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Literature Review

Teenagers' & Young Adults' Experiences in relation to UK Protected Landscapes

Tania Lemmey, University of Cumbria, January 2025



Commissioned by
University of Cumbria's Centre for National Parks and Protected Areas
and Campaign for National Parks







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Cover image: participants in Campaign for National Parks' Future Leaders course, Dartmoor. Image courtesy of Campaign for National Parks.

Contents

FOREWORD page 4

INTRODUCTION page 5

CONTEXT page 6

METHODOLOGY page 6

KEY EVIDENCE page 7

- (i) Among health and wellbeing benefits of experiencing nature and the countryside, some evidence is specific to teenagers and young adults.
- (ii) Teenagers' and young adults' preferences among outdoor experiences may be influenced by brain development during adolescence.
- (iii) In England, there is robust evidence that nature connectedness dips in adolescence.
- (iv) Young people encounter specific barriers to accessing countryside and connecting with nature and require functioning mechanisms to access opportunities.
- (v) There are many factors in engaging with nature and countryside: young people often face intersectional disadvantages.
- (vi) There is evidence to support specific approaches to social inclusion in countryside recreation and nature experiences.

GAP ANALYSIS page 13

- (i) There is limited academic study in the UK of peoples' experiences of national parks and protected areas, within nature and countryside engagement research.
- (ii) There is a lack of breadth and detail of study of the experiences and preferences of teenage and young adult age groups in relation to outdoor environments, including national parks and protected areas.

CONCLUSION & RECOMMENDATIONS page 14

REFERENCES page 16

FOREWORD

Over the last 20 years there has been an increasing emphasis on addressing the inequalities of opportunities to access to National Parks and National Landscapes with an focus on Teenagers and Young Adults. This is not new – after all the Youth Hostel Association, with the core mission of making the countryside accessible to young people, was founded in 1930 two decades before National Parks came into existence. Perhaps it is no coincidence that there were strong links between the founders of the National Park movement in Britain and the founders of the Youth Hostel Association. Outdoor recreation and access to beauty has been a core purpose of our National Parks from the very beginning.

Now, almost a century after the founding of the YHA, sadly far too many young people still have limited access to the 24% of England that is designated for beauty and nature. Lack of transport, lack of financial means, and limited awareness and influence over policy making and governance all remain barriers to equal access. We still have much to do to ensure our National Parks and Landscapes are places of welcome and opportunity.

As young people working with us have pointed out:

"Connecting to nature, spending time in nature, giving something back to nature is so important to my wellbeing, my happiness, for me it's a basic need.... there are very real financial barriers, very real cultural barriers, it costs to stay in National Parks." Eben

"It's incredibly important for a diverse range of voices to be heard in the National Parks because how else can you enact change for future generations?" Ruth.

"It's integral young people caring about National Parks because we're going to be the generation that need it most, we're in an ecological crisis... It's not a lack of people wanting to go I think, it's accessibility, it's the transport." Rich

"I think it contributes a lot to mental health being out in National Parks, it meant a lot to me growing up and I want to learn how to get people involved in that and advocate for these spaces being available for everyone". Linn

Understanding teenagers' and young adults' experiences is key to addressing the change we would like to see. This literature review brings together research from this area in one document. It has arisen from an informal initiative in England titled 'Team 24%' exploring how we can celebrate and enhance our protected areas for people, nature and the resident local communities. The Centre for National Parks and Protected Areas and the

Campaign for National Parks were delighted to collaborate on this review and express their appreciation to Tania Lemmey from the University of Cumbria for undertaking this review.

Dr Julia Aglionby, Professor of Practice, University of Cumbria

Dr Rose O'Neill, CEO Campaign for National Parks

INTRODUCTION

Policy makers, academics and practitioners recognise the benefits young people may gain from access to the UK's protected landscapes. It is also widely known that access to these places is unequal. Evidence is key to underpinning future actions and interventions. This purpose of this review is to explore and summarise the existing research evidence-base for teenagers' and young adults' experience in relation protected landscapes in the UK and identify where could new research be important.

Campaign for National Parks, an independent charity dedicated to securing the future of National Parks in England and Wales has embarked on a programme of work to further engage young people in its campaigning. They have a history of work with teenagers and young adults, particularly through their Mosaic Youth Project 2009-2016, a programme: 'aimed at introducing people between the ages of 16 and 25 to National Parks whilst building skills, employability and leadership' (Campaign for National Parks, 2024b). In 2024, its New Perspectives programme worked with young people to develop advocacy and leadership skills with opportunities to influence National Park leaders and government decision makers.

