

How does walking in nature impact the mental wellbeing and burnout risk of full-time working parents?

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Researching for this dissertation has challenged me both academically and emotionally. It has taken me to some difficult places as I researched and revisited the dark thoughts I experienced immediately after losing my billion-dollar CEO job in sudden and traumatic fashion in 2019, suffering with severe depression. My lived experience has shaped who I am as a leader, a researcher and a father. Nature connection, quite honestly, saved me. I hope this dissertation and my future studies can help others understand and leverage the power of nature to heal and restore.

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DECLARATION FORM



Master's Degrees by Examination and Dissertation Declaration Form

1. This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

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2. This dissertation is being submitted in partial fulfilment of the requirements for the degree of MA in Outdoor Education.

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3. This dissertation is the result of my own independent work / investigation, except where otherwise stated. Other sources are acknowledged by explicit references. A bibliography is appended.

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ABSTRACT

Nature is widely linked to psychological and emotional restoration, yet evidence on dose–response and guidance for working parents is limited. This mixed-methods study assessed pre–post changes in mental health and burnout following self-directed walking in nature and tested whether walking dose (frequency, weekly minutes, duration) had a positive impact on wellbeing and burnout.

Thirty-one full-time working parents ($M_{age} = 45.6$ years) completed a questionnaire made up of validated instruments as a baseline and again ~4 months later. The instruments used were BDI-II (depression), SWEMWBS (mental wellbeing), MBI subscales (emotional exhaustion, depersonalisation, personal accomplishment), and ONS (personal wellbeing). Walking exposure over the period was summarised as walks/week, minutes/week, and average minutes/walk. Assumption checks were applied; Wilcoxon tests followed for non-normal difference scores. Three semi-structured interviews provided qualitative context and deeper insights for discussion.

Participants averaged ~2.0 walks/week ($M = 1.99$) and ~86.6 minutes/week ($M = 86.6$). Depressive symptoms decreased substantially ($t(30) = 6.09$, $p < .001$; large effect) and emotional exhaustion decreased moderately ($t(30) = 3.83$, $p < .001$). SWEMWBS improved in Wilcoxon testing ($Z = 2.99$, $p = .003$), while personal accomplishment declined ($t(30) = 2.89$, $p = .007$; Wilcoxon $p = .011$). ONS items changed little on average; “life feeling worthwhile” improved by Wilcoxon ($p = .030$). After Holm adjustment, BDI-II, MBI-EE and MBI-PA remained significant. No linear dose–response emerged for frequency, minutes/week, or duration with any outcome. Interviews highlighted context quality, importance of device detachment, and feasibility as key drivers for guidance.

For this group of busy working parents, modest, routine contact with nearby-nature coincided with meaningful improvements in mood and reduced feelings of exhaustion, without evidence that “more minutes” were proportionately better. Guidance cues may be needed to support feelings of personal accomplishment. Future controlled studies

should model non-linear dose–response and test combined self-development or guided interventions.

INTRODUCTION

Background & Context

Burnout and mental wellbeing are gaining widespread media attention and are now recognised as major public health concerns in modern society. For full time working parents, who are navigating the demands of both professional and family life, this is especially important (Maslach & Leiter, 2016; Ren et al., 2024; Amstad et al., 2011). Working parents face a unique combination of occupational responsibilities and parental duties, which frequently leads to sustained high stress, diminished mental health, and heightened burnout risk (Maslach and Leiter, 2016; van den Berg and Beute, 2021). Burnout is characterised by chronic emotional exhaustion, feelings of depersonalisation, and a reduced sense of accomplishment. According to Maslach (2001) burnout is prevalent in working parents due to the unrelenting demands of their conflicting daily roles (Maslach et al., 2001).

A growing body of evidence suggests that regular interaction with natural environments, often termed “green space” or “blue space” exposure, can enhance psychological wellbeing, reduce stress, and build resilience (Bratman et al., 2019; Frumkin et al., 2017). Well documented frameworks, such as Attention Restoration Theory (ART) and Stress Reduction Theory (SRT), propose that time in nature provides restorative experiences that replenish depleted cognitive capability and help to regulate stress responses through psychological and physiological pathways (Kaplan and Kaplan, 1989; Ulrich et al., 1991). This concept of nature connection has been linked to improved emotional regulation, mood enhancement, and reductions in biomarkers of stress such as cortisol (Hunter et al., 2019).

Recent systematic reviews and meta-analyses reinforce these frameworks, demonstrating that exposure to natural settings can reduce symptoms of anxiety and depression, improve mood, and promote emotional balance (Twohig-Bennett and Jones, 2018; Roberts et al., 2019). Activities such as walking in nature, sometimes described as “green exercise”, are of particular interest because they combine physical

activity with environmental restoration, offering dual benefits for mental wellbeing (Pretty et al., 2005; Olafsdóttir et al., 2020).

However, significant gaps remain regarding the optimal “dose” of nature exposure needed to achieve these benefits, particularly in terms of the frequency, duration, and intensity of walking in nature for specific at-risk groups such as full-time working parents (Shanahan et al., 2016; van den Berg and Beute, 2021). The current study aims to address these gaps, by focusing exclusively on full time working parents.

Theoretical and Empirical Foundations

The academic literature on nature connection points to a strong correlation between nature and mental health. It is clear, however, that the literature often fails to address the specific needs of working parents – who often find the conflicting demands of career and childcare leave little opportunity for self-care and wellbeing. Crnic and Low (2002) argue there is a pressing need for research and interventions that specifically address the needs of time constrained populations (Crnic and Low, 2002; van der Lippe et al., 2011).

For parents working in high-stress roles, pressure is often amplified by always-on requirements and strategic decision-making responsibilities, which in turn increases burnout risk (Maslach and Leiter, 2016; Salvagioni et al., 2017). While workplace health initiatives have been in existence for some time, they commonly include benefits such as gym memberships, mindfulness, or nutritional advice – but not nature-based practices that are restorative and highly cost-effective (Brown et al., 2014).

Research into the “dose” of nature contact offers some guidance. Shanahan et al. (2016) found that participants experiencing 2 hours of nature exposure per week showed evidence of improved health and wellbeing. However, studies such as this often do not distinguish between activity types. It remains unclear whether short, frequent walks in nature (e.g., 15–20 minutes daily) might elicit similar benefits to longer but less frequent outings. (Hunter et al., 2019). In terms of the research base,

interventions are often evaluated in the short term, with few following up to determine whether participants maintained nature connection activities once formal programmes had ended (Richardson et al., 2016). This is a critical gap, as the sustainability of health behaviours often determines their real-world impact.

Cross-cultural evidence offers further valuable context. In Japan, *Shinrin-yoku* (forest bathing) is embedded in public health policy and supported by government-endorsed forest therapy trails (Park et al., 2010). In Scandinavia *friluftsliv* - a cultural philosophy of open-air living – is blended into the education syllabus and urban planning. While in Australia, public health campaigns actively encourage outdoor activity as a core component of lifestyle (Maller et al., 2006). In contrast, in the UK and USA there is perceived to be a lack of systemic support for regular nature contact, leaving individuals to self-motivate despite competing demands (White et al., 2019).

Walking in nature represents an accessible, adaptable, and sustainable intervention for busy parents. Ultimately, though, there is little clarity on the optimal dose and frequency for measurable benefits.

This study therefore aimed to:

- Quantify the impact of self-selected doses and frequencies of walking in nature on mood, anxiety, depression, and burnout risk in full-time working parents.
- Explore, through qualitative follow-up interviews, how behaviours are sustained over time and what long-term effects participants observed.

By focusing on a high-risk but under-researched population, this mixed-methods study addressed a clear gap in the literature and aimed to produce findings that are academically robust and practically relevant.

Nature and Wellbeing: A Focus on Working Parents

The restorative potential of nature has been well established across a variety of populations, yet full-time working parents represent a subgroup whose needs and constraints make them both a priority for intervention and a notably underrepresented group in the research literature (Barton et al., 2016; van den Berg & Beute, 2021).

For working parents, the combination of professional obligations and childcare responsibilities creates an interesting and often conflicting dynamic where parents need self-care but have little time or opportunity to dedicated to it (Crnic & Low, 2002; Milkie et al., 2010). These pressures are amplified in dual-earner households, single-parent families, and in cases where workplace flexibility is limited (Nomaguchi & Milkie, 2020).

Studies show that working parents experience elevated stress levels compared to non-parents in similar occupational roles (Borelli et al., 2017). This stress often manifests itself as role overload, time scarcity, and diminished opportunities for restorative activities (Mattingly & Sayer, 2006). Burnout is particularly troublesome in this demographic because it may simultaneously compromise both work performance and family "...thereby perpetuating a cycle of strain across multiple life domains" (Seidler et al., 2014).

Access to natural environments can provide both physiological and psychological relief to these pressures. Exposure to green spaces has been linked with lower cortisol levels (Ward Thompson et al., 2012), improved heart rate variability (Gladwell et al., 2016), and reductions in perceived stress (Hartig et al., 2014). Importantly, these benefits have been demonstrated in time-limited exposures (as little as 20–30 minutes) suggesting that even brief exposure could be beneficial for working parents with constrained schedules (Hunter et al., 2019).

The dual-action benefit of walking in nature is particularly relevant: moderate-intensity physical activity has independently been shown to improve mood and reduce anxiety (Biddle & Asare, 2011), while the natural setting enhances these effects through mechanisms proposed in Attention Restoration Theory (Kaplan & Kaplan, 1989) and Stress Reduction Theory (Ulrich et al., 1991). These frameworks suggest that natural environments reduce mental fatigue and support positive mood, unlocking recovery from the cognitive and emotional demands of work and parenting.

Barriers and Equity Considerations

There are certain considerations for full-time working parents which have the potential to be a significant barrier to increasing nature connection. Research has shown that obstacles such as lack of proximity to green spaces, safety concerns (particularly for lone women), childcare commitments, and seasonal weather constraints (Jennings et al, 2016; Richardson et al., 2021). There are also socio-economic considerations including access to unmanaged, truly natural green spaces, with lower income families much more likely to live in areas with minimal access to rural and wild spaces (Rigolon, 2016). In some urban areas in the United States of America and the United Kingdom, green space access can be limited, inaccessible, or poorly maintained (Wolch et al., 2014).

Rationale and Identification of the Research Gap

Given the stress and burnout risk for full time working parents and the well-known benefits of time in nature in, there is an opportunity for more studies examining how different doses and frequencies of nature-based walking interventions can be helpful. Understanding both the acute benefits for parents as well as the sustainability and practicality of such interventions over time is critical in developing evidence-based recommendations.

While a robust body of literature provides us with evidence of the role of nature in enhancing mental health, there is a notable lack of guidance on how such interventions are prescribed, implemented, and evaluated for full time working parents. Existing studies often group participants into broad categories without disaggregating findings by the unique stress profiles and constraints of full-time working parents (Barton et al., 2016; Borelli et al., 2017). This aggregation has the potential to obscure important nuances in how interventions are experienced and sustained in specific cohorts.

The concept of a “nature dose”, being the frequency, duration, and intensity of exposure required to yield measurable psychological and physiological benefits, has gained traction in the literature in recent years (Shanahan et al., 2016; White et al., 2019). However, there are very few studies which examine this relationship specifically for walking in nature, and even fewer focus on working parents. Without this knowledge,

recommendations remain generic and risk being impractical for those whose availability for self-care is most limited.

Although stress reduction is a common outcome in green health research, burnout specifically has received much less focus in this context (van den Berg & Beute, 2021). This is a notable absence from the literature, since burnout encompasses not only emotional exhaustion but also depersonalisation and diminished personal accomplishment (Maslach et al., 2001). For working parents, burnout can manifest across both professional and domestic spheres, compounding its impact.

Global variations in attitudes towards green health are also worth noting. Practices like Shinrin-yoku and Friluftsliv (Park et al., 2010; Gelter, 2000) suggest that some cultures are more inclined to adopt nature connection behaviours. Further the adoption of these practices in other countries has received limited study.

There is also a gap in the literature regarding the long-term sustainability of nature-based walking. Studies frequently show immediate improvements in mood and stress (Olafsdóttir et al., 2020; Hunter et al., 2019) but follow-up studies are limited. Given the pressing demands of parenting, particularly young children, it is important to study the factors which may affect long term engagement and maintenance of the interventions.

This study intends to consider the gaps in the literature, focussing on full-time working parents, examining the relationship between the dose and frequency of walking in nature and their impact on burnout and depression risk. By employing a mixed-methods design, integrating quantitative pre- and post-intervention data with qualitative insights gathered 18 months later, the present study not only measures immediate impact but also explores the sustainability of nature-based walking. This approach offers a more contextually grounded insight for full-time parents and addresses the need for more population-specific research (Frumkin et al., 2017; White et al., 2019).

Aims, Objectives and Research Questions

The primary aim of this study was to explore walking in nature and its effect on mental wellbeing and burnout risk in full-time working parents.

The primary objectives for the study were:

- Identify the impact of walking in nature by measuring changes in validated scales for mood, anxiety, depression, and burnout risk before and after a self-directed walking intervention.
- Explore any relationship between the frequency and dose of walking in nature and their impact on mental wellbeing and burnout risk scores.
- Follow up through qualitative interviews to explore the lived experience of participants and any challenges in sustaining behaviours
- Identify areas where further research could contribute to the development of practical recommendations for full time working parents

In line with these objectives, the study addressed the following research questions:

1. What changes in mental wellbeing and burnout risk occur following a self-directed walking in nature intervention among full-time working parents?
2. How do variations in the frequency and duration of walking in nature relate to these changes?
3. To what extent do participants continue walking in nature in the 18 months following the intervention, and what benefits or challenges do they report?

Methodological Overview

The present study adopted a mixed-methods design. This approach allowed for the alignment of both quantitative and qualitative data, providing a richer understanding of the relationship between nature-based walking, mental wellbeing, and burnout risk in full-time working parents.

Participants, all of whom were full-time working parents, completed an online questionnaire comprising validated scales to assess:

- Mood
- Anxiety
- Depression
- Burnout risk

Following initial data collection, participants proceeded to engage in solo walking in nature, choosing their own frequency and duration of walks to reflect real-world feasibility. After the intervention period, participants completed the same questionnaire a second time. This design enabled the measurement of within-subject changes and the exploration of whether variations in dose (frequency and duration) had any statistical impact on outcomes.

A paired-samples t-test was conducted using SPSS for each validated instrument within the questionnaire, to determine whether there were statistically significant changes in scores.

To complement the quantitative findings, a qualitative phase was conducted approximately 18 months after the initial intervention. Semi-structured interviews were held with three random participants to explore:

- Whether they had continued to engage in walking in nature.
- Perceived long-term benefits and challenges associated with this practice.
- Broader reflections on the role of nature in their daily lives and mental health maintenance.

Interviews were transcribed by Microsoft Teams and analysed thematically, allowing recurrent patterns and unique experiences be reviewed. The qualitative findings were used to provide context to the quantitative results, particularly in understanding sustainability of the behaviour and perceived relevance in participants' ongoing lives.

