



Adventure-based mindsets helped maintain psychological well-being during COVID-19

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ABSTRACT

Objectives: Research conducted during the COVID-19 pandemic underscores the value of physical activity and nature for psychological well-being in the general population when people's mobility and activities are restricted due to government mandates. Since restrictions may thwart the psychological benefits reported from participation in adventure recreation (e.g., rock-climbing, white-water kayaking), it is important to understand the psychological well-being of people who previously benefited from adventure opportunities. Thus, the purpose of this study was to investigate the lived experiences and psychological well-being of adventure recreation participants during COVID-19 restrictions.

Design: A descriptive phenomenological approach was used.

Method: Participants were fifteen men, four women, and one non-binary person who engaged in a variety of adventure recreation activities that included ski-mountaineering, free-diving, rock-climbing, white-water kayaking, back-country skiing, skydiving, SCUBA diving, BASE jumping, and mountaineering. Participants had an average of 11.7 years of experience in at least one of their preferred adventure recreation activities. Participants were invited to take part in a visual and audio-recorded semi-structured interview on Zoom. Interviews lasted on average 69.3 min. Reflexive thematic analysis was undertaken inductively.

Results: Overall, participants discussed a range of nuanced impacts that COVID-19 restrictions had on their psychological well-being. Participants discussed how *negative affect* resulted from restricted opportunities for physical and mental challenges, emotion regulation, connections to nature and people, and excitement. However, participants also benefited from several *silver linings*, such as reflecting on past adventures, a reduced need to compare themselves socially, and opportunities to spend quality time with others. Participants also explained how 'adventure-based mindsets' (e.g., resilience, focusing on controllable elements, humility) were protective strategies they used to limit the ill-being impacts of COVID-19 restrictions.

Conclusions: This study extends the alternative sport and exercise literature by illustrating how participation in adventure has the potential to enhance participants' resilience and their ability to maintain psychological well-being across diverse and novel contexts (e.g., the COVID-19 pandemic).

In an effort to control the spread of COVID-19, the majority of countries around the world implemented social distancing and self-quarantine measures in 2020–2021. Strict regulations have successfully reduced transmission rates and mortality (Mayr et al., 2020), and severe restrictions have even eliminated COVID-19 from the community in some countries (Every-Palmer et al., 2020). However, these regulations have negatively impacted population psychological well-being by increasing levels of loneliness, anxiety, and depression (Probst et al., 2020). An assumption underpinning previous adventure recreation

research (e.g., with rock-climbers, mountain bikers, surfers) has been that "challenging situations often inherent in adventure experiences may help participants develop adaptive systems that will aid them during future uncertain and demanding events" (Overholt & Ewert, 2015, p. 42). However, limited research has examined how adaptive mindsets developed during adventure recreation are transferred outside of the adventure context. The COVID-19 context, which has been identified as involving high levels of uncertainty and challenge for individuals globally (Probst et al., 2020), provided an opportunity to

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investigate potential benefits of adventure recreation in this regard.

Engaging in physical activity has been found to mitigate against anxiety and depression during the pandemic (Davenport et al., 2020). However, in an effort to slow the spread of COVID-19, several countries implemented governmental policies that severely restricted opportunities for adventure recreation as a form of physical activity (Frühauf et al., 2020; Houge Mackenzie & Goodnow, 2020). Governments implemented these restrictions to reduce the additional risks associated with adventure recreation, such as the risks of viral transmission involved with potential rescue operations in the backcountry and a lack of medical facilities to care for injured adventure participants. The aim of the current study was to investigate the impact of COVID-19 and associated governmental regulations on the psychological well-being of participants who, under normal circumstances, would regularly take part in adventure recreation as a form of physical activity.

1. Psychological well-being and adventure recreation

In order to examine the relationship between adventure recreation and psychological well-being (PWB), it is important to begin by defining the concept of PWB, and identifying key dimensions of PWB that have been established in the literature. First, PWB is subjective as it resides within the experience of the individual. Second, PWB is not just the absence of negative factors, but also includes positive factors. Third, PWB includes a global assessment rather than only a narrow assessment of one life domain. Although these hallmarks serve to delimit the area of study, they are not complete definitions of PWB. Psychological well-being has been succinctly defined as the degree to which individuals function at an optimal level (Diener et al., 2009). Individuals with high levels of PWB tend to be healthy, productive, happy, and have high quality relationships with others (Ryff, 2014).

Psychological well-being has been primarily defined in terms of two key dimensions: hedonia and eudaimonia (e.g., Diener et al., 2009; Ryan & Martela, 2016). Hedonic well-being is characterised by immediate enjoyment, or positive affect, and the absence of pain (Huta & Waterman, 2014), while eudaimonia is conceptualised as a higher state of thriving attained through individual self-development and self-realisation (e.g., Ryff, 2014). While eudaimonic well-being may involve hedonia, it may also result from circumstances which are immediately experienced as arduous or unpleasant (e.g., high negative affect), such as some of the challenges inherent in adventure recreation. While the complex nature of hedonic and eudaimonic dimensions have been vigorously debated (e.g., Huta & Waterman, 2014), the primary difference is that hedonia is a more immediate, affective experience, whereas eudaimonia is characterised as “a good and fulfilling way of life” focused on meaning and purpose (Ryan & Martela, 2016, p. 109). In an effort to address tensions regarding the primacy of hedonic versus eudaimonic approaches to PWB, Ryan and Deci (2001) described well-being as “a multidimensional phenomenon that includes aspects of both the hedonic and eudaimonic conceptions of well-being” (p. 148).

Eudaimonic well-being was the central focus of Ryff's (1989) foundational model of PWB, which included the six primary components of personal growth, autonomy, environmental mastery, self-acceptance, positive relationships, and purpose in life. Considerations of eudaimonic well-being are important in any examination of adventure and PWB, as adventure has often been narrowly framed in hedonic terms, such as opportunities for positive emotions (e.g., excitement) and peak or flow experiences (Boudreau et al., 2020). However, research indicates that eudaimonic dimensions of well-being may potentially play a larger role in longer-term psychological well-being than hedonic dimensions. For instance, Martela et al. (2018) found that, over longer time frames (i. e., beyond one day) basic psychological need fulfilment predicted greater variance in life satisfaction than positive affect.