University of Cumbria's Centre for National Parks & Protected Areas offers this literature review as a resource primarily to inform Campaign for National Parks in their ongoing work with teenagers and young adults in England and Wales. However, the findings are likely to be also relevant to other organisations engaging with young adults and teenagers in relation to National Parks and National Landscapes across the UK.

CONTEXT

Contemporary challenges in the management of protected landscapes in the UK include competing land use interests, inequity of access, local infrastructure and affordability, funding, state of biodiversity, impacts of climate change and skills shortages in the rural sector which can be compounded by young people leaving these areas (Marshall and Simpson, 2009). Meanwhile, current opportunities in UK protected landscapes include land carbon sequestration, landscape scale nature recovery, diversification of rural economies and development of more inclusive access as potential hubs for the nation's health and wellbeing.

Teenagers and young adults face transformative neurological development in adolescence which presents specific challenges and opportunities as they are particularly motivated by peer relationships, new experiences, emotionally driven learning, autonomy and identity (Hohnen, Gilmour and Murphy, 2020). Typically, this occurs in a context of key external factors in this stage of life, such as leaving full-time education and establishing employment. Today, adolescence is likely to be concurrent with stark awareness of the climate and biodiversity crises and of the increasing impacts these will have on younger generations.

Altogether, this presents a motivation to investigate:

- To what extent are teenagers' and young adults' experiences in relation to UK protected landscapes understood?
- Can the needs and strengths of teenagers and young adults uniquely support current challenges in the management of protected landscapes?
- Can this age group benefit from these places in particular ways which are not fully realised?

METHODOLOGY

Methodology for this literature review included key-word searches of large research repositories (Google Scholar, One Search), ranking of results by relevance (holistic assessment based on factors such as date, location and reliability), grouping into themes within the investigation topic, detailed reading of top-ranked items in each theme, subsequent analysis and supplementary reading of lower ranked items to refine the analysis. The paper has been reviewed and supported by academics at University of Cumbria and practitioners at Campaign for National Parks.

KEY EVIDENCE

(i) Among health and wellbeing benefits of experiencing nature and the countryside, some evidence is specific to teenagers and young adults.

There is a broad evidence base of the health and wellbeing benefits of time in nature-rich places, 'greenspace' and outdoor activities. White et al. (2019) found that spending two hours or more per week 'in nature' is associated with wellbeing benefits, while Richardson, McEwan and Garip (2018) found wellbeing benefits associated with participation in daily nature engagement activities. Bragg and Leck (2017) found "strong evidence of the efficacy of nature-based interventions" (p. 3) in social prescribing for mental health.

The Campaign for National Parks' Mosaic programme in Wales provided evidence of wellbeing benefits attributed to accessing National Parks. This programme focused on the experiences of Black and minority ethnic communities. The programme evaluation involved research conducted via questionnaires and interviews with Community Champions from these communities (Wilson, 2014). Respondents identified feeling more positive, feeling healthier and increasing the amount of exercise they take, after having visited a National Park. 'Overall most respondents felt that the special landscapes in National Parks provide inspiration to use the outdoors more and take more exercise' (p.2). Evidence from interviews also details the benefits to participants' confidence, sense of identity, and community cohesion resulting from their experiences in National Parks (Campaign for National Parks, 2015). Case studies from the programme provide further evidence of health and wellbeing benefits of visiting National Parks for the Community Champions and their communities (Campaign for National Parks, 2024).

Studies also link nature, outdoor and countryside experience with the health and wellbeing of teenagers and young adults specifically. Roberts, Hinds and Camic (2020) conducted a systematic review of research on wellbeing benefits of 'time in nature' for children and young people. For adolescents, they noted increases in self-esteem and confidence and found that improvement in mood was associated with time in nature, particularly when spent with a friend. Increased feelings of competence following outdoor nature education experiences were thought to lead to increased resilience in adolescents. In some cases, negative reactions to certain outdoor settings (woodland, particularly) were found, which the researchers suggest were influenced by parental anxiety about perceived risk of attack and participants' concerns about dirt and insects.

Birch et al (2020) used qualitative methods to explore young people's interaction with urban nature in Sheffield, indicating mental health benefits for some young people including 'a stronger sense of self; feelings of escape; and connection and care with the human and non-human world' (p.1). They also identified barriers such 'lack of peer support to experience nature' (p.8) as well as the maintenance of city greenspace, and affordability of transport.