The integration of quantitative and qualitative approaches was not initially designed but became an option due to circumstance. The researcher's father was diagnosed with terminal cancer which delayed the analysis of the initial data. Once analysis recommenced it was clear there was an opportunity for an element of longitudinal

study to be introduced. The introduction of the follow up interviews gave a unique opportunity to illuminate the personal meaning and practical realities of sustaining nature-based walking over time for this cohort.

Literature Review

This literature review aimed to critically examine the current literature on nature connection and its link to human health and wellbeing. To effectively provide the wider context for the current study, we will consider the research around the mental health benefits of exposure to natural spaces before exploring walking in nature more specifically. Next, we will explore the literature around burnout prevention through nature connection before exploring working parents as a vulnerable population. In reviewing the research base, the aim is to provide a critique of the methodologies employed and identify gaps in the research for further exploration. Finally, this paper will provide reference throughout to well established and widely accepted frameworks through which we can consider the research questions of the current study.

Burnout can be defined as chronic emotional exhaustion, depersonalization, and diminished view of personal accomplishment (Maslach et al., 2001). Maslach further recognises that parents may be at elevated risk of burnout, in large part due to the sustained daily pressures associated with parenthood (Maslach et al., 2001). World Health Organisation guidance and multiple research studies identify an increasing prevalence of burnout and poor mental wellbeing in full-time working parents, who often must juggle the demands of work and family life simultaneously (World Health Organization, 2019; Maslach & Leiter, 2016; Chung et al., 2020; Aumann et al., 2011). Work responsibilities, financial pressure, childcare duties, and other parental commitments may lead to elevated stress levels, compromised mental health, and an increased risk of burnout (Gascon et al., 2018; van den Berg & Beute, 2021).

Time in green spaces can significantly contribute to enhanced mental wellbeing and facilitate stress relief (Coventry et al., 2021; Gascon et al., 2018). Frameworks such as Attention Restoration Theory (ART) and Stress Reduction Theory (SRT), both developed more than three decades ago, proposed that the natural world can restore mood and wellbeing and replenish cognitive capacity (Kaplan & Kaplan, 1989; Ulrich et al., 1991). These theories suggest that experiences in nature can improve mental wellbeing and help protect against the effects of burnout. Further, multiple meta-analyses

demonstrated that exposure to green spaces can reduce anxiety, improve mood, and help remediate depressive symptoms (Roberts et al., 2019; Bray et al., 2022).

We know from the literature that time in nature is positive for human health and there is additional evidence that physical activity in nature can amplify that impact (Lopes et al., 2020; Olafsdóttir et al., 2020). This represents an interesting insight, when considering the design of interventions for working parents. Significant gaps remain regarding the guidance we can offer in terms of intensity and duration of nature-based walking necessary for positive health outcomes (van den Berg & Beute, 2021; Shanahan et al., 2016).

In terms of weaknesses in the existing literature base there are a few notable limitations to consider. Typically, peer reviewed research to date has employed a cross-sectional design which limits the understanding of long-term behaviour change and impact (Bratman et al., 2019). Self-selection bias is also a concern, as participants already spending a significant amount of time in nature may already exhibit better baseline physical and mental health (Lawton et al., 2017) or be predisposed to speak positively of nature and its impact. As we consider the definition of nature exposure, definitions vary between studies; with studies exploring everything from unplanned contact with urban green spaces to solo, immersive wilderness experiences. Clearly this makes direct comparisons and meta-analysis more challenging (Hartig et al., 2014).

Shanahan (2016) noted that mental health benefits of time in nature above two hours per week begin to diminish. In certain clinical populations, such as individuals with severe depression or PTSD, nature contact alone may not elicit improvements without the inclusion of tailored therapeutic support (Annerstedt and Währborg, 2011). The quality of the natural setting can also play a pivotal role. For example, managed spaces (like playing fields or parks) or polluted environments may fail to elicit restorative responses and, in some cases, can even heighten stress or discomfort (Mears et al., 2019).

There are some potential negative associations with time in nature which must be considered. Whilst these are not frequently cited, some participants have concerns

about personal safety, injury, or even encounters with wildlife (Bixler and Floyd, 1997). Societal factors can also influence how individuals perceive and respond to time in nature. Those with limited prior experience in the outdoors or a lack of familial connection to nature for example may have increased discomfort or anxiety when asked to spend time in nature (Finlay et al., 2015). Additionally, environmental factors such as pollen levels, air pollution, and extreme weather conditions can limit access or exacerbate health problems for some individuals (Tamosiunas et al., 2014).

Mental health benefits of time in nature

Over the last twenty years we have seen a significant increase in the amount of research exploring the mental health and psychological benefits of time in nature. Indeed, various meta-analyses have demonstrated a positive correlation between time in green spaces and various mental health measures; including lower levels of stress, anxiety, and depression (Bratman et al., 2019; Twohig-Bennett & Jones, 2018). The research demonstrates that the natural world has a remarkable capacity to support cognitive restoration, feelings of wellbeing and even a capacity to manage emotional changes and fluctuations more effectively. The two previously mentioned frameworks - Attention Restoration Theory (ART) and Stress Reduction Theory (SRT) - have been central to understanding the mechanisms underlying these effects for researchers.

ART proposes that nature provides an environment rich in "soft fascinations," stimuli that gently capture our attention and allow our fatigued senses to replenish. This contrasts with urban environments, which often bombard individuals with stimuli 24/7 requiring directed attention and proving difficult to avoid or switch off (Kaplan & Kaplan, 1989). SRT supports this perspective, suggesting that nature evokes "positive affective responses and reduces physiological arousal linked to stress" (Ulrich et al., 1991). Physiological indicators such as reduced cortisol levels, lower heart rate, and improved heart rate variability have all been documented in participants exposed frequently to natural settings (Hunter et al., 2019).

Interestingly, the literature suggests that exposure to green spaces is particularly helpful for populations suffering from chronic stress, such as full-time working parents.

A systematic review by Frumkin et al. (2017) found that both passive (e.g., viewing nature) and active (e.g., walking, gardening) interactions with nature lead to improved affective states and reduced physiological stress. These benefits are not solely attributable to physical activity; studies have shown that even brief periods in nature (e.g., 10–20 minutes) can produce measurable psychological benefits (Hunter et al., 2019, Barton and Pretty, 2010). Dzhambov et al. (2018) proposed that people living closer to green spaces reported better overall mental health outcomes, suggesting that proximity and ease of access play vital roles in unlocking health benefits. This is particularly relevant for working parents who may face logistical constraints in accessing remote natural areas or who live in urban areas.

Despite the growing consensus on the mental health benefits of nature, there remains a lack of alignment regarding the optimum “dose” required to elicit meaningful health outcomes. Shanahan et al. (2016) proposed a dose–response framework, recommending at least 120 minutes per week in nature for measurable mental health benefits. Overall, whilst solid and extensive research has been conducted, there appears to be a significant gap in our understanding of the timing and frequency of “doses” of nature, particularly regarding how these interactions affect mental health outcomes in highly fatigued groups like busy working parents.

Walking in Nature and Mental Health

Walking in green spaces, on face value, combines two elements known to independently improve psychological health: moderate physical activity and nature exposure. Physical activity itself has long been recognized for its beneficial effects on mood, anxiety, and depression (Biddle & Asare, 2011). When this activity occurs in a natural setting, the psychological gains are amplified, a phenomenon which has been referred to as “green exercise” (Pretty et al., 2005).

Olafsdóttir et al. (2020) conducted a randomized controlled trial showing that participants who completed walks in nature reported greater stress reduction and improved mood compared to those walking in built environments. Similarly, Bratman et al. (2015) observed that nature walks were associated with decreased rumination, a key

marker of depression, as well as decreased neural activity in the subgenual prefrontal cortex - a part of the limbic system which is known to play a key role in emotion regulation.

The complimentary effects of physical activity and nature exposure are well-documented, but evidence for green exercise is not always positive. Some studies found that improvements in mood and cognitive function following walking in natural settings may be similar in magnitude to those achieved in built environments when the social or motivational context is strong (Rogerson et al., 2016). Differences in environmental quality, personal safety perceptions, and even seasonal weather can influence whether walking in nature delivers measurable psychological gains (Flowers et al., 2016). These findings suggest that while green exercise holds promise, it should not be viewed as universally superior to other accessible forms of activity, particularly for individuals with limited access to high-quality green spaces.

Despite these concerns, the research overall strongly points to improvements in attention, cognitive function, and feelings of vitality (Berman et al., 2008). These outcomes are especially relevant to full-time working parents, for whom cognitive, sensory, and emotional fatigue are common. Barton and Pretty (2010) conducted a meta-analysis showing that even short doses of green exercise (as little as five minutes) could significantly improve mood and self-esteem. The benefits were even greater when water (blue space) was also present, suggesting an interaction between visual and auditory environmental qualities.

Considering socio-economic barriers to exercise in general, the accessibility of walking makes it a practical intervention for parents. Walking requires minimal equipment or financial investment making it one of the few wellbeing interventions which can be considered truly accessible across a wide range of socioeconomic groups. This is particularly significant for full time working parents, who may face financial, logistical and time constraints that limit access to more structured or expensive wellness programs.

As discussed, few studies explicitly quantify the dose of walking in nature required to achieve positive effects. Duration, frequency, and environmental quality all vary across studies, making it difficult to identify precise guidelines. Most research assumes a one-size-fits-all model, ignoring contextual factors such as parenting responsibilities, time constraints, and other baselines, all of which can impact the effectiveness of such interventions.

Soga et al. (2021) found that nature-based physical activity was associated with higher subjective happiness and reduced depressive symptoms, but they also noted that the frequency of engagement played a critical role. So, the question appears to be, what is the threshold dose at which the activity becomes statistically significant? Hunter et al (2019) claim that "...habitual engagement rather than sporadic or novelty-driven participation" appears to foster more sustainable mental health improvements.

Burnout Prevention Through Nature Exposure

According to Danhof-Pont et al (2010) Burnout "...is a stress state characterized by symptoms of mental exhaustion and physical fatigue, detachment from others, and feelings of diminished competence". Burnout is particularly prevalent among working parents due to the compounded pressures of career and parenthood. Symptoms such as chronic exhaustion, emotional detachment, and reduced professional efficacy are frequently reported (Maslach et al., 2001). Psychological interventions have traditionally focused on cognitive-behavioural approaches, mindfulness, and workplace modifications, yet these are not always accessible to parents.

Nature exposure presents a low-cost intervention with the potential for broad applicability. Kaplan (1995) argues that natural settings facilitate "directed attention recovery," which is essential for mitigating cognitive fatigue - a key contributor to burnout. A study by Beute and de Kort (2014) reinforces this view that exposure to natural environments can improve attentional capacity and reduce mental fatigue.

Dzhambov et al. (2019) found that individuals exposed to green spaces had significantly lower salivary cortisol concentrations than those with limited nature access. Empirical evidence for the impact of nature-based interventions on burnout specifically though,

are limited and inconclusive. Some studies indicate that any improvements in mood and wellbeing factors do not translate into significant reductions in burnout indicators when other workplace or lifestyle stressors remain unchanged (Haluza et al., 2014). Certain occupations with rigid schedules or high emotional demands may limit the feasibility of regular nature contact, potentially reducing its protective impact (Korpela et al., 2017). These caveats underscore the importance of integrating nature exposure into a broader, multi-component approach to burnout prevention.

Interestingly for busy working parents, nature-based interventions have offered promising results in corporate settings. Brown et al. (2014), for example, found that regular walking meetings in green spaces were associated with improved employee wellbeing and job satisfaction. A similar study by Korpela and Kinnunen (2011), found that employees who visited local natural spaces during work breaks, reported lower emotional exhaustion and greater workplace engagement.

A meta-analysis by Zhang et al. (2021) found that nature connection and interventions were linked to significant improvements in psychological resilience and reductions in burnout markers across various occupations. Interestingly, the literature rarely considers gender differences with burnout. Women though are more likely to experience emotional exhaustion due to disproportionate domestic and caregiving responsibilities (van der Lippe et al., 2011). Studies rarely separate participants by gender, nor do they explore how nature interventions might differentially affect mothers and fathers.

Understanding how and to what extent walking in nature might remediate burnout in parents remains a critical and unexplored area of research. This presents a compelling opportunity for future postgraduate research to examine targeted interventions that are not only evidence-based but also demographically relevant.

Working Parents: A Vulnerable Population

Parents frequently experience stress linked to the conflicting demands of professional responsibilities and parenthood. The effects of these stressors are believed to be amplified by gender differences; with mothers often bearing a disproportionate share of

domestic activity in Western society, contributing to heightened burnout rates (van der Lippe et al., 2011). Studies have suggested that parenting pressures can exacerbate general strain and reduce the impact of common mental health interventions if not adequately addressed (Crnic & Low, 2002). Further, working parents often face logistical barriers that limit participation in traditional mental health or wellbeing programs. These include rigid work hours, lack of affordable childcare, commuting stress, and guilt around prioritizing personal wellness over time with children. Consequently, interventions that are low-cost, flexible, and easy to integrate into daily routines and around time with family, such as walking in local natural environments, may be particularly suitable for this population (Richardson et al., 2016). The impact of parenting-related stress is often overlooked in broader discussions of occupational burnout. Yet, for working parents, stress does not end at the workplace. Evenings and weekends, times typically available for rest and recovery to non-parents, are instead consumed by household responsibilities and childcare tasks. These "second shifts" can exacerbate fatigue and reduce the efficacy of conventional mental health interventions (Hochschild & Machung, 2012). Again, in this context, the portability and low cost of nature-based walking become particularly relevant. These interventions require minimal planning, are often free or very low cost, and can be easily integrated into daily routines (e.g., walking during lunch breaks or with children after school) as well as modelling positive health behaviours to their children. However, research must account for variables such as access to green space, perceived safety, and seasonal or weather-related barriers that could affect working parents' ability to consistently engage with nature.

As such, access inequities are a critical consideration for research in this space. Parents in urban or low socio-economic areas may have limited access to safe, well-maintained green spaces or limited access to transportation links to green spaces. Socioeconomic status, ethnicity, and neighbourhood quality all influence one's proximity to and use of natural environments (Rigolon, 2016). Without addressing these systemic barriers, nature-based interventions risk reinforcing existing health disparities rather than alleviating them.

In contexts where childcare responsibilities or long working hours dominate, opportunities for sustained or restorative time in nature can be scarce, limiting the potential impact of interventions such as walking in natural environments (Armstrong, 2000). Lastly, the framing of walking in nature as a wellbeing intervention must consider the construct of parental guilt. Parents may feel selfish or indulgent for taking time to walk alone rather than spending that time with their children. If the walking is not alone, for example, the question arises whether there is still a rejuvenating impact. Unfortunately, the literature is limited in this space. It is obvious that family-inclusive nature walking strategies may be more feasible approaches to delivering mental health benefits to this group, but the health impact of those strategies is less well known (Sachs et al., 2024).

Methodological Critique and Gaps in the Literature

Although the literature supports the mental health benefits of nature exposure, it is clear there are some limitations. Very few studies separate data by employment or parental status, making it difficult to isolate effects specific to full-time working parents. This variety of intervention designs, varying in length, intensity, setting, and outcome measures, also impedes meta-analysis and the establishment of standardized recommendations.

