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ORIGINAL PAPER

"When the real stuff happens": A qualitative descriptive study of the psychosocial outcomes of outdoor adventure education for adolescents

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Abstract
Adolescence is a pivotal time for social and emotional wellbeing development, and the literature calls for psychosocial support approaches in this population. Outdoor adventure education (OAE), programs that contain activities perceived as risky by participants but undertaken in an environment of risk management and social support, provide a holistic approach to protecting and enhancing adolescent mental health. A qualitative descriptive methodology using purposive sampling was employed to recruit adolescents and teachers from Western Australia involved in OAE. Template thematic analysis was used to analyse the semi-structured interview data of five focus groups with adolescents and four key informant interviews with OAE teachers. Our findings suggest that developing and maintaining connections with others during OAE programming are powerful protective factors for psychosocial outcomes in adolescent participants. The tangible responsibilities and inherent challenges of OAE programming created opportunities for multifaceted successes, which also featured as an important finding in our study. We conclude that deliberate, critical OAE programming decisions with opportunities for connections, tangible responsibilities and challenges, and the nurturing of individual empowerment in participants, may positively impact psychosocial outcomes. Further research is needed to understand the psychosocial impacts of OAE on adolescent participants as it relates to individual empowerment.

Keywords Psychosocial support systems · Adolescent health · Qualitative research · Health promotion · Student · Psychological well-being

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Introduction

The edification of adolescents occurs against a backdrop of rapid and profound developmental change, specifically in the physical, social, and psychological realms (Berenbaum et al., 2015). Physically, puberty occurs, whereby males and females become sexually mature and develop secondary sex characteristics, typically between the ages of 10–14 for females and 12–16 for males (Emmanuel & Bokor, 2018). Socially, increased independence from childhood support systems (e.g., peer, parental, educational, community) develops, and relationships with others are redefined. This redefinition can lead to difficulty comprehending how personal behaviours may affect others and a belief that one person cannot be truly understood by another person, posing challenges for those supporting the adolescent (Mechanic, 2021). Further, the influence of peers can lead to increased risk-taking and prosocial behaviour (Andrews et al., 2021).

From a psychological perspective, early adolescence marks the beginning of abstract thinking development, whereby the concrete thinking of childhood evolves into the ability to assess multiple outcomes, perceive the future theoretically, and apply advanced reasoning and metacognitive skills (Lehalle, 2020; Weil et al., 2013). Cognitively (due to the amygdala developing earlier than the frontal cortex), this development can result in a belief of personal invulnerability and a sense of being "bulletproof," which may lead to the adolescent taking risks with their safety (Christie & Viner, 2005; Steinberg, 2007).

The importance of educational programs and the role of educators in supporting adolescent psychosocial domains cannot be understated. Educators, and the educational programs they design and conduct, are uniquely placed to develop adolescent emotional, academic, physical, psychological, and social learning (Blaine & Akhurst, 2022b). One such educational program type is outdoor adventure education (OAE), which involves education through, about, and in the outdoors. It involves activities perceived as risky (such as rock climbing, white-water kayaking, hiking, or sleeping in a tent, varying due to the subjective nature of risk), contact with nature, fostering social and personal development, and occurring in an environment of social support with small groups of people (Down et al., 2023a; Thomas, 2018). Programs can take various forms, such as standalone one-day programs or expeditions that may last multiple days, weeks, or months with additional activities that involve camping and cooking skills (Gilbertson et al., 2023). The age of participants can vary, but OAE is often used with adolescents to support various psychosocial domains such as behaviour, social interactions, relationships, feelings, self-esteem and body image, and social cognition (Blaine & Akhurst, 2022b; Neill, 2008).

Learning is facilitated experientially (doing and reflection) in OAE, through interactions with the natural world that may impact wellbeing; and holistically by using all the senses while deliberately employing adventure to support the positive development of interpersonal and intrapersonal skills (Bolick et al., 2022; Irvine et al., 2023). As a theoretical framework, a recent study from Blaine and Akhurst (2022a) asserts that OAE is grounded in a synthesis of a bioecological model developed from Bronfenbrenner's ecological systems theory (Bronfenbrenner, 1979), Vygotsky's sociocultural theory (Vygotsky, 1978) (occurring in the realm of interactions and

relations through psychological and social experiences), and the experiential learning and pragmatism of Dewey (1916).

Psychosocial wellbeing development

Previous research has linked OAE with psychosocial wellbeing development (Down et al., 2022; Williams et al., 2018), via social connections and a sense of belonging (Jostad et al., 2019), responsibility (McKenzie, 2000), challenge (Brown & Beames, 2017), and success (McKenzie, 2000).

