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Sustaining outdoor engagement for teenage girls: insights from the Girls Outdoors Study

Wave 2 of a longitudinal mixed-methods study:

Girls Outdoors (GO)

Reciprocal Care for Nature and Wellbeing (JHI-C6-1)

Work Package 2

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Key messages


Creating opportunities for teenage girls to be outdoors

-  **Outdoor engagement was reconfigured rather than uniformly reduced:** Many girls described similar or increased outdoor time, but with shifts from family-led trips towards peer-led ‘hanging out’, evolving play practices, and phone-mediated approaches.
-  **Secondary school structures reshaped daily outdoor opportunities:** Travel by bus or car, lunch queues, school restrictions on movement or acceptable activities, limited green space and reduced outdoor learning reconfigured time outdoors during the school day for many, even when many girls wanted more. Outdoor PE was a notable exception.
-  **Independence increased, but within negotiated boundaries:** Reduced reliance on adult supervision and lifts enabled more independent outdoor time (walking, buses on known routes, spending time alone for wellbeing). However, darker months and ‘out-of-bounds’-spaces (especially rural areas and water areas) continued to limit autonomy.
-  **Peer dynamics became more determinative of outdoor time:** Friends increasingly influenced whether the girls went outside, where they went, and what they did. For some, outdoor time decreased when friends preferred being indoors; for others, ‘outdoorsy’ peer groups enabled more engagement.
-  **Technology remained both enabler and competitor:** Phones supported independence (check-ins, tracking), social connection, and new outdoor practices (music, photos, videos). Several girls valued phone-free immersion during residential, suggesting benefits of outdoor opportunities to ‘disconnect’.

Implications for policy and practice

- **Sustain exposure to nature through early adolescence**
- **Embed outdoor learning meaningfully across the curriculum**
- **Sustain the momentum of Bikeability beyond primary school**
- **Address inequalities in access to formative outdoor experiences**
- **Design organised activities and residential with differentiation and care**
- **Integrate technology as an enabler**
- **Support socially acceptable ways of being outdoors**

Designing outdoor spaces for teenage girls

-  **Quality judgements centred on usability, comfort and social safety:** The girls valued outdoor spaces that were clean, well-maintained, well-surfaced and navigable; had benches and age-appropriate activity options; and did not feel dominated by older teens or boys’ sports. Neglect, litter, vandalism, overgrowth, mud, murky water and poor lighting acted as strong deterrents.

Implications for policy and practice

- **Design outdoor spaces around usability, comfort, and everyday needs**
- **Provide age-appropriate challenge and social infrastructure**
- **Tackle informal exclusion and gendered use of space**

Executive Summary

Wave 2 of the Girls Outdoors study follows the same cohort of girls from Wave 1 living in a large urban area of Scotland. Twenty-one of the original 24 participants took part in Wave 2, now aged 12–13 years (Secondary 1/ 2). This phase of the study explored how outdoor engagement evolves during early adolescence. Data were collected through semi-structured interviews incorporating an adapted River of Life timeline and a photovoice component, in which participants photographed meaningful outdoor experiences and responded to a set of researcher-curated images depicting different types of outdoor spaces. The findings indicate that this stage is not characterised by a simple decline in outdoor activity. Rather, it involves a reorganisation of outdoor engagement - reshaping where girls go, what they do, who they spend time with, and how they experience outdoor spaces - as new routines, social dynamics and developmental changes emerge.

Changing patterns of outdoor engagement (Section 3.1)

Over the 12–18 months since Wave 1, most girls experienced shifts in the timing, location and social nature of their outdoor time. While some described spending less time outdoors, many reported similar or even greater time outside, but in new ways. Outdoor engagement increasingly centred on peer-led activities, including “hanging out”, chatting, taking photos or videos, listening to music, scooting, visiting skateparks, and going for short purposeful walks. Family-led outdoor time, such as weekend walks or nature trips, generally declined, largely due to busier schedules, increased homework, and a preference for spending unsupervised time with friends.

The transition to secondary school reshaped daily opportunities for being outdoors. Longer commutes reduced before-school outdoor time, and school-day routines were affected by factors such as canteen queues, limited greenspace, and restrictions on leaving school grounds. Although outdoor PE often took place outdoors, broader outdoor learning opportunities tended to diminish. At the same time, some girls gained new freedoms, such as walking home, taking buses on familiar routes, or exploring local spaces during breaks and lunch when permitted.

Factors shaping outdoor trajectories (Section 3.2)

Changes in outdoor engagement were shaped by a combination of personal development, social transitions, school structures, family rules, and technology. Many girls described a growing sense of independence, including the confidence to walk alone, navigate known routes, and use public transport. This autonomy was negotiated within boundaries influenced by parents, school policies, and perceived safety.

Peer dynamics became increasingly influential: for some, friends who preferred staying indoors reduced their outdoor time; for others, “outdoorsy” peer groups encouraged greater engagement. Concerns about social judgment – being seen alone, doing something perceived as childish, or entering male-dominated spaces – also shaped decisions about where and whether to go outdoors.

Body-related changes, such as increased tiredness, growing pains, and declining use of outgrown equipment (especially bicycles), further influenced activity patterns. Technology played a dual role: while screens competed for leisure time, phones also enabled independence, coordination with friends, and creative outdoor practices, such as photograph, video making, and listening to music.

External factors, including limited school greenspaces, uneven access to organised activities, and differing family resources, produced widening differences in the types of outdoor experiences girls were able to sustain.

Nature engagement and interest (Section 3.3)

A key aim of the GO study is to develop a broad understanding of teenage girls' engagement and disengagement with outdoor spaces. This includes not only direct interactions with nature (such as wildlife watching), but also mediated and incidental encounters (for example watching nature documentaries or hearing birdsong while walking). Analysis explored patterns in purposeful nature engagement among participants by examining the range of activities and motivations each girl described and what this might suggest about her relationship with nature. This resulted in a provisional categorisation of participants into three broad levels of nature interest: higher, middling, and lower.

Initial findings suggest that relationships between interest in nature, time spent outdoors, and comfort in outdoor environments are more complex than might be assumed. Girls who expressed high levels of curiosity about nature did not necessarily spend more time outdoors, while some who spent significant time outside, often through sport or social activities, showed relatively limited interest in nature itself. Explicitly stating an interest in nature also did not always correspond with behaviour that reflected this interest. Family context appeared to play an important role, with higher levels of interest often associated with parents who actively facilitated outdoor activities and nature-focused experiences. In contrast, experiences such as residential trips and outdoor learning were common across all levels of interest, suggesting that these alone may not determine longer-term engagement. Given the small and self-selecting sample, these findings should be viewed as exploratory, but they provide useful insights to guide deeper analysis in the final stage of the project.

Girls' preference for outdoor spaces and outdoor experiences (Section 3.4)

The girls assessed outdoor spaces through a practical, multi-layered lens, with the value of a place shaped less by the setting itself than by the experiences and activities it enabled. Preferences were influenced by how social, practical, physical and aesthetic qualities combined to make a space usable, comfortable and supportive of the things they enjoyed doing. No single feature was sufficient in isolation; rather, spaces were valued when their different qualities worked together to create opportunities for preferred activities and memorable outdoor experiences.

- **Social comfort:** the girls valued spaces where they could relax with friends without feeling watched, crowded or intimidated. Clean, accessible benches were key social infrastructure.
- **Nature and biodiversity** enhanced enjoyment when it felt comfortable: flowers, trees, wildlife and views were uplifting, but long grass, dense vegetation, spiders, ticks or other 'long-legged' invertebrates reduced enjoyment.
- **Water** was attractive when visibly clean and calm, and off-putting when dark, murky, cold or unpredictable.
- **Ground conditions** were critical everyday determinants: mud, uneven or slippery surfaces and bark surfacing often led girls to avoid places entirely, whereas dry, flat, predictable ground supported movement, sitting, play and socialising.

- **Maintenance** strongly influenced perceived safety and belonging. Litter, broken equipment, graffiti, overgrown edges or poor drainage made spaces feel uncared-for, while tidy, well-kept places signalled welcome and encouraged outdoor engagement.
- **Aesthetics:** flowers, colour, views and healthy plants were appreciated, but only when paired with practical usability; “too pretty” spaces felt restrictive (“nothing to do”).
- **Accessibility** was evaluated as the quality of routes as well as the distance to get to the outdoor spaces. Wide, smooth, well-lit paths and familiar connections enabled independent use; narrow, muddy or poorly lit routes deterred it.

Overall insight

Early adolescence represents a critical juncture at which patterns of outdoor engagement begin to diverge, creating opportunities for inequalities to take root. Engagement does not simply fade; it is either supported or constrained by the micro-conditions of developmental stage, family and social life, educational structures, physical environments and access. The girls highlighted safety, comfort, aesthetics, maintenance of outdoor spaces, and social atmosphere as determinants of whether a place feels not just attractive but usable for preferred activities; somewhere they can move easily, relax, spend time with friends, and engage with nature comfortably.

Wave 2 highlights that supporting sustained outdoor engagement for teenage girls requires attention to their social and developmental needs, the everyday outdoor spaces they navigate, and the broader systems – schools, families, communities – that come together to impact upon their opportunities, confidence and motivations to be outdoors. This report outlines implications for educators, planners, local authorities, and programme providers, highlighting ways to support sustained and equitable outdoor engagement for early adolescent girls.”

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Abbreviations and Definitions

GO	Girls Outdoors
OL	Outdoor learning
Blue space	A type of outdoor space centred on water environments (e.g. rivers, lochs, reservoirs, beaches, coastal areas).
Green space	A type of outdoor space that includes at least some natural elements such as grass, trees, or plants (e.g., parks, gardens, wooded areas).
Outdoor space	Any area located outside, which does not necessarily include natural features (e.g. school playgrounds, town squares, sports courts).
Outdoors	An umbrella term encompassing both outdoor spaces and green/blue spaces.
Quality of an outdoor space	Ability of space to deliver benefits. This may include the physicality of a space (e.g. presence of smooth paths) but also includes how it is embedded in the local area (e.g. transport links), and how the space is used or perceived (e.g. how safe it feels) (Nicholson et al., 2024).

1. Introduction

An overarching and longstanding interest of the Scottish Government is to increase engagement with outdoor spaces. Encouraging, managing and investing in this engagement has cross-sectoral significance across planning, environment, public health, tourism and education. As a result, recreational use is a key consideration in land management decisions, with important environmental and societal implications shaped not just by how often people go outdoors, but by how they experience and interact with nature.

The Reciprocal Care for Nature and Wellbeing project responds to this policy interest by examining how people engage with outdoor environments. It uses the concept of reciprocal nature engagement to move beyond purely utilitarian ideas of outdoor “use”, focusing instead on relationships between people, places and nature (Irvine Brown & Thompson, 2024).

This report presents the key findings of Wave 2 of the Girls Outdoors (GO) study; a longitudinal research study following the same group of girls across three waves of data collection as they move from late primary school (Primary 7) into secondary school. The wider study explores how girls’ relationships with outdoor spaces develop over time, and how everyday routines, social contexts and changing life stages shape their engagement with nature.

1.1 Rationale for the Girls Outdoors study

Spending time outdoors in childhood is linked to a range of long-term benefits, including improved wellbeing, stronger connection to nature, more frequent outdoor engagement, and greater environmental stewardship (Wells & Lekies, 2006; Ward-Thompson et al., 2008; MacLean et al., 2023). Reviews of the evidence also highlight wide-ranging benefits of outdoor experiences for children and young people (aged 3–18), including positive impacts on health and wellbeing, learning, confidence, social relationships and skills, particularly through outdoor learning and education (Christie et al., 2016; Chawla, 2020; MacLean et al., 2023).

However, the evidence base on how outdoor engagement changes during adolescence is relatively limited. Existing studies suggest that young people spend less time outdoors than adults (Oppliger et al., 2019), girls less than boy (Dobson et al., 2019; Colley et al., 2022), and that there may be a decline in engagement during early adolescence, often referred to as a ‘teenage dip’ (Richardson et al., 2019). Given the scarcity of detailed, age- and gender-sensitive evidence, the Girls Outdoors (GO) study takes a closer look at the transition from pre-teen to teenage years to explore whether girls are spending less time outdoors, and how their outdoor engagement might be changing in form, location, timing, and social context during early adolescence. Using a life course perspective, the study examines how outdoor engagement shifts over time and at key transition points, such as the move to secondary school (Elder et al., 2003). By centring girls’ voices, the study provides insights to inform the design, management and delivery of outdoor spaces and experiences that support sustained and meaningful nature engagement amongst teenage girls.

1.2 Aims and objectives of the Girls Outdoors study

The Girls Outdoors (GO) study follows a cohort of girls from late primary school into early adolescence, beginning at age 10–11 (Primary 7) in year one (Wave 1), through the transition to secondary school at age 12–13 (Secondary 1/ 2) in the second year (Wave 2), and age 13–14 (Secondary 2 / 3) in the final year of data collection (Wave 3). The study explores the girls’ lived experiences of engaging (or disengaging) with outdoor spaces with the aims to:

1. Understand and document young females' (non)engagement with the outdoors leading up to and during their pre-teen to teenage years.
2. Identify factors, such as the quality of outdoor spaces, that influence their (dis)engagement.
3. Provide insights to inform policy and practice on the provision and accessibility of safe outdoor spaces for this demographic.

Objectives: This in-depth field investigation pays particular attention to: (i) personal experiences of different outdoor spaces and recreational patterns; (ii) the temporal relationship with and benefits derived from nature; (iii) perceived quality of outdoor spaces; (iv) nature engagement capabilities and care for nature; and (v) identifying the moments of change in life that affect increased/decreased engagement with nature.

To achieve our objectives, we have structured the four-year longitudinal study (2023–2027) into three Waves of data collection. The study employs a developmental design, where methods for Wave 2 were refined based on findings from Wave 1. This adaptive approach built in flexibility, allowing methods and research questions to be adjusted as needed to stay effective and relevant. Each wave is designed to explore specific aspects of outdoor engagement that align with participants' experiences over time. The next section will outline aspects on which Wave 2 has focussed.

1.3 Wave 2 of the Girls Outdoors Study

Wave 1 of the GO study challenged dominant narratives of a simple decline in teenage outdoor engagement, showing instead that pre-teen girls' relationships with nature were dynamic, socially embedded, and shaped by developmental needs, peer dynamics, and the qualities of different outdoor settings ([Schulz et al., 2025](#)). Wave 2 built on these insights by following the same cohort as they transitioned into secondary school and early adolescence.

Wave 2 extended the longitudinal timeline established in Wave 1, with a specific focus on changes in outdoor engagement since the first wave of data collection, conducted between November 2023 and March 2024. The thematic emphasis of Wave 2 was on examining the qualities of outdoor spaces valued by this age group, providing deeper insight into teenage girls' evolving perceptions and preferences that had begun to emerge in Wave 1.