Wales et al (2022), via literature review, identified three pathways by which outdoor experiences can be beneficial to adolescent wellbeing via physical activity, social life and restorative experience in nature. Studying experiences of 16–18-year-olds in the UK, Greenwood and Gatersleben (2016) found outdoor settings provided faster recovery from stress and mental fatigue than indoor settings and that the company of a friend improved the mental restoration effect of the outdoors substantially.

Natural England (2010), through their commissioned report *Wild Adventure Space: its role in teenagers' lives*, found that experience in 'natural spaces' for this age-group have 'an important role to play in providing teenagers with the opportunities needed for their healthy physical, psychological and social development.' (p.3).

(ii) Teenagers' and young adults' preferences among outdoor experiences may be influenced by brain development during adolescence.

Some existing research literature explores links between nature or outdoor experience and the developmental priorities of adolescence. In terms of brain development, adolescence is considered to extend to around 24 years of age and to begin from around age 10 (Arain et al, 2013). The pre-teen age group is not the focus of the current review. However, it is relevant here that changes in the brain throughout adolescence into early adulthood give rise to specific psychological priorities: "peers, self-identity, independence, emotionally driven learning and novel experiences" (Hohnen, Gilmour and Murphy, 2020, p.28).

Seeking 'novel experiences' can also be understood in terms of risk-taking, and Natural England (2010) emphasised the 'vital developmental need' for 'constructive risk-taking' opportunities for teenagers, and how these may be achieved in natural spaces where young people have some freedoms. Natural England found that young people benefited from these 'wild adventure spaces' through, in young people's own perceptions: keeping

'out of trouble', having 'breathing space', being away from social pressures; enjoying risk and challenge; being inspired by the place to do things and choice to do what they want; places to experience freedom, relaxation and comfort; being without adult supervision, with friends; and where they won't be told to leave.

Owens and McKinnon (2009) found that the types of activities in nature preferred by youth were predominantly recreational, restorative, and social. These activities, and young people's reasons for valuing the outdoor places they favoured, were mapped to developmental benefits in adolescence, including physical development, social responsibility, self-identity, sense of belonging, self-esteem, and social competence. This research, which took place in California, highlights some of the same development priorities as Hohnen, Gilmour and Murphy (2020); namely the importance of peers and self-identity.

Some older research from the USA (Owens,1988) identified place characteristics valued and needed by teenagers, through interviews and literature review. These were, most commonly, within 'natural parks' and 'undeveloped farmland' and having opportunities for: gathering with peers; being alone; freedom; activity; looking out and not be seen, being unsupervised but safe; accessibility; and 'symbolic ownership' (places they can call their own). Some of these qualities are seen in the psychological priorities of adolescence set out by Hohnen, Gilmour and Murphy (2020).

King and Church (2013) argue that "youth interaction with the countryside and nature needs to be understood as part of a wider spatial and practice-based process that involves individual agency over leisure activities, lifestyle and identity formation." This correlates with the adolescent psychological priorities of independence and self-identity noted by Hohnen, Gilmour and Murphy (2020).

(iii) In England, there is robust evidence that nature connectedness dips in adolescence.

Nature connection or nature connectedness can be understood as a measure of psychological affinity with nature, drawing from Mayer and Frantz, 2004. Research by Lumber, Richardson and Sheffield (2017) indicated practical pathways to nature connectedness via 'contact, emotion, compassion, meaning, and beauty'.

Multiple studies present evidence for the importance of nature connectedness for both pro-environmental behaviours (Richardson et al, 2020; National Trust and University of Derby, 2020) and individual wellbeing (Capaldi, Dopko and Zelenski, 2014; Nature

Connectedness Research Group, 2020; Pritchard et al., 2020). Such evidence points to the quality and type of experience in nature or the countryside being important, rather than simply time outdoors or in nature.

Natural England (2020), via their large-scale Monitor of Engagement with the Natural Environment (MENE) survey, 2015 - 2018, found that nature connection was lower for teenagers and young adults than for other age groups, with 13- to 18-year-olds having the lowest nature connection of all the age groups surveyed. Nonetheless, Young Champions involved in the Mosaic Youth Project in Exmoor National Park rated themselves more confident and more in agreement that: 'My relationship with nature is an important part of who I am' (Waite et al, 2016, p.5) after participating in the programme.

(iv) Young people encounter specific barriers to accessing countryside and connecting with nature and require functioning mechanisms to access opportunities.

King and Church (2013), reviewing existing literature, note that young people's frequency of visits to countryside and preferred types of environments are affected by their – unequal – experiences of countryside as children. Barriers identified include costs, travel, time and perceptions of the countryside being boring or dirty.