Social connection

Social connection can be characterised as the extent to which an individual is socially connected to others via the existence of different relationships and the interconnections between them (e.g., social networks or marital status), the functions that are available to be received due to relationships (i.e., the reception and perception of social support), and the advantages and disadvantages of relationships (e.g., social exclusion or inclusion) (Holt-Lunstad, 2022). As a protective factor for mental health, even the perception of social connection can reduce stress, moderate suicide ideation and depressive feelings, and buffer risk-taking behaviours (Dailey et al., 2023). Social connection is also positively linked with increased wellbeing and decreased anxiety, anger, and loneliness (Arango et al., 2016).

Sense of belonging

A sense of belonging refers to the fundamental human desire to feel needed and valued by others, form and maintain interpersonal relationships, and feel connected to others (Baumeister & Leary, 1995). Belonging is a key psychosocial outcome and exists in multiple contexts or as an interchange between multiple contexts (e.g., peer belonging, school belonging, family belonging, or neighbourhood belonging), with a study by Rejaän et al. (2022) suggesting that a weak connection in one context (such as in a familial setting) may be buffered by a strong connection in another (such as with peers). The childhood development of a sense of belonging will continue to be an intrinsic motivator for interpersonal behaviour in adolescence and adulthood (King et al., 2018).

Responsibility

Responsibility is a broad construct conceptualised through personal, moral, or social decision-making, with responsibility research commonly focusing on social and personal aspects (Sheldon et al., 2018). Personal responsibility emphasises self-accountability, whereby the individual is accountable to oneself and the wellbeing and needs of others as a result of the personal choices and behaviours that will impact others (Arslan & Wong, 2022). Social responsibility is grounded in an individual's actions and decisions that benefit others and society and is linked to civic, prosocial, and moral behaviours (Wray-Lake et al., 2016). In various philosophical discourses,

responsibility is inextricably linked with freedom, with an acknowledgement that with the freedom to make choices that may affect others comes a certain moral and philosophical responsibility to act in a way that does not harm others (Bok, 2022). These choices are also present in the OAE literature, with agency and responsibility featuring as central principles of authentic educational experiences in the outdoors (Brown & Jones, 2021).

Challenge

Challenge refers to physical, mental, or psychological obstacles present for an individual and the ability to appropriately respond to an obstacle (Seiffge-Krenke et al., 2009). Challenge research has seen a progression from examining the role of fear and stress (and the associated negative connotations of these outcomes) to an acknowledgement that coping with challenges can lead to either positive or negative outcomes for the individual (Petersen et al., 2017; Seiffge-Krenke et al., 2009). Further, dealing with the inherent challenges of an experience is directly related to the perception of its difficulty and the individual's perceived skill level (Berman & Davis-Berman, 2005).

Success

Success is a continuous multidimensional construct and can be measured against various academic, physical, or psychosocial domains (Fong et al., 2017). For some domains, success is measured against an objective, tangible outcome such as standardised academic testing or winning a sporting match, while a battery of psychometric tests exist to measure changes in psychosocial outcomes (such as positive emotions, relationships, or accomplishment) (Gill et al., 2021). Psychosocial outcomes are directly related to subjective perceptions of success, with internalised meanings wrought from experience leading to an individual perception of how successful the individual has been (Lyubomirsky et al., 2005).

Based on a systematic review led by the first author (Down et al., 2023c), limited research has explored the impact of OAE on adolescent psychosocial outcomes, with some notable exceptions being the investigations of Blaine and Akhurst (2020, 2022a, b) and Hayhurst et al. (2015). In our qualitative descriptive examination of OAE programs in a Western Australian sample, we conducted semi-structured interviews to investigate the attitudes and opinions of OAE teachers and adolescent students as they relate to psychosocial outcomes. The study objectives were to explore OAE programs in relation to social connection, belonging, responsibility, challenge, and success.

Methods

We used a qualitative descriptive (QD) approach in this study. Rather than applying interpretive analysis to determine themes, such as those employed in more theoretically driven methodologies (e.g., phenomenology), QD directly focuses on participants' words and experiences through focus groups and interviews (Colorafi &

Evans, 2016). Simple terms comprehensively describe events and form the basis of QD (Sandelowski, 2000). The study objectives provided context for the interview prompt questions.

Focus groups

Focus group recruitment

A purposive sampling approach was used, with independent school students in Perth, Western Australia, aged 15–16 years, invited to participate in focus groups. This non-probability sampling technique was selected to engage participants with experience and information about the topic of interest or research questions (Bryman, 2016). The first author's knowledge of the purpose of the study and the target population also informed sampling (Walter, 2013).