The development of resilience has also been associated within eudaimonic approaches to PWB (e.g., Lü et al., 2014; Ryff, 2013). Resilience, defined as the ability to “maintain or regain well-being in the

face of adversity” (Ryff, 2013, p. 10) or “positive adaptation to significant threat or adversity” (Ewert & Yoshino, 2011, p. 35), can predict important PWB outcomes, such as life satisfaction and positive affect (Bajaj & Pande, 2016). As adventure recreation involves nature-based physical activities that require unique skill sets to deal with unique challenges (Boudreau et al., 2020), such activities may help to foster personal development and resilience. For example, several studies have identified how adventure supports personal growth and development as a result of overcoming diverse challenges (e.g., Csikszentmihalyi, 1990; Holmbom et al., 2017; Luckner & Nadler, 1997). Notwithstanding, literature directly linking adventure with resilience is limited. In the adventure education context, Neill and Dias (2001) found that a multi-week adventure programme significantly enhanced resilience, whereas Skehill (2001) did not find any impact on resilience. In more recent longitudinal studies, Beightol et al. (2009) and Ewert and Yoshino (2011) found significant, sustained increases in resilience as a result of adventure programmes, whereas Ewert and Yoshino (2008) did not. Thus, the relationships between adventure, resilience and PWB remain contested, and there is a need to further investigate these relationships.

Scholars have posited a wide range of common adventure characteristics which might explain how, and if, adventure fosters resilience and potentially PWB. These include an enhanced sense of connection to others/social support, responsibility for others, perseverance/willingness to overcome adversity, self-awareness, confidence, achievement, physical challenge, ability to manage stress and adversity, and direct involvement with the natural environment (e.g., Davis et al., 1995; Ewert & Yoshino, 2011; Haras et al., 2006; Scarf et al., 2018; Unger et al., 2005). Furthermore, researchers have found that BASE jumpers are more resilient than the average population (Monasterio et al., 2016), and mountaineers have reported that surviving a catastrophe on Mount Everest “gave them a more positive and resilient outlook on life” (Swann et al., 2016, p. 165). MacIntyre et al. (2019) also reported that, across a variety of adventure recreation activities, the majority of participants identified adventure recreation as contributing to their everyday resilience. These findings are relevant to the current study as scholars have argued that resilience may be a particularly useful psychological attribute for dealing with the challenges posed by the COVID-19 pandemic (Ewert & Davidson, 2021).

These findings linking adventure and resilience align with emerging perspectives in the adventure recreation literature, which critique risk-focused explanations of adventure participation and instead provide more nuanced, complex descriptions of adventure recreation participation. This emerging approach to understanding adventure and psychological well-being focuses on adventure benefits such as resilience, emotion regulation, and improved self-esteem (Houge Mackenzie & Brymer, 2020). Adventure benefits can be experienced during participation (e.g., relaxation, enjoyment), but also have the potential to transfer to daily life situations (e.g., resilience; Ewert & Yoshino, 2011; Morgan et al., 2019). Some benefits accrued from adventure recreation reflect the additive benefits of coupling physical activity with a nature context (e.g., enjoyment; Lahart et al., 2019), while other benefits may be unique or accentuated in the adventure recreation context. For example, adventure recreation participants may reap greater social benefits from completing tasks that require trusting one's adventure partner to remain calm and focused during prolonged physical and mental challenges (Houge Mackenzie & Brymer, 2020). Adventure recreation has also been shown to help participants regulate emotions and enhance self-esteem (e.g., Barlow et al., 2013; Woodman et al., 2019), as well as fostering feelings of achievement, improving PWB, and facilitating transformational experiences (Brymer & Schweitzer, 2013).

Adventure program advocates have long argued that the attributes acquired during adventure may transfer to everyday life. For instance, Hattie et al.'s (1997) oft-cited meta-analysis found long-term benefits of adventure education programs for developing positive psychological attributes such as emotional stability, achievement motivation, and self-concept/self-esteem. Psychological benefits accrued from adventure

recreation that might be particularly relevant to the COVID-19 pandemic include the ability to cope with fear and uncertainty, and the development of resilience (e.g., Ewert & Yoshino, 2011). Through a phenomenological approach, Brymer and Oades (2009) found that adventure recreation helped participants gain courage, which was defined as the ability to overcome high levels of fear. The ability to cope with fear transferred to everyday life for many participants, and one participant suggested that “because we’ve overcome these fears in a physical environment, other fears are generally insignificant” (Brymer & Schweitzer, 2013, p. 483). Embracing the fear that comes with challenging adventure situations has allowed some participants to feel empowered in their everyday lives (Brymer & Schweitzer, 2013). For example, BASE jumpers have reflected that, “learning how to manage fear teaches that all challenges are surmountable and provides a medium to flourish” (Holmbom et al., 2017, p. 6). BASE jumpers have reported applying skills learned while BASE jumping in everyday challenges, such as managing emotions and putting into a new perspective the problems encountered in everyday life (Holmbom et al., 2017).

2. Benefits of physical activity in nature

In addition to the resilience benefits afforded by the challenges posed in adventure contexts, the nature-based environment may facilitate additional PWB benefits (Brymer & Gray, 2010). For instance, participation in green exercise (i.e., physical activity in nature) has been found to lead to mental health benefits above and beyond those acquired from participating in physical activity alone (Araújo et al., 2019). Indeed, consistent evidence supports the robust benefits of physical activity in nature. For example, based on a series of research projects on the effect of green exercise, Rogerson et al. (2020) found that 61% of participants with low levels of well-being moved into the average-high level of well-being group by the end of 12 and 26-week-long interventions. In a systematic review of outdoor and adventure activities, Eigenschenk et al. (2019) identified that mental health is positively impacted by being active in natural environments. These findings were particularly compelling across studies showing the psychological benefits of outdoor versus indoor activities. Eigenschenk et al. (2019) found that the benefits of nature-based physical activity included decreased tension, anger, and depression, and increased engagement and revitalisation. Nisbet et al. (2011) also found that feeling connected to nature was associated with both hedonic and eudaimonic well-being.

Adventure research suggests that the natural environment inherent in these activities may motivate participation and influence PWB outcomes (e.g., Brymer & Gray 2009; Budruk & Stanis, 2013). The central role of the natural environment in adventure experiences has been identified as a key, but under-researched and under-theorised, element of adventure recreation experiences (e.g., Hodge Mackenzie & Hodge, 2020). Even at the most ‘extreme’ end of the adventure spectrum, there is evidence that nature plays a critical role in facilitating well-being benefits (Brymer & Schweitzer, 2013). For instance, Kerr and Hodge Mackenzie (2020) reported that nature was a primary motivation for BASE jumping, rather than thrill-seeking, and Brymer and colleagues have repeatedly identified connections to the natural world as fundamental to understanding adventure motivations and well-being outcomes (e.g., Brymer & Gray 2009; 2010; Brymer & Schweitzer, 2013). Given these findings, some scholars have identified the potential for adventure activities to be reconceptualised and reconsidered in terms of their potential to support health and well-being, and to foster eco-centric perspectives (e.g., Brymer & Gray, 2010). Such an approach holds the potential for adventure activities to be incorporated in mainstream physical and mental health promotions for the general population, rather than being viewed as niche thrill-seeking activity for small groups of privileged participants (Clough et al., 2016).