This wave explored changes in how much time girls spent outdoors, where they went, what they did there, who they were with, and how these experiences were valued. By revisiting participants approximately twelve to eighteen months later in May to July 2025, Wave 2 captured how earlier patterns of outdoor engagement were sustained, intensified, or reconfigured as girls gained independence, navigated new social environments, and encountered new experiences and challenges. Rather than treating adolescence as a uniform turning point away from nature, Wave 2 foregrounded the nuances of change, highlighting where outdoor engagement narrowed, where it persisted, and where new forms of engagement emerged. This longitudinal, follow-up approach - revisiting the same participants and examining multiple dimensions of their outdoor engagement - allowed the study to distinguish between disengagement and adaptation, and to identify opportunities for supporting girls' ongoing connection with outdoor spaces during a key period of transition.

1.4 Report structure

The report is structured to guide the reader from context through to conclusions. The introduction outlines the rationale, aims and longitudinal design of the Girls Outdoors study and is followed by a detailed methods section describing the Wave 2 research design, data collection and analytical approach. The main body of the report presents the findings in four parts: changes in outdoor engagement patterns; the factors shaping these trajectories; nature engagement; and the girls' preferences for outdoor spaces and outdoor experiences. The final section draws together the implications of these findings, offering conclusions and recommendations for policy and practice.

2. Research design

Wave 2 examined how girls aged 12-13 (Secondary 1/ 2) engaged with outdoor spaces, building on Wave 1 findings ([Schulz et al., 2025](#)). Data were collected through semi-structured interviews, including the River of Life method, alongside a photovoice approach. These methods were used to explore changes in outdoor engagement following the transition from primary to secondary school, with particular attention to girls' perceptions of outdoor space quality. This section outlines the Wave 2 methodology, including the sampling, research questions, data collection and analysis, validity and reliability and key methodological limitations and strengths relevant to this phase of the study. For full details of the GO study's methodology, please refer to the Methods Technical Report ([Schulz, Banks & Irvine, 2025](#)).

For confidentiality reasons, all names of participants, their family members, friends, other individuals, and place names have been replaced with pseudonyms.

2.1 Sampling and ethical considerations

As this is a longitudinal study, the Wave 2 sample comprised the same cohort of participants recruited in Wave 1, originally 24 girls from a large urban area. Owing to the retention activities implemented between waves, attrition was low, with 21 girls participating in Wave 2 data collection, which took place between April and June 2025.

Informed consent procedures were revisited for Wave 2. Participants and their parents were fully briefed on the aims of the study, the methods used, and any potential risks associated with participation. Consent discussions included clear guidance about the types of topics that might arise during interviews. Participants were reminded that they did not need to discuss anything they felt uncomfortable sharing and were advised not to disclose illegal activities, self-harm, or harm to others. Although such issues had not arisen in Wave 1, the research team recognised that the transition to secondary school could increase the likelihood of sensitive disclosures.

Boundaries and confidentiality were therefore emphasised throughout the consent process, and participants were encouraged to signal to researchers if they wished to pause or redirect the discussion. The research team was trained to manage disclosures appropriately, with established safeguarding protocols in place to respond to any indication of risk to participants or others. This approach aimed to balance participant safety with the creation of a supportive and trusting research environment.

The use of photovoice also required specific ethical considerations. Participants were instructed not to photograph identifiable individuals without consent and to avoid taking images that could be unsafe or inappropriate. As participants reflected on personal experiences through both

interviews and photographs, their emotional wellbeing was monitored throughout the research process, and information about support services was available if required.

2.2 Research questions

Wave 2 was guided by three research questions (Table 1) designed to explore changes in the type, extent, and influences on pre-teen girls' engagement with outdoor spaces. These questions focused on: (1) changes in outdoor engagement since the transition to secondary school, including the evolving personal, social, and environmental factors influencing outdoor (dis)engagement; (2) participants' perceptions of what constitutes good-quality outdoor spaces; and (3) how specific characteristics of outdoor spaces shaped their experiences, interactions, and time spent outdoors. These three questions provided a framework for examining how developmental transitions, everyday routines, and different aspects of outdoor spaces shaped the girls' outdoor engagement during early adolescence.

Table 1: Research Questions Wave 2: Girls Outdoors Longitudinal Study (2025)

	Research Questions Wave 2: Girls Outdoors Longitudinal Study
1	How do transitions and changes since starting secondary school relate to participants' (dis)engagement with outdoor spaces?
2	What do the participants consider to be the qualities of good outdoor spaces?
3	How do certain characteristics of outdoor spaces influence the perceptions, experiences, and interactions with outdoor spaces amongst the participants?

2.3 Semi-structured interview ('River of Life' method)

Similar to Wave 1, the semi-structured interviews used an adapted 'River of Life' method to explore changes in participants' lives and outdoor engagement since Wave 1. Participants were invited to map key events and experiences visually, allowing for a narrative continuation of the timeline established in Wave 1. Interview questions focused on recurring and one-off outdoor experiences over the previous year, and on how engagement had changed following key transitions such as starting secondary school, forming new friendships, or moving home.

The semi-structured format allowed flexibility to follow participants' priorities while ensuring key topics were covered. Throughout the interview, researchers summarised selected points from the participant's Wave 1 interview to support reflection on change over time. Open-ended questions explored how outdoor use had changed, what prompted these changes, and what participants liked or disliked about the outdoor spaces they used. Discussion of likes and dislikes provided a natural transition into the photovoice component of the interview.

2.4 Photovoice

Photovoice was used as a technique to support visual reflection on participants' experiences of outdoor spaces. This approach has been widely used with young people to elicit nuanced accounts of place, experience, and meaning through photography and discussion (Langhout, 2014; Carpenter, 2022; Ward et al., 2023). In Wave 2, photovoice was used specifically to explore participants' perceptions of different types of outdoor spaces. Participants were invited to take photographs during their everyday outdoor activities to capture places and features that mattered to them. Participation in the photography task was optional and instructions were

intentionally open-ended, allowing participants to photograph outdoor spaces they enjoyed, avoided, or felt could be improved.

During the photo-elicited part of the interview, participants selected up to ten of their own photographs for discussion. In addition, researchers introduced a set of curated images representing a range of outdoor spaces and features, drawing on green and blue space quality indicators developed through previous research. A review of green and blue space literature (Roberts et al., 2023), combined with two workshops with green and blue space managers and policy makers in Scotland, generated a long list of 72 indicators of green and blue space quality (Nicholson et al., 2024). From this list, nine indicators were identified by practitioners and policy stakeholders as particularly important but not currently measured in Scottish green and blue spaces. These priority indicators informed the selection of the researcher-curated photographs.

The images were chosen so that at least one photograph represented each of the priority indicators (e.g. biodiversity, accessibility, aesthetics, water quality). Rather than asking participants directly about these indicators, however, the photographs were used as prompts to support discussion and reflection. Discussions were guided by a modified version of the SHOWD framework (Langhout, 2014), focusing on what participants saw, how the space related to their everyday lives, why it felt positive or negative, and what could be done to improve it. As a result, conversations did not always focus explicitly on the specific indicator that a photograph had originally been selected to represent.

2.5 Data analysis

The analysis began with an extended descriptive and familiarisation phase, during which the research team engaged closely with field notes and post-interview debriefs, interview transcripts and the outdoor timeline, along with both participant-generated and researcher-provided photographs. This stage enabled the identification of emerging patterns of meaning across the data and supported the inductive development of themes through iterative engagement with the materials. Drawing on insights generated through this process and informed by the coding framework developed for Wave 1, a preliminary coding framework was developed to guide the subsequent analysis of the Wave 2 data. For the purposes of this report, the coding process was initiated to support the identification and illustration of the themes presented here. A more detailed analysis and further thematic development of the Wave 2 data will be undertaken in the next phase of the project.

2.6 Validity and reliability

A structured and consistent approach was employed across data collection and analysis to support the validity and reliability of Wave 2 findings. Reflexivity was embedded throughout the process, with researchers actively reflecting on their assumptions, values, and potential influences during data collection, analysis, and interpretation.

All participants received the same study information and took part in comparable interview sessions using a consistent interview guide and visual materials. Interviews were conducted using the same methods across participants, ensuring comparability while allowing flexibility for individual experiences. Detailed fieldnotes and post-interview debriefs were maintained to document contextual factors and any minor procedural adjustments. An audit trail was used during coding and theme development to enhance transparency, and thematic saturation was monitored to ensure that key patterns and perspectives within the data were adequately captured.

2.7 Limitations and strengths

Wave 2 also faced limitations related to the reflexive nature of the research process itself. Participation may have influenced girls' perceptions of outdoor engagement: for some, the reflective focus may have heightened interest or motivation, particularly where supported by adults, while for others it may have reinforced feelings of disinterest or discomfort. This highlights the potentially reactive nature of research exploring behaviours, attitudes, and identity as part of a longitudinal study.

At the same time, the diversity of participants' backgrounds and neighbourhood contexts enriched the dataset, allowing for a nuanced exploration of how outdoor engagement varied across suburban environments. The presence of parents during some interviews added value by supporting participants' confidence and, in some cases, helping to clarify or extend the girls' accounts. For some participants, this supportive dynamic likely enabled deeper and more sustained discussion than might otherwise have been possible.

Importantly, the study foregrounded the voices of an often-underrepresented group in environmental and planning research. By centring the lived experiences of teenage girls in urban contexts, Wave 2 contributes valuable insight to inform more inclusive and gender-sensitive approaches to outdoor space design, management, and policy. While the findings are not intended to be statistically generalisable, they offer an important, context-rich understanding of the factors shaping teenage girls' outdoor experiences and provide a strong foundation for future research and practice aimed at supporting teenage girls' engagement with nature.

3. Key findings

Section 3 presents the key findings from Wave 2 of the GO study, addressing the research questions outlined in Section 2.2 and reiterated below. The section focuses on the patterns emerging from the data, highlighting key changes in outdoor engagement patterns since Wave 1 when the participants were in Primary 7, influences that may underpin these changes, levels of nature engagement, and preferences for outdoor spaces and experiences. The findings presented here concentrate on those most significant for understanding girls' outdoor engagement at this stage of the study.

Research Questions:

1. How do transitions and changes since starting secondary school relate to participants' (dis)engagement with outdoor spaces?
2. What do the participants consider to be the qualities of good outdoor spaces?
3. How do certain characteristics of outdoor spaces influence the perceptions, experiences, and interactions with outdoor spaces amongst the participants?

• Section 3.1: Changes to outdoor engagement patterns

Section 3.1 addresses some of the changes that have taken place in the girls' lives. Wave 2 of data collection offered a snapshot of changes that have taken place in the last twelve to eighteen months. This is in contrast to Wave 1, which captured changes across the participants' life courses to date. Wave 2 data reveal a dynamic reshaping of outdoor engagement patterns during a key transitional year. **Section 3.1.1** outlines the main changes, examining both the amount of time spent outdoors and shifts in the character of outdoor engagement: where participants

spend time, what they do, with whom, and when. Changes within school context are then considered, with a focus on outdoor learning in **Section 3.1.2**.

- **Section 3.2: Factors shaping participants' outdoor trajectories**

Section 3.2 considers the potential drivers underpinning these changes, providing an account of why outdoor engagement shifts during early adolescence. This section is organised into four sub-sections. **Section 3.2.1** explore the girls' experiences with residential, camps, and outdoor activity centres. **Section 3.2.2** focuses on personal and social transitions, including growing independence, changing bodies, evolving interests, and shifting peer relationships that increasingly shape when, where, and with whom girls spend time outdoors. **Section 3.2.3** then explores external factors, such as school structures, household routines, organised activities, pets, and the practical affordances and constraints of different environments. These structural conditions influenced whether girls had opportunities, capacity, or motivation to be outdoors in their daily lives. Finally, **Section 3.2.4** examines the role of technology, highlighting phones as both a competing draw on leisure time and a key enabler of independence, safety, navigation and new outdoor practices.

- **Section 3.3: Nature engagement and interest**

Section 3.3 then turns to the girls' nature engagement and levels of nature interest, adding an additional layer to the understanding of outdoor trajectories. This section introduces the study's approach to conceptualising nature engagement, including direct, mediated, and incidental forms. It describes how participants were grouped into higher, middling, and lower levels of nature interest based on the motivations and types of nature-related activities they described. Using a lens of nature engagement capabilities, the characteristics of each level are then described, alongside the activities associated with them (from purposeful wildlife watching and collecting, to photography, to more minimal or facilitated engagement), as well as the potential formative influences that may underpin these interests, such as family practices, school experiences, or significant outdoor moments. Section 3.3 also highlights important nuances, such as the distinction between being "outdoorsy" without being "naturey," and vice versa, and sets up questions to be explored more fully in Wave 3, including whether early experiences and opportunities shape nature engagement pathways over time.

- **Section 3.4: Girls' preferences for outdoor spaces and outdoor experiences**

Section 3.4 explores the girls' preferences for outdoor spaces and the types of outdoor experiences they seek, avoid, or find meaningful. Drawing on both participant-generated photographs and researcher-provided images, this section explores how girls evaluate different outdoor settings, what features they find appealing or off-putting, and how these preferences intersect with the routines, constraints, and developmental changes described earlier in Sections 3.2 and 3.3. The aim of this section is to provide an account of how girls judge the 'quality' of outdoor spaces and outdoor experiences. The section is organised into seven thematic sub-sections. **Section 3.4.1** considers the role of social indicators, including the importance of benches and social infrastructure, the influence of peer presence and behaviour, and how safety and comfort are interpreted through the social atmosphere of a place. **Section 3.4.2** focuses on nature and biodiversity, outlining how wildlife, vegetation, seasonal colour, and opportunities for exploration influence enjoyment, and how discomfort with certain animals or dense vegetation can deter outdoor engagement. **Section 3.4.3** examines water quality from the girls' perspective, highlighting how visual cues of cleanliness, calmness, or risk influence whether girls approach, enter, or spend time near water. **Section 3.4.4** addresses soil

and ground conditions, showing how everyday features such as mud, surface predictability, and drainage strongly affect the girls' comfort and willingness to stay in a place. **Section 3.4.5** explores maintenance, detailing how signs of care - or neglect - inform the girls' perceptions of welcome, safety, and usability. **Section 3.4.6** discusses aesthetics, including the value placed on colour, scenery, views and variety, and how visual beauty interacts with perceptions of functionality. Finally, **Section 3.4.7** examines accessibility, including proximity, walkability, surface quality, lighting, seating, and the social and emotional conditions that impact on how reachable or usable an outdoor space feels.

For confidentiality reasons, all names of participants, their family members, friends, other individuals, and place names have been replaced with pseudonyms.

3.1. Changes to outdoor engagement patterns

3.1.1. Changes to the amount and character of time spent outdoors

When questioned about changes to the amount of time they were spending outdoors compared to the previous year, responses from the participants were varied. Many girls described similar or increased amounts of outdoor time but noted that the character of this time had changed. In other words, they were spending similar amounts or more time outdoors but in different places, doing different things, with different people, at different times. Conversely, some girls did think they were spending less time outdoors overall. For example, Raya described a shift towards more indoor time after school, playing games online or reading, and less time outdoors with the family at the weekend due to other commitments. A brief summary of the kinds of changes described and examples of reasons for these changes are presented in Table 2. Table 3 presents illustrative examples of key continuities in and changes to the character of participants' outdoor engagement since Wave 1. These are organised around three interrelated dimensions: with whom they spend time outdoors, what they do outdoors, and where they spend time outdoors. The table demonstrates some key insights.