The target age group (15–16 years) was chosen due to their potential to reflect upon previous OAE experiences more deeply and thus more adequately, in relation to the objectives of this study, than younger students (e.g., 12–14 years). Six schools were invited to participate in our study; five chose to accept. There is no established definitive number of focus group participants, but it is suggested that 4–6 groups of 6–8 participants per group will achieve data saturation (Morgan, 2019). Twenty-nine individuals were recruited, including adolescents from one all-female school, two all-male schools, and two co-educational (mixed gender) schools.

Further to this, and through initial contact with OAE teaching staff from each school, the study's objectives were outlined to the relevant teaching staff to gauge participation interest. After each respective teacher expressed their interest and willingness to participate in the study, permission was sought and granted from the principal of each school. The nature and scope of the study were summarised in a participant information sheet distributed to each student and their parents, and consent to participate was established through a consent form signed by both student and parent. This study was conducted as per the Declaration of Helsinki, and institutional ethical approval was granted for the study by the University of Notre Dame Australia Human Research Ethics Committee.

Focus group data collection

Each semi-structured interview utilised open-ended prompts and questions with focus group study participants (Jackson & Bazeley, 2019; Morgan, 2019). Interview schedule questions were based on formative work conducted by the first author (Down et al., 2023a, b, c) and aimed to explore the rich qualitative data from the interviews (Clarke & Braun, 2021). The first author, who has experience facilitating focus groups, conducted all focus groups and key informant interviews.

A mutually accessible and convenient setting was organised (commonly a classroom at each respective school) to create a comfortable atmosphere for participants (Morgan, 2019), with the same interview schedule and prompts used for all groups. A second researcher acted as a scribe to record interactions, including noting interview schedule items that may have been overlooked, that all participants could share their

thoughts, and if a particularly dominant participant opinion overshadowed other participants. The average session duration was 40 min.

Key informants

Recruitment of key informants

Key informant interviews with OAE teachers in their capacity as subject matter experts were sought for this study. The researcher sent an invitation to an existing network of OAE experts working with adolescents in Western Australia. Before data collection, these participants were provided with an information sheet and consent form via email. A minimum of four key informants was required to enable achievement of sufficient data saturation upon analysis due to their level of expertise and anticipated lengthier discussions (Liamputtong et al., 2016; Morgan, 2019). Although an even split of participants by gender was sought, three males and one female ultimately agreed to participate. As per the recommendation of Morgan (2019), a mutually convenient and accessible setting was selected by the researcher to create a comfortable atmosphere promotive to open discussion.

Data collection with key informants

Face-to-face individual interviews averaging 40 min were conducted. The themes between the adolescents and teachers were synthesised using the same topic areas as the focus groups.

Data analysis

Deductive and inductive template thematic analysis (TTA) was implemented for both focus group and key informant interview data (Brooks et al., 2015; Colorafi & Evans, 2016). After completion of the interviews, audio recordings were sent via a secure link to a professional transcription service, de-identified and transcribed verbatim. An initial deductive code frame was developed using *a priori* codes based on interview questions (Table 1), after which an inductive coding process of the transcript

Table 1 Interview Prompt Questions

Context	Prompt questions
How do they build social connections (using interpersonal or intrapersonal relationships)? Practical examples: what do they like about these activities?	What sorts of OAE activities involved a social connection (bonding with others, coming together to achieve something, teamwork)?
Thoughts on building a sense of responsibility, and what they liked about this.	In an OAE program, can you tell me when you were responsible for something? How did that make you feel?
Thoughts on what success look like to students and teachers and how it makes them feel.	On an OAE program, can you tell me about a time when you had success with something (a task or activity)? How did having success make you feel?
Additional comments considered important by students or teachers but not covered elsewhere.	Is there anything else you would like to add?

was conducted (Brooks et al., 2015). This approach was utilised to conduct an initial organisation of the data based on *a priori* codes, as these codes are often composed of interview questions (King, 2012). QSR International NVivo Version 12 (QSR International, 2020) was employed to manage coding and analysis and validate the findings.

Trustworthiness and Rigour

Our study established trustworthiness through triangulation by integrating multiple data sources and methods (Liamputtong et al., 2016). Triangulation of data sources encompassed a focus group pilot study, a series of focus groups, and key informant interviews. The QSR NVivo Version 12 program (QSR International, 2020) managed the manual TTA process (Jackson & Bazeley, 2019).