There are several emerging methodologies, such as Ecological Momentary Assessment (EMA), salivary cortisol sampling, and wearable biometric monitoring (e.g., heart rate variability) which have so far been underutilized in the study of green health. These could offer more granular insights into the psychological and physiological impacts of nature-based interventions (Dzhambov et al., 2022). There are, of course, many studies in this field which have demonstrated strong methodologies. For instance, the large-scale longitudinal format used by White et al. (2019) and Houlden et al. (2019), both of which provided more robust causal inferences by tracking participants' mental health over time and controlling for socio-demographic effects. In contrast, many smaller-scale studies that may overstate the generalisability of their findings due to limited sample sizes or context-specific variables (Beute and de Kort, 2014).

A notable gap in the literature concerns the concept of “dose” in nature-based interventions. The interplay between dose, activity type, and population subgroup remains underexplored. There appears to be a need for research that measures the impact of shorter, more frequent doses (such as 10-mins per day) of nature to assess whether they offer comparable or superior benefits to longer, less frequent exposures, especially among time-poor populations like full-time working parents.

Environmental variables, such as biodiversity, air quality, noise levels, and green space type or quality are rarely standardized or accounted for in the literature base. Yet, as we have seen, these factors can significantly modulate the restorative quality of a natural environment (Marselle et al., 2021). The failure to control for such variables limits the comparability of studies as well as the ability to draw out programmatic recommendations for mental health practitioners and healthcare professionals.

There is minimal evidence in the literature of the longer-term sustainability of mental health benefits from nature-based walking. While many studies demonstrate short-term benefits, few track outcomes beyond several weeks or months. This is a significant limitation for burnout-related research, where symptom trajectories can be long-lasting and relapse common. This points to the potential for PhD level research conducted over multiple years whereby long-term impact is more deeply studied.

Lastly, most of the current literature is concentrated in Western countries, creating questions about cultural applicability and ecological validity. Cultural attitudes toward nature, physical activity, and mental health vary widely, and interventions that are effective in one context may not generalize to others. Future research must incorporate diverse populations and consider how socioeconomic, geographic, and cultural factors shape engagement with nature and subsequent wellbeing outcomes.

Variability in study designs, inconsistent definitions of “nature exposure,” and reliance on self-reported measures mean that “...effect sizes and causal pathways are not always clear” (Frumkin et al., 2017; Hunter et al., 2019). Furthermore, the dominance of cross-sectional studies limits the ability to determine long-term impact, while population-specific variables, such as cultural attitudes toward outdoor activity,

accessibility of green space, and pre-existing mental health status, are often underexplored (van den Berg et al., 2016; Keniger et al., 2013). At the same time, a smaller subset of high-quality longitudinal and experimental studies do provide a more robust foundation (Shanahan et al., 2016; Olafsdóttir et al., 2020), indicating that the field can produce rigorous and generalisable evidence when methodological best practices are applied.

The literature reviewed in this dissertation demonstrates a strong link between exposure to green spaces and improved mental wellbeing, particularly for studies assessing walking interventions. The combination of moderate physical activity and exposure to nature produces synergistic psychological benefits, ranging from stress reduction to improved cognitive function and mood regulation. These outcomes are especially significant for full-time working parents, who represent a chronically stressed and often underserved population in mental health research. This demographic experiences unique and layered sources of psychological burden, including occupational pressures, parenthood responsibilities, and limited time for recovery or self-care.

In summary, parents are being hit by a growing social crisis. Modern 24/7 digital communications and work expectations collide devastatingly with poor sleep and reduced energy due to parental responsibilities. A promising recent study by Bayot et al. (2024) demonstrated that an 8-week mindfulness and compassion-based group program effectively reduced parental burnout among participants. The literature implies that nature-based walking interventions offer a similarly promising solution. They are flexible, scalable, low-cost, and potentially self-sustaining. Yet despite their promise, current research fails to provide precise recommendations concerning optimal frequency, duration, and contextual parameters of such interventions - especially for working parents. Additionally, critical gaps remain regarding accessibility, environmental quality, gender-specific experiences, and long-term adherence.

To advance this field and move toward practical, inclusive solutions for parents, future research must:

- **Further examine the dose–response relationship** between walking in nature and psychological outcomes.
- **Tailor interventions to the needs of full-time working parents**, accounting for time, accessibility, and parenting roles.
- **Incorporate objective physiological and ecological evidence metrics**, including wearable biometrics and environmental quality data.
- **Adopt longitudinal designs** to assess the mental health benefits over a sustained period.

METHODOLOGY

Philosophical Foundations

Mixed-methods research is underpinned by the philosophical stance of pragmatism, which prioritises the research question over allegiance to a single paradigm (Tashakkori and Teddlie, 2010). Pragmatism embraces the coexistence of both positivist (quantitative) and constructivist (qualitative) assumptions, enabling the collection of numeric trends and personal narratives that together form a more complete understanding of the phenomenon. This flexibility is essential in applied health and wellbeing research, where complex human experiences rarely fit within a single epistemological frame (Biesta, 2010).

Research Design and Justification

This study adopted a sequential mixed-methods design (Creswell & Plano Clark, 2018), which combined quantitative and qualitative phases to examine the effects of walking in nature on the mental wellbeing and burnout risk of full-time working parents. This approach allowed for the statistical evidence of change to be established before exploring participant perspectives in greater depth. Similar approaches have been successfully used in nature–wellbeing studies, where quantitative measures capture psychological or physiological shifts and qualitative narratives explain the underlying processes and constraints (Richardson et al., 2023; Shanahan et al., 2019).

The study design capitalised on an unplanned opportunity for longitudinal follow-up. Approximately 18 months after the study period, qualitative interviews were conducted with a subsample to assess whether participants had maintained their walking practices, perceived ongoing benefits, and encountered barriers to continued engagement. This extended time frame allowed for insight into the sustainability of behavioural change - a dimension often lacking in nature–based intervention research (White et al., 2021). Longitudinal mixed-methods designs are particularly powerful for understanding not only initial intervention effects but also the durability of those effects over time (Caruana et al., 2015).

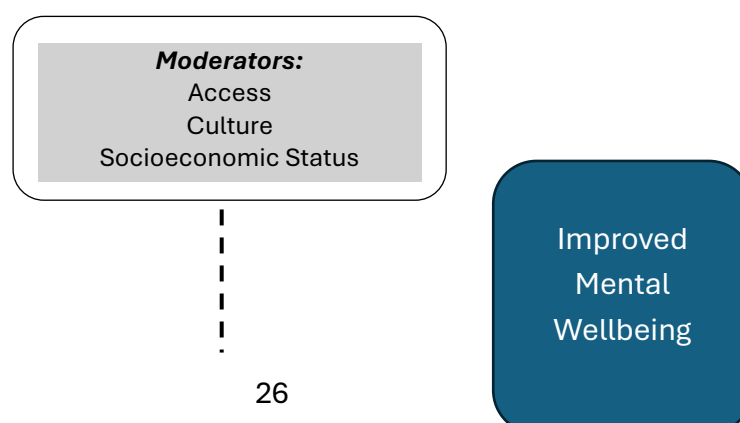
The researcher intentionally allowed participants to choose their own dose and frequency of walks in nature. This ensured findings were more transferable to everyday life (Shamay-Tsoory & Mendelsohn, 2019). The researcher took the view that, while this lack of standardisation introduces variability in dose, it reflected the variability present in real-world parenting and ensure better retention of participants through the study period (since there was no pre-requisite number of walks to be completed). Self-directed interventions have been recommended in prior studies to understand naturally occurring engagement patterns and to capture dose–response variability (Hartig et al., 2014; Korpela et al., 2017).

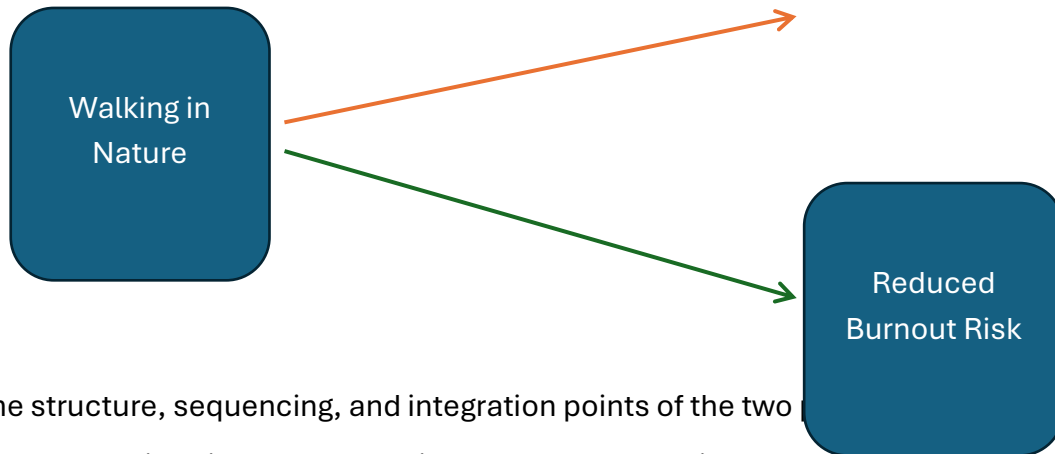
Wellbeing outcomes from nature exposure are multi-faceted, involving physiological, psychological, and social processes (Twohig-Bennett and Jones, 2018). Quantitative methods can demonstrate whether change occurs and the magnitude of that change, but they cannot easily explain how or why those changes take place, or why they may differ between individuals. Qualitative methods can capture subjective meaning and context but can't establish the presence of statistically significant trends.

For example, a participant may show a measurable reduction in burnout scores but still describe persistent fatigue and lack of motivation during an interview. Such divergence between strands offers valuable insight into the complexity of wellbeing change and can inform more effective, context-sensitive interventions (Greene, 2007).

Figure 1 illustrates the conceptual model underpinning the present study, showing the proposed relationships between walking in nature (dose/frequency), mental wellbeing, burnout risk, and potential moderating factors.

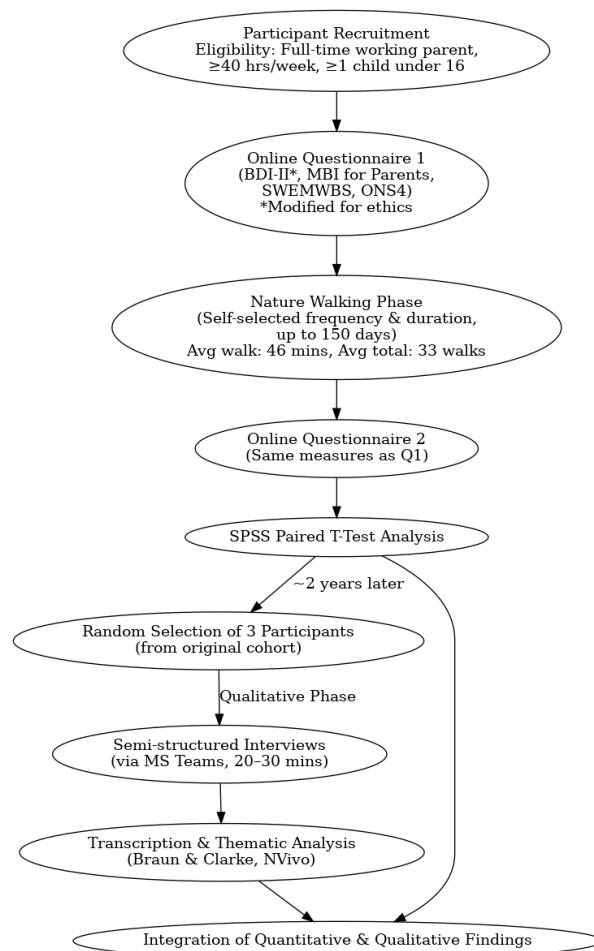
Figure 1 – Conceptual model for walking in nature





The structure, sequencing, and integration points of the two phases are detailed in **Figure 2**, which visually summarises the methodological flow from participant recruitment, baseline data collection, and nature walking intervention through to follow-up surveys, interviews, and final data synthesis.

Figure 2 – Study structure and sequencing



Why walking in nature vs other nature connection experiences?

A walking intervention was chosen due to its accessibility, low cost, and evidence-based benefits for mental health (Marselle et al., 2021). Self-Determination Theory (Deci and Ryan, 2000) supports the role of autonomy - allowing participants to self-direct their walking. Walking was selected over other nature connection experiences (e.g., camping, forest bathing, meditation) because it does not require specialist equipment, guidance or other costs and can be integrated more easily into daily parenting routines. (Chaudhury and Banerjee, 2020).

Participants and Sampling Strategy

A total of **31 participants** (20 male, 11 female) took part in the study. The average age was 46 years (Median = 46; Range: 32–56), with an average of two children under 16 living in the household (Range: 1–5). All participants worked full-time in high-stress roles requiring more than 40 hours per week, satisfying the inclusion criterion of “full-time working parent.”

Inclusion criteria were that the participants had to be living with at least one child under 16 on a full-time basis and working at least 40 hours per week in a professional role.

Exclusion criteria included any known severe mental health conditions that could make participation unsafe or triggering, and lack of access to any form of natural environment within reasonable distance from the home or workplace.

Three participants were randomly selected from the original sample to take part in the qualitative follow-up interviews.

Recruitment Strategy

Recruitment took place between March and May 2023 via convenience sampling on social media platforms - primarily Facebook, WhatsApp, and LinkedIn. Posts were shared to both professional and personal networks, including groups focused on

wellbeing, outdoor activities, and parenting. This convenience sampling approach was chosen for its efficiency in reaching a specific population subgroup that is otherwise challenging to recruit in large numbers (Etikan et al., 2016).

The posts were written in accessible language and contained:

- A brief description of the study purpose (“exploring the impact of walking in nature on mental health and wellbeing in working parents”).
- Eligibility criteria.
- An outline of participant commitments (two online surveys, self-directed walking intervention, optional follow-up interview).
- A secure link to the information sheet and consent form.

While this method increased efficiency, it was subject to self-selection bias - participants with pre-existing interest in nature or physical activity may have been more likely to respond (Etikan et al., 2016).

Participant Retention and Attrition

Retention was a challenge: fewer than half of those who began the study completed the final survey. Attrition rates are common in self-directed, unsupervised interventions (Eysenbach, 2005), particularly when targeting busy populations. Factors potentially contributing to drop-out included competing time demands, lack of motivation, seasonal/weather changes, and shifting pandemic-related restrictions on movement.

To mitigate attrition, the study used:

- Reminder emails at mid-point and two weeks before the follow-up survey.
- A flexible period for survey completion.
- Short, mobile-device friendly survey design to reduce perceived burden (avg completion time of 7 mins 32 secs)

Instruments and Measures

The study combined four validated instruments to measure mental wellbeing, mood, anxiety, depression, and burnout risk by way of a Microsoft Forms online survey. The validated instruments used are shown in **Figure 3** below.