Table 2: Changes to the amount of time spent outdoors as described by participants, as compared to Wave 1

When?	What are the changes?	Example reasons for increased time	Example reasons for decreased time
Before school	Generally less time spent outdoors.	None	<ul style="list-style-type: none"> • Not walking to school as secondary schools further away from home • More time spent getting ready for school • Not playing in the playground in the morning • Going straight to registration or the canteen in the morning
During school	Generally the same amount of time spent outdoors but structured differently.	<ul style="list-style-type: none"> • Being outdoors at lunchtimes and breaks • More outdoor PE • Appealing school grounds • Ability to leave school grounds and visit local playparks and shops 	<ul style="list-style-type: none"> • Less outdoor learning (except for PE) • Long queues in the school canteen • Choosing to be indoors at breaks (e.g., in canteen, at lunch clubs) • Limited desirable outdoor space within school grounds and lack of adequate infrastructure in school grounds (e.g., benches, shelters) • Not being allowed to leave school grounds • Prohibition of certain activities
After school	More, less, or the same amount of time outdoors. This time structured differently.	<ul style="list-style-type: none"> • Walking home from school • More time with friends in local playparks • Going for walks alone or with friends • Dog walking as a social activity • New outdoor hobbies • Being allowed to stay out longer 	<ul style="list-style-type: none"> • More time indoors on phones, tablets, and gaming consoles • More time watching TV • More homework • More indoor interests or extracurriculars
Weekends	More, less, or the same amount of time outdoors. This time structured differently.	<ul style="list-style-type: none"> • More time with friends in local playparks • Fitness habits (e.g., getting steps in) • Dog walking as a social activity • New outdoor hobbies • Being allowed to stay out longer 	<ul style="list-style-type: none"> • More time indoors on phones, tablets, and gaming consoles • More time watching TV • More homework • More indoor interests or extracurriculars • Fewer outings or trips with parents
Holidays	Generally the same amount of time spent outdoors, structured similarly.	N/A	N/A

Table 3: Illustrative examples of changes and continuities in the character of outdoor engagement compared with Wave 1

Outdoors with whom?	Doing what?	Where?
Child-led activities and play with friends <i>Mostly increasing</i>	<ul style="list-style-type: none"> ↑ Activities increasingly social and outdoor spaces used for ‘hanging out’ (including activities such as chatting, taking photos, recording dance videos, and listening to music) ↑ Exploring new places ↑ Park equipment in local playparks used similarly ↑ Emerging activities and interests include scooting, skateboarding, tanning, fitness activities, walking with friends, and walking alone with music ↑ Football reemerging as an interest, despite structural barriers ↓ Running and hiding games less popular but still present ↓ Play equipment in gardens continuing to be used less ↓ Cycling and bike play continuing to decline ↓ Imaginary play continuing to decline, with some exceptions ↓ Getting dirty or exposure to ‘bugs’ becoming more actively avoided, with a few notable exceptions 	<ul style="list-style-type: none"> ↑ Local playparks, greenspaces, and non-nature outdoor spaces around local neighbourhood ↑ Local playparks, greenspaces, and non-nature outdoor spaces around school ↑ Skateparks ↑ Town centre ↑ Beach area ↑ Places with social infrastructure, such as benches to sit and eat ↑ Places with broad activity potential, e.g., open flat spaces for active play, play equipment, trees to climb, views to take photos of → Gardens (social activities replacing play)
Parent-facilitated outdoor time <i>Mostly decreasing</i>	<ul style="list-style-type: none"> ↑ Outdoor time with parents while on holiday ↓ Long-distance walks and other family trips to nature spaces (often at weekend) continuing to decline, with some notable exceptions ↓ Family activities in the garden, e.g., gardening, continuing to decline 	<ul style="list-style-type: none"> ↑ Nature spaces abroad ↓ Large city parks and urban/rural nature spaces ↓ Gardens
Organised activities <i>In flux</i>	<ul style="list-style-type: none"> ↑ Organised football emerging as a strong interest for some, despite structural barriers ↑ Less competitive sports and environments emerging as appealing for some → Organised outdoor activities (such as sports clubs) in flux as tastes change and new interests emerge 	<ul style="list-style-type: none"> → Sports fields and other similar areas (in flux as interests change)

Outdoors with whom?

Regarding changes to the character of outdoor time, a number of patterns identified in Wave 1 persisted into Wave 2 and continued to evolve. The shift away from spending time with parents outdoors and towards spending more time with peers continued, with many girls spending increasingly more time with their friends. When asked if she was spending more or less time outdoors compared to the year before Josie explained *“I don’t know. Probably about the same, ‘cause last year we also went on like weekly hill walks... I mean, I feel like... No, now, after school, I go out with my friends more, definitely.”* (Josie, 2025). Time spent with parents outdoors was also being impacted by busy schedules, with Avery, Raya and Katy describing how organised activities, other commitments, and the need to rest at the weekend meant there was less time for family walks in nature. Other ways in which this time was being reconfigured in some cases was a shift towards dog walking with friends instead of with parents.

Outdoors where?

As in Wave 1, this shift in social dynamics was generally accompanied by a favouring of playparks and other outdoor spaces within walking distance of home or school. As described in more detail in Section 3.3., while not always available close to home, the girls showed preference for spaces with social infrastructure (e.g., benches) and diverse activity potential (e.g., equipment to play on, open flat space for running/gymnastics, trees to climb). While outdoor spaces close to home were most commonly used, increasing independence meant that the girls were also beginning to explore places further away from home without adult supervision, including the town centre and beach area.

Outdoors doing what?

For some there was a marked shift towards social activities, often involving phones, over active play. Amy explained that she liked her local park because *“Well it’s because when my friend is there it just means we get to chill and chat, whatever we want to do”* (Amy, 2025) and when asked by her parent what else she did other than *“sitting yapping”* (Amy’s parent, 2025) she explained *“Well we do mess around making ... Well, yeah, we have TikToks and all that, we do make videos at all that”* (Amy, 2025). Misty explained how school breaks were *“mainly just chatting”* (Misty, 2025) describing in more detail that *“At break I normally just hang out with my friends, I have a chat with them and see what’s happened with their day, with their week and stuff, and just have food, and then we go to our next class.”* She described that at lunchtimes, she and her friends would *“mainly hang about”* and when questioned what this involved explained *“It’s like chilling and having our lunch, and sometimes my friend is on her phone, mainly listening to music. She’s that one who loves music and starts dancing to it, so yeah, we sometimes to that.”* (Misty, 2025). Active play such as tag (e.g., Brittany), tree climbing (e.g., Tigger), rolling down hills (e.g., Josie), and ball games (e.g., Katy), was still present for many, though in many cases declining relative to more sedentary social activities. Some forms of play and other activities continued in heavy decline, such as imaginary play (with a few exceptions, e.g., Lola, Luna, Josie), cycling/bike play (with a few exceptions, e.g., Charlie, Jackie), and garden play.

At the same time as it was possible to observe trends from Wave1 evolving, the girls also described a number of novel ways in which they were engaging with the outdoors. While cycling was in decline, scooting appeared to be growing in popularity, with Amy noting *“I don’t cycle anymore; I have a scooter”* (Amy, 2025). Max, who also stopped cycling, had recently acquired both a scooter and a skateboard, and, like a number of other girls, was beginning to spend time at a local outdoor skatepark. Another emergent social activity was tanning, with Tigger favouring outdoor places with the highest tanning potential and explaining *“Normally at lunches or breaks me and my friends go outside and we sit on this hill and we tan when the UV is above seven”*

(Tigger, 2025). Another activity of significance to a number of girls was going for walks alone, often with music and along specified routes. For example, Avery explained that she would go *“Sometimes after school, sometimes maybe seven o’clock or something like that, at night... Listen to my music and just sort of ...walk along.”* (Avery, 2025). Tigger thought she might be spending more time overall outdoors because she was going on more walks by herself after school (while getting “me time” and her steps in). Purposeful walks with friends were also becoming part some girls’ outdoor repertoire, with Josie describing *“I have a river really close to my house, we go out on walks there.”* (Josie, 2025).

Another way of engaging with the outdoors was through clubs and organised activities, whether competitive team sports (e.g., football, cricket), individual competitive sports (e.g., tennis, running), non-competitive clubs and activities (e.g., horse riding, Guides, Scouts). This was an area in major flux as the girls moved into new physical and social spaces via the transition to secondary school, being exposed to new experiences and influences. While these shifts were deeply entwined with the idiosyncrasies of each girls’ life, of note was the re-emergence of organised football as a strong area of interest for some, as well as the emergence of volleyball as a new interest (through exposure in PE), with some girls actively seeking out opportunities to play as part of a team (e.g., Tigger, Poppy, Ivy).

3.1.2. Key changes to outdoor learning

This section compares the girls’ perceptions of outdoor learning (OL) provision against those which they described in Wave 1. It should be noted that the variety of OL experiences described in Wave 1 were drawn from across the participants’ entire early years and primary school experience. Indeed, many of the girls received little to no OL provision in Primary 7, with the exception of some seasonal outdoor physical education (PE).

The accounts of OL described in this section draw from experiences of any learning that took place outdoors across ten different secondary schools. As demonstrated in Table 4, the examples of OL described by the girls demonstrate limited planned or progressive OL opportunities at secondary school. Although many participants recalled instances of learning taking place outdoors, these were described as infrequent and opportunistic (with two notable exceptions). Charlie described occasionally going outdoors with various subjects but that *“it would just be outside because it was a nice day.”* (Charlie, 2025). Luna quipped *“We did that once because there was a bee in the classroom”* (Luna, 2025). The main exception to this pattern was outdoor PE, which many participants reported as commonplace in all weather conditions.

The subject which appeared to deliver the most OL (aside from outdoor PE) appeared to be interdisciplinary learning (IDL) classes, often framed around Health and Wellbeing or Home Economics. Katy, whose IDL class was more active than most, estimated they had been outdoors approximately four times in her first year of secondary school. Not all schools appeared to offer these classes, but the girls described a wide variety of activities within the IDL remit, including sports, games, planting wildflowers, team building activities, cooking outside, shelter building, litter picking, taking photos, trips to nature spots, and water fights.

Overall, while most girls appeared to enjoy and value OL experiences, they perceived a reduction in time spent outdoors with class teachers compared to their primary school experience. Tigger observed *“It was more in primary school you’d go out for outdoor learning”* (Tigger, 2025). Chick, who had received dedicated OL at primary school from an OL practitioner noted *“There is a lot less of it, to be fair”* and when asked if that was okay responded *“No. I like being outdoors”* (Chick,

2025). When asked if she ever went outdoors with her standard school subjects, Lola negated with *“I have all the boring teachers”* (Lola, 2025).

There were two exceptions to this overall pattern. One school offered a class named “Outdoor Learning”, with both an indoor and outdoor remit, the latter described as “mapping activities”. Outdoor time with subjects like Gaelic, art, maths, and science also appeared to be somewhat more frequent than at other schools. Additionally, OL in the form of free play and bushcraft appeared to form a core part of additional support needs provision. Notably, this school had access to large and varied greenspaces.

Another exception to this pattern was Daisy’s school. Daisy had recently moved to live in a different local authority and described going outdoors with multiple subjects, with her parent noting *“They do have them out a couple of times a week. I am impressed with that school ... (it’s) much more so than she had at [her primary school]”* (Daisy’s parent, 2025).

Table 4: A comparison of the kinds of outdoor learning described by participants in Wave 2 with those described in Wave 1

Type of outdoor learning described in Wave 1	Examples from Wave 1	Examples from Wave 2
Learning outdoors	<ul style="list-style-type: none"> • Physical Education • Numeracy/maths (e.g. car counts) • Spelling with chalk • Shape art with chalk • Science experiments outdoors 	<ul style="list-style-type: none"> • Increase in outdoor Physical Education for some participants • Going outdoors occasionally as part of interdisciplinary learning classes, including Home Economics and Health and Wellbeing, for some participants • Limited and opportunistic outdoor time in other subjects
Learning outdoors with elements of nature engagement	<ul style="list-style-type: none"> • Numeracy/maths, including times tables with sticks • Literacy using snow angels as inspiration • Art, including nature drawing and crafting with natural materials 	<ul style="list-style-type: none"> • Use of nature as inspiration within art classes
Learning outdoors explicitly about nature and the environment	<ul style="list-style-type: none"> • Learning about trees and forests in local outdoor spaces • Gardening • Learning about local rivers • Learning to identify nature, like birds, trees, insects, and plants • Litter picks in the local area • Learning about coordinates and mapping 	<ul style="list-style-type: none"> • Subject-based field trips, e.g., geography or biology • Trip to a city farm for interdisciplinary learning • Biology outdoors, e.g., using quadrats or pitfall traps • Wildflower planting with local rangers • Litter picking • Coordinate and mapping
Learning outdoors through play (free and adult-led)	<ul style="list-style-type: none"> • Loose Parts play in playgrounds or school gardens • Bushcraft play, nature play, and other free play in school gardens • Running games • Choices of sports activities during reward time • Scavenger hunts 	<ul style="list-style-type: none"> • Free play outdoors, for example, during Activities Week • Free play and bushcraft during Support for Learning classes
Class trips to local nature spots	<ul style="list-style-type: none"> • Class trips to local beaches, estate gardens, and city parks, often at the end of term, with a focus on play 	<ul style="list-style-type: none"> • Trip to the beach at the end of term
Bikeability	<ul style="list-style-type: none"> • P6/7 cycling proficiency 	<ul style="list-style-type: none"> • Not present

3.1.1. Summary

Participants described a range of changes to the amount and character of their outdoor time following the transition to secondary school. While many girls felt they were spending a similar or greater amount of time outdoors overall, this time was often structured differently across the day and week. Outdoor time before school had generally decreased, while time during school was shaped by new routines, school rules, few opportunities for OL, and the nature of available outdoor spaces. After school and at weekends, outdoor activities appeared more varied and influenced by changing interests, increasing independence, and social dynamics. Across the dataset, there was a continued shift away from parent-facilitated outdoor time towards more peer-led activities, with local playparks and neighbourhood spaces remaining central locations for outdoor engagement. Activities in these spaces were increasingly social in nature, often centred around talking, listening to music, and creating content on phones, although active play and organised sports remained present for some participants.

Taken together, these accounts suggest that while structured OL opportunities appear to decrease for many girls following the transition to secondary school, interest in and enjoyment of outdoor experiences remains strong. This suggests that, at this age, many girls remain open to engaging with outdoor environments, even where their everyday outdoor activities are increasingly reconfigured by social dynamics, school structures, and competing interests.

These reflections highlight a potential opportunity for schools to support sustained engagement with the outdoor during early adolescence through OL. The OL experiences most positively recalled by participants across Wave 1 and 2 tended to emphasise free play, bushcraft, teamwork, and hands-on environmental learning. Such approaches may offer particularly effective ways of maintaining interest and engagement if embedded within ongoing OL provision rather than delivered as isolated experiences. In this sense, the transition to secondary school may represent a key moment at which thoughtfully designed OL programmes could play an important role in sustaining and developing young people's relationships with outdoor spaces.