Rigour in qualitative research refers to methodological criteria that evaluate evidence's authenticity, confirmability, credibility, dependability, and transferability (Liamputtong et al., 2016). These criteria are described in Table 2, showing how they apply to our methodology.

Interviewer biases were minimised by incorporating a reflexive approach (Jamieson et al., 2023). We used an interview schedule with a consistent scripted introduction and a description of the session's structure (Ranney et al., 2015). Further, study bias was minimised by the interviewer having no relationship with participants, interview questions being piloted with an equivalent sample of the target population (Tolley et al., 2016), independent coding of a portion of the transcript, validation of the initial inductive code frame by the entire research team before progressing to code development, and oversight by an experienced qualitative methods researcher.

Findings

Five focus groups and four key informant interviews were conducted for this study. Demographic questions were asked before each interview, with the average amount of OAE experience for the adolescents being four years and the average teaching

Table 2 Qualitative Research Trustworthiness Criteria and How They Apply to this Study

Trustworthiness Criteria[1]	Application
Authenticity (the extent of faithful expression of participant feelings and emotions)	Reporting allows readers to understand the participant's experience through direct quotations.
Confirmability (ability to demonstrate that the data represent participant viewpoints and not pre-existing researcher biases)	Description of the data interpretation process; demonstrate themes in data with direct rich quotations in reporting.
Credibility (truth in representation and interpretation of participant views)	Maintain an auditable research process; report on researcher experience; report on participant engagement; report on the interview process.
Dependability (consistency of the data over similar conditions)	Collaborative and parallel decision-making with an audit by multiple researchers; individual researcher bias is actively managed.
Transferability (findings can be generalised and applied to other similar contexts)	Provide sufficient information on participants and the research context to allow readers to evaluate transferability in reporting.

[1]Table concepts adapted (Colorafi & Evans, 2016; Cope, 2014; Truter et al., 2020)

experience of key informants being 17 years. Focus group participants stated that the main foci of OAE programs they had participated in were as follows: surfing, caving, horse riding, abseiling (rappelling), high and low ropes courses, rock climbing, Australian Aboriginal art, cooking for themselves, and getting to know people better. Aside from these listed activities, the adolescent participant responses highlighted the broader psychosocial benefits of participation in OAE programs. Teachers reported involvement in various programs throughout their careers, with water- and land-based activities conducted in various expedition- or skill-focused contexts.

Several key themes developed from application of the analysis framework. These are explored in detail below, with additional illustrative quotations found in Table 3 for further context. Quotations are labelled 'FG' or 'KI' for focus groups and key informants, respectively, and respondents are numbered according to the chronological order in which they were interviewed (e.g., KI3 was the third key informant teacher to be interviewed).

Connection to others

Influencing one's peers featured as an important outcome for some participants, with the encouragement of others having a profound effect by *"knowing that you're making an impact…I'd say it has an impact on everyone else… or just one person…* [and] *they wouldn't be able to do it if you weren't helping them"* (FG1). Similarly, having a reliance on other group members resulted in forced cooperation to achieve group tasks, such as *"putting up the tents, you have to work together. You're forced to work with everyone… otherwise you can't complete the task. So then you just start talking. It forces your bond in a nice way"* (FG2).

The often-arbitrary nature of being allocated to a particular OAE group results in participants not knowing their group members very well at the beginning of a program, which can lead to connections through shared experiences: *"… with all of our camps, we've all worked with different people because at the start we didn't know each other and now… we're all pretty familiar with each other because we've done all those things with one another"* (FG2).

Evening meals that are cooked and eaten with both peers and staff create a familial atmosphere in OAE which includes sharing the events of one's day and connecting through side conversations with others:

> *… you sit down and make a meal together just like you're sitting with your family having dinner. There's that conversation, there's talking about the day, there's side conversations that happen. And I think that's where the magic of outdoor ed* [OAE] *actually happens is in those times and in that space when everyone's just sitting down, doing their thing. And I think that's when the real stuff happens* (KI2).

From a programming perspective, allowing ample time to slow down and converse with the group was important for building connections. Using a campfire as a focal point also served to encourage conversation, with one teacher musing that *"more and more just doing those slow things and giving kids time without technology and*

