) was conducted to define firstly, the lasting impacts of these residentialials and secondly, the skills and learning identified by respondents as useful in young people's lives since their residential experience to identify the impact of their experiences on life chances. Subsequently, a comparative analysis was undertaken (Hastie & Glotova, 2012) to tabulate commonalities and differences in outcomes between the studies, which included the challenge of rationalising semantics and synonyms. Data were validated by a further reading of the reports to ensure the data in the table were an accurate representation of the documents and to minimise researcher bias. Subsequent to review of these retrospective studies, the evidence from published systematic reviews and other published or reported research that has relevance to the research questions but is out of scope for this primary review is discussed.

All but one retrospective study examined primary data collected by preliminary survey followed up by focus groups interviews and/or interviews following an 'explanatory sequential design' approach in which quantitative findings from the initial survey were used to inform focus group and interview questions (Wisdom & Creswell, 2013). One study (Brathay Trust, 2018) used data from an online survey only, which followed preliminary discussions and focus groups with stakeholders. In retrospect, this research design would have been structured differently to give a more systematic report of lasting impacts had the good response rate been anticipated. All of the studies except this were supplemented by staff surveys and stakeholder surveys/interviews sometimes focused on the participants themselves rather than the residential experience.

The reports included in this review are:

BT: Wigan Centres Alumni Survey (Brathay Trust, 2018): previous participants of residentialials at the two outdoor centres managed by Brathay Trust for Wigan Council in the Lake District, UK. N.B. 'outdoor adventure' assumed given questions asked and survey responses but may comprise respondents who experienced other activities.

GS: Gordonstoun School – Lifelong value of ‘Out-of-classroom’ Learning Experiences (Beames, 2016; Beames et al., 2018): alumni of independent boarding school. Larger project (Beames, 2016) also reported data from parents of current students, current students and school staff. N.B. In the context of this study, ‘outdoor adventure residentials’ include expeditions and sail training voyages; the school also has a strong emphasis on community service.

OYTN: Ocean Youth Trust North Social Impact Report (Fletcher & Prince, 2019; primary data available); previous participants, sea staff and stakeholders of sail training voyages; Larger project included short-term outcomes (‘end of voyage’ feedback from participants).

OB: Outward Bound Trust Social Impact Report (Outward Bound Trust, 2017); previous participants of Outward Bound courses in UK centres questionnaire responses one year after completion, interviews between three and five years post course. Larger project includes short-term outcomes, case studies of organisations and types of participants (e.g. graduates, apprentices).

The dataset from Prince & Fletcher (2019) for sail training voyages was examined in more detail together with the Association of Sail Training Organisation’s theory of change (James. Kenley & Patel, 2017) to enable the relationship between short term and lasting outcomes to be examined (RQ4).

Limitations

Most retrospective studies have encountered major problems in collecting data some time after the outdoor adventure residential (O’Mara-Eves et al., 2016b). Researchers use various approaches and incentives to improve response rates but getting responses is still problematic.

This seems particularly relevant to the OB and OYTN studies here, where participation was a ‘one off’ event and where participants return to their home lives that were disconnected from the intervention. Young people are connected yet hypermobile and often are experiencing multiple demands on their time through study, work and activities. There was a better response rate where populations were less dispersed, communities were more cohesive and/or the alumni network was strong (GS, BT). Embedding all intended hypotheses in the initial research design should augment response rates (Prince & Mallabon, 2019). If an objective of the research is to look at long term impacts of a residential experience then that needs to be planned for in the research design through connections to the real lives of participants and support after the intervention ends (O’Mara-Eves et al., 2016b; Kendall & Roger, 2015). In all of the studies except Brathay Trust (2018) data were presented in the reports that included a baseline (pre-intervention survey – OB), immediate post-intervention data (GS, BT, OYTN) and three and six month evaluations (OB). It was sometimes challenging, therefore, to disaggregate the lasting impact data (see Table 2). Furthermore, systematic review produces evidence reflective of similar research methodologies - a critique of this approach (Pawson, Greenhalgh, Harvey & Walshe, 2005).