3.2. Factors shaping participants' outdoor trajectories

As participants progress through secondary school, their engagement with the outdoors continues to be shaped by a combination of personal, social, environmental, and technological influences. As in Wave 1, changes in behaviour and attitudes towards outdoor activity were rarely attributed to a single cause; instead, the girls' accounts reflected a convergence of influences that varied across individuals and contexts.

3.2.1. Residential, camps, and daytrips to activity centres

Wave 1 data collection took place during the period when many girls were preparing for their Primary 7 residential trips. Some had already attended and reflected on these experiences during Wave 1, while others discussed their expectations and preparations ahead of the trip. For those who had not yet attended, their subsequent experiences were captured during Wave 2. Consequently, Wave 2 data collection included participants' reflections on their P7 residential, alongside a small number of Secondary 1 residential/activity centre experiences, as well as reflections on Guide/Scout camps and other similar contexts.

In keeping with Wave 1 findings, these experiences appeared to play an important role in exposing participants to novel natural environments, challenges, and social contexts, and were described in broadly positive terms. *"Yeah it was good. Got quite a bit of opportunity to do some new things that I haven't really done before and just connect with my peers a bit more better"* explained Avery

(2025). Katy noted *“Yeah, it was really fun. I just wish we could have been there for a bit longer”* (Katy, 2025). Tigger illustrated the value of such experiences in developing capabilities for ongoing nature engagement: when asked to consider a photo of murky brown river water and whether it might put her off getting in, she responded *“No. I mean, water’s water. It’s what you’d expect in Scotland. In Loch Fesh, when I went in Primary 7, the water was like that and we went paddleboarding”* (Tigger, 2025). Consistent with data from Wave 1, high value was attributed to spending time with friends away from the home environment, fire making, new activities, and eating outside together.

Although residential experiences were largely framed positively, participants also described some more challenging aspects. Josie reported being pushed beyond her comfort zone by an outdoor instructor: *“Oh, the paddle boarding and the canoeing! The instructor kept on targeting me, going up to me and flipping my boat over! It was just me! I was the only one getting flipped over!”* Josie (2025). This kind of experience was not exclusive to residential settings and was echoed by a number of participants in relation to activities led by adult men (e.g., Avery, Daisy).

Discomfort associated with accommodation at residential activity centres was also noted within Wave 2 findings. Participants described facilities as basic or uncomfortable, with some reporting concerns related to cleanliness and the presence of insects. Bambie issued a particularly damning assessment of her lodgings, initially stating that she had hated the entire residential, but then going on to explain that while the activities were good, the accommodation *“...was, like, disgusting and there was an ants’ nest under my friend’s pillow. And there was a wasp’s nest in the bathroom and the light didn’t work, so we were in the dark, and there was no clock and it stinked”* (Bambie, 2025). Josie was equally unimpressed, noting that all six showers broke while they were there and that *“...we had really small cabins to fit in four people; it was just bed, bed, bed, bed and just like a tiny space to put your bags and that’s it. And the beds, on the lower bunks that I went, it’s literally a mattress on the floor, like that”* (Josie, 2025).

3.2.2. Personal and social transitions

Wave 2 showed that personal and social transitions played a central role in reshaping participants’ outdoor trajectories. Changes were driven not by a single factor, but by the interaction of blossoming selfhood, growing independence from parents, and evolving and sometimes tumultuous peer relationships, in combination with a variety of developmental factors.

Continued development of self

- **Ongoing development of selfhood**, with an expanding and evolving range of indoor and outdoor interests, personal expertise, preferences, self-knowledge and habits that were increasingly shaped by influences beyond the family, including peers, media, and wider social contexts. This was demonstrated, for example, through the horse-riding expertise being developed by Josie, independent of her parents, or Poppy’s strong interest in becoming involved in volleyball after experiencing the sport in PE.
- **Increasing self-determination in when and how time is spent**, operating as more autonomous beings within the family, driven more by own interests and needs, enabled by growing capacity to self-mobilise without adult support (e.g. no longer requiring rides from adults or chaperones) and to venture further from home. This was illustrated in a number of examples where girls would independently make or change plans, sometimes forgetting to inform parents (e.g., Raya, Charlie).

- **Desire for novelty and an appropriate level of challenge** within outdoor spaces and activities, with girls expressing boredom regarding oft-visited places: *"I know it...like, before I could like look at different stuff; I just know the views, I know everything, just... The tower, I've been up it so many times, I'm just...I'm not bothered to go up it anymore"* (Josie, 2025). Frustration was also expressed when activities were not well pitched *"Well, I quit because they were just repeating the same things, because people kept joining"* (Daisy, 2025).
- **Increasing sense of responsibility and care for others**, including accommodating the needs of peers, or taking on responsibilities within other social settings (e.g. church groups or clubs), mediating decision making around outdoor engagement. Tigger explained that she would stay at school with her friends if *"...they're waiting to be picked up, yeah, and if it's cold and they're waiting for someone, I'll wait with them because I don't want them to be alone in the cold. Might as well be with someone in the cold"* (Tigger, 2025). Detina explained *"I also have a few friends who, they tend to stay inside because they get bullied a little bit, so sometimes I also stay with them"* (Detina, 2025).
- **Increasing desire for orderliness, predictability, and cleanliness**, brought into relief by increasing aversion to 'things in the wrong place' (e.g., dirt on good clothes, plants perceived as nuisance plants) and fear of unpredictable nature (e.g., insects, birds, crabs). Avery's parent laughed *"I've got a picture of you eating seaweed! And like exploring rockpools when you were tiny, and now she's freaking out about crabs!"* (Avery's parent, 2025). Avery acknowledged that she wasn't very sure why she was scared of crabs just *"...creeps me out now"* (Avery, 2025), though did concede that perhaps it was the fact that it was hard to predict their movements and behaviour.
- **Increasing awareness of and concern for safety in outdoor spaces**, encompassing both physical and social factors, with many girls acutely aware of *"sketchy people"* (Tigger, 2025) and feeling more comfortable in slightly busier environments (Poppy, 2025). When asked if she would go out without mobile coverage, she responded *"I definitely wouldn't want to go if I'm not able to have physical connection with like my mum or anything"* (Amy, 2025).
- **Increasing salience of physical appearance**, reflected in more time spent on morning routines (e.g. hair and make-up), interest in tanning, and engagement in aerobic exercise or strength training (e.g., Julia, Lola, Tigger, Charlie).

Independent outdoor engagement

- **Reduced reliance on parents for transport and chaperoning**, particularly for shorter journeys and familiar routes (with the exception of school commutes).
- **Increasing confidence in using public transport independently**, typically within agreed boundaries, such as specific routes to school or into the town centre. Ivy would frequently get the bus into town to go shopping and get McDonalds with her friends, while Charlie would take the bus to school every day and use the bus to get to the beach and town.
- **Ongoing negotiation of boundaries around unsupervised outdoor time**, generally described as amicable and evolving over time. Raya's parent explained *"So this was a learning curve for me. It's like, 'I need to let them out. I need to let them go,' d'you know what I mean?"* (Raya's parent, 2025).
- **Certain outdoor spaces remaining perceived as 'out of bounds' without adults**, even where this was not explicitly stated, including rural areas and places near water. Amy's parent still would not let her venture down to the local river by herself: *"I just think the [river] and stuff, and kids messing about, one slip and it's...it just gives me the fear of it and"*

I don't really mind going down there with them, it's pretty nice to sit there of an evening, you get to paddle about and swim" (Amy's parent, 2025).

- **Seasonal reductions in independent outdoor time**, with darker months limiting opportunities for unsupervised outdoor activity. Lola's parent expressed that they were *"...a bit concerned you walking past that school on the way home when it gets dark nights again, I don't think you'd better take that route" (Lola's parent, 2025).*

Social relationships

- **Significant social transitions associated with entry to secondary school**, including the formation of new friendship groups across school and extracurricular settings. All girls described the formation of new friend groups as they moved into secondary school, with these groups often being more dispersed across the city compared to primary friend groupings. *"Actually, I hang out with like a completely different friend group"* realised Charlie (2025) after being questioned about this. Many girls also described having multiple, distinct peer groups across these contexts.
- **Emergence of new social contexts**, such as school, clubs, outdoor spaces further afield, contributing to expanded geographies and a broader range of outdoor interests.
- **Increasing social mediation of outdoor spaces and activities**, with choices often shaped more by friendship group than by the characteristics of the place or activity itself (e.g. using different parks depending on which friends were present). This could result in tensions between personal preferences and peer expectations in how participants engaged with the outdoors. Charlie explained *"Most of the time we go to my friend's house because she hates being outside. And it's like, 'Oh well!' Like I'm friends with this girl who doesn't like the other girl, so when I go out with her, she likes going outside and then the other girl, she doesn't. So it's like, 'Oh', so it's kind of annoying"* (Charlie, 2025).
- **Overall outdoor engagement remaining strongly influenced by peer relationships**, with participants becoming more or less active outdoors depending on their friendships: *"...my friends, they're not free on a Monday, so I can't really go out on a Monday"* (Ivy, 2025). Brittany also described how she could have difficulties finding people to out with and would often opt to stay in. Some participants reported reduced outdoor time due to friends spending less time outside, while others described increased engagement through more 'outdoorsy' peer groups or by taking on leadership roles within these groups. Josie explained *"Yeah. Oh my god, Nicky, over the past year, her and her phone – I need to push her outside! At one point I was snatching it out of her hands so she would listen and then I'd give it back!"* (Josie, 2025).
- **Peer cultures that normalised being outdoors and getting 'mucky'**, associated with greater confidence, imaginative play, and pursuit of personal interests (e.g., Luna, Josie).
- **Social insecurities acting as barriers to outdoor engagement**, including reluctance to be seen alone outdoors, shame about being seen with parents, and discomfort with being observed engaging in activities perceived as potentially embarrassing, e.g. exercise or anything that might appear silly (e.g., Julia). Bambie explained *"Well I was going to walk home today because it was nice outside but I didn't because no one wanted to. So I was like, I don't want to walk alone because that's just, like, sad. And then sometimes a bus goes past when I go home and last time I walked home the bus went home and everyone was like, 'Bambie', and screaming, I was so embarrassed, it was so bad"* (Bambie, 2025).
- **Evolving family relationships**, shifting away from play-based interaction towards spending time together more socially: *"Like, I do different stuff with my dad like... like we kind of hang out, like we sometimes go into town and stuff like that"* (Detina, 2025).

- **Increasing awareness of boys**, beginning to impact upon outdoor engagement decisions: *“Then her sister realised there were seventeen, eighteen-year-old boys playing so she started tagging along as well. So they were both very interested in football from that point”* (Charlie’s parent, 2025).
- **Increasing embarrassment using public toilets**, potentially impacting upon outdoor engagement by forcing girls home to use the toilet. Raya described an experience of going to the toilet at school *“Well, yeah, because the first time I went it was at break, I think, and I went to the ones at the canteen, but there was a bunch of people there and I just wanted to leave, but that would be way more embarrassing, so I just tried to be as quiet as possible”* (Raya, 2025). She went on to note that she was drinking less to ensure that she did not have to go through the day at school.

Changing bodies

- **Experiences of growing pains and hay fever**, impacting upon ability to participate in some activities. Tigger explained *“I think it’s just when I’ve been walking really fast, and my ankles get worn out. In my opinion, I just think I’m getting old early, because...I’m sorry, but I get back pain, and when I stand up my knees get sore for a couple of seconds. I think I’m getting old. It’s the stress of school. It’s school stress. I’m getting greys before I’m fifteen”* (Tigger, 2015). Her parent attributed these symptoms to “growing pains”.
- **Increased clumsiness and reduced confidence in physical coordination**, with participants describing tripping or fear of falling when participating in certain activities or navigating outdoor spaces (e.g., Detina).
- **Feelings of tiredness and low energy**, translating to difficulty getting out of bed and the need for naps, which some participants described as limiting their motivation or capacity for outdoor activity. Lola described *“I am going outdoors - sometimes. Not every day though because it’s tiring and my legs get sore...”* (Lola, 2025).
- **Outgrowing existing equipment**, particularly bicycles, with girls reporting that bikes were no longer an appropriate size and had not been replaced (e.g., Raya, Tigger).
- **Food motivations**, every girl, without exception, was highly motivated by food in an outdoor context, with many accounts of outdoor time littered with references to snacks and drinks, whether being used as bribes by parents (e.g., Luna), excursions centred around buying food (e.g., Charlie), or accounts of delicious outdoor meals while camping (e.g., Josie).

3.2.3. External factors

Wave 2 identified several influences on girls’ outdoor engagement beyond social and developmental factors. These operated at school, household, and technological levels, and often interacted to shape everyday opportunities for being outdoors.

New school

- **Increased homework demands**, reducing available time and energy for outdoor activity.
- **Restrictions on leaving school grounds at certain schools**, limiting opportunities to spend time outdoors beyond designated school spaces.
- **Limited green space and outdoor infrastructure within certain school grounds**, even where pupils were required to spend break times outside. Needs stated included benches and shelters.
- **Long lunch queues** limiting opportunities to spend time outdoors during lunch breaks.
- **Changes to school travel**, with participants increasingly taking the bus or receiving lifts rather than walking, especially in the mornings. Girls who previously cycled to school cited a lack of secure cycling infrastructure at school as a barrier to more active travel.

- **New opportunities to go out at lunchtime**, including access to new places to explore, where permitted.
- **Outdoor spaces often dominated by boys' football or other sports**, limiting perceived access or appeal for some participants.

Phones and technology

- **Continued increased use of digital technology for entertainment**, shaping how leisure time was spent both indoors and outdoors.
- **Continued increase in phone-based outdoor activities**, such as recording videos (e.g. dancing or online trends), playing games, taking selfies, and listening to music.
- **Use of phones to document outdoor experiences**, including taking photos of nature or everyday life to maintain 'Snap streaks' with friends.
- **Enjoyment of phone-free outdoor time during residential**, which some participants described very positively.
- **Increased phone ownership enabling independent outdoor time**, supported by location tracking and an unspoken expectation of checking in via text or call, rather than fixed curfews. Practical considerations related to phone use outdoors included carrying battery packs and favouring places with mobile signal.

Systemic factors

- **Adult-mediated access to outdoor experiences**, shaped by parental values, family norms, and parents' social networks. This included active parental efforts to prioritise outdoor time through trips and excursions, as well as creative strategies to sustain engagement, such as turning family hikes into social experiences with other children (e.g., Josie's parent, Luna's parent).
- **Opportunities to pursue interests shaped by parental knowledge, support, and material resources**, influencing awareness of activities and ability to access them, ability to support with activities, and access to nature spaces such as gardens or rural areas. One parent expressed concern at their inability to pay for their daughter's participation in Activities Week at school. A number of girls noted that their bikes were broken and that they did not know how to fix them (e.g., Amy).
- **Availability and structure of organised activities**, with many participants reporting that their interests were not fully catered for. Barriers included limited provision, location of clubs, scheduling constraints, and late start times. Participants also highlighted the lack of and need for girls-only teams (e.g., Poppy), as well as a need for non-competitive, non-team sport options (e.g., Lola, Julia, Chick).
- **Changing family responsibilities**, including caring roles related to ageing grandparents, which shaped family time and capacity for outdoor activities, often accompanied by a lot of guilt (e.g., Avery's mum).
- **Increasing sibling care responsibilities**, with girls sometimes responsible for picking their siblings up from primary school and caring for them while parents worked (e.g., Poppy, Misty)
- **Adult-determined extracurricular schedules**, which in some cases constrained opportunities for informal or self-directed outdoor time (e.g., Poppy, Katy).