Table 3 Additional Illustrative Quotes

Key Theme	Sub-themes	Illustrative Quotes[1]
Connection to others	Influence of peers	*"Just**supporting each other**[while abseiling], if someone's scared… 'I'll go first, and you come down after me.' And then you're already down there to help the next person come down. And… people already on the ground… cheer them on… if they're a bit scared of it"* (FG2). *"**We can also bring things that we've learned outside of camp into camp**. So one of my mates knew how to like tie the knot really well. He knew all the different loops and stuff off by heart because he's a farmer and he tied all the knots on the structure that we made. And it was really secure"* (FG1).
	Reliance on others	*"… rock climbing is still relying on a team of people… I**think when you have to rely on other people, they're getting more out of it**, especially in a group that they're not all mates"* (KI4). *"Putting up the tents, you have to work together.**You're forced to work with everyone… otherwise you can't complete the task.**So then you just start talking. It forces your bond in a nice way."* (FG2).
	Fire deepens connections	*"Sitting around a fire together and**you're talking together**"* (FG2). *"More and more**just doing those slow things and giving kids time without technology and so many things around them to just sit by a fire, and kids having a chat**…* [these] *are things they don't really do these days"* (KI2).
	Microcosm of society	*"It can get really annoying when you are in a class and there are either**certain people or certain groups of people who don't contribute to the group at all**, and that is a thing that I find annoying"* (FG4). *"With all of our camps, we've all worked with different people, because at the start we didn't know each other and now we have, pretty, **we're all pretty familiar with each other because we've done all those things with one another**"* (FG2). *"The groups… is the first part of that process. And looking at who's in the group… being really forward about who goes in which split… balancing temperaments, introvert, extrovert, looking at friendship groups, and who's really tight, and who's maybe co-dependent. And**being really thoughtful about how you can create groups where there's going to be enough mixing of the normal peer groups. And doing it in a way where there's still some balance**"* (KI1).
	OAE as a family	*"**You sit down and make a meal together just like you're sitting with your family having dinner**. There's that conversation, there's talking about the day, there's side conversations that happen. And**I think that's where the magic of outdoor ed actually happens is in those times and in that space when everyone's just sitting down, doing their thing.**And I think that's when the real stuff happens"* (KI2). *"If you're talking about**deep connections with people**, it's not when you're abseiling…**it's when you're sitting down, reflecting on your day and what you've been doing**"* (KI2).

Table 3 (continued)

Key Theme	Sub-themes	Illustrative Quotes[1]
Tangible responsibility	Freedom to choose	*"I think it's important we got to choose where we wanted to put our tents. The teachers… gave us our tents and they* [said] *just go find a spot, not too far, just somewhere… it gave us the opportunity… Sleep under the stars and it could be really nice. And it gave you a chance to have a choice…**having that choice of where you are going to put your tent or just stuff like that, it builds up over time. And it's responsibilities that you won't normally get in day-to-day life**"* (FG5).
	Altruism	*"Cooking…**it felt a lot better when it was more independent… when you knew that you did everything yourself and that you made a big impact to what how the group ate that night**"* (FG1). *"**When you get to camp you don't just put your own tent up**, you have to see… where the group wants to put their stuff … we need to see… if everyone is all right – just**the group responsibility not just yourself**"* (FG4). *"One of my mates drank two litres of water just before the walk and had a stomach ache the whole time… He ended up stopping and lying down halfway.**So we… came back and picked him up on the way back to camp… each person would have to get on a side of him and help him back… it felt good to make sure he got back**"* (FG1).
	Making the hard, easy	*"I remember the big one was when we watched the boat over overnight, this new experience of watching… to make sure the boat doesn't float away…**we had to take an hour and a half shifts. And we have to go back to the tent, wake two people up, tell them… to go out, watch the boat… And we consistently looked at it the whole night. And so I remember having some pretty big conversations with people while we were watching it**"* (FG1). *"And then someone realised that the less work that we did now**even though we didn't want to do the work now the more work we would have to do later**… you can't just take the easy way out and do things"* (FG4).
Interpersonal and intrapersonal challenge	Overcoming fear	*"I think it was year 8, the**rock climbing wall, I was really, really scared**to do that, and**they kept making me go up further and further**… I really don't want to do this, and I wanted to come down, but then they kept making me do it… well I'd never done it before, and I was pretty scared of being really high. But**they made me do it, and then it was really good**"* (FG3). *"We went on a rock climbing and abseiling camp… as someone that's terrified of heights that first step back off the cliff with just a rope and a harness to hold you is the most terrifying thing I've done. But**as soon as you're over and you're jumping down that cliff, you feel so free. And it's knowing you've done that first step that's just the best feeling**"* (FG5).