There is some evidence of the barriers to experiencing national parks and protected landscapes encountered by young people in the UK arising from the Mosaic Youth project. Specifically, Philip-Phillips (2015) identified some of the barriers to young people visiting UK National Parks as lack of rural public transport; lack of access to a car' lack of money (for travel, accommodation, activities): lack of knowledge about National Parks or that they exist; lack of suitable clothing and equipment; and being 'knocked back' due to lack of experience/trust/skill, resulting in lack of confidence.

Access mechanisms for participation outdoor learning, as identified by Harvey (2022), were grouped as: 'knowledge, capital, time, technology, authority, negotiated relationships, social identity' (p. 99). Teenagers and young adults may be underserved in any or several of these access mechanisms, leading to lack of participation.

Waite et al (2023) used focus groups with young people and other methods to understand youth engagement with natural environments outside of formal education. Their analysis highlighted cultural exclusion as well as barriers of economic disadvantage and disability. Waite et al explained that way nature is valued or portrayed by the outdoor sector (providers of outdoor experiences and access to nature) and the "cultural density of traditional sites for engagement with nature, such as residential centres or national

parks...constitute powerful forces that differentially mediate the experience for young people from diverse backgrounds. Where norms run counter to young people's culture, this disjunct may make it less likely that engagement will be sparked or continue in the longer term." (p. 56).

(v) There are many factors in engaging with nature and countryside: young people often face intersectional disadvantages.

Reviewing recent UK research and new data from south Cumbria, Lemmey (2021) identified: "urban residents; people with disabilities; young people; people from minority ethnic groups; residents of areas of high deprivation and people in the lowest income households are under-represented groups in terms of nature connection, nature engagement or access to nature" (pp. 56-57). Previously, Slee, Joseph and Curry (2001) identified that: 'Age, health and disability, socio-economic group and ethnicity all influence participation in countryside recreation'.

Considering access to nature-rich places in residential neighbourhoods, Ramblers (2020) reported that low household income and minority ethnic groups are underserved in terms of proximity, variety and quality of neighbourhood green places. Looking further afield, Boyd et al (2018) identified lack of awareness of how to access nature as an apparent barrier to time in nature, particularly for people in low-income groups.

Having a long-term disability or low socio-economic status have each been found to be strong predictors of being an infrequent visitor to natural spaces (Boyd et al, 2018). Pyer and Tucker (2017) recognise the 'mobility dependency' of teenage wheelchair users: on private transport, adult drivers, availability of adapted vehicles, accompanying carers, associated costs; and how this limits their access to leisure experiences. This UK study also acknowledges the limitations of rural public transport.

In relation to visiting National Parks specifically, Glover et al. (2019) found that people from minority ethnic groups were particularly under-represented in National Parks, both as visitors and employees and that National Parks could at times feel like "an exclusive, mainly white, mainly middle-class club, with rules only members understand and much too little done to encourage first time visitors." (Glover et al, 2019, p. 15). The Mosaic project found that barriers for people of minority ethnicity in the UK to visiting National Parks were broadly grouped as awareness, relevance, concerns, accessibility and skills (Campaign for National Parks, 2012).

(vi) There is evidence to support specific approaches to social inclusion in countryside recreation and nature experiences.

Some literature, while not specific to teenagers and young adults, could have practical applications for these age groups. For example, Slee, Joseph and Curry (2001) reviewed 12 successful projects for social inclusion in countryside recreation in the UK and identified seven significant success factors:

- "That they are community driven (rather than imposed from the top down)
- That the project empowers beneficiaries rather than just provides recreational opportunity
- That increased social cohesion is an objective of the project (whilst respecting cultural diversity)
- That projects are not so much driven by an individual organisation but by partnerships
- That projects are developed not only by countryside managers but also by specialist outreach staff
- That project success is not assessed solely by quantitative indicators
- That projects are effectively marketed." (p.94)

Similarly, Lemmey (2021) conducted interviews with 14 community nature engagement practitioners and made recommendations for practice of inclusive community nature engagement including:

- partnership working, with partners who understand the needs of specific underserved communities,
- place-responsive initiatives,
- addressing intersectional inequities of access,
- developing paid employment opportunities for young people,
- digital innovation to better communicate with underrepresented groups,
- planning within national parks to welcome more new visitors with no prior experience of these areas,
- greater inclusion in practical nature restoration activities,
- pursuing green social prescribing opportunities and group nature