Figure 3 – Validated instruments used for this research

Beck Depression Inventory-II (BDI-II)	Modified with approval from the University of Wales Trinity Saint David to remove the item relating to suicidal thoughts for ethical reasons (Beck et al., 1996).
Modified Maslach Burnout Inventory (MBI) for Parents	Assessing emotional exhaustion, depersonalisation, and reduced personal accomplishment in the context of parenting (Maslach & Jackson, 1981)
Short Warwick–Edinburgh Mental Wellbeing Scale (SWEMWBS)	Measuring positive mental health (Stewart-Brown et al., 2009)
Office for National Statistics Subjective Wellbeing Measures (ONS4)	Assessing life satisfaction, feelings of worthwhileness, happiness, and anxiety. (ONS, 2018)

The selection of multiple validated tools ensured both breadth and depth of psychological measurement, enabling triangulation of wellbeing and burnout constructs (Creswell & Plano Clark, 2018).

The Beck Depression Inventory-II (BDI-II) is a 21-item self-report questionnaire developed to assess the severity of depressive symptoms (Beck et al., 1996). Each item is scored on a 4-point ordinal scale (0–3) with total higher scores indicating greater severity of depression. For ethical reasons, the item relating to suicidal ideation was removed following the British Psychological Society’s (2014) guidance for non-clinical research. This change was approved by the University Ethics Committee and aimed to

safeguard participants from unnecessary distress. Previous research suggests that removing this item has minimal impact on the scale's overall internal consistency (Dozois et al., 1998). Given the removal of this item, the remaining 20 items were summed to produce a 20-item total score ranging from 0 to 60, with higher scores indicating greater depressive symptoms. This modification alters the total score range and the researcher's objective was to assess within-person change rather than assign categorical severity, the standard BDI-II severity bands (validated for the 21-item form) were not applied. All analyses therefore treated the BDI-II as a continuous outcome (pre-post paired t-tests), and results are reported as means, standard deviations, mean differences with 95% confidence intervals, and effect sizes. The BDI-II has strong convergent validity with other depression measures such as the Hamilton Depression Rating Scale ($r = 0.71-0.89$; Beck et al., 1996) and demonstrates good discriminant validity, distinguishing between depressive and non-depressive states. Its widespread use in both clinical and occupational health research makes it an appropriate choice for assessing mental health in working parents.

The Maslach Burnout Inventory (MBI) is considered the gold standard for measuring burnout, assessing three dimensions: emotional exhaustion, depersonalisation, and reduced personal accomplishment (Maslach and Jackson, 1981). While the original tool is designed for occupational contexts, the MBI-P adaptation modifies item wording to reflect the parenting role (e.g., "I feel emotionally drained from my work" becomes "I feel emotionally drained from my parenting"), following protocols validated in parental burnout research (Roskam et al., 2018). The scale consists of 22 items rated on a 7-point Likert scale from 0 ("never") to 6 ("every day"). Higher scores on emotional exhaustion and depersonalisation subscales and lower scores on personal accomplishment indicate higher burnout risk. In parental contexts, internal consistency is typically high ($\alpha = 0.84-0.89$ for emotional exhaustion; $\alpha = 0.70-0.78$ for depersonalisation; $\alpha = 0.72-0.76$ for personal accomplishment; Roskam et al., 2018). The decision to include a burnout measure tailored to parenting reflects a growing recognition that burnout is not confined to professional roles and that parenting

stressors have unique characteristics requiring specific assessment tools (Mikolajczak et al., 2019).

The SWEMWBS is a seven-item scale designed to measure positive aspects of mental health, such as optimism, clear thinking, and feeling close to others (Stewart-Brown et al., 2009). Items are rated on a 5-point scale (1 = “none of the time” to 5 = “all of the time”), with raw scores converted to metric scores to enable comparison across studies. Higher scores indicate greater mental wellbeing.

The SWEMWBS was selected for two primary reasons:

1. It focuses on positive functioning rather than the absence of distress, aligning with WHO’s definition of mental health as a state of wellbeing (WHO, 2004).
2. It has high internal consistency (Ng Fat et al., 2017) and proven sensitivity to change in intervention studies (Maheswaran et al., 2012).

SWEMWBS was scored by summing the 7 items (1–5) and converting raw totals to the recommended Rasch-derived metric score (Stewart-Brown et al., 2009; Warwick Medical School, 2015). Pre–post comparisons used paired-samples t-tests on the metric scores.

The ONS4 comprises four single-item questions assessing life satisfaction, feelings of worthwhileness, happiness, and anxiety (Office for National Statistics, 2018).

Responses are scored on an 11-point scale (0 = “not at all” to 10 = “completely”), providing an easily interpretable metric. Although brief, the ONS4 is widely used in UK national surveys and has been validated against longer wellbeing scales, demonstrating adequate test–retest reliability and concurrent validity (ONS, 2018). Its inclusion allowed for benchmarking against national wellbeing norms, adding contextual value to the findings in the United Kingdom.

Procedure and Intervention

The study was conducted in two principal phases: a quantitative phase to measure pre–post changes in wellbeing and burnout, followed by a qualitative phase to explore participant experiences in greater depth. The sequential design ensured that the

qualitative component was directly informed by the quantitative findings (Creswell and Plano Clark, 2018).

Quantitative phase - Participants completed Survey 1 online via a secure Microsoft Forms platform provided by the University of Wales Trinity St David, which included the four validated instruments and demographic questions. They were then instructed to engage in solo walking in nature for a self-determined duration and frequency over the study period.

Participants were given up to 150 days to complete the intervention and the follow-up survey (Survey 2). The average interval between surveys was 118 days (Median = 124; Range: 69–152).

Across the intervention period:

- **Average walk duration:** 46 minutes (Median = 44; Range: 20–120).
- **Average number of walks:** 33 (Median = 27; Range: 3–95).

No restrictions were placed on location, frequency, or duration. This self-directed approach aligns with recommendations in the literature for ecologically valid nature–health studies (Hartig et al., 2014; Korpela et al., 2017), especially for time-pressured populations such as working parents.

Qualitative phase - Approximately 18 months after the end of the study, three participants were randomly selected from the participant group and interviewed via Microsoft Teams. Semi-structured interviews lasted between 20–30 minutes, were recorded with consent, and transcribed. The interviews explored whether participants had maintained their walking routines, what benefits or drawbacks they perceived, and any barriers that influenced continued engagement. Transcripts were checked for accuracy and anonymised, with identifiers replaced by participant codes. This process aligned with recommendations for qualitative data integrity and participant confidentiality (Saunders et al., 2015).

Baseline data collection was completed asynchronously online to allow flexibility, an important consideration given the target group's time constraints (Chaudhury and Banerjee, 2020).

Intervention Design and Rationale

After completing the baseline survey, participants were instructed to engage in self-directed solo walking in nature for a period of up to 150 days. No minimum frequency or duration was prescribed; participants were free to determine how often, how long, and where they walked. This autonomous intervention model was adopted for three reasons:

1. **Ecological validity** – Self-directed interventions reflect the variability and autonomy of real-world behaviour, particularly in populations with limited discretionary time (Hartig et al., 2014, Korpela et al., 2017).
2. **Behavioural sustainability** – According to Self-Determination Theory (Deci and Ryan, 2000), autonomy enhances intrinsic motivation, making behaviours more likely to persist after formal intervention ends.
3. **Dose-response exploration** – Allowing variation enabled post hoc analysis of how differing walking frequencies and durations might relate to outcomes (Shanahan et al., 2019).

Participants were given examples of what might constitute a suitable “nature walk” (e.g., local parks, woodlands, coastal paths) but were advised to avoid urban high-traffic areas where noise and pollution could diminish potential restorative benefits (Gidlow et al., 2016).

Walking Period and Monitoring

The intervention period length was capped at ~150 days to balance feasibility and adequate exposure. The average completion interval between baseline and follow-up

surveys was **118 days** (median = 124; range: 69–152 days). Participants reported walking frequency and average duration in Survey 2 after keeping a log of their walks and the duration using an Excel log sheet provided by the researcher.

While GPS or Step Tracking can provide more reliable walking data, it was deemed impractical in this study due to budget constraints and privacy concerns. Self-report measures, while vulnerable to recall bias, are widely used in similar intervention contexts (Rogerson et al., 2020).

Data Analysis

Quantitative analysis — Analyses were conducted in IBM SPSS Statistics v29.0.1.0 (171). Pre–post changes were evaluated with paired-samples t-tests run separately for each outcome, selected for their suitability when comparing two related measurements on the same participants (Field, 2018).

Prior to inference, assumptions were examined for each outcome:

- Normality of difference scores was assessed using Shapiro–Wilk tests
- Non-parametric sensitivity analyses (Wilcoxon signed-rank tests) were planned where normality was materially violated; however, primary t-test assumptions were met for all analyses.

Separate paired t-tests were conducted for:

1. **BDI-II** – testing for depression severity
2. **MBI-P** – testing for burnout risk
3. **SWEMWBS** – testing for mental wellbeing
4. **ONS4** – testing for subjective wellbeing

For each test, effect sizes were reported as Cohen’s *d* for paired designs and interpreted using conventional benchmarks (small ≈ 0.20 , medium ≈ 0.50 , large ≈ 0.80 ; Cohen, 1988). Reporting effect sizes alongside p-values follows recommendations to evaluate practical significance in addition to statistical significance (Lakens, 2013).

Dose–Response Exploration

Descriptive statistics for walking frequency and duration were examined. Exploratory Pearson correlations tested relationships between walking “dose” (number and duration of walks) and change scores on wellbeing measures. This analysis was hypothesis-generating rather than confirmatory, given the modest sample size and variability in self-reported walking patterns (Rogerson et al., 2020).

Qualitative analysis — Braun and Clarke’s (2006) six-phase thematic analysis framework was employed:

1. **Familiarisation** – reading and re-reading transcripts, noting initial impressions.
2. **Generating initial codes** – systematically coding meaningful segments of text across the dataset.
3. **Searching for themes** – collating codes into potential themes and subthemes.
4. **Reviewing themes** – checking coherence of themes in relation to coded extracts and the full dataset.
5. **Defining and naming themes** – refining thematic scope and selecting representative quotations.
6. **Producing the report** – integrating themes into the final interpretation alongside quantitative findings.

An inductive approach was used to ensure themes were grounded in participant narratives rather than being imposed by the researcher’s preconceptions (Thomas, 2006). Nevertheless, analysis was theory-informed, drawing on established frameworks such as Attention Restoration Theory (Kaplan and Kaplan, 1989) and Self-Determination Theory (Deci and Ryan, 2000) when interpreting themes.

Reflexivity and Positionality

Reflexivity is a central component of high-quality research, particularly in studies involving qualitative elements where the researcher is both the instrument of data collection and the primary interpreter of meaning (Finlay, 2020). In mixed methods

designs, reflexivity is equally critical, as researcher values and assumptions can influence not only data interpretation but also the selection of measures, sequencing of methods, and integration of findings (McLeod, 2024).

In this study, reflexivity was approached as a continuous, multi-layered process rather than a discrete stage, aligning with the guidance of Lincoln and Guba (1985) and the AMEE Guide to Reflexivity (Rowe, 2022). The reflexive process was structured into four interrelated dimensions: personal, interpersonal, methodological, and contextual reflexivity.

Personal Reflexivity - Personal reflexivity concerns how the researcher's own experiences, beliefs, and identity may influence the research process (Pillow, 2003). As both a working parent and an academic with a professional interest in the restorative effects of nature, the researcher brought a degree of insider perspective to the study. This positionality offered benefits, such as enhanced rapport with participants who perceived a shared understanding of their time pressures and stressors (Dwyer and Buckle, 2009).

However, it also carried the risk of confirmation bias, whereby the researcher might unconsciously seek evidence that supports the hypothesised benefits of walking in nature. To counter this, the researcher adopted a critical reflexive stance, actively noting in research journals instances where interpretations might be influenced by prior expectations. For example, during thematic coding, the researcher explicitly searched for any "negative" cases where participant accounts might have challenged or contradicted the dominant narrative of benefit (Patton, 2015).

Interpersonal Reflexivity - Interpersonal reflexivity involves reflecting on the dynamics between researcher and participants and how these shape the data produced (Berger, 2015). During interviews, the researcher was conscious of how their identity as both a peer (a fellow working parent) and a researcher might influence disclosure. Some participants may have felt more comfortable sharing struggles due to perceived empathy; others might have been inclined to present themselves in a positive light to avoid perceived judgement.

Methodological Reflexivity - Methodological reflexivity refers to critical consideration of the research design and analytical decisions (Malterud, 2001). One notable design choice was the self-directed intervention format. While this maximised ecological validity, it introduced considerable variability in walking “dose” and environmental conditions, potentially complicating interpretation of dose–response relationships.

Contextual Reflexivity - Contextual reflexivity entails recognising how wider socio-cultural and temporal contexts shape the research setting, participant experiences, and data interpretation (Guillemin and Gillam, 2004). The study was conducted in the aftermath of the COVID-19 pandemic, during which many participants had experienced significant disruptions to work, childcare, and leisure routines. These contextual factors influenced both baseline levels of wellbeing and engagement with the walking intervention.

Some cross-cultural considerations may also have played a role. Participants from different countries may have varied in their cultural norms around nature engagement and work–life balance (Neuvonen et al., 2018; Park et al., 2010). While the sample size precluded formal cross-cultural analysis, awareness of these differences informed the interpretation of both quantitative and qualitative findings, thus attempting to avoid overly universal claims.

Ethical Considerations

Ethical approval was obtained from the University of Wales Trinity Saint David Ethics Committee. All participants provided written informed consent before participation.

To preserve anonymity, participant names were replaced with unique IDs, and only date of birth (not names) was recorded in datasets. Interview transcripts and survey data were stored securely, accessible only to the researcher.

The modification of the BDI-II to exclude the suicidal ideation item was a precautionary ethical measure, in line with guidance from the British Psychological Society, ensuring participants were not exposed to potentially distressing material without clinical support available (British Psychological Society, 2014). Finally, all data was handled in

line with General Data Protection Regulation (GDPR) and the UK Data Protection Act 2018.

Right to Withdraw

Participants were informed that they could withdraw from the study at any point without penalty, and without the need to provide a reason. In the case of withdrawal, any identifiable data collected up to that point were to be securely deleted. This right remained active until data analysis commenced, in accordance with ethical norms for qualitative and quantitative research (Israel and Hay, 2006).

Minimising Harm and Managing Distress

Given the sensitive nature of mental wellbeing assessment, precautions were taken to minimise participant distress. Specifically, the suicidal ideation item from the BDI-II was removed, as the study did not include provision for immediate clinical intervention. This decision was informed by the BPS (2014) guidance on safeguarding participants in non-clinical contexts.

Participants were also provided with links to mental health resources (e.g., NHS Every Mind Matters, Samaritans) at the end of each survey and in the PIS. This ensured that, should the research content prompt reflection or discomfort, participants could access appropriate support (Barnett et al., 2007).

Confidentiality and Anonymity

Participant anonymity was maintained by assigning everyone a unique numeric ID code. In survey datasets, only non-identifiable demographic variables (e.g., age, gender, country) were retained. In interview transcripts, all names and location identifiers were redacted.

Data were stored on encrypted, password-protected devices, with backups kept in secure university cloud storage. Access was limited to the principal researcher.

Data Protection and GDPR Compliance

The study complied fully with GDPR (Regulation EU 2016/679), which governs the collection, storage, and processing of personal data within the European Union and the UK. Participants were also informed of their data subject rights under GDPR, including the right to access their data, request correction, and request deletion.