Table 3 (continued)

Key Theme	Sub-themes	Illustrative Quotes[1]
	Challenge is subjective	*"Bushwalking, for example, you're individually carrying your own backpack, but it's the team that's getting you through the mental challenge of the hike, canoeing or sea-kayaking or* [rowing] *the dory…**you're individually doing those activities, kayaking or rowing in the dory, but it's the team that's getting you motivated and picking up your morale**"* (KI4). *"I always let kids choose their level of challenge, but they have to sort of challenge themselves. I don't necessarily think it's a good thing that the kid is in tears and doesn't want to do something.**I'm not sure if that's the way forward to push them through that barrier and like we have talked before about so much challenge that a kid is so scared that they shut down and don't know what to do**"* (KI3). *"Are we trying to get the kids enjoying being in the outdoors or are trying to scare the shit out of them so that they know that they can push through that, but they know that they are never going to push through it again because they know that they don't want to be there"* (KI2). "*Quite often**kids will talk about how challenging it is to be the leader of their peers***" (KI3).
	Intrinsic rewards	*"Cooking together… was good*, ***we worked together in little groups and everyone would have a role. And then you all make your meal together, which is quite nice**"* (FG2).
Multifaceted success	Student vs. staff experience	*"There was just fireworks* [conflict]… [student] *leaders hadn't done a good job of doing something about that. So I didn't have a clear plan of what to do. But I knew that we needed to have a conversation… I put to the group that there was an opportunity here for us to see if we could bring this back into feeling the togetherness… we just spoke openly about what it was, how people were feeling…. There were kids in there who had been holding their tongue for years you know, in the same class, not wanting to step on toes… Others who just didn't think that anyone in the class got them, understood who they were…**the feeling in that tent was like warm dough, just about to be put in the oven.**Just like, it was so cohesive, and compared to the fire crackers that had been going off earlier that afternoon, it was totally different. And that class rocked for the rest of that camp, and the rest of high school…"* (KI1). *"I think you can feel it when they're successful. I think the entire vibe of the group changes and it's pretty cool. You can feel the sense of achievement, but I think failure is just as important…***[OAE]*really offers the opportunity to fail, which is so good because they don't often get that at school and it's so important to learn to fail and that it's okay to fail… then that success is even sweeter at the end**"* (KI4). *"I look at the program itself, like what was the experience from the students first and foremost. So what was the student experience. Then I look at the staff, and debriefing with the staff… And sometimes there's a lot to debrief, sometimes it's not much, it really depends…**firstly it's the student experience, then it's the staff experience, and then to zoom out from what just happens. And then within the context of all the other camps that's happened in that year level in the past, where did it sit within that? And then when you zoom out where it sits within the whole high school. So yeah there's a number of different levels that I look at that.**And obviously parent feedback is part of that as well, yeah"* (KI1).

Table 3 (continued)

Key Theme	Sub-themes	Illustrative Quotes[1]
	Individual empowerment	*"It's great because you're not only out of your comfort zone, but**you're starting to be in a spot where you cannot control**... there's still guidelines and there's teachers there...**but you feel in charge that you get that sense of knowing what you have to do**"* (FG5). *"**When we make mistakes, that's when we actually learn the most and next time we revisit that situation we hopefully have the information and the knowledge and experience to do better.**And that's all we can ask – all we ask of the boys is to do the best they can, and sometimes that means failing"* (KI2).

so many things around them to just sit by a fire, and kids having a chat… [these] *are things they don't really do these days"* (KI2). These connections led to a sense of belonging, helping to facilitate opportunities for peer leadership and personal responsibility.

Tangible responsibility

Having tangible responsibilities in OAE resonated with focus group participants and key informants. Amongst the adolescents, being given the responsibility and freedom to choose how certain aspects of their programs are conducted resulted in a feeling of satisfaction, freedom, autonomy, and opportunities that they may not be afforded at home:

> *I think it's important we got to choose where we wanted to put our tents. The teachers… gave us our tents, and they* [said] *just go find a spot, not too far, just somewhere… it gave us the opportunity* [to] *sleep under the stars, and it could be really nice. And it gave you a chance to have a choice… having that choice of where you are going to put your tent or just stuff like that, it builds up over time. And it's responsibilities that you won't normally get in day-to-day life* (FG5).

Being presented with tangible responsibilities also resulted in altruistic opportunities for students, particularly as it relates to the care and welfare of their peers, with some participants giving examples of this as follows:

> *One of my mates drank two litres of water just before the walk and had a stomach-ache the whole time… He ended up stopping and lying down halfway. So we… came back and picked him up on the way back to camp… each person would have to get on a side of him and help him back… it felt good to make sure he got back* (FG1).

Several tasks were reported as needing to be completed daily, such as shelter erection, nutrition and hydration, and self-care. Due to the necessity of completing these tasks efficiently, it was in the interest of students to complete these tasks as early as possible, with one student declaring that "*someone realised that the less work that*

we did now even though we didn't want to do the work now the more work we would have to do later… you can't just take the easy way out and do things" (FG4). This acknowledgement was a realisation of the inherent challenges faced on programs.