Many recent studies concerning the impact of residential experiences have favoured using a proven scale of measurement to generate quantitative data across a range of skills such as the life effectiveness questionnaire (Neill, Marsh & Richards, 1997). Life effectiveness is a measure of ‘generic life skills which facilitate surviving and thriving across a variety of situations’ (Neill, 2008, p.xxiv). This was used in this OB study (and previously by Christie et al, 2014, Scrutton, 2015). Christie et al., found a remarkable stability in students’ self perception despite a residential intervention and questioned the research instrument. Other studies have used a core hypothesis to identify key impact and process themes to enable researchers to interpret data

within a theory of change (e.g. Kendall & Roger, 2015). In defining domain specific outcomes it might not be possible to detect the benefits of an intervention as long term outcomes are rarely achieved due to a single cause (McNeil et al., 2017). Both these approaches although with obvious advantages, do use pre-determined categorisations as a framework to collate data. Apart from OB, the studies here took a more open approach. However, it is probably only through a detailed knowledge of primary data that a model of step change (Laing & Todd, 2015; Tiplady, 2018) within a theory of change can be created.

It is difficult to ascertain the reliability of retrospective studies. Crosbie (2014) in his study of disabled participants in outdoor residential at the Calvert Trust, UK, recognised issues of recall particularly by those who were talking on behalf of participants and a lack of clarity in the way that respondents were able to identify the impact of the experience on daily lives. 'Without long term contact with the participants, provider responses as to long-term impact from participation is likely to be conjecture' (p.258). Additionally, it might be difficult to ascertain the residential as the determinant to outcomes in long-term retrospective research. However, retrospective studies may be more trustworthy than research based on questionnaires provided during or directly after courses (Stott et al., 2013; Scrutton & Beames, 2015). They may not be subject to the issues of missing data, 'drop outs' or attrition as in a longitudinal survey (O'Mara-Eves et al., 2016b), although treated alone they cannot ascertain the relationship between short term and lasting impacts. There is a concern that retrospective studies may not capture data from participants for whom the outdoor adventure residential does not have a positive impact. Some studies have sought to ask about negative experiences in terms of 'minuses'(OYTN) and to identify harms (O'Mara-Eves et al., 2016b).

Although attempts have been made to focus on studies that comprised the same interventions in the same country to enable comparisons to be made of lasting impacts, the context and way in which the interventions were implemented, participant demographics, socio-cultural and socio-

economic determinants may vary considerably. Added to this, Gordonstoun is a residential (boarding) school in itself, and the effect of this within the study is indeterminable.

Results

A summary of the lasting impacts of outdoor adventure residentials from the four studies under consideration as identified by participants and stakeholders is shown in Table 3. Only one of these studies showed ranked impacts, as provided by word clouds in the original report (BT). The impacts of the remaining studies showed self-confidence, independence and communication as the key common lasting impacts in these studies. However, there were other impacts identified that were not replicated/reflected across all the studies: emotional control, time management, leadership, developing outdoor learning experiences and environmental awareness. This could be a manifestation of the specific aims of the particular residential experiences reported, or reflective of the mission or vision of the organisation concerned. It is probable that 'developing outdoor learning experiences' is both a lasting impact and skills and learning considered useful in young people's lives since the residential (Table 4). The most common skills and learning were identified as confidence, teamwork, life skills and the take up of new opportunities/activities (in three out of four studies). Intra-personal skills and aspirations were identified by half the studies and independence was highlighted in one study.