Limitations of Methodology

Several methodological limitations should be acknowledged:

- **Attrition** - Less than half of participants who began Survey 1 completed Survey 2, reducing statistical power and impact.
- **Self-selection bias** - Recruitment via the researcher's professional network (mainly fitness and outdoor industries) may have attracted individuals already favourably disposed toward physical activity and outdoor environments.
- **Socioeconomic and geographical bias** - Most participants were of higher socioeconomic status and lived in suburban or rural locations with easier access to nature, limiting generalisability to urban or lower-income populations.
- **Cultural representation** - Although international participants were included, numbers were too small to enable meaningful cross-cultural comparison.
- **Small sample sizes** – both the quantitative data (n=31) and qualitative follow up interviews (n=3) limit the potential impact of findings.

Future research could address these issues by employing random sampling, recruiting more participants, from a broader range of socioeconomic backgrounds, and controlling for baseline attitudes towards nature and exercise.

RESULTS

Thirty-one full-time working parents provided complete pre–post data ($N = 31$). Mean age was 45.58 ($SD = 5.95$). The mean interval between baseline and follow-up was 117.77 days ($SD = 24.70$; range 69–152)

Table 1 - Descriptive Statistics

	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness Statistic
DaysBetween	31	69	152	117.77	24.699	-.603
TotalWalks	31	3	95	33.32	24.883	1.034
AVGDuration	31	20	120	45.61	19.590	2.003
AGE	31	32	56	45.58	5.949	-.501

Walking exposure during the observation window was:

- Walks per week: $M = 1.99$, $SD = 1.59$
- Minutes per week: $M = 86.63$, $SD = 74.57$
- Average minutes per walk: $M = 45.61$, $SD = 19.59$

Shapiro–Wilk tests on post–pre difference scores indicated approximate normality for BDI-II ($p = .887$), MBI-EE ($p = .693$), MBI-DP ($p = .132$) and ONS Anxiety ($p = .656$). Non-normal distributions were observed for MBI-PA ($p = .015$), SWEMWBS ($p < .001$), ONS Satisfaction ($p < .001$), ONS Worthwhile ($p < .001$), and ONS Happiness ($p = .018$). Boxplots and stem-and-leaf plots showed skew/heavy tails but no pervasive extreme outliers.

Paired T-Tests were completed to examine pre and post differences across all questionnaire variables. Results were as follows:

- **Depression (BDI-II)** - Decreased from 13.29 ($SD = 8.72$) to 6.55 ($SD = 7.06$); mean difference = +6.74, 95% CI [4.48, 9.00], $t(30) = 6.09$, $p < .001$

- **Emotional Exhaustion (MBI-EE)** - Decreased from 26.84 (SD = 9.42) to 19.97 (SD = 10.03); mean difference = +6.87, 95% CI [3.20, 10.54], $t(30) = 3.83$, $p < .001$
- **Depersonalisation (MBI-DP)** - Decreased from 8.97 (SD = 5.46) to 7.19 (SD = 6.18); mean difference = +1.77, 95% CI [-0.05, 3.60], $t(30) = 1.99$, $p = .056$
- **Personal Accomplishment (MBI-PA)** - Decreased from 24.58 (SD = 7.16) to 21.06 (SD = 8.02); mean difference = +3.52, 95% CI [1.03, 6.00], $t(30) = 2.89$, $p = .007$ (Note - Higher PA is better; the positive pre-post difference indicates a decline.)
- **Mental wellbeing (SWEMWBS)** - Increased from 23.32 (SD = 3.77) to 25.48 (SD = 6.24); mean difference = -2.16, 95% CI [-4.62, 0.30], $t(30) = -1.79$, $p = .083$
- **ONS items** . Satisfaction: $t(30) = -0.95$, $p = .352$; Worthwhile: $t(30) = -1.61$, $p = .118$; Happiness: $t(30) = 0.73$, $p = .472$; Anxiety: $t(30) = 1.68$, $p = .103$

Table 2 - Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	BDI_PRE	13.29	31	8.719	1.566
	BDI_POST	6.55	31	7.056	1.267
Pair 2	MBI_EE_PRE	26.84	31	9.420	1.692
	MBI_EE_POST	19.97	31	10.025	1.801
Pair 3	MBI_DP_PRE	8.97	31	5.462	.981
	MBI_DP_POST	7.19	31	6.177	1.110
Pair 4	MBI_PA_PRE	24.58	31	7.159	1.286
	MBI_PA_POST	21.06	31	8.021	1.441
Pair 5	SWEM_PRE	23.32	31	3.772	.677
	SWEM_POST	25.48	31	6.239	1.121
Pair 6	ONS_SATIS_PRE	7.03	31	1.643	.295
	ONS_SATIS_POST	7.39	31	2.028	.364
Pair 7	ONS_WORTH_PRE	7.45	31	2.063	.371
	ONS_WORTH_POST	8.10	31	2.181	.392
Pair 8	ONS_HAP_PRE	7.03	31	2.008	.361
	ONS_HAP_POST	6.68	31	2.786	.500

Pair 9	ONS_ANX_PRE	4.52	31	2.657	.477
	ONS_ANX_POST	3.58	31	2.826	.508

Table 3 - Paired Samples Test – 95%CI Lower

		Paired Differences			95% Confidence Interval of the Difference Lower
		Mean	Std. Deviation	Std. Error Mean	
Pair 1	BDI_PRE - BDI_POST	6.742	6.164	1.107	4.481
Pair 2	MBI_EE_PRE - MBI_EE_POST	6.871	9.999	1.796	3.203
Pair 3	MBI_DP_PRE - MBI_DP_POST	1.774	4.971	.893	-.049
Pair 4	MBI_PA_PRE - MBI_PA_POST	3.516	6.772	1.216	1.032
Pair 5	SWEM_PRE - SWEM_POST	-2.161	6.709	1.205	-4.622
Pair 6	ONS_SATIS_PRE - ONS_SATIS_POST	-.355	2.090	.375	-1.122
Pair 7	ONS_WORTH_PRE - ONS_WORTH_POST	-.645	2.229	.400	-1.463
Pair 8	ONS_HAP_PRE - ONS_HAP_POST	.355	2.715	.488	-.641
Pair 9	ONS_ANX_PRE - ONS_ANX_POST	.935	3.098	.556	-.201

Table 4 - Paired Samples Test – 95%CI Upper

		Paired Differences 95% Confidence Interval of the Difference Upper	t	df	Significance One-Sided p
Pair 1	BDI_PRE - BDI_POST	9.003	6.090	30	<.001

Pair 2	MBI_EE_PRE - MBI_EE_POST	10.539	3.826	30	<.001
Pair 3	MBI_DP_PRE - MBI_DP_POST	3.598	1.987	30	.028
Pair 4	MBI_PA_PRE - MBI_PA_POST	6.000	2.891	30	.004
Pair 5	SWEM_PRE - SWEM_POST	.299	-1.794	30	.041
Pair 6	ONS_SATIS_PRE - ONS_SATIS_POST	.412	-.945	30	.176
Pair 7	ONS_WORTH_PRE - ONS_WORTH_POST	.173	-1.611	30	.059
Pair 8	ONS_HAP_PRE - ONS_HAP_POST	1.351	.728	30	.236
Pair 9	ONS_ANX_PRE - ONS_ANX_POST	2.072	1.681	30	.052

Table 5 - Paired Samples Test -Significance

Significance

		Two-Sided p
Pair 1	BDI_PRE - BDI_POST	<.001
Pair 2	MBI_EE_PRE - MBI_EE_POST	<.001
Pair 3	MBI_DP_PRE - MBI_DP_POST	.056
Pair 4	MBI_PA_PRE - MBI_PA_POST	.007
Pair 5	SWEM_PRE - SWEM_POST	.083
Pair 6	ONS_SATIS_PRE - ONS_SATIS_POST	.352
Pair 7	ONS_WORTH_PRE - ONS_WORTH_POST	.118
Pair 8	ONS_HAP_PRE - ONS_HAP_POST	.472
Pair 9	ONS_ANX_PRE - ONS_ANX_POST	.103

Given non-normality, Wilcoxon tests were run for SWEMWBS, MBI-PA and ONS items:

- SWEMWBS: $Z = 2.989$, $p = .003 \rightarrow$ significant improvement.
- ONS Worthwhile: $Z = 2.173$, $p = .030 \rightarrow$ improvement.
- ONS Satisfaction: $Z = 1.777$, $p = .076 \rightarrow$ ns.
- ONS Happiness: $Z = -0.360$, $p = .719 \rightarrow$ ns.
- MBI-PA: $Z = -2.557$, $p = .011 \rightarrow$ significant decline.

Dose variables were strongly inter-correlated (e.g., walks/week vs minutes/week $r = .934$, $p < .001$). Across Pearson correlations using log-transformed dose variables and Spearman correlations using raw variables, no significant associations emerged between walks/week, minutes/week, or minutes/walk and changes in BDI-II, MBI subscales, SWEMWBS, or ONS items (all $ps > .15$ Pearson; all $ps > .20$ Spearman). Scatterplots suggested no linear trend.

Change scores showed coherent covariance: larger BDI reductions correlated with improvements in SWEMWBS ($r = -.427$, $p = .016$) and ONS Satisfaction/Worthwhile/Happiness ($rs \approx -.42$ to $-.43$, $ps \leq .02$). ONS items inter-correlated strongly (e.g., Satisfaction–Worthwhile $r = .722$; Happiness–Anxiety $r = -.524$).

Qualitative interviews were conducted randomly with three participants (P7, P21, P27). Across three follow-up interviews, participants described nature contact as rapidly restorative, emphasising context quality (quiet blue/green settings, device detachment, unrushed pace) over accumulating minutes. Behaviour was constrained by feasibility (workload, caregiving, climate, injury), with participants maintaining short weekday exposures and longer, higher-quality sessions when conditions allowed. One participant substituted outdoor swimming for walking due to plantar fasciitis, reporting pronounced phone-free presence, post-session calm, and in-session problem-solving.

Another relied on signal-poor retreats to disconnect from work-related anxiety; a third used dog-led routines to anchor brief daily activity and valued longer weekend tracks.

Following an injury that curtailed walking/running, P7, a senior executive living in France, moved to outdoor swimming in a forest-based pool rather than an indoor pool elsewhere in town, reporting pronounced phone-free presence, post-session calm, and repeated on-task problem-solving during swims. Despite time and proximity constraints, he described deliberate prioritisation of daily activity and an upcoming move to Spain focused on securing greater access to nature. Consistent with the quantitative pattern of wellbeing gains, his account emphasised context quality (outdoor setting, device detachment, immersion) over accumulating additional minutes. He also highlighted family socialisation of outdoor habits and concerns about screen time for his daughters, suggesting broader programme levers beyond individual 'dose' targets.

P21, recently relocated to Saudi from the UK, explained that brief contact with nature, particularly blue spaces, was rapidly restorative to him; providing calm, headspace, and perspective during a period of high work pressure and family change. Despite recognising these benefits, the participant described a persistent action gap driven by device dependence and work norms, with later improvements following a deliberate 'digital detox'. Environmental constraints (extreme heat, poor walkability) in Saudi Arabia strongly limited feasibility in his present circumstance. He talked about visiting the UK frequently to visit his children and trips into nature when he is back to get his nature fix and quality time with his children. The narrative aligns with quantitative results showing large reductions in depressive symptoms and emotional exhaustion without a linear dose-response; feasibility and setting quality appeared more salient than accumulating additional minutes.

The interview with P27, a long-tenured professional with older teenage children, showed a dog-care focused walking pattern: short, functional weekday dog walks (~20 min) and longer, more enjoyable weekend walks (~60 min) on tracks and fields. She reported a growing appreciation of being outdoors as caregiving demands eased, with

weekend walks described as less rushed and more restorative, while weekday walks primarily provided a physical reset before desk-based work. Access to nearby green/blue spaces facilitated routine, though time opened by reduced parenting responsibility was often re-allocated to work, underlining the need for protected nature connection windows (e.g., a planned lunchtime reservoir walk that she noted she intended to try after the interview). Consistent with the quantitative findings, her narrative emphasised feasibility and setting quality over accumulating additional minutes, and suggested that occasional intentional solo, device free walks may deepen restoration beyond dog driven outings.

The transcripts from the interviews were coded and compared and shared the following themes:

- **Feasibility before volume.** Weekday exposure was brief/functional (e.g., ~20-minute dog walks), with higher-quality sessions at weekends or during travel home. One participant substituted outdoor swimming when injury curtailed walking/running.
- **Device avoidance.** Most potent sessions were phone-free (“Fully present... just me, the water, my breathing”).
- **Perspective and problem-solving.** Reports included feelings of calm, gaining perspective, and improved problem solving.
- **Mastery nuance.** Walking was often framed as restorative; where novelty/self-mastery (e.g., learning outdoor swimming) was introduced, accomplishment felt preserved.

Summary of key findings:

1. Depression decreased substantially (large effect) and emotional exhaustion decreased (medium effect).
2. Mental wellbeing (SWEMWBS) and ONS Worthwhile improved in non-parametric tests; other ONS items showed small, non-significant changes.
3. Personal accomplishment (MBI-PA) declined on average.

4. No linear dose–response was detected between walking frequency/volume/average duration and psychological change within the observed range.
5. Qualitative evidence points to context quality and device detachment as likely drivers of benefit, with light mastery/novelty potentially needed to protect accomplishment.

DISCUSSION

Summary of principal findings

This study set out to examine whether walking in natural environments coincided with meaningful changes in mental health and burnout among full-time working parents, and whether greater “dose” (frequency, volume, or duration) was associated with greater benefit. Over roughly four months, participants showed significant reductions in depressive symptoms on the BDI-II and moderate reductions in emotional exhaustion on the MBI. Mental wellbeing (SWEMWBS) improved in rank-based testing, whereas personal accomplishment declined. The single-item ONS indicators (life satisfaction, worthwhile, happiness, anxiety) shifted little on average, save for a Wilcoxon improvement in “life feeling worthwhile.” Across both Pearson correlations (using log-transformed dose variables) and Spearman correlations (raw variables), no linear dose–response emerged between walking exposure and pre–post change. Follow-up interviews with three participants helped to contextualise these results, emphasising the perceived importance of context quality (quiet green/blue spaces), detachment from digital devices, and an unrushed pace, rather than simply accumulating minutes. Together, the quantitative and qualitative strands suggest that for working parents, modest, feasible contact with nearby nature can be restorative, but adding light elements of mastery or novelty may be needed to preserve perceived accomplishment.

Positioning the findings within the wider literature

The size and direction of the main effects are consistent with other research showing how nature contact can improve mental health. The observed improvement in depressive symptoms maps well to studies showing that short nature walks reduce rumination and alter brain activity implicated in depression (Berman et al., 2012; Bratman et al., 2015). Exposure to natural environments is associated with lower stress, better affective states, and reduced risk of common mental disorders (Hartig et al., 2014; Frumkin et al., 2017; Twohig-Bennett and Jones, 2018). The present cohort also reported a moderate decrease in emotional exhaustion, one of the core dimensions of burnout. That signal aligns with recovery theory in occupational health:

opportunities for psychological detachment, relaxation, and positive affect during non-work time help to unwind strain accumulated at work and replenish depleted resources (Sonnentag and Fritz, 2007). Although a pre-post design cannot ascribe causality, the direction and magnitude of change are exactly those anticipated if routine contact with nearby nature functions as a low-burden recovery practice within the constraints of employment and caregiving.