Interpersonal and intrapersonal challenge

Questions concerning challenge resulted in two sub-themes, the first being an acknowledgement that challenge is a subjective construct and involves individual responses to a particular challenge:

> *I always let kids choose their level of challenge, but they have to sort of challenge themselves. I don't necessarily think it's a good thing that the kid is in tears and doesn't want to do something. I'm not sure if that's the way forward to push them through that barrier… so much challenge that a kid is so scared that they shut down and don't know what to do* (KI3).

Overcoming challenges may also involve facing a certain amount of fear:

> *We went on a rock climbing and abseiling camp… as someone that's terrified of heights, that first step back off the cliff with just a rope and a harness to hold you is the most terrifying thing I've done. But as soon as you're over and you're jumping down that cliff, you feel so free. And it's knowing you've done that first step that's just the best feeling* (FG5).

Overcoming interpersonal and intrapersonal challenge led to a sense of success for participants.

Multifaceted successes

Both success and failure in OAE can be defined in various ways, with both having the potential for positive outcomes for participants. One teacher described a palpable feeling that comes over the group when success is achieved, as well as a recognition that failures may be just as important as successes for students:

> *I think you can feel it when they're* [students] *successful. I think the entire vibe of the group changes, and it's pretty cool. You can feel the sense of achievement, but I think failure is just as important…* [OAE] *really offers the opportunity to fail, which is so good because they don't often get that at school, and it's so important to learn to fail and that it's okay to fail… then that success is even sweeter at the end* (KI4).

Success in a task or activity also carries the potential for intrinsic reward for participants, such as *"being the main chef was actually quite a good feeling because you knew you weren't messing it up…it's good to make what you're eating. You know, once it's done, it's rewarding to know you've done it by yourself"* (FG1).

Success was also highlighted by one teacher as a form of individual empowerment, with the internal changes that occurred in some participants demonstrated through an improvement in self-confidence:

> [An] *inner transformation that can happen, where maybe you've got, say, an introverted student who is normally a bit of a wallflower… they come out, and they're able to show themselves to the rest of their group, and they're seen in a different way… if you've got a difference of opinion to the rest of group, then being able to be comfortable with standing your own truth… it's a powerful thing* (KI1).

Recognising and celebrating success featured as a universal outcome of OAE programming.

Discussion

Our research examined the views of adolescents and OAE teachers related to the impact that OAE can have on adolescent psychosocial outcomes. Overall, analysis of the data affirmed OAE as an effective educational medium for adolescent psychosocial health.

Our study participants described the opportunities to make and build connections as beneficial outcomes of OAE. In the psychology literature, this is referred to as social connectedness, a state of relating to others (in a group or institution) that reflects a perceived bond, a sense of belonging, being comfortable discussing problems with others, and a lack of aloneness (Bailey et al., 2018). These connections lead to an interpersonal dynamic characterised by a reciprocal, mutual level of acceptance that meets the need for support and companionship (Jose et al., 2012). A link has also been drawn between the social connectedness felt within a school setting and its ability to act as a protective factor for adolescent social wellbeing and overall health (White et al., 2022). As reported by the participants in our study, there are multiple similarities between connectedness in a school setting and an OAE setting, such as health-promoting behaviours (e.g., physical activity and nutrition), lower levels of problem behaviour, resilience, and increased optimism (Pittman & Richmond, 2007; Sibthorp & Jostad, 2014).

Our data also support the notion that impactful OAE is founded on caring experiences for participants and, more specifically, between peers. By demonstrating a sense of care for others, OAE group members allow the needs of each individual to be recognised in addition to the need for belonging to a community. Recognising individual needs, promoting an ethic of care for self and others, and developing meaningful relationships have long been associated with OAE (Quay et al., 2000, 2002). More broadly, these caring experiences may be attributed to viewing the OAE group as a family unit, with the idiosyncrasies of the group existing in a structure of social support to allow individual group members to thrive (Sibthorp & Jostad, 2014). Finally, promoting personal emotional connections within OAE programs has been linked with humour for adolescent participants and is considered desirable in

social relationships (Hoad et al., 2013). In adolescent learning environments, where emotional engagement in tasks is often important to achieve success, humour is an influential variable and leads to stronger connectedness between participants through shared humorous experiences (St-Amand et al., 2021).