Table 3: The lasting impacts of outdoor adventure residentials

Study	Impacts of outdoor adventure residential experiences as identified by participants					
	Themes					
	Self-confidence	Independence				Communication
Wigan Outdoor Centres Alumni (Brathay Trust, 2018) (Ranking 1-5)	Growing confidence, self-development, resilience, positive mindset (1)	Developing independence, domestic skills & self-sufficiency (2)		Developing outdoor learning & experiences. Environmental awareness (3)	Broadening horizons, adventuring outside home environment, seeking new opportunities & challenges (4)	Greater understanding & ability to communicate & connect with others (5)
Gordonstoun (Beames, 2016; Beames, Mackie & Scrutton, 2018)	Personal growth	Get on with it – give it a go				Interpersonal ‘ease’ & ‘social levelling’
	Develop generalised personal confidence & resilience					
Ocean Youth Trust North (Prince & Fletcher, 2019)	Increasing self-confidence	Greater appreciation of one’s capabilities				Respect for, & co-operation with others
Outward Bound (OB Trust, 2017)	Confidence (females)		Emotional control	Intellectual flexibility		Communication
			Time management, leadership			

Table 4: Skills and learning identified by respondents as useful in young people’s lives since their outdoor residential experience

Study	Skills and learning identified by respondents as useful since residential experience						
	Themes						
	Confidence	Teamwork	Life skills	Intra-personal skills	Independence	Aspirations	New opportunities /activities
Wigan Outdoor Centres Alumni (Brathay Trust, 2018) (Ranking 1-5)	Sustained confidence (1)	Teamwork (2)	Life skills (3)		Independence (4)	Education & career paths (5)	Try new things/activities (6)
Gordonstoun (Beames, 2016; Beames, Mackie & Scrutton, 2018)	Confidence		Transferable skills	Ability to remain calm			
	Self-belief		Leadership skills	Determination through adversity			
Ocean Youth Trust North (Prince & Fletcher, 2019)	Confidence	Respect for others. Teamwork	Life skills				Taking part in further sailing opportunities
Outward Bound (OB Trust, 2017)	More confidence in making new friends & meeting new people	Teamwork		Feeling able to speak out		Developing higher aspirations for future (e.g. careers)	Being proactive – taking up opportunities. Encouraging others to engage in outdoor activities

The qualitative data (open question and interview/focus group responses) showed some consistency with the intensity and challenge of the outdoor adventure residential and lasting outcomes.

You get thrown in at the deep end, if you like, when you get put onboard a vessel with people that you don't know, you've never met before in your life and you have to work together to get things done, and to be put in that situation over a short period of time it's amazing how quick you build a rapport and friendship with people. Obviously, you're putting your life in their hands, type of thing. If you don't do what you're supposed to do at the right time it could be catastrophic. If you're put in that situation it gives you a sense of achievement once you have finished what you are doing, and then you make great friends and meet great people along the way. [...] the experiences you have in the past you bring into your future. (OYTN crew participant)

The more physically and/or mentally challenged that a crew is, the more they benefit from the voyage. (OYTN volunteer).

You come out of it thinking, "I've just managed to get through that – I think I can get through other stuff." (Gordonstoun, student alumnus)

They are given the opportunities to challenge themselves, succeed in the completion of these challenges and have the confidence to take more challenges on. (Gordonstoun, parent)

These suggest that the more intense and challenging the experiences, the more personal growth occurs (be that self-belief, resilience, confidence, greater appreciation of personal capabilities, willingness to 'have a go' and respond to life challenges in the future). At Gordonstoun, multi-day journeys such as expeditions and STVs are regarded as the most powerful of the school's broader curriculum. Authenticity, the importance of appropriate challenge, learner autonomy, supportive communities of staff and peers are also important (Beames et al., 2018).

Figure 1 shows the steps of change model using primary data from the OYTN social impact research (Prince & Fletcher, 2019) within the Association of Sail Training Organisations, UK (ASTO) theory of change mode (James, Kenley & Patel, 2017). It suggests the steps of change process using the lasting impact identified in Table 3 of confidence (termed 'self-confidence/self-belief/self-esteem in the theory of change model). The steps of change illustrate the impact of activities in this domain on outcomes and on the longer term impacts of improved

employability, educational attainment and long-term life chances. It shows the task (sub-domain) orientated measures that identify in more detail the cause and effect process operating within such an outdoor adventure residential and the level of confidence in the data. Although the causal chains and direction of impact may be subject to critique, the steps of change model is illustrative of a methodological approach for disaggregating how and why a lasting impact might occur.