Analysis undertaken by Waite et al (2016) drawing from a range of data from the Mosaic Youth Project in Exmoor National Park highlighted the following successes:

- Residential gatherings encouraged a sense of belonging to the place
- The provision of 'safe space' provided improved social confidence and selfacceptance
- Addressing barriers to access and gaps in youth service provision addressed inequity and invisibility for young people in the National Park
- Purposeful activities supported health and wellbeing
- Employability was increased via several routes
- There was also increased motivation to participate in environmental volunteering
- Trust among networks and partners in the young people's capabilities was increased.
- Time was required to develop meaningful partnerships to support young people

This independent evaluation of Mosaic Youth Project recommended that National Park Authorities should prioritise work with 16–25-year-olds from diverse backgrounds; and 'put dedicated staff time into providing a clear and specific offer to young people about what they can get involved with in National Parks' (Waite et al, 2016, p.7).

Also focusing on young people, MacBride-Stewart, Parsons and Carati (2021) investigated experiences of a facilitated geocaching activity in a UK National Park, with participants aged 11-25 years visiting from a nearby area outside of the National Park, many for the first time. Gamification of exploration of the natural and cultural features of place appeared to be successful: "The cache locations become more than a static compass point; their game-like qualities served as points through which nature and the natural environment became discoverable and fun." (p 226).

The researchers (MacBride-Steward, Parsons and Carati, 2021) identified that there are few organised activities for young people in National Parks which are not overtly educational, and that the participants felt removed from some of their everyday social constraints by being in rural setting. They identified key factors in accessing the activity: accessible gaming technology; provision of suitable footwear (wellies, in this case); and supportive and respectful facilitators.

Contrastingly, King and Church (2013) examined young people's experiences of countryside leisure, and related identity and lifestyle formation, in the context of mountain biking. They noted the importance of access to space where the young people were free from control and guidance and where they could shape their experiences and, to some extent, their environment - in this case by building mountain bike trails.

Waite et al (2023) highlighted the importance of framing outdoor experiences in ways preferred by younger people, for example in focusing on love of nature rather than always

the threats to nature, and on developing nature engagement programmes which offer tangible benefits such as skills, including environmental apprenticeships in areas of high deprivation for young unemployed people, plus improving green social prescribing for mental health of young people. They also indicated the importance of communicating and promoting countryside leisure activities in ways which reflect diverse young audiences and of encouraging independence, choice, freedom and youth leadership.

GAP ANALYSIS

(i) There is limited academic study in the UK of peoples' experiences of national parks and protected areas, within nature and countryside engagement research.

Academic research about people's experiences outdoors tends to be about experiences of countryside, green-blue space generally, urban parks or gardens. There generally seems to be a paucity of 'people and nature' research specific to protected landscapes.

An exception is the research associated with Campaign for National Parks' Mosaic project, detailed above, which includes some academic research and project evaluation (Campaign for National Parks, 2024a. The sample size of the research, being determined by the number of project participants – Community Champions or Young Champions, was relatively small. Therefore, Wilson (2014), discussing the Mosaic programme in Wales, noted: 'It would be useful to gain a better understanding through a broader study sample of the particular benefits that the special qualities of National Parks can bring to health and wellbeing – and to better understand the difference between volunteering in National Park, or getting others involved in it, and simply being in it.' (p.4).

(ii) There is indication of a lack of breadth and detail of study of the experiences of teenagers and young adults in relation to outdoor environments, nature and the countryside.

Recent studies focusing on teenagers' or young adults' outdoors and nature experiences tend to investigate mental health and wellbeing impacts, but do not typically explore impact on environmental attitudes and behaviours, skills and careers, or other impacts of outdoor/nature-rich experiences.

Wales et al. (2022) concluded: "the research related to adolescents' outdoor environments is generally not treated with the same level of importance or as comprehensively as that for younger children" in relation to adolescent wellbeing.

King and Church (2013) argued that: "young people's engagement with nature and the countryside still remains only partly understood because past studies have not examined these interactions as part of a wider process of developing lifestyles and identities linked to youth leisure activities." (p. 67).

CONCLUSIONS & RECOMMENDATIONS

This review of research literature identifies features of the evidence-base relating to teenagers' and young adults' experiences of national parks and other protected landscapes in the UK. The context presents the motivation for understanding and meeting the needs of these young people in relation to protected landscapes.

Learnings from the Campaign for National Parks' Mosaic Youth Project (Campaign for National Parks, 2012; 2015; 2016; 2024a; 2024b) remain relevant, and are supported by a small number of academic studies focusing on youth experiences in UK national parks and analysis of inclusive practice in countryside engagement.