In the current study, our adolescent participants identified two main areas they were responsible for during their OAE programs: making responsible choices and considering the consequences of their actions. This development of agency and autonomy features in the literature as an outcome of outdoor learning (OL), a pedagogical approach representing a broad range of activities but characterised by learning outside of a traditional (indoor) classroom environment (Picknoll et al., 2023; Waite, 2020). The beneficial effects of OL for psychosocial health have been widely documented (e.g., Becker et al., 2017; Mann et al., 2021; Molyneux et al., 2022), with many aspects of OAE being synonymous with OL. Indeed, OAE has been framed as a type of OL, with several studies linking the impacts of responsibility during OAE with group-related outcomes (communication, social cohesion) as well as self-efficacy, problem-solving skills, self-regulation, and self-confidence (Down et al., 2022; Richmond et al., 2017; Sibthorp et al., 2015; Sibthorp & Jostad, 2014).

OAE also enabled our participants to choose the level of challenge they felt comfortable with, an extension of the autonomy often provided to OAE participants by program staff (Heath, 2017). Commonly referred to as 'challenge by choice', this concept promotes individual participant empowerment through a conscious choice to participate (or not) in certain adventurous activities and is a central tenet of OAE (Rohnke, 1989). By providing challenges within OAE programs, participants experience a sense of focus, direction, vision, and perseverance to overcome these challenges (Csikszentmihalyi, 1990). OAE also incorporates group challenges with uncertain outcomes, requiring holistic student participation through psychosocial engagement utilising social, emotional, cognitive, and physical learning (Down et al., 2023b; Orson et al., 2020). Through these challenges, cognitive development, interpersonal skill development, and emotional growth are promoted in participants (Halpern, 2013; Larson, 2011).

Accepting the tangible responsibilities of OAE programs and overcoming inherent challenges resulted in a sense of individual empowerment for the adolescents in the current study. Individual empowerment, the individual perception of personal competence and belief in personal goal attainment, has been linked with OAE programs through the provision of opportunities to build social networks and develop competencies through involvement in meaningful tasks (Rappaport, 1987; Shellman, 2014; Shellman & Ewert, 2010; Zimmerman, 2000). Further, a number of OAE program outcomes related to empowerment, such as locus of control, self-efficacy, competence, and self-determination, are documented in the literature (Daniel et al., 2014; Hans, 2000). As such, OAE is well-placed to nurture individual empowerment development due to the inherent progression of challenges in programs, combined with the opportunity to experience success (Messman et al., 2022; Sibthorp & Arthur-Banning, 2004; Sibthorp et al., 2007).

Finally, success in OAE has been examined from two main perspectives in the literature, both as a process and an outcome, with various responses recorded from our adolescent and teacher participants supporting these two perspectives. As a process,

OAE stands to create opportunities for success by overcoming challenges, while the reflection and debriefing that typically occurs at the end of an OAE activity (or program day) may result in participants experiencing improved psychosocial outcomes such as wellbeing, self-esteem or self-efficacy, which are outcomes of success (Gill et al., 2021; Leather, 2013).

Strengths and limitations

One of the main strengths of the current study is its attention to detail concerning rigour and a demonstration of research process quality, as outlined in the application of trustworthiness criteria established by Colorafi and Evans (2016). Conversely, as with all qualitative research, the interpretation of data by the researchers can lead to bias in how data are interpreted, which may be a limitation of this study. However, QD (as a methodology) is not as in-depth as a more philosophical approach such as phenomenology and does not allow for researcher interpretation by design, minimising the potential for researcher bias (Bradshaw et al., 2017; Sandelowski, 2000). Study participants were also from one Australian state (Western Australia) and all from independent schools, so the findings may not be generalisable for other locations and contexts.

Conclusions and future research

In conclusion, the results of this study indicate that OAE is a multifaceted educational medium with indications of positive psychosocial health outcomes for participants. This study adds to the literature supporting achievement of higher-order psychosocial outcomes through deliberate, critical programming decisions and using qualitative data to support psychometric-based survey measures to gauge program efficacy. We believe that the results of this study can be used as evidence to support future OAE program design and suggest that future research examine the influence of OAE as it relates to the individual empowerment of adolescent participants and an examination of psychosocial outcomes as they relate to the gender of participants. Given the growing body of evidence that OAE can positively impact psychosocial outcomes, perhaps schools that are yet to implement OAE can be encouraged to do so.

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Data Availability The datasets generated and analysed during the current study are available from the corresponding author upon reasonable request.

Declarations

Compliance with ethical standards This study was conducted as per the Declaration of Helsinki. Institutional ethical approval was granted for the study by the University of Notre Dame Australia Human Research Ethics Committee (approval number 2020-197 F). All participants provided written consent.

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