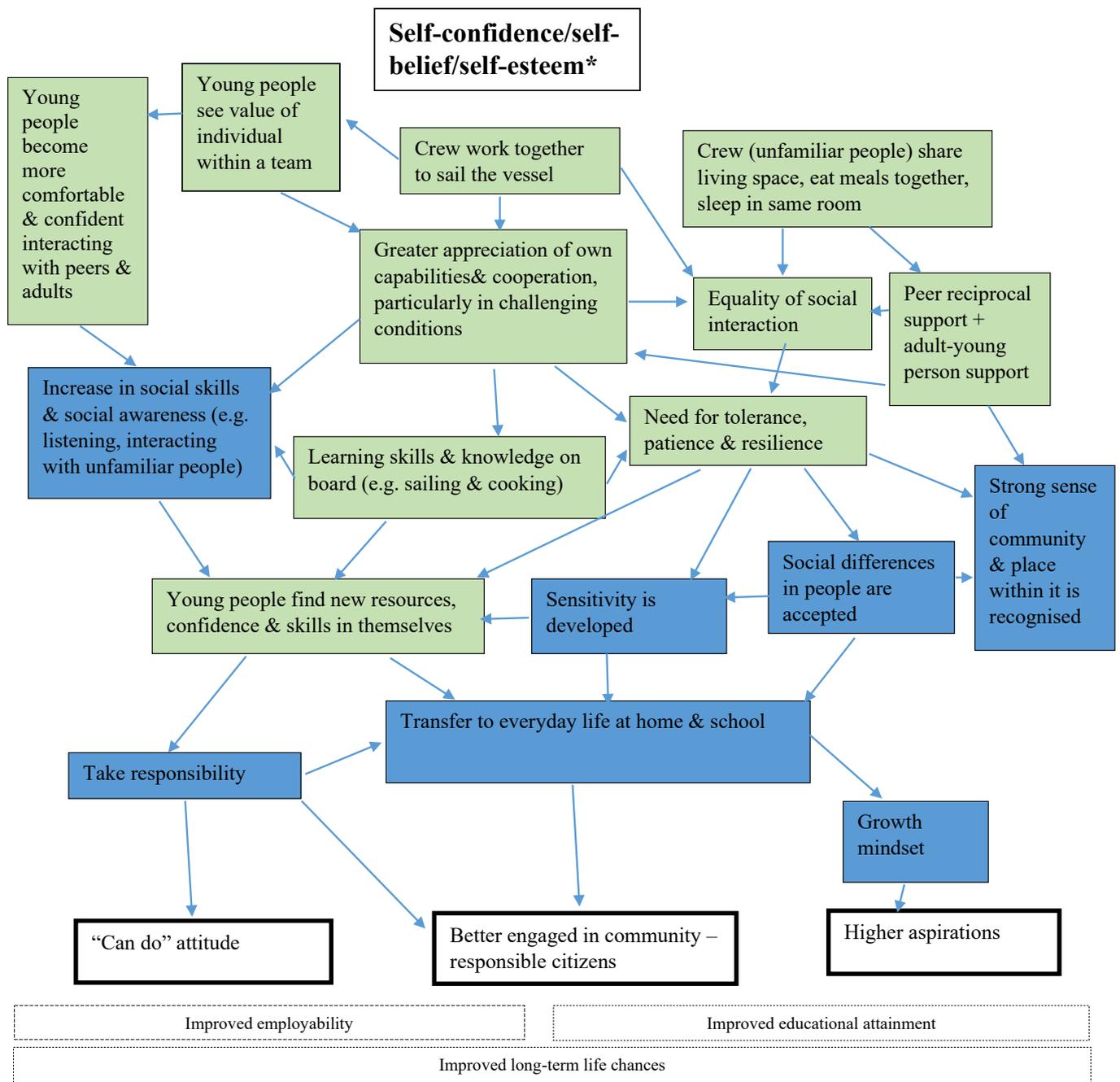


Figure 1: Steps of change process (Sail Training) – self constructs*(defined but listed together) from ASTO Theory of Change model (2019)
(Model after Tiplady, 2018)