Research focused specifically on experiences of protected landscapes is scarce, whether that be youth experiences or wellbeing impacts more generally. The literature is stronger in related research such as the individual and environmental benefits of access to nature-rich places and of connecting with nature across lifespans; and the intersectional barriers to accessing greenspace, countryside and urban parks.

This review reveals gaps in understanding and evidence which are rich for further exploration and impact. These gaps include teenagers and young adults' perceptions of protected landscapes, the nature of their experiences of protected landscapes at population scale, and their access and their preferences in relation to these landscapes in the UK. Subsequently, there is a lack of evidence of the impacts of UK teenagers' and young adults' experiences of protected landscapes.

Teenagers and young adults are often grouped together. While the experiences of these groups in relation to protected landscapes are poorly evidenced, experiences are also likely to vary widely according to individual circumstances and intersectional challenges or privileges. There are pitfalls to avoid in stereotyping young adults by age, and in categorising young adults 18 – 25 together with teenage children 13-17.

There is scope and justification for new research into:

- teenagers and young adults' perceptions of protected landscapes in the UK
- the nature of their experiences of protected landscapes and how this varies

- their access challenges and bespoke solutions
- their preferences in relation to these landscapes
- impacts of their experiences (or lack of) of protected landscapes
- exploration of possible related benefits: health and wellbeing; sport and leisure; knowledge, skills and careers; identity; nature connectedness; community and culture; environmental attitudes and behaviours
- developmentally suited experiences of the countryside for these age groups.

The diversity of individuals and inequity of experiences within these age groups should be recognised in future research, as well as their typical or general experiences and more likely needs, challenges and contributions distinct from other age groups. Inclusive research designed by, with and for teenagers and young adults would be desirable. New evidence could inform improved equity of access to, experience of, benefits from, and contributions to, UK protected landscapes.

Indicated by this gap analysis, further research could facilitate new data collection and insight in the above areas. Linking with Campaign for National Parks' current programmes of engagement with young adults could provide opportunities to both generate data and inform programme development for participant benefit. Meanwhile, salient points from the review of existing literature could inform programme design right away, supplementing the prior learnings from the Mosaic Youth Project.

REFERENCES

Arain, M., Haque, M., Johal, L., Mathur, P., Nel, W., Rais, A., Sandhu, R. and Sharma, S. (2013) 'Maturation of the Adolescent Brain', Neuropsychiatric Disease and Treatment, 9, pp.449-461. Available at: https://doi.org/10.2147/NDT.S39776 (Accessed: 01 May 2024).

Birch, J., Rishbeth, C. and Payne, S.R. (2020) 'Nature doesn't judge you–how urban nature supports young people's mental health and wellbeing in a diverse UK city', Health & Place, 62. Available at: https://doi.org/10.1016/j.healthplace.2020.102296 (Accessed: 08 May 2024).

Boyd, F., White, M.P., Bell, S.L. and Burt, J. (2018) 'Who doesn't visit natural environments for recreation and why: A population representative analysis of spatial, individual and temporal factors among adults in England', Landscape and Urban Planning, 175, pp. 102–113. Available at: https://www.doi.org/10.1016/j.landurbplan.2018.03.016 (Accessed: 01 May 2024).

Bragg, R. and Leck, C. (2017) Good practice in social prescribing for mental health: the role of nature based interventions. Natural England Commissioned Report 228. Available at: http://publications.naturalengland.org.uk/publication/5134438692814848 (Accessed: 01 May 2024).

Campaign for National Parks (2012) 'Mosaic - Overcoming Barriers to Access' Available at: https://www.cnp.org.uk/wp-content/uploads/2016/03/Mosaic-Legacy-12-BARRIERS.pdf (Accessed: 16 September 2024).

Campaign for National Parks (2015) 'National Parks for Health and Wellbeing: The Experience of Mosaic in Wales' Available at: https://www.cnp.org.uk/wp-content/uploads/2024/03/Mosaic-Wales-National-Parks-Health-and-Wellbeing-paper-May-2015.pdf (Accessed: 10 September 2024).

Campaign for National Parks (2016) 'How Mosaic Works' Available at: https://www.cnp.org.uk/resources/how-mosaic-works/ (Accessed: 16 September 2024).

Campaign for National Parks (2024a) 'The Benefits of Using National Parks' Available at: https://www.cnp.org.uk/resources/the-benefits-of-using-national-parks/ (Accessed: 10 September 2024).