Validated measure sensitivity: why SWEMWBS moved but ONS did not

SWEMWBS showed improvement on the Wilcoxon test, which is appropriate given the non-normal distribution of difference scores that is typical in small samples. In interviews, participants described calm, perspective, and in-the-moment clarity: being “fully present,” problems “shrinking” in a larger landscape, and the sense that time outdoors creates mental room to think. Those experiences sit squarely within the focus of SWEMWBS and likely contributed to the observed shift. By contrast, the ONS single items - satisfaction, happiness, and anxiety - moved very little. Single items like this can be poor instruments for detecting change over a few months, particularly when day-to-day life is busy and competing demands are high. It is not surprising that more sensitive multi-item scales (like BDI and MBI) registered clearer movement.

No clear dose-response: quality and feasibility over quantity

The most striking finding was the absence of a linear dose-response. Minutes per week, walks per week, and average minutes per walk were not reliably associated with the magnitude of change across outcomes. There are several reasons such a result might have occurred. First, dose-response curves in this field are often non-linear. Large cross-sectional analyses suggest that around 120 minutes per week in nature is associated with higher odds of reporting good health and wellbeing, with diminishing returns thereafter for many individuals (White et al., 2019). Furthermore, the qualitative interviews suggest that participants optimised feasibility and quality over quantity – a choice which is not unreasonable or unexpected for busy working parents. According to the interviews, weekday exposures tended to be short and functional (for example, regular ~20-minute dog walks), with longer, more immersive sessions at weekends or

when returning home. Importantly, participants emphasised quiet routes, blue/green features, and device detachment. Those ingredients are plausible drivers of benefit, but they are not captured by minutes and frequency. If many participants reached a “good enough” threshold through a handful of high-quality bouts each week, the additional variance in minutes would not necessarily map neatly into further change, particularly with such a small sample size. Finally, self-reported exposure is imprecise. Even if minutes are reported accurately, the variables omit contextual elements and psychological states (detachment, rumination) that are closer to the proposed mechanisms (Hartig et al., 2014; Bratman et al., 2019). Often self-reported physical activity tends to be overstated by participants when compared with device-based measures from wearables (Prince et al., 2008; Podsakoff et al., 2003).

The personal accomplishment paradox

The consistent decline in personal accomplishment (MBI-PA) requires careful interpretation and reflection. Personal accomplishment reflects perceived competence and efficacy at work and in life. In this cohort, PA decreased by a moderate amount, with both parametric and non-parametric testing and Holm correction. Several explanations are possible. One is a straightforward time trade-off: when schedules are tight, inserting restorative walks can displace activity that usually feeds feelings of accomplishment, such as progress on a complex work task, planned self-development sessions or journalling. A second possibility is recalibration; as mood lifts and exhaustion eases, individuals sometimes adopt higher standards for themselves, or they have more clarity and purpose around what remains undone. That shift in framing could depress accomplishment ratings without reflecting any overall mood deterioration. A third explanation sits in programme framing. The qualitative accounts emphasised decompression rather than mastery. Walking was used to “put the brakes on,” and to create a pocket of calm. Only one participant spoke about mastery in the classic sense - habit formation and skill gains through adopting outdoor swimming after a foot injury curtailed running. That language of novelty, challenge, and progress is precisely what supports self-efficacy and accomplishment and was not included in any form within the participant guidance. This interpretation is consistent with occupational

health evidence: interventions that improve recovery and reduce strain can leave competence untouched unless mastery cues like clear, achievable goals, feedback on progress, and graded challenges are also present (Sonnentag and Fritz, 2007; West et al., 2016). The implication is practical rather than cautionary: it should be possible to preserve the restorative core of nature-based walking while lightly layering in mastery elements that keep perceived competence in view.

Mechanisms of change: detachment, perspective and setting quality

The interviews also help to illuminate plausible mechanisms and add insight to the quantitative data. Device detachment emerged repeatedly. Participants described intentionally leaving phones behind or being in places with poor signal. That “digital detox” created the psychological space needed for detachment, a central mechanism in recovery models (Sonnentag and Fritz, 2007). A second theme concerned perspective and problem-solving. One participant described getting into the outdoor pool surrounded by trees with a challenging work issue and leaving with two potential solutions. Another spoke about the way large landscapes made problems feel smaller. These accounts echo the literature: nature experiences appear to reduce negative thinking and support cognitive flexibility and problem-solving ability (Berman et al., 2012; Bratman et al., 2015). A third theme concerned setting quality. Blue/green features, low crowding, and quiet routes were valued and sought out. Reviews emphasise that not all “nature” is equivalent in its restorative potential; qualities such as biodiversity, water, canopy, and soundscapes matter (Hartig et al., 2014; Bratman et al., 2019). Those aspects are often overlooked when exposure is heavily structured and simplified down to “minutes walked,” yet they are likely to be central for busy parents who must fit recovery into narrow windows.

Strengths, limitations and implications

These benefits appeared despite the study's inherent limitations. The uncontrolled pre-post design clearly creates challenges and made dose-response analysis more difficult. The sample was small, which limits precision and statistical power, especially for dose-response modelling and subgroup analyses. Exposure measures were self-reported and did not capture contextual quality or detachment. The ONS single items, while widely used in government policy settings, are less sensitive to change than multi-item scales. The qualitative sample comprised only three follow-up interviews and cannot represent the full heterogeneity of experiences, although it provided rich explanatory texture and insights for further research. Against those limitations, several strengths should be mentioned. The study used peer reviewed and validated instruments spanning depression, wellbeing, and burnout. Analysis applied explicit assumption checks and non-parametric sensitivity tests; reported effect sizes with confidence intervals; controlled multiplicity with Holm's procedure; and integrated some qualitative data to probe for themes and context. The cohort itself, full-time working parents, remains under-represented in the nature-connection and wellbeing literature so even a limited study of this nature provides glimpses into cohort specific mechanisms and barriers and potential for future research.

Practical implications for programmes and workplace support

So, what follows from these findings for practitioners looking to support busy working parents? A first implication is to prioritise feasibility and routine over volume. In this cohort, average exposure was two walks and 80–90 minutes per week, yet the mood and exhaustion signals were clear. For working parents, the intervention that “fits” is likely the one that works: short, predictable bouts embedded into existing rhythms (before school, lunch, immediately after work), near home or workplace, with minimal logistical friction. A second implication is to optimise context quality and detachment. Curating routes for parents that include, quiet, safe green/blue spaces and encouraging brief device free practices and simple sensory-grounding tasks could amplify effects without adding more time. Employers can support short outdoor micro-breaks near workplaces; small adjustments to policy and organisational culture (e.g., encouraging “walking to think” rather than only “walking to meet”) can legitimise these practices.

Another implication from the results, is to protect accomplishment by lightly integrating mastery and self-reflection practices or journaling. Simple, achievable goals (e.g., “explore two new green routes over the next fortnight”), gentle progression on one session every week (a hillier loop, a slightly longer blue-space route), and small feedback cues (a streak counter; a note of “what I did well today”) can support self-efficacy while preserving the restorative intent. Indeed, there is sufficient insight to support the development of a guided nature connection journal or app for busy working parents which would help to both track nature engagement and layer in mastery and self-development reflective practices. Such a journal or app could include, for example, a two or three item mood check before and after selected walks to continue to assess for mood and wellbeing maintenance. Lightweight dashboards can convert these data into feedback that reinforces habits and help individuals discover what works for them. Finally, equity and access should be front and centre for practitioners and policy makers. Not all families live near safe, high-quality green or blue spaces. Biodiverse urban courtyards, riverside paths, and well-lit, child friendly loops near schools and workplaces can help ensure that the intervention is not only effective but also reachable. Co-design with parents from diverse communities guards against solutions that look good on paper but are impractical in daily life (Frumkin et al., 2017).

Future research agenda

The research agenda that follows from this evaluation is straightforward. Keeping in mind the smaller sample size of this study, future mixed methods studies could adopt a larger sample size for the qualitative interviews allowing researchers to more deeply explore themes which are highlighted by the quantitative analysis. Mechanisms and moderators need to be measured directly: perceived restoration, detachment, rumination, sleep quality, and social connection are all critical. Baseline symptom severity, job demands vs resources balance, childcare load, and local greenspace availability are all important measures to understand a participant's starting point. Intensive longitudinal approaches such as ecological momentary assessment and passive sensing can “...illuminate within-person dynamics and temporal ordering, addressing questions that cross-sectional designs cannot” (Dunton, 2017). The decline

in personal accomplishment suggests a fascinating experimental comparison worth considering for future research: a “restoration-only” walking intervention versus a guided “restoration + mastery” enhancement. Further, in such a study, the measured outcomes could extend beyond self-report to include work engagement, task performance, and absenteeism/presenteeism (West et al., 2016). Longer follow-up across seasons would help to assess maintenance and relapse, particular in climates with extreme seasons. Finally, further studies could include basic cost and income metrics so that policy makers can weigh value for money and accessibility (Lakens, 2013).

Summary and future direction

In summary, the present study adds a nuanced insight to the evidence base on nature and mental health. For full-time working parents, modest, routine contact with nearby nature coincided with substantial improvements in mood and meaningful reductions in emotional exhaustion, even though “more minutes” were not linearly related to “more benefit” within the observed range. The most credible output is that quality and psychological detachment were the key levers. Minutes per week, while convenient to count and track, appear to be an imperfect proxy for those ingredients. The one robust adverse signal, reduced personal accomplishment, appears to be a design issue rather than a fundamental flaw in nature connection theory. Lightly layering mastery and feedback onto a restorative walking offer could support recovery, impact, and task performance. The next phase of work is to test these refinements under controlled conditions, with better measurement of mechanisms and attention to implementation realities. If that agenda is pursued, nature-based walking can become a reliable, scalable component of a broader response to the mental-health challenges faced by working parents.

CONCLUSION

This dissertation examined whether walking in nature can lead to measurable changes in mental health and burnout among full-time working parents, and whether a greater “dose” of walking can elicit a greater benefit. Across 31 participants followed for a mean of ~118 days, depressive symptoms (BDI-II) decreased substantially, and emotional exhaustion (MBI-EE) fell by a moderate margin. Mental wellbeing (SWEMWBS) improved in rank-based testing, while personal accomplishment (MBI-PA) declined. ONS indicators changed little on average, aside from a Wilcoxon improvement in feelings that life is worthwhile. Dose–response analyses, using Pearson and Spearman correlations, found no reliable linear association between walking exposure and the magnitude of psychological change. Qualitative interviews with three randomly selected participants converged on a simple yet powerful insight: people emphasised quality of contact over time. Feelings of calm, attractive green/blue settings, phone-light avoidance, and an unrushed pace shone through in the interviews as a critical driver of perceived benefits. Overall, the study contributed to the knowledge base and discourse around nature connection by reinforcing the positive impact on both depressive symptoms and mental wellbeing in a largely unstudied group.

Taken together, these findings are consistent with contemporary theory and evidence. Attention Restoration Theory and Stress Recovery Theory more than three decades ago predicted that brief, high-quality nature exposure can reduce rumination and perceived stress while restoring cognitive control - mechanisms reflected in the large BDI-II reduction and the medium decrease in emotional exhaustion seen in this study. In a real-world population balancing employment and caregiving, the behaviour that “fits” appears to be the one that helps the most: two or three short, feasible, pleasant bouts a week were enough to coincide with meaningful change and more minutes within the observed range were not systematically beneficial.

The one adverse result, reduced personal accomplishment, points to the need for future research to better understand the mechanisms at play. Interviews framed

walking primarily as decompression, rather than mastery or self-development focused. Without cues that mark progress (simple goals, gentle challenges, feedback), perceived competence can drift even as mood lifts and exhaustion eases. Future programmes should therefore preserve the restorative core while lightly layering mastery or self-development elements into the guidance. Employers and local authorities can assist by enabling short outdoor micro-breaks, curating safe, attractive routes near workplaces and schools, and maintaining small but high-quality greenspaces that are easy to access in tight schedules.

In terms of methodology, the study adopted validated measures across depression, wellbeing, and burnout. Limitations, however, remain: an uncontrolled pre–post design, modest sample size, self-reported exposure, and limited qualitative follow ups are all considerations. These temper causal claims but do not negate the directional signal of the results. The next step is clear and could point to PhD level research: controlled trials, flexible modelling of non-linear dose–response, direct assessment of mechanisms (detachment, rumination, perceived impact) and moderators (baseline severity, job demands, childcare load), and a broader qualitative follow up.

In conclusion, it is clear that for full-time working parents, regular contact with nearby natural spaces is associated with meaningful improvements in mood and reduced emotional exhaustion, even without robust evidence that “more is better”. The most credible levers are context quality and psychological detachment, not minutes alone. Practitioners looking to support parents could consider programmes which add light mastery cues and a dose that fits the constraints of busy family life. Pursued in this way, and evaluated with designs that sharpen causal inference, nature-based walking can be a reliable, scalable component of broader efforts to support the mental health of working parents.

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AI Declaration

I confirm this dissertation is my own work and that no AI-generated text has been presented as my own. AI tools were used only for citation and bibliography consistency, literature searches and interview transcriptions. All analysis, interpretation, and writing are my own. I have retained copies of my research which can be supplied on request.

Signed:

A handwritten signature in black ink, consisting of stylized, cursive letters that appear to read 'A. H. J.' followed by a long, sweeping horizontal stroke.

Date: 29th September 2025

APPENDICES

Appendix A	PG-2 Ethics Approval	Page 71
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APPENDIX A - PG-2 ETHICS APPROVAL



PG2 / E1 FORM

APPLICATION FOR ETHICAL APPROVAL

In order for research to result in benefit and minimise risk of harm, it must be conducted ethically. A researcher may not be covered by the University's insurance if ethical approval has not been obtained prior to commencement.

The University follows the OECD Frascati manual definition of **research activity**: "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications". As such this covers activities undertaken by members of staff, postgraduate research students, and both taught postgraduate and undergraduate students working on dissertations/projects.

The individual undertaking the research activity is known as the "principal researcher".

Ethical approval is not required for routine audits, performance reviews, quality assurance studies, testing within normal educational requirements, and literary or artistic criticism.

Please read the notes for guidance before completing ALL sections of the form.

This form must be completed and approved prior to undertaking any research activity. Please see Checklist for details of process for different categories of application.