Learning

- Evidence to support step of change
- Evidence to support step of change in some (but not all) cases at the time of assessment
- Evidence to refute step of change

Outcomes **Long-term impacts**

Discussion

A key lasting impact of outdoor adventure residential is self-confidence. This was manifested in a group of positive lasting outcomes of ‘growing confidence; self-development; resilience: and, a positive mindset’ (BT) and within the broader descriptor of ‘personal growth’ (GS) that comprised an identified subset of ‘develop a generalised personal confidence and resilience’. It has been useful subsequently in young people’s lives across a range of interactions including making new friends and meeting new people (OB). This resonates with the findings of Learning Away (Kendall & Rodger, 2015) where confidence is a major outcome and Crosbie (2014) on outdoor adventure residential for people with disabilities in so far as confidence as seen as the major lasting benefit as assessed by group leaders (n=445).

Developing independence (domestic skills and self-sufficiency – BT), ‘get on with it, give it a go’ (GS), and a ‘greater appreciation of one’s capabilities’ (OYTN) may be aligned. Two of the studies identified a greater respect and understanding of others as more of a lasting impact (OYTN, BT) whereas leadership skills and more intrinsic intra-personal attributes such as the ability to remain calm, determination in adversity and emotional control showed lasting impact for Gordonstoun and OB alumni. In more dated retrospective studies, the benefits in personal domains (e.g. self-belief) were sustained over time (Cleland, 2011; Grocott & Hunter, 2009; Hunter et al., 2013; Kafka et al., 2012) and self-esteem benefits were seen to make a longer-term difference to disabled participants (stakeholder and participant interviews, n=34, Crosbie, 2014). However, Capurso & Borsci (2013) did not identify changes to social benefits in long term and ‘harms’ including self esteem (plus loneliness, problems with other participants, sexual activity) were identified in four out of 16 studies (O’Mara-Eves et al., 2016b). The studies under consideration identified few, if any, negative

effects of outdoor adventure residentials other than physical discomforts, a function thought to be linked also to method and reporting.

There was another sub-set of impacts around broadening horizons and seeking new opportunities and challenges through being outdoors or being proactive and having higher aspirations in education and career choices. There were differences between the studies, which may be to do with context (so the ‘newness’ of the outdoors or adventure experience for some) and the distance travelled in life since the residential. Interestingly, Gordonstoun alumni also saw interpersonal ‘ease’ and social ‘levelling’ as lasting impacts of their out-of-classroom experiences, whereas the others did not, or did not define these attributes in this way. This could be a function of social class, frequency of experiences, boarding school ethos or an outcome of particular expeditions or may be related to the ‘habitus of assuredness’ identified in a Scottish independent school (Forbes & Lingard, 2015). Social competence/acceptance is the most unsupported attribute in sail training impact studies (O’Mara-Eves et al., 2016a).

Other lasting impacts may not be identified through these studies because, although in combination they comprise robust and large datasets, they may not have measured certain outcomes or outcomes that have been identified by a small number of respondents are not obvious in summary or show on all measurement scales. O’Mara-Eves et al.’s systematic review of sail training studies (2016a) identifies health and wellbeing benefits as being achieved in all programmes by all scales and certainly most of the impacts illustrated in Tables 3 and 4 could be broadly defined within this category. Education providers may have an emphasis on cognitive or attainment outcomes (EEF, 2019; Fuller, Powell & Fox, 2017; Kendall & Rodger, 2015) that were not features of these studies although interestingly, confidence and educational confidence were key outcomes cited in these studies.