3. Impact of COVID-19 on psychological well-being and physical activity in the general population

The psychological impact of the COVID-19 pandemic and associated restrictions have been multifaceted and include: fear of infection, uncertainty regarding future regulations, the loss of social connection, and higher levels of loneliness (Probst et al., 2020). These factors have resulted in a decrease in overall population levels of PWB (Brooks et al., 2020). Moreover, people who reported being lonelier and more stressed during restrictions reported higher levels of depression (Probst et al., 2020). However, studies conducted during the COVID-19 pandemic on depression outcomes need to be interpreted with caution as none were based on clinical assessments of depression. Furthermore, certain population segments have been disproportionately impacted by government restrictions. For example, Davenport et al. (2020) found that 72% of women who were pregnant or recent mothers were found to have moderate to high anxiety (compared to 29% of women before the pandemic). In addition, Coughenour et al. (2020) found that, in the United States, Hispanic and senior college students reported more negative depression scores compared to other college students.

In addition to the negative psychological impacts of COVID-19 related restrictions, a range of physical activity impacts have also been documented. During the United Kingdom’s first round of quarantine restrictions, Smith et al. (2020) reported that people increased their levels of physical activity. However, in a scoping review, Caputo and Reichert (2020) found an overall worldwide decrease in physical activity levels since the start of the COVID-19 pandemic. For example, Tison et al. (2020) established that trends for recreational walking have increased overall, but that utilitarian walking has decreased. Taken together, different subgroups of the populations around the world appear to be participating in varying levels of physical activity compared to pre-COVID-19 levels.

Governments (e.g., Canada; Colley et al., 2020) have followed expert advice (e.g., Slater et al., 2020) and recommended that people should engage in green exercise. Since the start of the COVID-19 pandemic, several articles have investigated the mitigating effects of physical activity on PWB issues. For example, Colley et al. (2020) found that the benefits of physical activity were larger for those who exercised in nature as opposed to indoors. Similarly, Dzhambov et al. (2020) found reduced levels of anxiety and depression in a sample of participants that were exposed to elements of nature (e.g., houseplants and neighbourhood greenery). Soga et al. (2020) found that participants with greater access to nearby nature reported reduced levels of depression and loneliness during the COVID-19 pandemic.

Despite the lack of consistent findings in terms of how much physical activity people around the world have engaged in during the pandemic, studies showing the benefits of physical activity for mitigating PWB issues during the COVID-19 pandemic are accruing (e.g., Maher et al., 2021; Pieh et al., 2020). Jacob et al. (2020) found that residents of the United Kingdom under social distancing measures who were physically active had better overall mental health. Furthermore, in a Spanish sample, López-Bueno et al. (2020) found an inverse relationship between meeting recommended physical activity guidelines and lower perceived anxiety during the first wave of the pandemic. Similarly, Colley et al. (2020) found that Canadians who exercised regularly reported very good or excellent PWB compared to those who were not exercising during the pandemic. Utilising a design with adult twins, Dunca et al. (2020) found the relationship between higher levels of physical activity and lower levels of stress and anxiety during the pandemic held even after taking into account genetic factors.

In summary, research conducted during the COVID-19 pandemic underscores the value of physical activity and nature for PWB in the general population when people’s mobility and activities are restricted due to government mandates. Adventure recreation participants experience a range of well-being benefits as a result of the challenges involved in these activities, such as resilience, emotion regulation, and

improved self-esteem. In addition, research has robustly demonstrated the well-being benefits afforded by physical activity and nature-based physical activity in particular, which are key components of adventure recreation. However, research has not yet directly evaluated the well-being impacts of pandemic restrictions on adventure recreation participants.

4. Purpose and research questions

Several countries have implemented governmental policies related to COVID-19 that have severely restricted opportunities for adventure recreation (Frühaufer et al., 2020). Since restrictions may thwart the psychological benefits reported from participation in adventure recreation, it is important to understand the PWB of people who previously benefited from adventure opportunities. Thus, the purpose of this study was to investigate the lived experiences and psychological well-being of adventure recreation participants during COVID-19 restrictions. Specifically, the study addressed the following research questions: (1) How did adventure recreation participants experience COVID-19 restrictions? (2) What role did previous participation in adventure recreation play during the COVID-19 pandemic?

5. Method

5.1. Research design

Since the purpose of the current study was to investigate participants' perceptions of psychological well-being in a COVID-19 context, a descriptive phenomenological approach was adopted (O'Halloran et al., 2018). Although several variations of phenomenology exist, they are generally divided into two distinct branches: interpretive (or hermeneutic) phenomenology and descriptive phenomenology (Cohen & Omery, 1994). A descriptive phenomenological approach focuses on presenting phenomena as it happens, without making interpretations based on theoretical stances or assumptions (Giorgi, 2010). Underpinned by a constructivist epistemology and relativistic ontology, descriptive phenomenology differentiates itself from other qualitative approaches in that it seeks an interpersonal and more holistic level of understanding (Giorgi, 2010). In accordance with this philosophical approach, interviews were conducted with minimal pre-established questions and without a theoretical focus (Giorgi & Giorgi, 2008; Kvale & Brinkmann, 2009). Furthermore, a descriptive phenomenological approach allowed for reflexive thematic analysis (Braun & Clarke, 2019) to be used for developing an interpersonal and holistic understanding of adventure recreation participants' lived experience of the COVID-19 context. This approach is particularly appropriate when seeking to capture the range of lived experiences, emotions, and thoughts participants may have in relation to particular phenomena (e.g., COVID-19 restrictions; Lin, 2017).

5.2. Participants

Following ethical approval from the authors' university, participants were recruited via online social networking. Initially, the first author messaged twenty different administrators of a variety of Facebook groups dedicated to adventure recreation (e.g., Love of Surfing, Paragliding Forum, Squamish Rock Climbing). Nineteen administrators approved of a recruitment message being posted on their respective Facebook page. Thirty individuals contacted the first author and information was e-mailed to potential participants. The inclusion criteria that participants had to meet were: (1) English fluency and (2) regularly engaging in adventure recreation prior to the COVID-19 pandemic. Twenty participants decided to take part in the study and provided their consent at the beginning of the interview process. The initial interview questions addressed past adventure experiences and the overarching topic of optimal experiences (e.g., flow states) that were presented in the

context of another study (Authors, redacted for peer review). Prior to being further interviewed about adventure experiences in the context of COVID-19, participants were asked if they were interested in discussing their experiences during the COVID-19 pandemic. All twenty participants expressed an interest in discussing their COVID-19-related experiences (Mean age = 35.7 years, $SD = 10.7$).