Campaign for National Parks (2024b) 'Mosaic for 16-25 year olds', Available at: https://www.cnp.org.uk/about/our-work/mosaic/mosaic-16-25-year-olds/ (Accessed: 19 July 2024).

Capaldi, C. A., Dopko, R. L. and Zelenski, J. M. (2014) 'The relationship between nature connectedness and happiness: A meta-analysis', Frontiers in Psychology, 5, pp. 1–15. Available at: https://www.doi.org/10.3389/fpsyg.2014.00976 (Accessed: 08 May 2024)

Glover, J. et al (2019) *Landscapes Review: Final Report*. Department for Environment, Food and Rural Affairs. Available at: https://www.gov.uk/government/publications/designated-landscapes-nationalparks-and-aonbs-2018-review (Accessed: 01 May 2024).

Greenwood, A. and Gatersleben, B. (2016) 'Let's go outside! Environmental restoration amongst adolescents and the impact of friends and phones', Journal of Environmental Psychology, 48, pp. 131-139. Available at: https://doi.org/10.1016/j.jenvp.2016.09.007 (Accessed: 08 May 2024)

Harvey, D. (2022) Outdoor learning across the community: The development of progression and ecosystem models to enhance engagement. Thesis, University of Cumbria. Available at: https://insight.cumbria.ac.uk/id/eprint/6542/ (Accessed: 08 May 2024).

Hohnen, B., Gilmour, J. and Murphy, T. (2020) *The Incredible Teenage Brain*. London: Jessica Kingsley Publishers.

King, K. and Church, A. (2013) "We don't enjoy nature like that": Youth identity and lifestyle in the countryside", Journal of rural studies, 31, pp. 67-76. Available at: https://www.doi.org/10.1016/j.jrurstud.2013.02.004 (Accessed: 01 May 2024).

Lemmey, T. (2021) 'Connecting with nature in 2020: who did, who didn't, and why it matters'. Master's dissertation, University of Cumbria. Available at: https://insight.cumbria.ac.uk/id/eprint/6147/ (Accessed: 01 May 2024).

Lumber, R., Richardson, M. and Sheffield, D. (2017) 'Beyond knowing nature: Contact, emotion, compassion, meaning, and beauty are pathways to nature connection', PLoS ONE. Available at: https://doi.org.uk/10.1371/journal.pone.0177186 (Accessed: 08 May 2024).

MacBride-Stewart, S., Parsons, C. and Carati, I. (2021) 'Playfulness and Gameplay: Using Geocaching to Engage Young People's Wellbeing in a National Park', in Xu, F. and Buhalis, D. (eds.) *Gamification for tourism*. Bristol: Channel View Publications.

Marshall, A. and Simpson, L. (2009) 'Population sustainability in rural communities: The case of two British national parks', Applied Spatial Analysis and Policy, 2, pp. 107-127. Available at: https://link.springer.com/article/10.1007/s12061-008-9017-1 (Accessed: 08 May 2024)

Mayer, F. S. and Frantz, C. M. (2004) 'The connectedness to nature scale: A measure of individuals' feeling in community with nature', Journal of Environmental Psychology, 24, pp. 503–515. Available at: https://www.doi.org/10.1016/j.jenvp.2004.10.001 (Accessed: 08 May 2024)

National Trust & University of Derby (2020) 'Noticing Nature'. Available at: https://nt.global.ssl.fastly.net/documents/noticing-nature-report-feb-2020.pdf (Accessed: 08 May 2024)

Nature Connectedness Research Group (2020) *A New Relationship with Nature: what it means and what we can do.* Available at: https://findingnature.org.uk/2020/04/08/a-new-relationship-withnature/ (Accessed: 08 May 2024)

Natural England (2010) *Wild Adventure Space: its role in teenagers' lives*. Publication no. NECR025. Available at: https://publications.naturalengland.org.uk/publication/41009 (Accessed: 10 September 2024).

Natural England (2020) *A summary report on nature connectedness among adults and children in England*. Publication no. JP032. Available at: http://publications.naturalengland.org.uk/publication/6005041314136064 (Accessed: 01 May 2024).

Owens, P.E. (1988) 'Natural landscapes, gathering places, and prospect refuges: Characteristics of outdoor places valued by teens', Children's Environments Quarterly, 5(2), pp. 17-24. Available at: https://www.jstor.org/stable/41514669 (Accessed: 01 May 2024).