Delete the Guidance Notes at the end of the form BEFORE submitting your application

SECTION A: About You (Principal Researcher)

1	Full Name:	Jason Worthy			
2	Tick all boxes which apply:	Member of staff:	☐	Honorary research fellow:	☐
3	Undergraduate Student	☐	Taught Postgraduate Student	☒	Postgraduate Research Student
4	Institute/Academic Discipline/Centre:	University of Wales Trinity Saint David, Institute of Health & Management, Outdoor Education			
5	Campus:	Carmarthen			

6	E-mail address:	jason.worthy@icloud.com
7	Contact Telephone Number:	07725 307054
<i>For students:</i>		
8	Student Number:	1921913
9	Programme of Study:	MA Outdoor Education
10	Director of Studies/Supervisor:	Dr. Andy Williams

SECTION B: Approval for Research Activity

1	Has the research activity received approval in principle? (please check the Guidance Notes as to the appropriate approval process for different levels of research by different categories of individual)	YES	☐	NO	☒
					<i>Date</i>
2	If Yes, please indicate source of approval (and date where known): <i>Approval in principle must be obtained from the relevant source prior to seeking ethical approval</i>	Research Degrees Committee	☐		
3		Institute Research Committee	☐		
4		Other (write in)	☐		

SECTION C: Internal and External Ethical Guidance Materials

	Please list the core ethical guidance documents that have been referred to during the completion of this form (including any discipline-specific codes of research ethics, and also any specific ethical guidance relating to the proposed methodology). Please tick to confirm that your research proposal adheres to these codes and guidelines.	
1	UWTSD Research Ethics & Integrity Code of Practice	☒
2	UWTSD Research Data Management Policy	☒
3		☐

SECTION D: External Collaborative Research Activity

1	Does the research activity involve collaborators outside of the University?	YES	☐	NO	☒
2	If Yes, please provide the name of the external organisation and name and contact details for the main contact person and confirmation this person has consented to their personal data being shared as part of this collaboration.				
3	Institution				

4	Contact person name					
5	Contact person e-mail address					
6	Has this individual consented to sharing their details on this form?	YES	☐	NO	☒	
7	Are you in receipt of a KESS scholarship?	YES	☐	NO	☒	
8	Is your research externally funded	YES	☐	NO	☒	
9	Are you specifically employed to undertake this research in either a paid or voluntary capacity?	Voluntary	YES	☐	NO	☒
10		Employed	YES	☐	NO	☒
11	Is the research being undertaken within an existing UWTSD Athrofa Professional Learning Partnership (APLP)	If YES then the permission question below does not need to be answered.	YES	☐	NO	☒
12	Permission to undertake the research has been provided by the partner organisation	(If YES attach copy) If NO the application cannot continue	YES	☐	NO	☒

Where research activity is carried out in collaboration with an external organisation

13	Does this organisation have its own ethics approval system?	YES	☐	NO	☒
14	If Yes, please attach a copy of any final approval (or interim approval) from the organisation				

SECTION E: Details of Research Activity

1	Indicative title:	What is the impact of a 4-week solo nature-based walking program on depression scores in full-time working fathers?		
2	Proposed start date of your research (not your course start date):	15 th July 2023	Proposed end date:	23 rd September 2023
3	Introduction to the Research (maximum 300 words) Ensure that you write for a <u>Non-Specialist Audience</u> when outlining your response to the three points below: • <i>Purpose of Research Activity</i> • <i>Proposed Research Question</i> • <i>Aims of Research Activity</i>			

	• Objectives of Research Activity Demonstrate, briefly, how <u>Existing Research</u> has informed the proposed activity and explain • <i>What the research activity will add to the body of knowledge</i> • <i>How it addresses an area of importance.</i>
4	Purpose of Research Activity The purpose of this study is to explore how time in nature might influence busy, working parents' well-being.
5	Research Question How does the dose and frequency of walking in nature impact the mental well-being and burnout risk of full-time working parents?
6	Aims of Research Activity The primary aim of this research is to explore the impact of a 10-week nature-based solo walking intervention on the depression and burnout scores of full-time working parents and consider the dose-response relationship between time in nature and mental well-being
7	Objectives of Research Activity • Use validated instruments to assess the impact of solo walking in nature upon depression, burnout and well-being • Identify an optimal dose of nature to positively impact mental well-being • Generate qualitative data from participant journals and semi-structured interviews to further explore the impact of time in nature on the parents' mental well-being, depression risk and burnout. • Identify if any potentially significant gender differences may exist that could be the focus of future research
8	Proposed methods (maximum 600 words) Provide a brief summary of all the methods that may be used in the research activity, making it clear what specific techniques may be used. If methods other than those listed in this section are deemed appropriate later, additional ethical approval for those methods will be needed.
9	For this study, working parents will be defined as anyone working at least 30 hours per week, living with at least one child under sixteen on a full-time basis. Participants will not be observed during their time in nature and will complete each walk alone, without friends or families or digital distractions. Participants will submit evidence of walks completed via a pre-approved and/or provided wearable tracker. The device will provide duration, heart rate and high-level GPS data. All walks must be conducted outdoors in a natural green space (woodland, forest or meadow – but not playing fields).

	To understand the effect of this walking intervention on the depression and burnout scores of participants, I will employ a mixed-methods approach, combining both validated pre- and post-questionnaires with semi-structured interviews and journal entries. The questionnaire will comprise of four sections with a total of 53 questions or statements based on validated instruments used extensively in well-being research literature, as follows: Section A – A modified version of the 21-point Beck Depression Inventory (BDI-II) which will have the question relating to “thoughts of suicide” removed, making the section 20 questions. Section B – A modified version of the 22-point Maslach Burnout Inventory (MBI) with questions 1 and 8 adjusted to fit the parental context Section C – A validated short version of the <u>Warwick–Edinburgh Mental Wellbeing Scale (WEMWBS)</u> with 7 statements Section D – The four Office for National Statistics standard personal well-being questions (ONS4) The participants will be asked to submit their journal entries at the end of the 10-week period, at which point some participants will be invited to take part in the semi-structured interviews to help explore themes which have been noted in the journal entries.
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10	Location of research activity Identify all locations where research activity will take place.
11	Locations will be natural green spaces selected by the participants. 61 participants have pre-registered to be involved – 37% female, 63% male. Semi structured interviews will take place online, securely, via Microsoft Teams.
12	Research activity outside of the UK If research activity will take place overseas, you are responsible for ensuring that local ethical considerations are complied with and that the relevant permissions are sought. Specify any local guidelines (e.g. from local professional associations/learned societies/universities) that exist and whether these involve any ethical stipulations beyond those usual in the UK (provide details of any licenses or permissions required). Also specify whether there are any specific ethical issues raised by the local context in which the research activity is taking place, for example, particular cultural and/or legal sensitivities or vulnerabilities of participants.

13	N/A
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14	Use of documentation not in the public domain: Are any documents <u>NOT</u> publicly available?	NO	☒
		YES	☐
15	If Yes, please provide details here of how you will gain access to specific documentation that is not in the public domain and that this is in accordance with prevailing data protection law of the country in question and England and Wales. <i>(this box should expand as you type)</i>		

SECTION F: Scope of Research Activity

1	Will the research activity include:	YES	NO
2	Use of a questionnaire or similar research instrument?	☒	☐
3	Use of interviews?	☒	☐
4	Use of diaries?	☒	☐
5	Participant observation with their knowledge?	☐	☒
6	Participant observation without their knowledge?	☐	☒
7	Use of video or audio recording?	☒	☐
8	Access to personal or confidential information without the participants' specific consent?	☐	☒
9	Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	☒
10	Performance of any acts which may cause embarrassment or affect self-esteem?	☐	☒
11	Investigation of participants involved in illegal activities?	☐	☒
12	Use of procedures that involve deception?	☐	☒
13	Administration of any substance, agent or placebo?	☐	☒
14	Working with live vertebrate animals?	☐	☒
15	Other primary data collection methods, please explain in this box For example, 'focus groups'. Please indicate the type of data collection method(s) in this box and tick the accompany box.	☐	☒
16	Details of any other primary data collection method:		

If NO to every question, then the research activity is (ethically) low risk and may be exempt from some of the following sections (please refer to Guidance Notes).

If YES to any question, then no research activity should be undertaken until full ethical approval has been obtained.

SECTION G: Intended Participants

1	Who are the intended participants:	YES	NO
2	Students or staff at the University?	☐	☒
3	Adults (over the age of 18 and competent to give consent)?	☒	☐
4	Vulnerable adults?	☐	☒

5	Children and Young People under the age of 18? (Consent from Parent, Carer or Guardian will be required)	☐	☒
6	Prisoners?	☐	☒
7	Young offenders?	☐	☒
8	Those who could be considered to have a particularly dependent relationship with the investigator or a gatekeeper?	☐	☒
9	People engaged in illegal activities?	☐	☒
10	Others (please identify specifically any group who may be unable to give consent) please indicate here and tick the appropriate box.	☐	☒
11	Other – please indicate here:		

12	Participant numbers and source Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited?	
13	How many participants are expected?	Approximately 60
14	Who will the participants be?	<i>Adults, working at least 30 hours per week with at least one child under the age of 16 living at the same property on a full-time basis</i>
15	How will you identify the participants?	Recruited via social media (LinkedIn, Facebook and Instagram)

16	Information for participants:	YES	NO	N/A
17	Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	☒	☐	☐
18	Will you tell participants that their participation is voluntary?	☒	☐	☐
19	Will you obtain written consent for participation?	☒	☐	☐
20	Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	☒	☐	☐
21	If the research is observational, will you ask participants for their consent to being observed?	☐	☐	☒
22	Will you tell participants that they may withdraw from the research at any time and for any reason?	☒	☐	☐
23	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	☒	☐	☐
24	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	☒	☐	☐
25	Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	☒	☐	☐
26	If NO to any of above questions, please give an explanation			
27				

28	Information for participants:	YES	NO	N/A
29	Will participants be paid?	☐	☒	☐
30	Is specialist electrical or other equipment to be used with participants?	☐	☒	☐
31	Are there any financial or other interests to the investigator or University arising from this study?	☐	☒	☐
32	Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the specific study aims?	☐	☒	☐
33	If YES to any question, please provide full details			
34				

SECTION H: Anticipated Risks

1	Outline any anticipated risks that may adversely affect any of the participants, the researchers and/or the University, and the steps that will be taken to address them. If you have completed a full risk assessment (for example as required by a laboratory, or external research collaborator) you may append that to this form.
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2	Full risk assessment completed and appended?		Yes	☐
			No	☒
3	Risks to participants For example: emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information			
4	Risk to Participant: Participants are asked to complete 10 weeks of solo walks which could potentially be in remote areas – this could be dangerous if conducted in an area they are not familiar or, say, at night.	How will you mitigate the Risk to Participant <i>Participants will be advised to only walk in areas they are familiar with, in daylight hours and always advise someone of their intended route and expected return time</i>		
5	If research activity may include sensitive, embarrassing or upsetting topics (e.g. sexual activity, drug use) or issues likely to disclose information requiring further action (e.g. criminal activity), give details of the procedures to deal with these issues, including any support/advice (e.g. helpline numbers) to be offered to participants. Note that where applicable, consent procedures should make it clear that if something potentially or actually illegal is discovered in the course of a project, it may need to be disclosed to the proper authorities			
	As the issues covered in the questionnaire address sensitive personal areas, all participants will receive signposting to local, professional support for ongoing discussions about mental health and well-being. To ensure that potential emotional distress is mitigated, Question #9 of the BDI-II inventory has been removed for this study – this question related to thoughts and feelings of suicide. For this study participants will <u>not</u> be asked that question and the scale scoring adjusted to accommodate it's removal.			
6	Risks to investigator For example: personal safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest			
	Risk to Investigator: Whilst I won't meet the participants in person I will conduct the semi-structured interviews via Microsoft Teams. I will record those interactions – with participant consent – so I need to keep in mind the data risk associated with that process. Emotional distress is potentially another risk – I will be discussing, potentially, issues of a sensitive nature which could trigger mental health issues of my own.	How will you mitigate the Risk to Investigator: Using MS Teams and keeping data in the cloud with security protection is key for managing data risk. I have good support networks and access to counselling support should any of the discussions trigger emotional distress for me		
7	University/institutional risks			

	For example: adverse publicity, financial loss, data protection	
	Risk to University: The primary risks to the university would relate to data protection and reputational risk.	How will you mitigate the Risk to University: Always acting with professionalism during interactions with participants, signposting them to professional support if they need it and respecting their wishes to withdraw should they wish to. For data protection using password protected files and storing in Office 365 will mitigate data risk

8	Disclosure and Barring Service			
9	If the research activity involves children or vulnerable adults, a Disclosure and Barring Service (DBS) certificate must be obtained before any contact with such participants.	YES	NO	N/A
10	Does your research require you to hold a current DBS Certificate?	☐	☐	☒

SECTION I: Feedback, Consent and Confidentiality

1	Feedback What de-briefing and feedback will be provided to participants, how will this be done and when?
	A 1:1 debrief via video call (Microsoft Teams) will be offered to provide feedback to the participants and sharing signposting for further information relating to personal health and wellbeing
2	Informed consent Describe the arrangements to inform potential participants, before providing consent, of what is involved in participating. Describe the arrangements for participants to provide full consent before data collection begins. If gaining consent in this way is inappropriate, explain how consent will be obtained and recorded in accordance with prevailing data protection legislation.
	Participants will be given a clear outline of the research. They will be given a clear opportunity to withdraw at all times and will be provided with a transcript of the discussions in any semi-structured interviews I have with them Participants will be provided with a briefing email which will be approved by UWTSD supervisor before sending
3	Confidentiality / Anonymity Set out how anonymity of participants and confidentiality will be ensured in any outputs. If anonymity is not being offered, explain why this is the case.

	All data will have names removed and personal data will not be shared. Participants will be coded (rather than named) and those codes will be stored in the Office cloud with password protection so pre and post tests can be compared and analysed.
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SECTION J: Data Protection and Storage

In completing this section refer to the University's Research Data Management Policy and the extensive resources on the University's Research Data Management web pages (<http://uwtsd.ac.uk/library/research-data-management/>).