Participants identified as men ($n = 15$), women ($n = 4$), and non-binary ($n = 1$) and engaged in a variety of adventure recreation activities including ski-mountaineering, free-diving, rock-climbing, white-water kayaking, back-country skiing, skydiving, SCUBA diving, BASE jumping, and mountaineering. Participants had an average of 12.4 years ($SD = 13.5$) of experience in at least one of their preferred adventure recreation activities. At the time of the interview, participants were based in Canada ($n = 6$), New Zealand ($n = 2$), France ($n = 2$), Australia ($n = 5$), United Kingdom ($n = 2$), United States of America ($n = 1$), Romania ($n = 1$), and Belgium ($n = 1$). At the time of data collection, participants resided in countries that implemented varying but, overall, stringent mobility restrictions (e.g., quarantines, reduced opportunities for leisure, travel restrictions), based on the government response stringency index (Hale et al., 2021). This index is rated from 0 to 100, and a score of 100 corresponds to the strictest mobility restriction measures. Participants resided in eight countries with scores ranging from 69.44 (Australia) to 87.96 (France). For example, during the data collection period, participants in Canada were mandated to avoid climbing, but allowed to visit some provincial parks, whereas in New Zealand all types of adventure recreation (e.g., surfing, hiking) were restricted for a seven week period.

5.3. Data collection and analysis

Participants who, prior to the pandemic, regularly engaged in adventure recreation were invited to take part in a visual and audio-recorded semi-structured interview on the Zoom platform. Online interviewing has previously been used effectively in psychological research (Jowett et al., 2011). However, the COVID-19 context and associated social distancing mandates accentuated the need for online interviews, and highlighted the challenges and opportunities associated with developing rapport during online interviews. In the current study, the inclusion of video was used to mitigate the potential for poor rapport in a virtual context (Foley, 2021). Weller (2017) suggested that, at times, greater emotional connection and rapport might occur during online interviews compared to in-person interviews because participants may feel that they are in a safe space at home. Participants may also feel more removed from the interviewer, which could also facilitate a sense of freedom of discussion. In the current study, participants appeared comfortable discussing emotionally sensitive topics in their own homes. For example, some participants discussed in great depth how they felt lonely due to a lack of social interaction normally experienced during adventure recreation.

Interviews lasted approximately 1 h ($M = 69.3$ min) and were conducted between April 30th and May 21st, 2020. The three open-ended questions that guided the current study were: *Can you tell me about the adventure activities that you have done before and since the start of the pandemic? What activities have you done during the quarantine? Can you tell me about your psychological well-being during the quarantine?* The interview process was pilot tested with three adventure recreation participants, which enabled the first author to identify any potential issues that might ensue when conducting the interviews online. The pilot interviews informed the decision to include English fluency as an inclusion criterion, as interviews were conducted in English and the ability to fluently express one's ideas is a cornerstone of ensuring accurate information is obtained in phenomenological research (Sundler et al., 2019). In addition, pilot testing helped the researchers avoid inadvertently including any leading questions in the interview guide. As the questions were deemed appropriate to address the study purpose during the pilot study, these questions were retained. Finally, pilot testing

helped to ensure that video and audio disturbances were minimised. No data from the pilot interviews were included in the analysis reported in the current study.

Consistent with descriptive phenomenology, which “rejects the traditional objectivity measures placed upon qualitative research by positivist traditions”, a relativist perspective, as opposed to a criteriol-ogist approach, was used to judge the quality of this research (O’Hal-loran et al., 2018, p. 304; Sparkes & Smith, 2013). One strategy used to enhance the study rigour was the use of ‘critical fiends’ (Smith & McGannon, 2018). The second and third authors acted as critical friends and examined the raw transcripts, evaluated the preliminary themes and, during several rounds of discussions, critiqued and helped refine the final themes. This process resulted in the restructuring and stream-lining of results. For instance, earlier drafts of the analysis contained 31 lower-order themes and four high-order themes, whereas the final analysis and resulting three high-order themes were more tightly focused on the lived experience of adventure recreation participants.

A reflexive thematic analysis grounded in descriptive phenomenol-ogy was conducted in the current study (Braun & Clarke, 2019; Sundler et al., 2019). This analysis method encouraged the processing of data while seeking to minimise the imposition of authors’ viewpoints of what those descriptions may mean to the participants. The use of reflexive thematic analysis was coherent with descriptive phenomenology as it provided a process by which participants’ own descriptions of phe-nomena were grouped. Considering the importance of interpretations during the analysis process, the authors understood that their personal experiences with adventure recreation would influence their choice of study design and interpretation of the data. All three authors had a background in sport psychology, two authors had expertise in a variety of adventure recreation activities. Having one author with expertise in sport psychology, but who did not participate in adventure recreation, also provided an additional critical lens for interrogating the data collection and analysis processes. The authors, guided by a descriptive phenomenology approach, were conscious of their positive biases to-ward adventure recreation outcomes and ensured that participants’ voices were described accurately by having iterative discussions among each other and by regularly referring to the interview transcripts.

All interviews were transcribed verbatim and verified for accuracy. To facilitate immersion in the data and a holistic understanding of the lived experience of participants, the first author initially read each transcript at least three times (Allen-Collinson, 2009). The coding and labelling of themes was conducted as an iterative and inductive process, and NVivo software was used to help organise data during this process. Meaning segments of text were initially coded according to direct de-scriptions of the thoughts, feelings, or behaviours described by partici-pants. Consistent with descriptive phenomenology, all data were analysed (Giorgi & Giorgi, 2008). Similar codes were then grouped into proposed lower and higher-order themes. Critical friends (the second and third authors) then examined critiqued, and refined the proposed themes. In this way, the second and third authors provided feedback and identified any proposed changes to codes and themes throughout the iterative process. These discussions, which involved referring back to raw data quotes and cross-checking any similar codes or themes, were held to ensure that the codes, themes, and participants’ ideas were congruent.

6. Results

All participants reported that their opportunities to take part in adventure recreation were reduced or eliminated due to governmental restrictions in response to the COVID-19 pandemic. Three high-order themes were identified, which were comprised of 14 lower-order themes (see Table 1) that reflected adventure recreation participants’ lived experiences of the COVID-19 context. Analysis also revealed how participants employed psychological attributes developed during pre-pandemic adventure recreation during COVID-19 restrictions.