Owens P.E. and McKinnon, I. (2009). 'In pursuit of nature: The role of nature in adolescents' lives', Journal of Developmental Processes', 4(1), pp. 43-58. Available at: https://www.researchgate.net/publication/242088357_In_Pursuit_of_Nature_The_Role_of_Nature_in_Adolescents%27_Lives (Accessed: 01 May 2024).

Philip-Phillips, A. (2015) 'Youth Engagement in the National Parks.' Campaign for National Parks. Available at: https://www.cnp.org.uk/wp-content/uploads/2016/03/Youth-engagement-in-the-National-Park-2015-report-Adam-Philip-Phillips.pdf (Accessed: 10 September 2024).

Pyer, M. and Tucker, F. (2017) "With us, we, like, physically can't": Transport, mobility and the leisure experiences of teenage wheelchair users, Mobilities, 12(1), pp. 36-52. Available at: https://www.doi.org/10.1080/17450101.2014.970390 (Accessed: 01 May 2024).

Pritchard, A., Passmore, H., Barbett, L., Lumber, R., Thomas, R. and Hunt, A. (2020) 'The Relationship Between Nature Connectedness and Eudaimonic Well-Being: A Meta-analysis', Journal of Happiness Studies, 21, pp. 1145–1167. Available at: https://www.doi.org/10.1007/s10902-019-00118-6 (Accessed 08 May 2024)

Ramblers (2020) 'The grass isn't greener for everyone: Why access to green space matters.' Available at: https://www.ramblers.org.uk/news/latest-news/2020/september/the-grass-isnt-greener-foreveryone.aspx (Accessed: 01 May 2024).

Richardson, M. et al. (2020) 'The green care code: How nature connectedness and simple activities help explain pro-nature conservation behaviours', People and Nature, 00, pp. 1-19. Available at: https://www.doi.org/10.1002/pan3.10117 (Accessed: 01 May 2024).

Richardson, M., McEwan, K. and Garip, G. (2018) '30 Days Wild: who benefits most?', Journal of Public Mental Health, 17(3), pp. 95–104. Available at: https://www.doi.org/10.1108/JPMH-02-2018-0018 (Accessed: 01 May 2024).

Roberts, A., Hinds, J. and Camic, P.M. (2020) 'Nature activities and wellbeing in children and young people: A systematic literature review', Journal of Adventure Education and Outdoor Learning, 20(4), pp. 298-318. Available at: https://www.doi.org/10.1080/14729679.2019.1660195 (Accessed: 01 May 2024).

Slee, B., Joseph, D. and Curry, N. (2001) 'Social Exclusion in Countryside Leisure in the United Kingdom.' Countryside Recreation Network commissioned report. Available at: https://www.outdoorrecreation.org.uk/wp-content/uploads/old (Accessed: 01 May 2024).

Wales, M., Mårtensson, F., Hoff, E. and Jansson, M. (2022) 'Elevating the role of the outdoor environment for adolescent wellbeing in everyday life', Frontiers in Psychology, 13. Available at: https://www.doi.org/10.3389/fpsyg.2022.774592 (Accessed: 01 May 2024)

Waite, S., Waite, D., Quinn, J., Blandon, C. and Goodenough, A. (2016) 'Mosaic Matters: External Evaluation of the Mosaic Project. Executive Summary' Available at: https://www.cnp.org.uk/wp-content/uploads/2016/03/Final-Evaluation-Executive-Summary.pdf (Accessed: 10 September 2024)

Waite, S., Husain, F., Scandone, B., Forsyth, E. and Piggot, H. (2023) 'It's not for people like (them)': structural and cultural barriers to children and young people engaging with nature outside schooling, Journal of Adventure Education and Outdoor Learning, 23, pp. 54 -73. Available at: https://doi.org/10.1080/14729679.2021.1935286 (Accessed 08 May 2024)

White, M. P., Alcock, I., Grellier, J., Wheeler, B.W., Hartig, T., Warber, S.L., Bone, A., Depledge, M.H. and Fleming, L.E. (2019) 'Spending at least 120 minutes a week in nature is

associated with good health and wellbeing', Scientific Reports, 9(1), pp. 1-11. Available at: https://www.doi.org/10.1038/s41598-019-44097-3 (Accessed: 01 May 2024).

Wilson, S. (2014) Investigating the impact of National Parks on Health and Wellbeing: Findings from a survey of Mosaic Community Champions in Wales. Campaign for National Parks. Available at: https://www.cnp.org.uk/wp-content/uploads/2024/03/140530-lmpact-of-National-Parks-on-Health-and-Wellbeing.pdf (Accessed: 10 September 2024)