Pets

- **Dog walking as a driver of outdoor time**, with some participants walking dogs more frequently and others less so. In some cases, dogs made outdoor engagement non-optional.
- **Dog walking emerging as an enjoyable social activity**, particularly when undertaken with friends in local outdoor spaces.
- **Engagement in horse riding as a significant driver of outdoor time**, associated with valuing being outdoors, comfort with getting ‘mucky’, and the development of responsible behaviours. Participation in horse riding also exposed participants to peer groups who shared and reinforced these values.

3.2.4. Summary

Participants’ outdoor trajectories during early adolescence were shaped by an interplay of personal development, changing social relationships, school structures, and wider systemic factors. Residential trips, camps, and activity centre visits continued to play an important role in exposing girls to new outdoor environments, activities, and challenges, and were widely remembered as positive social and learning experiences, despite occasional discomfort with accommodation or activities that pushed them beyond their comfort zone. Alongside these experiences, growing independence enabled more self-directed outdoor time, though this remained negotiated within boundaries related to safety, seasonality, and parental expectations. Peer relationships became increasingly influential in shaping where girls went, what they did, and whether they spent time outdoors at all. At the same time, bodily changes, evolving interests, school routines, technology use, and differences in family resources and opportunities contributed to increasingly varied patterns of outdoor engagement across participants.

These findings suggest that supporting girls’ outdoor engagement during early adolescence requires attention to the multiple influences shaping their everyday opportunities to be outdoors. Residentials, camps, and activity-based trips remain valuable opportunities for building confidence, developing skills, and strengthening peer relationships in outdoor environments, and continued access to these experiences may help sustain engagement during this transitional period. At the same time, schools, families, and community providers play an important role in supporting girls’ growing independence, recognising the influence of peer relationships, and ensuring that outdoor opportunities remain accessible, relevant, and responsive to changing interests, capabilities, and social contexts.

3.3. Nature engagement and interest

One of the GO study’s main aims is to build a broad understanding of teenage girls’ (dis)engagement with outdoor spaces. This outdoor engagement encompasses many forms of direct (e.g. wildlife watching), mediated (e.g. watching nature documentaries) and incidental nature engagement (e.g. hearing bird song while walking), much of which is fleeting and unspoken.

Within Wave 2 data collection, our analysis has sought to inductively identify themes within our sample in relation to different forms of purposeful nature engagement. In doing so, we explored what story each girls’ portfolio of nature engagement activities might tell about her. Emergent themes within this analysis included the level of nature interest exhibited by each girl, how this might be reflected in nature engagement capabilities, and the potential influences shaping this interest. This process resulted in a categorisation of participants into three broad levels of nature

interest: higher, middling, and lower. The categorisation is intended primarily to support exploratory interpretation and to help inform deeper comparative analysis at the end of the project. In the final stage of the study, qualitative insights will be triangulated with findings from validated measures of nature connectedness and engagement with and access to outdoor spaces, developed by Natural England (PANS data; Natural England, 2020), NatureScot, and the University of Derby's Nature Connection Index (Richardson et al., 2019).

A **higher level of interest** in nature was understood to consist of self-motivation to engage with different forms of nature on a regular basis (e.g. purposeful wildlife watching, learning about nature, responsibility for plant care, collecting shells/stones/plants, bushcraft). A **middling level of interest** in nature was understood to consist mainly of somewhat regular adult or peer-facilitated nature engagement, with occasional self-motivation, and an emphasis on beautiful or exciting nature (e.g., taking photos of sunsets, adventure sports, helping in the garden, a general interest in “animals”, incidental wildlife watching). A **lower level of interest** in nature was associated with little discernible motivation to engage with nature in either a directed or mediated way, with some sporadic and facilitated engagement with safe and ordered forms of nature (e.g., manicured greenery, pets). In presenting this preliminary categorisation, pseudonyms are not attached to the different levels of nature interest. This is a deliberate choice to avoid reifying these categories as stable characteristics of particular girls. Rather, considering this data as a snapshot in time, the categories are used as provisional analytic tools to explore patterns across the data.

Some initial insights from this preliminary analysis are presented in Table 5.

Table 5: A Preliminary insights from Wave 2 analysis across levels of nature interest as they pertain to nature engagement capabilities and factors which could influence this interest

Analytical focus	Emerging insights	Interpretation
Nature engagement capabilities	<ul style="list-style-type: none"> • Being highly interested in nature does not necessarily translate into more frequent outdoor use, relative to other interest levels • Spending a lot of time outdoors does not necessarily translate into being highly interested in nature • Being highly interested in nature does not necessarily translate into being comfortable outdoors • Explicitly stating an interest in nature does not necessarily translate into behaviour that supports this assertion, while the converse is also true. 	Some of the most highly interested girls often had other interests and priorities, meaning that they did not necessarily spend more time outdoors than their middling or lower interest counterparts. Girls who spent more time outdoors might do so in the context of social or activity priorities, e.g., hanging out with friends or participation in sports. In some cases, those with strong interests in adventure sports showed minimal interest in nature, while spending a great deal of time outdoors and in the elements. Conversely, a number of girls who showed the most sustained intellectual curiosity about nature and purposeful engagement sometimes found being outside quite stressful and uncomfortable (e.g., getting scratched, dirty, or wet). Finally, it appeared that speaking in generalities about interest in nature (e.g., pretty flowers or animals) often did not accompany a high level of interest; in fact, a high level of interest was often demonstrated indirectly rather than stated directly.

Factors that could influence nature interest	<ul style="list-style-type: none"> • Being highly interested or of middling interest in nature often appeared to coincide with high parental input, with lower interest coinciding with lower parental input • A proportion of the most highly interested girls had received sustained play-based outdoor learning provision in primary school; others in the same grouping had received little • Girls of all levels of interest had attended residential or camps 	Both highly interested and middling interest girls tended to have parents who were highly motivated to be outdoors, often facilitating regular family activities in nature, nature-centric holidays, and an expectation of regular outdoor use. Many also appeared to demonstrate a higher interest in nature. The converse was true of parents of girls with lower interest in nature, who, for example, might prioritise indoor extra-curricular activities at weekends and more consistently favour holidays such as city breaks. Almost all girls had received some level of outdoor learning at some point in their schooling, and most had attended either a camp or residential experience. Enjoyment of these experiences was fairly universal; voiced discomforts around accommodations or dirt were also common to all groupings.
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These preliminary insights highlight the complexity of relationships between nature interest, nature engagement capabilities, and influences shaping this interest among the girls in this study. Interest in nature did not consistently correspond with time spent outdoors, comfort in outdoor environments, or explicitly stated preferences, suggesting that these dimensions operate somewhat independently. They indicate that family context could play a role in shaping interests, while the role of experiences such as residential trips and outdoor learning were more ambiguous. Given the small and self-selecting nature of the sample, these observations should be understood as exploratory rather than definitive. Instead, they provide an initial framework to guide deeper comparative analysis at the end of the project.

3.4. Girls' preferences for outdoor spaces and outdoor experiences

One aim of the GO study is to understand how teenage girls experience, evaluate and engage with outdoor spaces, and how these perceptions may change over time. In particular, the study explores the qualities that make outdoor spaces feel appealing, usable and meaningful to girls. To support discussion about different types of outdoor spaces and experiences, the interviews used participants' own photographs alongside a small set of researcher-curated images. These images were selected to represent priority green and blue space quality indicators identified through previous research and stakeholder workshops (Roberts et al., 2023; Nicholson et al., 2024). Rather than asking participants directly about these indicators, the photographs were used as prompts to encourage reflection on what participants noticed in the spaces, what they liked or disliked, whether they would want to spend time there and what they would improve to make the outdoor spaces more appealing. The findings presented in this section draw on these discussions and present recurring patterns in how participants described the outdoor spaces and the experiences they associated with them.

What Makes a “Good” Outdoor Space?

Quality Indicators Identified by Teenage Girls

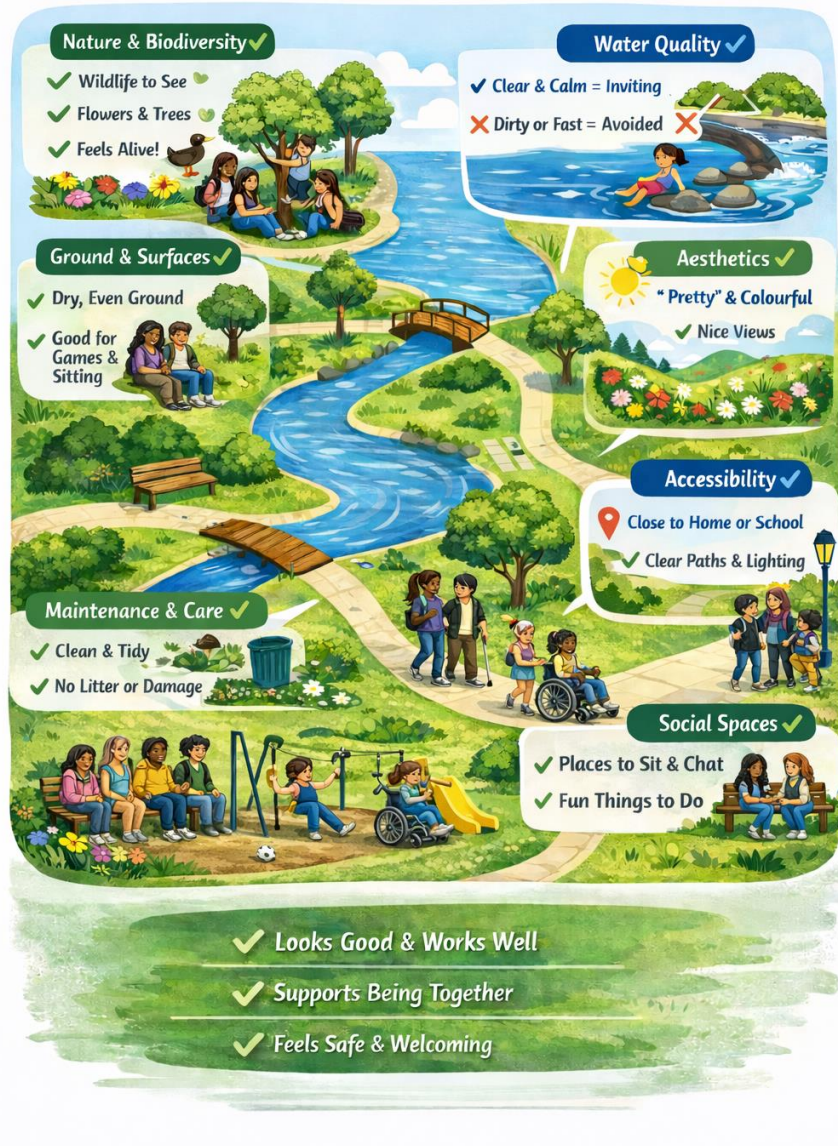


Figure 1: Visual summary of the key qualities that make an outdoor space attractive and worth using for teenage girls, based on participants’ accounts in the Girls Outdoors study (2025). Image generated using OpenAI (ChatGPT-5.2, 15 December 2025).

3.4.1. Social indicators

Social quality indicators were central to how girls judged outdoor spaces. Most participants evaluated places in terms of whether they supported friendship routines, such as sitting and chatting, hanging out, informal games, taking photos or videos, and whether the social atmosphere felt comfortable.

Benches emerged as key social infrastructure, however, only if they met specific conditions. They were valued as places to sit and chat, eat, or regroup, but only if they were clean, reachable and not associated with discomfort or risk. Julia described benches as essential meeting points, but dislikes those that are dirty or located in areas that feel unsafe or dominated by others (Julia,

2025). Other girls echoed this conditionality. Misty, for instance, emphasised the need for basic amenities to make benches feel comfortable.

“Oh, yeah, benches... just regular benches and with a bin near them.” (Misty, 2025)

Luna’s parent captured this relational shift succinctly:

“It’s how she’s using the outdoors and how she perceives the outdoors, so how things could be a bit more positive when you are with friends. A bench is just a bench, but then you can just have a talk and discussions, rather than if you are on your own, maybe you might not sit there for a long time, so I think that impacts how you use the outdoor area and how you perceive it.” (Luna’s parent, 2025)

Several girls described local parks as becoming less appealing as they got older, particularly when equipment felt designed only for younger children. Bambie explicitly requested “good swings – not the baby swings”, alongside space for gymnastics or dance (Bambie, 2025). Poppy and Violet both described preferring parks with varied equipment, including swings, zip lines, climbing frames, along with open grass where they could run, practise skills, or play games (Poppy, 2025; Violet, 2025). Others also highlighted how poor or unsuitable equipment discouraged their use. Misty described a slide where a sharp turn “hurts your leg when you’re going fast”, while also noting that broken or muddy zip-line areas deterred her and her friends. Raya observed that recent construction work had removed swings, stumps and small hills she and her group previously used, prompting frustration.

“They removed the swings... and I heard they were going to remove all the hills because it’s dangerous. I’m like, how?” (Raya, 2025)

Safety and risk were discussed primarily as socially situated concerns rather than abstract fears of nature. Amy described her local park as “really, really not nice... quite rough”, involving swearing, bullying and objects being thrown, which led her to avoid it entirely (Amy, 2025). Bambie similarly read graffiti and vandalism as cues about who used a space, explaining that seeing these signs made her think “teenagers would hang there” and that she would not feel comfortable (Bambie, 2025). Julia described avoiding certain town and park spaces because of older teens shouting or throwing things and preferring parks that felt overlooked by houses or used by families (Julia, 2025). Katy also talked about avoiding areas where boys dominated space through boisterous play.

“We normally don’t go there because there’s these boys... and we have been hit by a football many times.” (Katy, 2025)

Avery similarly mentioned that when older boys were playing football, “they’re really rough.” In other cases, unpredictable or intimidating behaviour led girls to withdraw entirely. Katy also described steering clear of riverside areas because “there’s normally boys there doing random, stupid things... jumping in the river.” After encountering masked teenagers on e-scooters, Raya recounted: “There were gangsters there... we decided to go back.” Misty likewise avoided the area around her local Tesco.

“A lot of people... take drugs, vape, and I don’t like to go around them.” (Misty, 2025)

Group dynamics also influenced outdoor preferences. The girls navigated fluid friendship clusters, sometimes splitting into sub-groups or adapting their routes to join or avoid particular peers. Raya described her group as “split into two”, influencing where they went at lunch. Detina

spent breaks indoors when friends experiencing bullying did the same. Conversely, Josie described encouraging her friends outdoors in summer: *“I force them out at lunch.”*

Several girls communicated a preference for company, explaining that they were comfortable in many outdoor spaces with friends or family, but not alone.

“I don’t really like being alone. Especially if there’s a group of people and I’m by myself.” (Bambie, 2025)

Friendship often acted as a core determinant of whether an outdoor experience was enjoyable.