Table 1
Summary of higher-order and lower-order themes.

Higher-order themes	Lower-order themes
Negative affect	<i>Lack of social connection</i>
	<i>Restricted access to nature</i>
	<i>Lack of physical and mental challenge</i>
	<i>Lack of emotion regulation</i>
	<i>Lack of excitement</i>
Silver linings	<i>Rediscovering hobbies</i>
	<i>Reflecting on past and future adventures</i>
	<i>Reducing social comparison</i>
	<i>Opportunities to recover</i>
	<i>Spending quality time with others</i>
Adventure recreation mindset	<i>Cultivating resilience</i>
	<i>Focusing on controllable elements</i>
	<i>Feeling humbled</i>
	<i>Taking one step at a time</i>

6.1. Negative affect

Participants reported a range of nuanced psychological experiences during COVID-restrictions. When asked about their psychological well-being during the quarantine, all participants reported experiencing negative affect (e.g., anxiety) during the first wave of the COVID-19 pandemic, which is reflected by this higher-order theme. The five associated lower-order themes reflect specific sources of negative affect and mitigating factors that were discussed by participants. Participants varied in terms of how they characterised the intensity of the negative affect they experienced. Some participants reported being able to regain a sense of normality relatively quickly: “initially, [the pandemic] affected me but then I got back to a normal sense of being” (P1²), while others described feeling unsettled and “not normal”:

“[The pandemic] made me feel a little gloomy and unsure, uncertain. I’m not really setting as many goals as I normally would because I don’t know the outcome of the future. It’s been very uncertain and confusing for me. ... Things have been a little bit blurry and it’s tough to describe exactly how I felt, but not normal.” (P12)

Three participants reported more detrimental levels of negative affect due to the duration and uncertainty of pandemic restrictions. For example, “psychologically [I] definitely have a lot of worry and fear and uncertainty about the future” (P7), and “[lockdown is] a bit long, it’s long, there are moments where I am down. I would like to scream” (P4). One participant elaborated on how pandemic restrictions had dramati-cally increased mood fluctuations, feelings of depression, and overall negative affect:

[I am] the most depressed that I have been in a long time ... and the phrase that has come up is ‘ups and down’, where I had some days where I wake up and get things done both for fun and whatever tasks I have had to do, and I have had other days where I just lay around looking at my phone in kind of weird habitual impulse and I have felt pretty crap, and I even noticed this feeling of general dissatisfaction and negativity. (P14)

Nevertheless, it was noteworthy that participants often reported feeling less overwhelmed by negative affect (e.g., anxiety, depression) than significant others: “some of my friends are getting anxious and paranoid and really depressed and really unmotivated, but I don’t think I feel that way” (P7).

6.1.1. Lack of social connection

The *lack of social connection* lower-order theme related to partici-pants’ missing the positive emotions associated with social connection

² Note: P refers to ‘participant’, followed by their unique number identifier. For example, P1 is *Participant 1*.

and shared experiences, as explained here. “Every morning I wake up to birds by my window, it’s really nice, it’s just not the same when you can’t share that experience with your friends” (P7). One skydiver also discussed how the absence of social interaction with the skydiving community was more unbearable than the lack of adventure recreation itself:

I really want to go skydiving but, if anything, I really want to see the people ... they are my friends, they are really good people, they’ve done some really nice things for me - stopped me from being dead in the sky. Lockdown has sucked. (P15)

When asked about the types of activities they had participated in during the quarantine, participants discussed staying connected as a key strategy for ensuring psychological well-being. For example, one participant found comfort through an online social group:

I have this men’s group ... and one of the huge upsides of the whole coronavirus is that this group has been moved to Zoom and so even if the school has been closed we are still meeting every week and it has given me a useful space to reflect on how I have been feeling. (P14)

One participant decided to create a similar group himself: “I think I have done a couple of things to hold myself psychologically sane, I started this weekly outdoor chat because I was missing this connection with colleagues” (P11). One participant stayed socially connected with friends by meeting them in person, at what he considered a safe distance:

I have seen some of my friends at distance, we’ve gone out and bike ride and stayed apart and that has made all the world of a difference just chatting with them for a couple hours because you just thrive off of others energy; even if I am introverted I really enjoy others’ company and my close friends so that’s helped. (P12)

Overall, participants discussed strong PWB benefits from maintaining social contact with their friends: “the other probably really helpful thing that I found is for me mentally it has been a lot easier on most days because of it. I’ve got some good friends if I feel a bit down” (P15).

Participants discussed the importance of staying connected to their community despite regulations for physical distancing:

Every Saturday we’ve been connected with the people around us. Our neighbours’ kids play with our kids a lot of the time. We’ve been more socially isolated from other people, but I guess everyone is doing more Zoom and that kinda stuff, trying to stay physically distanced, but socially connected. (P10)

Staying connected to their adventure recreation community was especially important for participants: “I think it’s obviously hard not being able to paddle, but I am relatively okay that I can still connect with other paddlers” (P9). The following quote explains the importance of connection to the adventure recreation community:

I think skydiving helps me regulate [my mental health] for different reasons. One of them has to do with community, because you belong [to a group of] people who understand skydiving. In the coronavirus my parents don’t understand skydiving, they just think I’m like a crack addict Having people who understand your feelings and where it’s as important to everyone else as it is to you. You’re amongst friends there. I do find it’s odd, but people who I meet skydiving seem to be more akin to me than I would find amongst the general population. So, there’s a big element in terms of regulating my mental health. (P16)

Helping others was an effective way of ensuring PWB for some participants: “volunteering also is useful to do at a time where you feel you are helpless, so I’ve been volunteering to deliver food for people” (P7). Speaking about calling a colleague who was feeling sad, one participant said, “just taking time to help out someone else I came in thinking I’ve done a really good thing today” (P15).

6.1.2. Restricted access to nature

When asked about the adventure activities they had engaged in before and during their quarantine, participants discussed how they missed “the ongoing relationship that one gets with the natural world in more bushland area” (P11). For adventure recreation participants who were accustomed to frequently spending time in nature, the lack of access to nature was reported to reduce their PWB:

Normally when I go outside to do activities in the place that I love, it kind of opens my mind and I forget about the academic stuff that I am grappling with or the problems at work that might be an issue. But at the moment it is all contained within these four walls in a room and I feel like I am bouncing inside of my head and bouncing inside these walls. (P18)

Quarantine appeared much more bearable for participants with access to nature, as reported here. “Access to the outdoors is fairly easy. I can go for a walk and be in bushland area within 10 min out of my town or go biking, so that has been a really nice thing” (P11). Participants also discussed their need to be in nature and meeting that need through alternative forms of recreation. A skier explained that, “From running you can get ... That aspect of ski-touring where you are able to get out in a beautiful space and explore the trail. It honestly hasn’t been too big of an adjustment for me” (P19). Another participant concurred: “I just had to be outside, the days that I was inside the whole day, I would feel worse ... I wake up and I feel a stuffy head if I don’t go outside and get fresh air” (P20).