The reasons why, and the process by which, such lasting impacts occur is complex and the steps of change model seeks to disaggregate which factors effect change. There is evidence through these data to suggest that the intensity of the outdoor adventure experiences is important. STVs and expeditions, in particular, are intense experiences of sharing a small space and working as a team towards a common goal, often in challenging situations and in remote areas on land or offshore (OYTN, GS, OB) and they are enhanced by a mix of participants, often previously unknown or little known, to one another. In the case of STVs and outdoor centres, interaction is with adults as well as peers. This resonates with other studies on wilderness programmes for delinquent youths (Wilson & Lipsey, 2000) and physically demanding multi-day expeditions (Neill, 2008). Fiennes et al., (2015) also suggest that overnight or multi-day activities have stronger effects than shorter experiences. IPPR (2009) and Takano (2010) also concur that significant expedition experiences can have lasting effects on participants. Outdoor adventure residential duration did not seem to feature in the lasting impacts for participants, following the findings of Neill (2008) and Kendall & Rodger (2015). This has significant implications for policy makers and funders.

Linked to this is the power of groups and the inescapability of the journey or other residential; there has to be a reliance on the group members alone to progress the journey or experience (Beames, 2004). The intensity of an outdoor centre residential might be perceived at a different level but needing to work as a team through sharing outdoor experiences, taking responsibility and living together are key components. The factors involved in progressing towards lasting outcomes in an outdoor residential experience are likely to be almost identical to those identified in the steps of change process in Figure 1. Teamwork is identified strongly as a lasting impact in young people's lives since the residential in all studies, although not as strongly as other outcomes in the Gordonstoun research.

Conclusions and implications

This comparative research of retrospective studies in the UK has identified self-confidence, independence and communication as key lasting impacts for young people from outdoor adventure residential. Confidence is also recognised as a personal attribute that has been useful to people later in life as well as teamwork, life skills, intra-personal skills and taking up new opportunities and/or activities. Of course, these may be inter-related with further causal chains operating in so far as an increased confidence may influence the ability or motivation to communicate or to respond to new opportunities, for example. These outcomes are supported in the literature in wider international contexts and the methodological benefits and critique of this form of systematic review, theory of change and steps of change modelling are applicable to other outdoor adventure residential contexts worldwide.

The quantity of data across different contexts produces more reliable research evidence than that from a single study, albeit that the reporting of data usually includes participant and other stakeholder responses and short-term data to substantiate findings. It provides confidence in, and understanding of, the lasting impacts of interventions, and validation of key activities.

There were challenges in gaining good response rates in some retrospective studies, particularly for organisations without a good alumni network and in differentiating the impact of the residential against other life influences over a period of years. However, longer term studies do produce balanced perspectives and retrospective studies do not encounter the methodological issues associated with longitudinal research.

It could be that there are different levels to some of these outcomes, for example in confidence and communication. ‘Interpersonal ease’ and ‘social levelling’ as lasting impacts seen at Gordonstoun School are not replicated and are unsupported in other studies (O’Mara-

Eves et al., 2016a). It could be that the unfamiliarity or newness of an outdoor adventure residential experience from everyday life is important to generate lasting impact.

The steps of change process as a visual methodology is useful in identifying how the outdoor adventure residential achieves lasting outcomes and the causal chains operating in that context. It also supports other data and literature in defining why such experiences achieve the lasting outcomes through the intensity (not the duration) of the residential and the importance of overnight the power of groups sharing space and working towards a common goal with peer-peer and peer-adult interaction, often involving unfamiliar people. The outdoor adventure residential must be authentic with a degree of challenge that is the nature of adventure. It is acknowledged that these findings may not be easy to implement for policy makers and funders, given the costs involved for residential group experiences.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

The research for Ocean Youth Trust North Social Impact Study was funded by the Garfield Weston Foundation and the Tyneside Charitable Trust.

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