“I don’t want to go out unless it’s like with one of my friends.” (Charlie, 2025)

However, others sought intentional solitude in specific outdoor spaces. For instance, Katy described preferring quieter places where *“I can be myself a bit more”* (Katy, 2025). Max also noted enjoying certain activities independently and Raya chose a hidden-tree area near the sandpit during lunch.

“I’d just be there... away from everyone... no one really comes there.” (Raya, 2025)

These examples show that some girls preferred spending time outdoors in calm, enclosed or nature-adjacent areas, and away from unpredictable social encounters. Social indicators, such as the presence and behaviour of peers, crowding, equipment suitability, and group dynamics were important to how the girls perceived and experienced different outdoor spaces.

3.4.2. Nature and biodiversity

Most participants valued outdoor spaces where nature felt varied and engaging. Encounters with wildlife such as ducks, geese, deer, birds, crabs, fish and frogs were frequently mentioned as highlights, and these encounters contributed to a sense that a place was ‘alive’ rather than empty or dull. Many girls described noticing deer, birds and other animals in parks and landscapes, which made places feel worth visiting. Luna, for example, talked enthusiastically about seeing ducks in parks and along rivers, and described how places felt more interesting when *“there’s animals as well”* (Luna, 2025). Detina described ducklings at the Hazlehead petting zoo as *“so cute”*, and Tigger recounted seeing deer on a quiet walk near home.

“On a walk, I saw deer... It’s Bambi and her Mum.” (Tigger, 2025)

Raya described a similar experience near her local pond.

“There was this deer... then we seen it again... it looked at me and it froze.” (Raya, 2025)

When discussing a river landscape, Chick explained that what would make the space more enjoyable would be *“wildlife, like, deer”* and elaborating imaginatively that they could be *“...on the other side. Just staring at you”*. Charlie shared the excitement of a recent beach trip with a friend: *“We saw dolphins!”* (Charlie, 2025), while Avery described a family holiday in the Highlands where they saw a variety of wildlife.

“We saw some deer! ... and the seals when we were on the boat trip.” (Avery, 2025)

For others, wildlife encounters occurred during activities such as kayaking or hillwalking. Katy described seeing an osprey perched in a tree during a water-sports trip and she also described enjoying watching birds in trees with her parent.

“We could see [the osprey] in the tree, which was quite fascinating. [...] I think long-tailed tits are my favourite now. They’re so cute.” (Katy, 2025)

Chick also described liking hills and open landscapes, as they made it easier to *“actually see things instead of seeing a tree and then another tree”* (Chick, 2025). However, some girls preferred woodlands.

“I particularly like forests... I just love forests!” (Josie, 2025)

Trees were valued not primarily for their appearance, but for the opportunities they provided for play, exploration and challenge, including climbing, hiding and using them as part of games. Luna described climbing trees regularly, both in parks and in Scouts. She explained that her preferred hiding place during games like Manhunt was *“in a tree, because nobody checks up a tree”* (Luna, 2025). Similarly, Max’s story about a fallen tree along a walking route points to how such features are incorporated into play and physical engagement.

“There’s a fallen over tree, so I go on it.” (Max, 2025)

Flowers and seasonal colour were repeatedly highlighted as features that made spaces feel more attractive and welcoming. Most girls responded positively to multiple images simply due to the presence of flowers, repeatedly mentioning the flowers when asked what they liked about different places. Detina explicitly linked colour to emotional response, explaining that spaces without flowers or with *“sad grass”* were places she would not really want to go to. Luna also described flower-rich spaces as *“very pretty”*, although she noted that aesthetics alone were not always enough if there was nothing to do.

Nature also featured strongly in family-based activities, particularly through foraging, photography and seasonal activities. For instance, Josie remembered a special memory of when she and her family ran outside to watch the Northern Lights, while Avery enjoyed taking photographs of waterfalls, describing them as *“really beautiful”* (Avery, 2026). Luna described foraging for blueberries with her family and further explained that she treated it *“like it was a competition of who will fill the buckets”* (Luna, 2025), while her parent noted that the family also enjoyed collecting wild garlic. Luna explained that while she especially liked *“eating it”*, she also enjoyed *“getting into the more difficult places to get it”* (Luna, 2025), suggesting that challenge and exploration enhanced the experience of nature.

Nature-rich outdoor spaces, such as beaches with shells and seaweed, wooded paths with fallen trees, ponds and home gardens with fruiting plants, also supported imaginative and hands-on engagement. A number of girls described collecting shells, rocks, berries, flowers, and other natural materials, and using them in play, craft activities or personal collections. Detina, for example, described building a collection from repeated beach visits: *“I have a whole box just full of [shells]!”* (Detina, 2025) and finding hermit crabs with her grandparents. Raya shared her experiences of catching tadpoles at a local pond, while Katy pressed flowers and ate home-grown berries.

“I quite like seeing the flowers and squashing them, but getting to taste the actual fruit and veg is a lot nicer.” (Katy, 2025)

At the same time, certain aspects of nature were experienced negatively. Dense vegetation, long grass and certain invertebrates were associated with discomfort or risk. Julia and Bambie both expressed concerns about tall grass due to ticks. For example, Bambie explained that long grass around benches made places less appealing because of bugs and ticks. Chick also expressed a strong dislike of spiders, repeatedly referencing them when talking about outdoor spaces, including benches that made her feel like *“there’s going to be a thousand spiders there”* (Chick, 2025). Tigger also articulated specific boundaries regarding invertebrates.

"It's fine as long as it's not a spider... ants are okay... but centipedes and spiders... too many legs." (Tigger, 2025)

These stories highlight how girls balanced appreciation of natural richness with a desire for comfort and predictability.

3.4.3. Water quality

Water emerged as a highly valued feature when it was perceived as clean, calm, and safe enough to approach or enter, and as a deterrent when it looked dirty, dark, fast-flowing, or unpredictable. Many girls judged water quality through visible cues (clarity, colour, surface scum/seaweed, debris) and through anticipated 'after-effects' (getting dirty, smell, the sense that it might be unhealthy). Charlie, for example, explained that *"Dark water scares me. I don't know what's in it"* (Charlie, 2025), while Max similarly responded to a river image.

"The water looks quite dirty... It's brown." (Max, 2025)

For some girls, water was central to what made a place feel special or 'worth going' because it created opportunities for play (swimming, paddling, rock pooling) and for watching wildlife. Beaches, rivers and lochs were often described as multi-activity settings where socialising, exploring and appreciating scenery overlapped. In Luna's photo-elicitation, she repeatedly oriented to waterside settings and described them as enjoyable for both activity and social time.

"Because there's water. [...] I like the beach and I like going inside of the water" (Luna, 2025).

Katy offered a similar view of a small river scene, describing it as a place where she might sit, relax and dip her feet in. Wildlife encounters also enhanced the value of clean-looking water. Amy mentioned watching fish, crabs or small river creatures during coastal or riverside trips, while Raya remembered feeding fish on a family outing.

"There was fish... we put bits of our sandwiches on the end and fed the fish." (Raya, 2025)

At the same time, water was also one of the clearest perceived risk factors. Participants often described assessing whether they would swim based on how water *looked* and who they were with. Bambie's responses show how quickly a site could become 'off-limits' when water seemed unpleasant: looking at a muddy/wet landscape she responded: *"Definitely not go there"* and when asked about the water added, *"No, it would be too squelchy"* (Bambie, 2025). She also linked water colour to likely insects and swimming avoidance: *"water looks a bit brown... maybe flies"* (Bambie, 2025). Amy similarly avoided rivers when she noticed *"brown stuff on top of the water"* (Amy, 2025) or when hearing warnings about dogs becoming ill from algae or pollution. Raya also emphasised avoiding dirty-looking rivers entirely: *"Probably not. It looks dirty"* (Raya, 2025). Similar logics appear across participants, as several girls were cautious about rivers and ponds that looked 'dirty', 'dark', 'muddy', or algae filled.

Avery noted that a planned gorge walk was cancelled because *"the water was high, so we couldn't do it"* (Avery, 2025). Cold temperatures also limited use, with girls commenting that the sea was *"too cold"* (Charlie, 2025), that the jungle float was fun *"but it was freezing"* (Katy, 2025), and describing cold-water experiences as *"like ice was piercing my skin"* (Avery, 2025).

At the same time, there was variation in tolerance and confidence. Josie, for instance, normalised river water variability, suggesting that experience and familiarity can widen what counts as 'acceptable' water quality.

“...even if it’s dirty, I mean I could take a shower after; it’s just river water.” (Josie, 2025)

Other participants were put off more by what might be in the water than by the water itself. Avery recalled looking down from a paddleboard and *“saw a crab and I just completely freaked out”* (Avery, 2025), while Amy described seaweed and unexpected contact with fish as unsettling even when she otherwise enjoyed swimming.

Several girls distinguished between seas and inland waters: Julia framed the ocean as more trustworthy or “self-cleaning” and was more wary of stagnant or unclear ponds and rivers. Generally, the sea and beaches emerged as particularly popular outdoor spaces, reflected in the fact that most participants selected the beach setting as their favourite image from the researchers’ photo set during the photo-elicitation task. However, Josie disliked the saltiness of the ocean (*“Don’t like salty water... the feeling of salt on me”*, Josie, 2025), while Avery expressed wariness about big waves and preferred lakes.

“I’m not a big fan of the sea... the sea scares me... with the waves and stuff like that.”

Overall, ‘good water quality’ functioned as both an amenity indicator (it enables swimming/paddling/rock pooling, wildlife watching, and scenic enjoyment) and a safety indicator (visual dirtiness, murkiness, or uncertainty about depth/current reduced willingness to engage, especially without adults). Even when water was attractive, some girls located ‘safe use’ in who they were with: Bambie would swim in the sea *“if my parents were there”* (Bambie, 2025), reflecting how perceived risk and adult presence became part of the ‘quality’ of blue spaces.

3.4.4. Soil and ground conditions

Ground conditions were one of the most consistently mentioned ‘everyday’ indicators of how the girls experienced outdoor spaces, as they directly influenced whether girls could move comfortably, do activities, and stay clean/dry. Terms such as mud, squelch, slippery, boggy, rocky, too narrow, and uneven appeared frequently across the interviews as reasons to detour, modify routes, shorten visits, or avoid a place entirely, especially when girls wore normal clothes or shoes rather than outdoor gear.

This theme was particularly clear in Bambie’s photo task. When shown a wet, muddy path, she made an immediate judgement.

“It looks quite...eugh, I would not go. [...] It looks really dirty and cold. [...] I’d try and go over it but if I couldn’t, I’d just go back the way I came.” (Bambie, 2025)

Her suggested ‘fix’ was directly tied to usability: *“If there wasn’t that big puddle and if there was more grass... and it wasn’t as muddy”* (Bambie, 2025). Avery likewise described mud as off-putting and Josie also expressed a strong preference against muddy places, describing how extent and expectation of improvement influenced whether she would continue.

“It looks very muddy... I wouldn’t really like that. It’s just a muddy path...” (Josie, 2025)

Several of the other girls also said they would go around mud if possible but would turn back if it was extensive or unavoidable; others framed mud as a sensory/comfort barrier.

“[Daisy] really doesn’t like mud, even with wellies on. I don’t know if it’s a sensory thing, but she absolutely...if it’s muddy, she won’t go. She doesn’t like it.” (Daisy’s parent, 2025)

Amy said she might navigate mud only if she was with others, but *“If I was by myself, then, no”* (Amy, 2025), highlighting that social support could offset discomfort. Some girls described wet

ground as manageable when they had appropriate footwear or when puddles were part of playful movement. However, Luna still emphasised choice and comfort; she would mostly avoid puddles but not be put off entirely.

“If I had appropriate shoes I’d definitely jump in the puddles. [...] “[it’s] quite fun to dodge the puddles” (Luna, 2025).

Flooded or saturated grassy areas were often treated as ‘unusable space’, not just an inconvenience (e.g. avoiding ‘wet parts’ but still using drier edges). Comfort also extended to surface materials in play areas. Loose bark, mulch and gravel were frequently criticised for feeling unpleasant underfoot. Charlie described how bark and mulch at her local park often made equipment unusable.

“That’s one of the funner bits but it’s hard to use if it’s covered in bark.” (Charlie, 2025)

She also disliked bark surfacing because *“it gets stuck in my shoes”*, while highlighting structurally neglected access routes: *“really muddy and really bumpy and rocky”* paths deterred her from visiting what was otherwise a well-liked park.

Bambie wanted to *“change the bark into flat surface”* (Bambie, 2025) and Josie also emphasised how slope and evenness influenced her activity, describing flat ground as better and safer. Several girls preferred flat, well-kept grass - not muddy, not artificial - as a surface for gymnastics, dance, sitting with friends or informal games (e.g. Poppy and Bambie prioritising soft/flat grass; Brittany and Julia preferring short, well-kept grass).

“Sometimes I do some gymnastics on the grass field.” (Katy, 2025)

In short, ‘good ground’ to the girls meant dry enough, even enough, and predictable enough to support activity and reduce mess, with paths and surfaces acting as crucial enablers.

3.4.5. Maintenance

Maintenance emerged as a key interpretive cue: outdoor spaces that looked kept, tidy or regularly cared for were seen as more welcoming, more usable, and often safer, while unmanaged, cluttered or vandalised spaces signalled risk, neglect, or that the space *‘wasn’t for us’*. This included basic cleanliness and repair (benches, surfacing, bins, equipment), as well as vegetation management (grass length, weeds, overgrowth and fallen branches). For instance, Detina wanted bushes trimmed so that people could move without being *“stabbed by flowers”* (Detina, 2025). In Bambie’s ideal park, she explicitly requested *“no dead flowers”* and specified that seating should be clean: *“maybe a little bench but not a dirty bench”*. She also identified micro-signs of neglect that would stop her using a space as intended, focusing on the edges around seating: *“get rid of the weed and the overgrown grass at the benches”* (Bambie, 2025). This concern about seating being practically unusable (dirty, broken, hemmed in by long grass) also came through in her school account: the limited outdoor lunch seating was described as *“disgusting... broken”* (Bambie, 2025), making the school’s ‘outdoor option’ feel low-quality even when technically available.

Other girls similarly linked maintenance to the felt character of a place. Detina emphasised that parks should look *“put together”*, repeatedly noticing when grass looked *“sad/dying”* and describing some places as not really somewhere she would want to go if they looked untended and suggested several improvements.

"Maybe cut the grass a little bit. [...] pathways and like drains... where the grass is waterlogged." (Detina, 2025)

Detina also suggested cutting back vegetation for comfort and safety (not bumping into branches, avoiding 'jabby' plants and pollen irritants). Several other girls treated trimming and 'neatness' as part of accessibility: spaces should feel navigable and not scratchy or hazardous. Some girls also worry about what might be hidden in vegetation (Detina, 2025; Brittany, 2025; Julia, 2025).

Maintenance also intersected with usability in open grassy areas. Many girls, such as Poppy, Bambie, Brittany and Julia, framed flat, short, well-kept grass as essential for picnics, gymnastics, dance, or sitting with friends. Poorly maintained grass, by contrast, was associated with ticks, mud, hidden hazards or discomfort. Bambie reported a direct negative experience, which made her acutely sensitive to grass length and contributed to her avoidance.