6.1.3. Lack of physical and mental challenge

Participants explained how pandemic restrictions also reduced the opportunities for the physical and mental challenges that they normally experienced during adventure recreation. Although participants in some countries were allowed to participate in some low-risk forms of ‘adventure recreation’, they generally felt that the limited activity options failed to provide sufficient challenge to support their PWB. The following quotes highlight this issue. “I just don’t find [running] as physically or mentally challenging or rewarding as climbing, which is probably why I climb more than I run” (P3). “I don’t know if I quite felt that level of engagement [during quarantine activities] ... because I’ve always been mindful to not push myself to a level of risk or commitment where I would normally” (P12).

Although most participants could not engage in adventure recreation, they discussed the mental benefits of staying physically active through other means. “Physical activity, the most you can do, helps keep you sane” (P4). Participants surmised that staying physically active was a key contributor to maintaining PWB. “There is quite a lot of decent trail running that I have been able to [do], which has kept me sane” (P11).

6.1.4. Lack of emotion regulation

Another source of negative affect reported by participants was the lack of opportunities for regulating emotions, which was normally afforded by adventure recreation activities. The following quote reflected this issue:

I do these things because it helps me not to think or it helps me to control my brain. I don’t think it’s a bad thing for both of those things. I think it is okay for us as humans to decide what outlets help us be more calm or be more consistent as people. It’s interesting to be in a situation where I can’t do any of them. (P13)

Adventure recreation appeared to help participants regulate their emotions, which could have been a valuable asset during the pandemic. One mountaineer likened her capacity to regulate emotions during the pandemic to emotion regulation she learned during mountaineering: “... like the Coronavirus pandemic, you experience it [an obstacle] for a long time and then you figure it out and you can regulate your emotions; something like this [often] happens in mountaineering or long trips”

(P13).

6.1.5. Lack of excitement

Although all participants engaged in some form of physical activity during lockdown, they also lamented that, “it’s not as exciting or stimulating” (P7) compared to adventure recreation. For instance, participants noted that, “I just feel like I don’t want to do this [running]; it’s not fun” (P13) and “I haven’t found anything that I get a lot of stimulation from ... I haven’t found something with that ... [exhilaration] of skydiving” (P16). The physical activities available during quarantine were reported to lack sufficient stimulation for these participants who were accustomed to high levels of excitement and stimulation.

Although these participants did not report symptoms of clinical withdrawal related to a lack of excitement, they did express being highly disappointed about not being able to take part in adventures. For example, one participant mentioned, “I was pretty bummed when I found out I could not [rock-climb] and so there is a lot of disappointment regarding that” (P14). One participant said, “I really didn’t do well the first two weeks [of restrictions], because everything that I love doing, and pretty much was my whole life, I couldn’t do” (P10).

6.2. Silver linings

This higher-order theme represents the unexpected benefits of COVID-restrictions for participants. It is comprised of five lower-order themes highlighting specific ‘silver lining’ activities or experiences, which participants described as contributing to their overall PWB.

6.2.1. Rediscovering hobbies

For several participants having to stay at home allowed them to discover or rediscover a variety of hobbies that have contributed to their psychological well-being. After being asked what activity they have engaged in since the start of the quarantine, one participant recalled, “I’ve been cooking a lot; trying to cook different things. ... I’ve been trying to do more yoga or stretching than I usually do. I found lockdown very easy” (P3). Another participant said, “My endurance for reading skyrocketed. Time really flies when I read. I can just keep going after an hour. If you would tell 20 year-old me [about my reading] I wouldn’t believe it” (P8). One participant discussed how she, “liked working on creative things too; like writing ... It’s very grounding. It keeps me aware of what is going on in my mental and emotional life” (P7). Some participants emphasised that the pandemic provided the opportunity to discover new hobbies: “interestingly I think as a result of the COVID-19 pandemic other things have been taken up in my life. I started weekly chess games with this mate of mine who I haven’t done anything with for years” (P11).

6.2.2. Reflecting on past and future adventures

Although participants could not engage in adventure recreation during their quarantine, they discussed their appreciation for looking back on past adventures: “during the lockdown I’ve watched a lot of videos, I’ve worked on my movie making skills and re-watched all my skydives several times over” (P15). Similarly, participants in this study discussed their hope for future adventure recreation. For example, participants mentioned, “I am excited about a lot of the things that will come once it is over” (P8) and “as soon as the lockdown goes down the first thing I am going to do is drive north and paddle” (P9).

6.2.3. Reducing social comparison

Participants explained relief from social comparison. For example, Participant 6 said, “I was relieved on one hand that I didn’t have to keep up with the Jones [keep up with others] and I could be in my home and I love being here.” One participant elaborated further and said:

I was feeling that internalized capitalistic ideal of productivity and this sense that I need to be productive and I need a certain amount of

things done ... I think I am really observing the toxicity of that ideal right now. I think it is important articulating [that observation], because that is a huge part of our whole globalized modern culture. (P14)

6.2.4. Opportunities to recover

Participants discussed an appreciation for the opportunity to recover physically and not feel compelled to train or improve in their adventure recreation activity: “because my knee was so-so, I was wondering if I could do this last [ski mountaineering] race, and then it got cancelled because of COVID, so it was I guess a time to recover, it was sad and happy at the same time” (P20) and “I think [the pandemic] is a huge catastrophe, but for me it has been very good, it is almost like an extended vacation” (P13).

6.2.5. Spending quality time with others

Those who shared a living space discussed the positive experience of spending time with family or roommates during quarantine. For example, one participant reflected that, “I feel quite fortunate because I have a really great flatmate [i.e., roommate]” (P3), while another appreciated having more time “to talk a lot with my partner” (P7). Quality interactions with family were also noted across many participants, as typified by this quote: “I spend more time in the garden or on the trampoline with the kids” (P10).

6.3. Adventure recreation mindset

Participants discussed how the mindset and mental strategies that they developed through participation in adventure recreation helped them face the challenges of the COVID-19 pandemic and associated government restrictions. The following four lower-order themes reflected different facets of the ‘adventure recreation mindset’ that participants said they had cultivated through adventure recreation. They discussed how each of these facets of an adventure recreation mindset helped them overcome difficulties related to the pandemic.

6.3.1. Cultivating resilience

Participants discussed how resilience, cultivated through adventure recreation, helped them maintain their PWB during the COVID-19 pandemic. For example, the resilience they had developed in adventure helped participants adapt and stay motivated, as illustrated by the following quotes. “A big part of why I am able to deal with [the pandemic] is because of climbing, ironically; because I feel I have developed a lot of self-resilience, and determination, and willpower to just keep going in spite of things pulling you back” (P7). Similarly, a kayaker noted that “having a lot of varied paddling experiences that have prompted me to be more resilient helped me a lot [during quarantine] because you have to just go with what happens” (P9).

Adopting a flexible attitude was another way that adventure recreation participants demonstrated resilience. For example, one participant stated that:

It’s really stereotypical, but going with the flow and learning that in a river you have to have a plan b, c, and d - you might get to plan d and realise that doesn’t work either - and that ability to be really flexible and understand that sometimes there are bigger forces at play [is useful]. (P9)

Two participants in countries permitting lower-risk forms of adventure during quarantine discussed how findings ways to create adventure supported their PWB. “I needed some [explicit wording] adventure ... this is what I was missing. I was nervous a little bit, but it was a good nervous. It fed my hunger for adventure” (P8). “My mental health was declining and being able to go climbing was really good for me ... it wasn’t a purely recreational thing, it was medicinal to a certain extent” (P14). Other participants discussed new ways of creating adventure in

their lives despite restrictions.

I'll do funny things like go trail running at night or get up really early and go out ... watch the sun go up. I don't know why that creates more of an adventure, but it seems more adventurous than just going in the middle of the day. (P7).

Most participants could not partake in adventurous activities and demonstrated resiliency by making use of additional time for training or preparing for adventure recreation post-pandemic:

While I haven't been able to engage in climbing at all, I have been training more ... and I have built a little crack trainer [module that simulates outdoor climbing]. I have been engaging with this sport in a physical way ... despite not being able to actually [climb]. It has been a mix of doing [it] for its own sake, but also it has been a little bit more goal-oriented training. (P14)

6.3.2. Focusing on controllable elements

Adventure participants reported enjoying uncertainty in their pre-COVID-19 adventures. For example, one participant mentioned that before the pandemic, "There was a bit of unknown [during white-water kayaking] ... I always get an intrinsic motivation when it's somewhere I haven't been before ... the enjoyment of giving it a go far outweighs the feeling of fear of not going" (P10). However, many participants chose to focus on controllable elements during the pandemic. For example, one rock climber reported how the continual need to focus on controllable elements during rock-climbing (e.g., focusing on breathing to avoid falling) helped him to adopt this same focus during quarantine.

The lockdown ... contributed to psychological challenges. I think the [adventure] activities that I did [pre-COVID] have a big effect on what I do and how I see things. I talk a lot about having control and focusing your attention on what is in your control as opposed to out of your control. ... So, you're not focusing on what would happen with a fall. ... You focus on what is in your control, which is your body, your breathing, your hips. (P8)

Participants in the current study also adopted routines to maintain PWB during COVID-19 restrictions:

It's been helpful to have a routine, ...having a training plan for running and sticking to it as much as possible, or as much as feels good; just to take time on Sunday night to write what my week is going to look like, that helps me stay sane. (P19)

Routines also enabled participants to refocus their goals. Prior to the pandemic, participants had a range of adventure-based goals, which they adapted by setting new types of goals when the pandemic unfolded:

When the lockdown came I had specific goals for this year that the lockdown made it so that I can't act toward those goals, so instead of fighting against the current, and despairing and putting effort into something that is not fruitful I had to focus on other things. (P8)

Adopting a routine also supported the need to keep busy, which was identified by some participants as helping them adapt to the pandemic and the associated restrictions: "Whenever I feel like I want to jump out of my skin, where I would go climbing, I just paint" (P13). Regardless of the activity discussed by participants, staying busy appeared to be an effective way to manage the stress or boredom of the pandemic: "I would say the arts helped a lot and keeping myself busy, [also] I go for ridiculously long walks and making my runs longer" (P13). Along with keeping a routine, staying busy was discussed as a key strategy for coping: "keeping yourself busy and having structure to your day is really important" (P15). One activity that was commonly undertaken by participants was learning about a variety of topics. For example, participants said, "I have just been trying to take advantage of the time at home to do research" (P18) and "I am also trying to read Korean and learning to code [computer coding]. I find learning is a very helpful way to cope at times like these; learning, and creating, and imagining makes things

bearable" (P7).

6.3.3. Feeling humbled

Participants reported how the sense of feeling humbled in an adventure setting helped them retain a similar sense of perspective during the pandemic. For instance, a kayaker noted that, "going kayaking is a great reminder that you are a relatively small piece of the big puzzle that is the natural world. In a kayaking setting you can ... [discern] quite easily what is important and what is perhaps peripheral" (P11). Another participant explained that, although he may be perceived by colleagues as someone "who can do river crossings and do crazy things and [is a] 'jump out of the plane person'" he appreciated being able to practice humility during quarantine by sharing with colleagues "moments where I was pretty down and [it was] quite hard".

6.3.4. Taking one step at a time

When overcoming difficulties during both adventure recreation and the pandemic, participants discussed the importance of taking one step at a time. For example, when asked about adventure activities engaged in before the pandemic, one white-water kayaker reported "thinking about the next thing and then the next thing. I'm not even thinking about three turns from now, I'm thinking about this turn then this turn and how to navigate something" (P19). Similarly, during the pandemic, participants explained, "it's a matter of ... dealing with things as they come up, I suppose, and having the tools to do it" (P5). A rock-climber mirrored these reports by illustrating how he used this psychological strategy during both rock-climbing and the pandemic. "I will get the next move, and then the next move; [I] probably won't get more than three more moves, but I will get the next move ... but that mindset helps you go further" (P8). Participants also highlighted the importance of focusing on the present moment when being challenged emotionally by anxiety induced by COVID-19 restrictions: "I think that it is a lot like the rest on the [rock-climbing] route, where I needed to be just present and focus on what I need to do" (P14).