"I got five ticks... it was so bad." (Bambie, 2025)

Julia and Brittany similarly expressed concerns about long or wet grass because of slipping and dirt on shoes. Examples from other participants reinforced how small maintenance issues became significant barriers to everyday use. Katy noted litter and dog fouling on hill paths and Poppy framed litter as damaging beyond aesthetics.

"I hate litter because it spoils the environment... can be washed into the sea and enter [harm] animals." (Poppy, 2025)

Tigger also linked maintenance to visual quality and behaviour cues: she disliked when a dog bin sat prominently in an otherwise scenic spot.

"Maybe if you moved [the dog bin] to the side... you're more deterred to look at the dog-bin." (Tigger, 2025)

In another image she said she would *"remove the weedy bits... so they can have a view down"* (Tigger, 2025), showing how even subtle maintenance adjustments improved the sense of openness and safety. Bambie connected vandalism/graffiti to social meaning - *"teenagers would hang there"* - treating it as a cue about who uses the space and whether she would feel comfortable there (Bambie, 2025). In other words, visible neglect did double-duty: it suggested environmental mismanagement and signalled who might occupy the space.

Jackie framed improvement needs in terms of small additions and upkeep that make open areas feel purposeful rather than bare, for example, wanting more facilities (e.g. nets/goals, better seating), so spaces do not feel like empty grass (Jackie, 2025). Tigger recommended resurfacing muddy tracks with gravel.

"They could dig it up and maybe put gravel on it." (Tigger, 2025)

Josie also highlighted the importance of removing abandoned machinery, saying *"don't just leave tractors lying about!"* (Josie, 2025), as they could frighten horses during rides.

In short, maintenance mattered most when it changed whether the space could be used; not just whether it looked nice. Cleanliness, functional equipment, trimmed vegetation, clear paths, tidy edges and predictable surfaces all supported girls' ability to use the outdoor spaces comfortably, move safely, play, socialise and feel at ease. Conversely, neglect, whether through broken seating, overgrown vegetation, poor drainage, litter or vandalism signalled that a space was less welcoming, less safe, or not meant for them. Some girls also described maintenance as a way of reducing ecological discomforts and everyday risks that stop them using outdoor spaces.

3.4.6. Aesthetics

Aesthetic preferences were fairly consistent across participants. Flowers, trees, views, seasonal colour and scenic variety were repeatedly selected in the photo tasks and described as emotionally uplifting, calming, or motivating. Many girls evaluated spaces first in terms of how they looked—whether they appeared colourful, alive, open or peaceful. For instance, Violet noted that she paid attention to whether plants looked healthy, commenting negatively when flowers or trees appeared dead or neglected.

Girls frequently used the language of “*pretty*”, “*nice*”, “*lovely*”, or “*calming*” as immediate evaluative shorthand. Luna described flower-rich or scenic places as “*very pretty*” and explained that she was drawn to forests, hills and beaches where there was something visually distinctive to look at, such as “*the trees and the whole... the colours*” (Luna, 2025). Poppy similarly selected images of sunflower fields and flower displays, describing them as places she liked because they felt peaceful and inspiring, particularly for drawing or sitting quietly (Poppy, 2025). Chick responded positively to multiple images almost entirely on aesthetic grounds and linking colour and openness to enjoyment (Chick, 2025).

Views and openness were also important aesthetic cues. Several girls preferred elevated or open landscapes where they could “*see things*”. Julia and Violet both described liking open parks and hills with views, which felt calmer and less claustrophobic than enclosed wooded areas (Julia, 2025; Violet, 2025). Amy enjoyed photographing sunsets and sky colours, describing “*a nice little rainbow effect*” that made certain places feel special (Amy, 2025). Charlie similarly appreciated expansive evening skies.

“The sky’s actually really nice where we are. It’s like a sight to see.” (Charlie, 2025)

Katy described a riverside scene as “*really lovely*” and appreciated its calm feel (Katy, 2025). Josie reacted to a park image with trees, benches and flowers by saying, “*It just looks calming*” (Josie, 2025). Amy similarly described the flower-and-deer scene (Photo 1) as “*a really nice place... I would spend time... sitting on the bench*” (Amy, 2025). Even simple features mattered: Max chose one beach photo simply “*because there’s a log*” revealing how small, tangible elements could enhance aesthetic appeal.

Participants also valued scenes that combined natural beauty with the possibility of exploration. Avery highlighted a mountain-and-rock landscape.

“There’s a lot of stuff that you could probably try and climb on. And there’s a fair view.” (Avery, 2025)

Most girls were clear that beauty alone was not sufficient. Aesthetic appreciation was often tempered by questions of use. Luna articulated this tension directly when discussing a flower-rich scene: while it was “*very nice*” she felt there was “*not much to do*”, adding that “*you don’t want to step on the flowers, and sitting down is not my thing*” (Luna, 2025). Similarly, formal gardens were sometimes described as “*too pretty to run around in*”, limiting what could be done there (Misty, 2025). Overly plain or hardscaped environments were also consistently labelled as low-quality. Charlie dismissed one open grass scene as “*just... a very plain place*” (Charlie, 2025), preferring areas with more visual interest or things to do. Avery and Julia commented that school spaces dominated by concrete or crowding felt uninspiring and pushed them indoors during breaks.

Overall, ‘good aesthetics’ functioned as both an attraction (“*this looks nice*”) and a cue of care and safety (“*this feels looked after*”). The most valued spaces were those where visual appeal

was paired with comfort, possibility and exploration; places that looked good and invited use, rather than spaces that were either visually barren or aesthetically pleasing restrictive in terms of play and activities.

3.4.7. Accessibility

Accessibility emerged as a theme through discussions of everyday routines and the outdoor spaces the girls had visited over the previous year, as they talked about where they went after school, at weekends, and while responding to their own photographs and the different outdoor spaces shown to them in the second photo task. Accessibility also appeared in how they talked about being in different outdoor spaces, particularly through references to paths, surfaces, lighting and suitability of play equipment, which shaped whether a place felt comfortable and somewhere they would choose to spend time.

Proximity and walkability were critical enablers of everyday use. Spaces within easy walking distance were more likely to be used independently and frequently. Poppy's local park was attractive partly because it was *"like two minutes away"*, which made independent visits feel normal and safe (Poppy, 2025). Julia similarly described frequent use of familiar parks near school and home, explaining that knowing a place well made it feel comfortable (Julia, 2025). In contrast, several girls noted that some of the larger or more attractive parks felt more difficult to get to without adult transport. Violet described places like Rowanbrae Park as *"quite far"* and therefore less likely to be visited regularly (Violet, 2025), while Detina spoke about places she would like to go to but could not easily reach due to transport constraints, particularly larger or more scenic spaces (Detina, 2025). Charlie wished for a bus route that connected her more directly to the beach,

"It would be more helpful if there was like a bus that actually went down to the beach from my house." (Charlie, 2025)

For many, daily travel patterns established outdoor routines, such as a walk to school or visiting friends. Tigger described her walks as short and mentioned that her range remained restricted by safety concerns. Even when paths were known, some girls avoided walking alone in areas that felt exposed or unpredictable. After a frightening incident where strangers shouted and threw a can, Katy was put off a previously routine walk home.

Within-space accessibility was most often discussed through paths. Paths were not framed simply as convenience but as conditions of safety, comfort and confidence. Bambie explained that without a path an outdoor space becomes *"just like a forest instead of a nice walk"*, adding *"I probably wouldn't go because I'd be scared to go"* (Bambie, 2025). Detina repeatedly emphasised the importance of paths being clear, neat and wide enough to walk beside friends, noting her discomfort with bumpy, unclear or rocky routes and her preference for *"proper"* paths even in natural settings (Detina, 2025). Josie echoed this, stating that places needed *"benches, and paths wide enough that people can walk beside each other"* to be enjoyable (Josie, 2025).

Surface quality also mattered for mobility and comfort. Max linked smooth paths directly to use, explaining that scooter-friendly routes were a key reason she enjoyed certain parks, while muddy or uneven surfaces reduced their appeal (Max, 2025). Julia and Brittany both described avoiding muddy or flooded paths, not because they disliked nature, but because slipping, dirty shoes or hidden hazards made movement stressful (Julia, 2025; Brittany, 2025).

Lighting emerged as an important bridge between accessibility and safety. Bambie suggested adding *"a streetlight or something"* so that routes felt *"a bit safer"* when it was getting dark

(Bambie, 2025). Others similarly described dusk and winter darkness as limiting how long they could stay out independently, even in otherwise accessible spaces (Luna; Violet; Julia, 2025).

Accessibility was equally shaped by family rules, school policies and perceptions of social safety. Several girls described parental boundaries that expanded with age or confidence but still imposed constraints. Avery described going into town “*with my friends... but never by myself*”, linking independence to peer companionship (Avery, 2025), while Tigger’s mother allowed her to go to town only before curfew hours. Amy relied on a combination of buses and familiar walking routes, using phone-tracking apps like Life360, so her parent felt comfortable extending her range.

“I have my phone... a tracker... I like to be prepared.” (Amy, 2025)

The girls described subtle differences in accessibility depending on whether they were alone or accompanied. Raya described how being with friends allowed her to walk further at lunchtime, while Amy also felt safer with friends.

“I don’t think I would... I don’t like going alone... my safe zone is when I’m with my friends.” (Amy, 2025)

School rules also shaped the lunchtime radius. Josie and Avery both described not being allowed off-site until S4. As a result, even geographically close spaces could be functionally inaccessible during the school day. In addition, seating was frequently mentioned as a way to turn a pass-through area into somewhere to linger. Charlie noted that one riverside location appeared less usable because “*there isn’t like anywhere to sit*” (Charlie, 2025). Amy enjoyed routes that provided a calm place to stop or regroup, and Katy valued paths where she could sit safely away from traffic or crowds.

Accessibility was experienced as a combination of physical, social and emotional factors. A space could be geographically close yet feel inaccessible if paths were narrow or muddy, surfaces were uneven, lighting was poor, or walking alone felt unsafe. Conversely, familiar places with clear routes, smooth surfaces, seating, and supportive social conditions felt comfortable and reliably within reach. Accessibility therefore influenced not only whether girls could get to outdoor places, but the quality of their arrival, movement and time spent there.

3.4.8. Summary

The findings suggest that the girls’ preferences for outdoor spaces and outdoor experiences hinge on a combination of social ease, environmental quality, physical comfort, everyday practicality, and, above all, on the opportunities those spaces provide for meaningful activities. No single feature - whether nature, amenities or aesthetics - was sufficient on its own. Instead, the girls made sense of outdoor places through multiple overlapping layers. The most valued spaces were those that looked and felt well maintained, with clear paths, clean seating, healthy planting and manageable vegetation. These features signalled that the space was safe, welcoming and appropriate for their age, including suitable play equipment. Even wildlife-rich or scenic locations could feel uncomfortable if the ground was muddy, the vegetation overgrown, or the social atmosphere unpredictable or unsafe. By contrast, tidy local parks, smooth riverside paths, or open grassy areas with short, even turf felt inviting when visual appeal aligned with the possibility of doing the activities they enjoyed.

Equally, it was important to the girls that outdoor spaces offered variety, like flowers, views, trees, rock features, water edges, and wildlife. Water was appealing when calm, clear or visually clean; a deterrent when dark or murky. Vegetation was appreciated when colourful or distinctive, but



avoided when tall, dense or “scratchy”. Wildlife encounters were exciting, but only when they occurred in spaces that still felt safe and comfortable.



Across themes, social dynamics anchored the entire experience. Friendship made spaces feel accessible; being alone could limit how far girls travelled or how long they stayed. Social environments shaped how every physical feature was interpreted: a bench mattered more if it supported sitting with friends; a path mattered if it let them walk side-by-side; a wooded corner felt different if it offered privacy rather than isolation. Even sensory experiences, such as mud, cold water, dense trees, were more tolerable with the right people present.

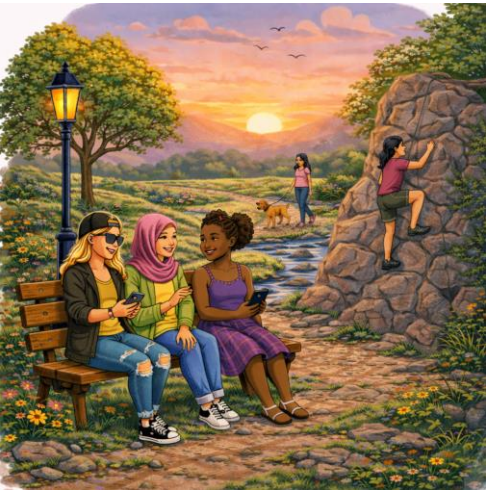
Accessibility brought these layers together. Familiarity, proximity, lighting, and clearly maintained paths expanded girls’ independence, while muddy shortcuts, dark routes, risky crossings or the presence of unwanted groups effectively shrank their usable world. A place could be geographically near yet functionally distant if it lacked safe surfaces, felt socially risky, or required transport the girls could not access. Conversely, a simple, tidy, nearby route with smooth paths and clear sightlines could support frequent, confident use.

This means that the girls are influenced by social, sensory, aesthetic and material cues simultaneously, forming rapid judgements about whether a place is not only attractive but also usable and somewhere they can move easily, feel at ease, be with friends, do fun activities, and engage with nature without (too much) discomfort. Outdoor quality, for them, is fundamentally about the fit between people, place and possibility, and about outdoor spaces that invite participation rather than merely offering beauty.

Table 5: Preferences for outdoor spaces and outdoor experiences derived from qualitative analysis of participants' accounts (teenage girls aged 12–13 years in large urban area). Illustrative images developed using OpenAI (ChatGPT-5.2, 2025).