7. Discussion

This study investigated the lived experiences of adventure recreation participants during COVID-19 restrictions. Overall, participants discussed a range of nuanced lived experiences during COVID-19 restrictions, which included fluctuations in psychological well-being (PWB). Participants discussed how *negative affect* resulted from restricted opportunities for physical and mental challenges, emotion regulation, connections to nature and people, and excitement. However, participants also benefited from several *silver linings*, such as reflecting on past adventures, a reduced need to compare themselves to others, and opportunities to spend quality time with others. In line with previous studies of adventure recreation (e.g., Brymer & Gray, 2010) and studies of nature and coping during COVID-19 (e.g., Soga et al., 2020), participants described how access to nature improved their PWB. Participants also explained how adventure-based mindsets (e.g., resilience, focusing on controllable elements, humility) were protective strategies they used to limit the ill-being impacts of COVID-19 restrictions.

Overall, the hedonic well-being of adventure participants appeared to have been negatively affected by the COVID-19 restrictions, and appeared to be exacerbated by a lack of opportunities to engage in adventure recreation. For example, participants attributed negative affect to a range of factors such as: a lack of challenge, excitement, access to nature, and emotion regulation. Opportunities for enjoyment and excitement, which are associated with hedonic well-being (Huta & Waterman, 2014), appeared to be largely missing for participants during this study. These findings align with research showing the importance of challenge and competence for PWB (Fong et al., 2015; Ryan & Deci, 2020). According to participants in this study, their physical activities during COVID-19 restrictions were less physically and mentally challenging than adventure recreation. Nevertheless, as found in previous

research (e.g., Dunca et al., 2020), participants reported that being physically active during COVID-19 restrictions enhanced their PWB. In addition, participants' identification that, during COVID-19 restrictions, they missed the emotion regulation opportunities usually provided in adventure recreation supported Barlow et al. (2013)'s proposition that adventure affords participants important opportunities for emotion regulation. In alignment with the growing body of evidence linking nature contact and nature relatedness to PWB (McMahan & Estes, 2015; Niedermeier et al., 2019), participants also reported that disrupted access to nature was linked to experiencing negative affect.

In contrast to the above findings, participants also appeared to benefit from prior adventure recreation experiences during COVID restrictions. For instance, the eudaimonic well-being of participants may have been supported by the benefits of adventure recreation obtained prior to the COVID-19 context. The higher-order themes *silver linings* and *adventure recreation mindset* appear to reflect key elements of eudaimonic well-being. For example, the theme *lack of social connection* supports a large body of literature showing that feelings of belonging and meaningful relationships are fundamental to PWB (Ryan & Deci, 2020). Ryff (2014) also found that individuals who have high quality relationships with others tend to have higher levels of PWB. In the context of COVID-19, Prinzing et al. (2020) found that staying socially connected was an important contributor to PWB. For participants in this study, staying connected to one's adventure community, albeit remotely, was similarly important for maintaining PWB.

Participants also discussed the benefits of resilience for maintaining their PWB. These findings support literature proposing links between adventure and the development of resilience (e.g., Ewert & Yoshino, 2011), which bear some similarity to the links found in the context of traditional sport (e.g., Gupta & McCarthy, 2021; Morgan et al., 2019). Ewert and Davidson (2021) posited that, post-COVID-19, a key outcome of adventure education should be the development of resilience. However, the empirical base in this domain is largely focused on youth adventure education programmes and has yet to robustly demonstrate support for transfer of adventure-based resilience to other contexts longitudinally (e.g., Ewert & Yoshino, 2011). The current findings extend this literature by suggesting that long-term participation in adventure may enhance participants' resilience and ability to maintain PWB across diverse and novel contexts (e.g., the COVID-19 pandemic).

Another strategy that participants discussed as being beneficial to maintaining PWB was focusing on controllable elements. Previous research suggests that these findings reflect the importance of distinguishing between what is, or is not, within personal control during adventure in order to reap the psychological benefits afforded by these activities (Brymer & Schweitzer, 2013). For example, kayakers have reported focusing on everything within their control (e.g., preparing equipment, planning lines of travel), while also accepting that, ultimately, natural elements (e.g., rapids, waterfalls, weather) are beyond their control (Brymer & Schweitzer, 2013). Through this tension between acceptance and relinquishing of control, these participants reported gaining a profound sense of freedom. Finally, the current findings support Brymer and Oades' (2009) proposition that the development of humility (i.e., "an accurate assessment of one's characteristics, an ability to acknowledge limitations, and a forgetting of the self" [Tangey, 2005, p. 411]) may be a transformative outcome of adventure recreation that transfers to participants' daily lives. This transformative account of adventure suggests that experiencing eudaimonic well-being as a result of adventure pre-pandemic may potentially have been a protective factor for maintaining PWB during the COVID-19 context. However, this proposition requires further investigation.

7.1. Limitations and future research directions

While this study analysed in-depth qualitative accounts from participants across distinct adventure activities, these findings may not apply to a wider range of adventure activities or participants (e.g.,

novice participants, non-Western participants). These issues should be examined across a wider range of participants reflecting a wider range of experience levels and backgrounds. Data were also collected during eight countries' 'first wave' of the COVID-19 pandemic (i.e., April and May 2020) and thus reflect experiences during initial governmental restrictions. Thus, these results should be treated with caution in terms of how they may apply to 'non-pandemic' contexts and future research should investigate these results longitudinally in relation to prolonged governmental restrictions. In addition, the concept of 'transfer' in relation to the psychological benefits of adventure has been a key area of investigation in adventure-related research (e.g., Ewert & Yoshino, 2011), and this research contributes to that literature in terms of exploring how an adventure mindset may have transferred to the COVID-19 context. However, future research is needed to explore potential mechanisms underpinning transfer of psychological benefits between adventure and non-adventure contexts. For instance, future studies could explore how different types of adventure (e.g., guided adventures, motorised adventure) may foster distinct psychological benefits, and which adventure activities and environments are most conducive to the development and transfer of resilience.

8. Conclusion

This study extends the adventure literature by illustrating how participation in adventure has the potential to enhance participants' resilience and their ability to maintain PWB across diverse and novel contexts (e.g., the COVID-19 pandemic). Participants identified multiple ways in which an 'adventure mindset' developed in their adventure recreation pursuits helped them cope with restrictions, uncertainty, and negative affect related to the COVID-19 pandemic. While participants reported struggling to cope with the absence of adventure in their lives, they also reported a range of 'silver linings' experienced as a result of these unexpected events. This study highlights the importance of looking beyond adventure benefits strictly related to risk, challenge, or competence, such as the important role of adventure communities, social connections, and connections to nature afforded by adventure. It also suggests that future research should further explore a range of ways through which adventure recreation may support PWB, the necessary conditions to develop these psychological benefits, and how these attributes might transfer to other life domains.

Declaration of competing interest

None.

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