Theme	Positive perceptions (wants and needs)	Negative perceptions (to avoid/ remove)
Nature and biodiversity 	<ul style="list-style-type: none"> • Wildlife to see (birds, ducks, deer, fish, frogs, crabs) • Trees for climbing, hiding and sitting • Flowers and seasonal colour that make places feel “pretty” and welcoming • Nature that feels varied and interesting rather than empty • Open landscapes where you can see what is around you 	<ul style="list-style-type: none"> • Long grass linked to ticks and bugs • Spiders, insects, and “creepy crawlies” near benches or paths • Dense, overgrown vegetation that feels scratchy, risky, or claustrophobic • Nature that feels unmanaged or uncomfortable to interact with
Water quality 	<ul style="list-style-type: none"> • Water that looks clean and clear • Preference for the sea • Calm water that feels safe to approach or go into • Opportunities for swimming, paddling, rock pooling, or watching wildlife • Blue spaces that add to scenery and make places feel special 	<ul style="list-style-type: none"> • Brown, murky, muddy, or algae-covered water • Fast-flowing or unpredictable water • Water associated with dirt, flies, smell, or illness • Unclear depth or currents (especially without adults present) • Water surrounded by high vegetation

<p>Soil and ground conditions</p> 	<ul style="list-style-type: none"> • Dry, firm ground that is easy to walk on • Flat grass suitable for sitting, chatting, gymnastics, or running games • Predictable surfaces that support movement and play • Puddles or uneven ground only when optional or playful 	<ul style="list-style-type: none"> • Mud, “squelchy” ground, and large puddles • Slippery, boggy, or flooded paths • Bark or loose surfacing that causes splinters or discomfort • Ground that makes clothes or shoes dirty when not dressed for it
<p>Maintenance</p> 	<ul style="list-style-type: none"> • Spaces that look cared for • Clean, usable benches and seating • Grass cut short enough to sit or picnic • Vegetation trimmed so routes and edges feel usable • Other signs of upkeep that signal welcome and safety 	<ul style="list-style-type: none"> • Litter • Graffiti and vandalism signalling intimidation or exclusion • Broken, dirty, or unusable benches • Overgrown grass and weeds around seating and paths • Fallen branches or neglected edges

<p>Aesthetics</p> 	<ul style="list-style-type: none"> • Flowers, colour, greenery, and healthy planting • Nice views, hills, open skies, sunsets • Scenic variety that gives something to look at • Spaces that feel calm, uplifting, or peaceful 	<ul style="list-style-type: none"> • Grey, concrete-dominated environments • Dead, dying, or neglected plants • Stark, barren spaces • “Too pretty” spaces where you feel you cannot move or use them (or are not allowed to, like flower beds)
<p>Accessibility</p>	<ul style="list-style-type: none"> • Spaces close to home or school • Walkable routes that fit into everyday routines • Clear, well-maintained paths • Paths wide enough to walk side-by-side with friends • Lighting that allows use when it is getting dark 	<ul style="list-style-type: none"> • Places that require complex transport (multiple busses, lifts) • Narrow, unclear, or bumpy paths • Poor surfaces that make movement stressful • Lack of lighting limiting independence in evenings or winter



Social indicators



- Places to sit and talk with friends
- Age-appropriate things to do (swings, zip wires, climbing, open space)
- Spaces that support hanging out, chatting, taking photos and hobbies like horse riding
- Feeling comfortable being there with others
- Balanced use = not too crowded, not empty

- Spaces dominated by older teens or rough behaviour
- Feeling watched, judged, or intimidated
- Parks only designed for younger children
- Being alone in busy or socially uncomfortable spaces
- Football or rough play taking over shared areas

4. Conclusions and implications

Wave 2 of the Girls Outdoors (GO) study builds on Wave 1 by following the same cohort through the transition into secondary school and early adolescence. While Wave 1 challenged dominant narratives of simple decline in girls' outdoor engagement, Wave 2 adds depth and specificity by showing how and why outdoor engagement is reshaped during this new transition, and by identifying the qualities of outdoor spaces that continue to support - or inhibit - engagement at this stage. Across both waves, girls' relationships with the outdoors were dynamic, socially mediated, and developmentally situated. However, Wave 2 reveals a clearer divergence between girls whose early experiences fostered sustained comfort within nature and those whose engagement narrowed as aversion, social pressures, and systemic constraints intensified. These findings underscore early adolescence as a critical juncture: not a point of inevitable disengagement, but a moment when trajectories become more entrenched.

4.1. Conclusions

This report provides a detailed account of how girls aged 12–13 (Secondary 1/ 2) were engaging with outdoor spaces approximately 12–18 months after Wave 1. While many themes identified previously have persisted, such as the importance of proximity, safety, social belonging, and maintenance of outdoor spaces, Wave 2 surfaced several new and sharpened insights linked to secondary school transition, social and developmental changes, along with different types of nature engagement.

- **Sustained exposure appears to shape outdoor confidence**

Wave 1 highlighted the fluidity of pre-teen girls' outdoor identities, with engagement shifting but remaining open to change. A key insight from Wave 2 is the apparent importance of sustained nature engagement. The girls who had ongoing access to nature-based activities, particularly with family that normalised regular outdoor time, continued to engage positively with the outdoors. In contrast, the girls with more limited exposure to nature were more apprehensive and some experienced aversion to less palatable forms of nature, such as mud, insects, water, and overgrown vegetation. This suggests that early and repeated exposure could play an important role in buffering against withdrawal during adolescence. This experiential dimension was not fully visible in Wave 1 and represents an advance in understanding of how inequalities in outdoor engagement may emerge.

- **Outdoor learning as a missed opportunity for sustained exposure**

Participants described secondary school outdoor learning as fragmented and largely limited to outdoor PE and occasional interdisciplinary learning (IDL), providing little opportunity to build confidence, skills, or familiarity with nature over time. Most girls expressed a desire to spend more time outdoors, which highlights outdoor learning as an underutilised opportunity to counteract disparities in exposure to nature. Rather than compensating for differences in family-based access, current provision appears, in practice, to reinforce them.

- **Secondary school restructures the girls' everyday outdoor time**

A further insight unique to Wave 2 is the extent to which secondary school structures actively reshape daily outdoor routines. Longer travel distances coupled with increased reliance on buses or lifts from adults, restrictions on movement, limited green space in school grounds and crowded grounds, along with long lunch queues can reduce incidental outdoor time regardless

of the girls' motivation. This finding underscores that disengagement can often be structurally produced, with limiting opportunities for outdoor engagement during a key developmental period.

- **Peer approval became central for the girls**

While peers were important in Wave 1, Wave 2 demonstrates that social dynamics increasingly determine outdoor engagement. Friends emerged as the strongest enabler or barrier, with girls often only going outdoors if their peers did. Being seen alone, engaging in activities perceived as childish or embarrassing, or occupying male-dominated spaces became more salient deterrents. Conversely, friendship groups in which one or more girls had a strong interest in nature often helped normalise spending time outdoors and supported continued nature engagement. This highlights the growing importance of social legitimacy in shaping outdoor trajectories.

- **Technology can function as 'outdoor infrastructure'**

Wave 2 confirms that digital technology functions as infrastructure for outdoor engagement, rather than a competing alternative. Phones supported independence, navigation, safety, social coordination, and documentation through photos and videos, while also shaping how outdoor time was spent. Technology did not appear incompatible with being outdoors. Engagement strategies that treat digital practices and outdoor time as separate overlook the ways outdoor engagement is experienced in early adolescence.

- **Opportunities for fun activities matter more than aesthetics of outdoor spaces**

Wave 2 offers a more granular account of how girls read outdoor space quality. Wave 1 and 2 both highlighted the importance of safety, proximity, and social context. Aesthetic appeal also remained important, but only insofar as it aligned with comfort, usability, and individual confidence. Outdoor spaces that were visually attractive but had limited opportunities for activities, such as formal gardens or overly manicured areas, were often described as uninviting or unsuitable.

- **Comfort of outdoor spaces as important factors for engagement**

The girls assessed outdoor spaces through practical considerations: whether the ground was dry enough to walk, sit, or practise skills; whether benches were clean and usable; whether paths felt predictable and safe to navigate; whether vegetation was managed enough to avoid ticks, insects, or discomfort; and whether lighting allowed them to stay out independently as it got darker. These micro-features functioned as gatekeepers to use, with small material conditions (mud, bark surfacing, long grass, broken seating) often determining whether a space was used at all. This emphasis on ground conditions, maintenance, and surface quality was far more pronounced in Wave 2 than in Wave 1, reflecting changing clothing norms, heightened concern with comfort and appearance, and reduced tolerance for unpredictability on what they can expect when they go outdoors.

- **Accessibility depends on usability and social comfort, not just proximity**

Wave 2 also reveals that accessibility is experienced differently by the girls. Proximity alone was often insufficient if routes felt unsafe, were poorly surfaced, or unlit. Similarly, outdoor spaces could be geographically close yet functionally inaccessible if they were poorly maintained, difficult to use or they went along individuals or groups around which the participant did not feel

comfortable. Toilets, seating, lighting, and paths wide enough to walk side-by-side emerged as critical infrastructure supporting social use; features that were not discussed in detail in Wave 1 but now played a decisive role.

- **Perceived age-appropriateness supports the girls' outdoor engagement**

Importantly, Wave 2 shows how outdoor experiences are increasingly filtered through social legitimacy. Parks and play areas designed primarily for younger children were still used but frequently described as lacking relevance or challenge. The girls reported being informally displaced or discouraged as a consequence of boys' football dominating shared areas, graffiti and vandalism signalling neglect and potential risk, or feeling 'too old' or 'out of place'. In some cases, the girls described being effectively 'banned' from parks, narrowing their already limited options. As a result, spaces that offered age-appropriate challenge, flexibility, and social infrastructure (e.g. benches, open grass, skateparks, beaches) were valued disproportionately.

These findings extend Wave 1 by showing that experiences of outdoor spaces, as described by the girls, interacts dynamically with developmental change. As girls' bodies, identities, and social expectations shift, tolerance for discomfort can narrow and reliance on supportive infrastructure may increase. Outdoor engagement is therefore sustained not by beauty or greenness alone, but by outdoor spaces that are clean, provide opportunities for different (age-appropriate) activities, navigable, socially welcoming, and adaptable to changing needs. Where these conditions are absent, outdoor engagement is not merely reduced but actively foreclosed, contributing to the divergence in trajectories observed in Wave 2.

4.2. Implications

Building on the findings from Wave 1, Wave 2 sharpens and extends the implications by showing how outdoor engagement begins to diverge during the early years of secondary school. The recommendations below reflect new evidence from Wave 2, particularly around sustained exposure to nature, the growing importance of social legitimacy, and the role of infrastructure and provision in supporting girls' outdoor trajectories.

1) Sustain exposure to nature through early adolescence

Wave 2 highlights the importance of continued and repeated exposure to outdoor and nature-rich experiences in shaping sustained future engagement. Policy and practice should therefore prioritise the provision of sustained exposure to outdoor spaces beyond the early years, rather than assuming nature connection and nature engagement capabilities are already established by late primary school.

2) Embed outdoor learning meaningfully across the curriculum

Wave 2 reinforces our previous findings that OL represents a potential opportunity for schools to support sustained engagement with the outdoor during early adolescence. While early years provision was recalled positively, secondary school OL was widely perceived as limited, fragmented, or confined to PE. More progressive, curriculum-linked outdoor learning - building skills, confidence, and challenge over time - could play a critical role in sustaining engagement during a period when other opportunities narrow. Investment is needed in ongoing staff training, support, and school grounds and infrastructure to ensure that OL can take root and become developmentally relevant and inclusive.

3) Sustain the momentum of Bikeability beyond primary school

Many girls described enthusiasm for cycling following the Bikeability programme in primary school, including riding to school and using bikes for play. However, this momentum was often lost in this hugely transitional year as girls outgrew their bikes, lacked the skills or confidence to carry out simple maintenance (e.g., fixing punctures or flat tyres), or did not feel able to bring bikes to school due to insecure storage. Schools and local authorities could help sustain cycling participation by providing follow-up opportunities in early secondary school, including basic bike maintenance skills, safe and secure bike storage, and initiatives that support cycling as a practical and social way of getting to school.

4) Address inequalities in access to formative outdoor experiences

The findings point to widening inequalities in outdoor engagement linked to family resources and organised provision. Outdoor learning, clubs, and residential have the potential to counterbalance these inequalities, yet Wave 2 shows that provision is often inconsistent, inaccessible, or absent in secondary school. There is a clear opportunity for government, education, and third-sector providers to ensure that all girls - not only those from 'outdoorsy' families - have access to regular, supported outdoor experiences during early adolescence.

5) Design organised activities and residential with differentiation and care

Organised activities, clubs, and residential remain powerful opportunities for engagement, especially at a time when teenage girls are seeking new opportunities. Wave 2 highlights the importance of appropriate challenge, choice, and sensitivity. The girls valued activities that stretched them, but which were not overwhelming: and negative experiences often involved being pushed beyond their comfort zone. Activities, clubs, and residential should offer differentiated pathways, non-competitive options, girls-only spaces where appropriate, and avoid equating enjoyment of nature with 'roughing it'.

6) Integrate technology as an enabler

Wave 2 confirms that phones are now embedded in girls' outdoor engagement, supporting independence, safety, documentation of experiences, and social connection. Attempts to position technology as incompatible with outdoor engagement risk alienating this age group. Instead, policies and programmes should integrate technology thoughtfully, acknowledging its role in navigation, timekeeping, reassurance, creativity, and social legitimacy, while also creating opportunities for immersive, phone-light experiences where appropriate (e.g. residential).

7) Support socially acceptable ways of being outdoors

Friends emerged as the single strongest enabler - or barrier - to outdoor engagement in Wave 2. Interventions must therefore align with peer cultures and social norms. Programmes that are peer-led or recognised within friendship groups, and/or identity-affirming are more likely to succeed. Non-competitive sport, fitness-oriented activities, creative outdoor practices, and flexible social use should be incorporated.

8) Design outdoor spaces around usability, comfort, and everyday needs

Wave 2 demonstrates that the girls' decisions to use outdoor spaces are shaped less by abstract ideas of 'nature' and more by practical usability. Clean seating, dry and predictable surfaces, lighting, toilets, maintained vegetation, and paths wide enough to walk side-by-side emerged as essential infrastructure. Planners and local authorities should prioritise these everyday features, recognising that minor design and maintenance decisions can have disproportionate effects on whether teenage girls will want to engage with an outdoor space.

9) Provide age-appropriate challenge and social infrastructure

Local parks and play areas designed primarily for younger children were frequently described as lacking relevance, challenge, or legitimacy for early teenage girls. Spaces that offered flexibility, informal challenge, and social infrastructure, such as open grass, benches, skateparks, beaches, or multi-use areas, were valued more highly. Investment should focus on creating outdoor spaces that evolve with users, rather than expecting teenage girls to adapt to outdoor spaces that no longer meet their needs.

10) Tackle informal exclusion and gendered use of space

Wave 2 highlights how the girls' access to outdoor spaces is increasingly shaped by informal exclusion, including displacement by boys' football, intimidation, vandalism, or being perceived as 'too old' to belong. Addressing gendered spatial exclusion requires design solutions (e.g. zoning, shared-use layouts, facilities for different activities) to ensure public spaces are visibly welcoming and legitimate for teenage girls' presence.

4.3. Next steps

This report presents an initial analysis aimed at identifying key changes between Wave 1 and Wave 2 of the GO study. The analysis was designed to provide an overview of emerging patterns rather than a full, systematic comparison. The next stage of the project will involve a more detailed comparative analysis of the Wave 1 and Wave 2 data. This will be based on comprehensive coding of the interview transcripts and visual materials in NVivo, moving beyond the current analysis conducted using field notes and transcript cross-checking. This deeper analysis will enable an in-depth exploration of similarities and differences across the two waves.

Alongside this analytical work, the team will produce a short, accessible report highlighting findings relevant to different policy and practitioner audiences. In addition, academic papers will be developed to disseminate the study's findings. The project will then move into its third wave of data collection. Wave 3 interviews will be conducted with the same participants using the same methods as in Wave 1, including quantitative scales assessing 'nature connectedness' and engagement with and access to outdoor spaces. These scales were based on measures developed by Natural England (PANS data; Natural England, 2020), NatureScot, and the University of Derby's Nature Connection Index (Richardson et al., 2019). Additionally, a set of items to assess nature engagement capabilities will be included again.

Following this, the Wave 3 data will be analysed and written up. A cross-wave analysis will then be undertaken to examine changes in girls' outdoor engagement and experiences over time, exploring the transition from Primary 7 to Secondary 2/3. Findings from this longitudinal analysis will be summarised in a cross-wave briefing, alongside further academic publications.

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