1	Does the research activity involve personal data (as defined by the General Data Protection Regulation 2016 "GDPR" and the Data Protection Act 2018 "DPA")?	YES	NO
	<i>"Personal data" means any information relating to an identified or identifiable natural person ('data subject'). An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.</i>	☐	☒
2	If YES, provide a description of the data and explain why this data needs to be collected:		
3	Does it involve special category data (as defined by the GDPR)?	YES	NO
	<i>"Special category data" means sensitive personal data consisting of information as to the data subjects' – (a) racial or ethnic origin, (b) political opinions, (c) religious beliefs or other beliefs of a similar nature, (d) membership of a trade union (within the meaning of the Trade Union and Labour Relations (Consolidation) Act 1992), (e) physical or mental health or condition, (f) sexual life, (g) genetics, (h) biometric data (as used for ID purposes),</i>	☐	☒
4	If YES, provide a description of the special category data and explain why this data needs to be collected:		

5	Will the research activity involve storing personal data and/or special category data on one of the following:	YES	NO
6	Manual files (i.e. in paper form)?	☐	☒
7	University computers?	☐	☒
8	Private company computers?	☐	☒

9	Home or other personal computers?	☐	☒
10	Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	☐	☒
11	"Cloud" storage or websites?	☐	☒
12	Other – specify:	☐	☒
13	For all stored data, explain the measures in place to ensure the security of the data collected, data confidentiality, including details of password protection, encryption, anonymisation and pseudonymisation:		
	All data will be stored in the Office 365 cloud provided by UWTSD. Access to this required dual factor authentication and files will also be password protected		
14	All Data Storage		
15	Will the research activity involve any of the following activities:	YES	NO
16	Electronic transfer of data in any form?	☒	☐
17	Sharing of data with others at the University?	☐	☒
18	Sharing of data with other organisations?	☐	☒
19	Export of data outside the European Union or importing of data from outside the UK?	☐	☒
20	Use of personal addresses, postcodes, faxes, emails or telephone numbers?	☐	☒
21	Publication of data that might allow identification of individuals?	☐	☒
22	Use of data management system?	☐	☒
23	Data archiving?	☐	☒
24	If YES to any question, please provide full details, explaining how this will be conducted in accordance with the GDPR and DPA (and/or any international equivalent):		
	All information stored and transferred using Office 365 UWTSD student account only – this account requires dual factor authentication, and all files will be password protected for added security.		
25	List all who will have access to the data generated by the research activity:		
	Just the principal researcher (me)		
26	List who will have control of, and act as custodian(s) for, data generated by the research activity:		
	Just the principal researcher (me)		

27	Give details of data storage arrangements, including security measures in place to protect the data, where data will be stored, how long for, and in what form. Will data be archived – if so how and if not why not.		
	Secure cloud or laptop storage only		
28	Please indicate if your data will be stored in the UWTSD Research Data Repository (see https://researchdata.uwtsd.ac.uk/). If so please explain. <i>(Most relevant to academic staff)</i>		
	No		
29	Confirm that you have read the UWTSD guidance on data management (see https://www.uwtsd.ac.uk/library/research-data-management/)	YES	☒
		NO	☐
30	Confirm that you are aware that you need to keep all data until after your research has completed or the end of your funding	YES	☒
		NO	☐

SECTION K: Declaration

31	The information which I have provided is correct and complete to the best of my knowledge. I have attempted to identify any risks and issues related to the research activity and acknowledge my obligations and the rights of the participants. In submitting this application I hereby confirm that I undertake to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice which is published on the website: https://www.uwtsd.ac.uk/research/research-ethics/		
	Signature of applicant:	Jason Worthy	Date: 20/5/2023

For STUDENT Submissions:

32	Director of Studies/Supervisor:		Date:
33	Signature:		

For STAFF Submissions:

34	Academic Director/ Assistant Dean:		Date:
35	Signature:		

Checklist: Please complete the checklist below to ensure that you have completed the form according to the guidelines and attached any required documentation:

☒	I have read the guidance notes supplied before completing the form.
☒	I have completed ALL RELEVANT sections of the form in full.
☒	I confirm that the research activity has received approval in principle
☒	I have attached a copy of final/interim approval from external organisation (where appropriate)
☐	I have attached a full risk assessment (and have NOT completed Section H of this form) (where appropriate) ONLY TICK IF YOU HAVE ATTACHED A FULL RISK ASSESSMENT
☒	I understand that it is my responsibility to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice.
☒	I understand that before commencing data collection all documents aimed at respondents (including information sheets, consent forms, questionnaires, interview schedules etc.) must be confirmed by the DoS/Supervisor, module tutor or Academic Director.
☒	I have deleted the guidance notes before submitting the PG2 for consideration

RESEARCH STUDENTS AND STAFF ONLY

All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk , with the title 'Ethical Approval' followed by your name. You will be informed of the outcome of your claim by email; therefore it is important that you check your University and personal email accounts regularly.

STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module leader.

APPENDIX B - CONSENT FORM

Questionnaire Consent Form – Master's Green Health Study

I (responder's name) _____ hereby provide permission for Jason Worthy, a student of University of Wales Trinity St David, to use my questionnaire responses in support of the production of his Master's Dissertation paper. I understand that this work is purely for academic purposes and I understand that I wave any claim for copyright protection to this material should the work ever be published in an academic journal or online.

I have been explained that the primary of this research is to explore the impact of walking in nature on the wellbeing of busy working parents.

It has been explained to me that my personal identifiable information will be redacted from any final work and my participation is anonymous.

Signature _____

Date _____

If you have any questions about this consent form please don't hesitate to email me on 1921913@student.uwtsd.ac.uk

APPENDIX C – PARTICIPANT QUESTIONNAIRE

SECTION A (Modified BDI-II)

SECTION INSTRUCTIONS

This questionnaire consists of 20 groups of statements. Please read each group of statements carefully, and then pick out the **one statement** in each group that best describes the way you have been feeling during the **past two weeks, including today**. Circle the number beside the statement you have picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure that you do not choose more than one statement for any group, including Item 15 (changes in sleep patterns) and Item 17 (changes in appetite).

1. Sadness

- 0. I do not feel sad
- 1. I feel sad much of the time
- 2. I am sad all of the time
- 3. I am so sad or unhappy that I can't stand it

2. Pessimism

- 0. I am not discouraged about my future
- 1. I feel more discouraged about my future than I used to be
- 2. I do not expect things to work out for me
- 3. I feel my future is hopeless and will only get worse

3. Past Failure

- 0. I do not feel like a failure
- 1. I have failed more than I should have
- 2. As I look back, I see a lot of failures
- 3. I feel I am a total failure as a person

4. Loss of Pleasure

- 0. I get as much pleasure as I ever did from things I enjoy
- 1. I don't enjoy things as much as I used to
- 2. I get very little pleasure from the things I used to enjoy
- 3. I can't get any pleasure from the things I used to enjoy

5. Guilty Feelings

- 0. I don't feel particularly guilty
- 1. I feel guilty over many things I have done or should have done
- 2. I feel quite guilty most of the time
- 3. I feel guilty all of the time

6. Punishment Feelings

- 0. I don't feel I am being punished
- 1. I feel I may be punished
- 2. I expect to be punished
- 3. I feel I am being punished

7. Self-Dislike

- 0. I feel the same about myself as ever
- 1. I have lost confidence in myself
- 2. I am disappointed in myself
- 3. I dislike myself

8. Self-Criticalness

- 0. I don't criticise or blame myself more than usual
- 1. I am more critical of myself than I used to be
- 2. I criticise myself for all my faults
- 3. I blame myself for everything bad that happens

9. Crying

- 0. I don't cry any more than I used to
- 1. I cry more than I used to
- 2. I cry over every little thing
- 3. I feel like crying, but I can't

10. Agitation

- 0. I am no more restless or wound up than usual
- 1. I feel more restless or wound up than usual
- 2. I am so restless or agitate that it's hard to stay still
- 3. I am so restless or agitated that I have to keep moving or doing something

11. Loss of Interest

- 0. I have not lost interest in other people or activities
- 1. I am less interested in other people or things than before
- 2. I have lost most of my interest in other people or things
- 3. It's hard to get interested in anything

12. Indecisiveness

- 0. I make decisions about as well as ever
- 1. I find it more difficult to make decisions than usual
- 2. I have much greater difficulty in making decisions than I used to
- 3. I have trouble making any decisions

13. Worthlessness

- 0. I do not feel I am worthless
- 1. I don't consider myself as worthwhile and useful as I used to
- 2. I feel more worthless as compared to other people
- 3. I feel utterly worthless

14. Loss of Energy

- 0. I have as much energy as ever
- 1. I have less energy than I used to have
- 2. I don't have enough energy to do very much
- 3. I don't have enough energy to do anything

15. Changes in Sleeping Pattern

- 0. I have not experienced any changes in my sleeping pattern
- 1. A - I sleep somewhat more than usual
- 1. B - I sleep somewhat less than usual
- 2. A - I sleep a lot more than usual
- 2. B - I sleep a lot less than usual
- 3. A - I sleep most of the day
- 3. B - I wake up 1-2 hours early and can't get back to sleep

16. Irritability

- 0. I am not more irritable than usual
- 1. I am more irritable than usual
- 2. I am much more irritable than usual
- 3. I am irritable all the time

17. Changes in Appetite

- 0. I have not experienced any changes in my appetite
- 1. A - My appetite is somewhat less than usual
- 1. B - My appetite is somewhat more than usual
- 2. A - My appetite is much less than before

- 2. B – My appetite is much greater than usual
- 3. A – I have no appetite at all
- 3. B – I crave food all the time

18. Concentration Difficulty

- 0. I can concentrate as well as ever
- 1. I can't concentrate as well as usual
- 2. It's hard to keep my mind on anything for very long
- 3. I find I can't concentrate on anything

19. Tiredness or Fatigue

- 0. I am no more tired or fatigued than usual
- 1. I get more tired or fatigued more easily than usual
- 2. I am too tired or fatigued to do a lot of the things I used to do
- 3. I am too tired or fatigued to do most of the things I used to do

20. Loss of Interest in Sex

- 0. I have not noticed any recent change in my interest in sex
- 1. I am less interested in sex than I used to be
- 2. I am much less interested in sex now
- 3. I have lost interest in sex completely

SECTION B (Modified MBI for Parents)

SECTION INSTRUCTIONS

How do you perceive your role as a parent? Are you exhausted? How capable are you of shaping your relationship to others? To what degree are you personally fulfilled?

Indicate how frequently the following statements apply to you by placing a number next to the question as follows:

- 0 = Never
- 1 = At least a few times a year
- 2 = At least once a month
- 3 = Several times a month
- 4 = Once a week
- 5 = Several times a week
- 6 = Every day

- 1. I feel emotionally exhausted because of my work and role as a parent?
- 2. I feel worn out at the end of a working day
- 3. I feel tired as soon as I get up in the morning and see a new working day stretched out in front of me
- 4. I can easily understand the actions of my colleagues/supervisors
- 5. I get the feeling that I sometimes treat my clients or colleagues as if they were objects
- 6. Working with people the whole day is stressful for me
- 7. I deal with my other people's problems successfully
- 8. I feel burned out because of my work and role as a parent
- 9. I feel that I influence other people positively through my work
- 10. I have become more callous with people since I have started doing this job
- 11. I'm afraid that my work makes me emotionally harder

12. I feel full of energy
13. I feel frustrated by my work
14. I get the feeling that I work too hard
15. I'm not really interested in what is going on with many of my colleagues
16. Being in direct contact with people at work is too stressful
17. I find it easy to build a relaxed atmosphere in my working environment
18. I feel stimulated when I have been working closely with my colleagues
19. I have achieved many rewarding objectives in my work
20. I feel as if I'm at my wits' end
21. In my work I am very relaxed when dealing with emotional problems
22. I have the feeling that my colleagues blame me for some of their problems

SECTION C (SWEMWBS)

SECTION INSTRUCTIONS

Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each over the last 2 weeks.

STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5

SECTION D (ONS4)

SECTION INSTRUCTIONS

Finally, I would like to ask you four questions about your feelings on aspects of your life. There are no right or wrong answers. For each of these questions I'd like you to give an answer on a scale of 0 to 10, where 0 is "not at all" and 10 is "completely".

Measure	Question
Life Satisfaction	Overall, how satisfied are you with your life nowadays?
Worthwhile	Overall, to what extent do you feel that the things you do in your life are worthwhile?
Happiness	Overall, how happy did you feel yesterday?
Anxiety	On a scale where 0 is "not at all anxious" and 10 is "completely anxious", overall, how anxious did you feel yesterday?

APPENDIX D – EXCEL RAW DATA FILES & SCORING

DEMOGRAPHICS AND WALKING DATA								
Id	Start time	Completion time	Days Between Forms	# of Walks	Avg Duration (mins)	Marital Status	Date of Birth	Age
1.1	6/26/2023	6/26/2023	145	85	60	Married	12/9/1972	53
2.1	6/26/2023	6/26/2023	84	12	44	Long term relationship	6/2/1983	42
3.1	6/25/2023	6/25/2023	143	39	68	Married	11/27/1972	53
4.1	7/22/2023	7/22/2023	119	25	35	Married	2/7/1978	48
5.1	6/26/2023	6/26/2023	142	6	40	Married	5/16/1977	48
6.1	7/18/2023	7/18/2023	79	33	35	Married	9/24/1984	41
7.1	7/16/2023	7/16/2023	125	78	30	Married	10/4/1984	41
8.1	8/22/2023	8/22/2023	69	71	47	Married	9/25/1975	50
9.1	7/19/2023	7/19/2023	118	27	44	Married	2/19/1970	56
10.1	7/13/2023	7/13/2023	125	72	44	Short term relationship	11/10/1972	53
11.1	7/17/2023	7/17/2023	124	27	20	Married	9/29/1979	46
12.1	6/26/2023	6/26/2023	146	38	44	Married	4/13/1984	41
13.1	7/22/2023	7/22/2023	74	4	38	Married	2/11/1993	33
14.1	7/22/2023	7/22/2023	74	3	120	Married	5/10/1984	41
15.1	6/21/2023	6/21/2023	152	35	25	Married	11/17/1976	49
16.1	7/14/2023	7/14/2023	124	95	37	Married	9/1/1993	32
17.1	7/13/2023	7/13/2023	92	23	54	Married	3/4/1972	54

18.1	7/20/2023	7/20/2023	83	9	38	Married	6/9/1990	35
19.1	6/21/2023	6/21/2023	104	30	21	Separated	10/3/1977	48
20.1	7/20/2023	7/20/2023	121	28	45	Married	6/12/1977	48
21.1	6/26/2023	6/26/2023	145	30	43	Married	6/23/1982	43
22.1	6/21/2023	6/21/2023	147	27	26	Long term relationship	8/13/1984	41
23.1	7/22/2023	7/22/2023	116	5	81	Married	8/23/1974	51
24.1	6/26/2023	6/26/2023	105	12	41	Married	8/21/1982	43
25.1	6/26/2023	6/26/2023	146	29	44	Married	5/25/1979	46
26.1	6/23/2023	6/23/2023	109	23	63	Married	7/13/1984	41
27.1	7/14/2023	7/14/2023	127	19	33	Married	11/10/1978	47
28.1	7/17/2023	7/17/2023	134	56	49	Married	12/21/1976	49
29.1	6/26/2023	6/26/2023	132	56	49	Married	6/14/1980	45
30.1	7/15/2023	7/15/2023	122	26	66	Long term relationship	9/6/1979	46
31.1	7/14/2023	7/14/2023	125	10	30	Married	12/9/1976	49

DEMOGRAPHICS AND WALKING DATA	QUESTIONNAIRE SCORES							
Id	BDI_PRE	BDI_POST	MBI_EE_PRE	MBI_EE_POST	MBI_DP_PRE	MBI_DP_POST	MBI_PA_PRE	MBI_PA_POST
1.1	17	11	29	14	5	5	23	24
2.1	6	11	34	24	9	5	21	22
3.1	13	15	30	22	18	10	19	19
4.1	16	6	25	17	12	8	33	30
5.1	9	3	26	14	8	12	16	17
6.1	4	2	40	31	11	7	25	19
7.1	22	5	37	30	16	14	36	22
8.1	11	0	19	10	4	1	25	11
9.1	11	6	24	17	5	2	22	27
10.1	5	4	23	11	8	9	9	9
11.1	17	13	29	28	15	13	20	23
12.1	44	29	39	49	22	27	32	31
13.1	7	0	11	23	10	12	23	28
14.1	18	4	21	22	3	3	37	32
15.1	11	0	23	16	14	3	24	14
16.1	17	13	24	27	11	17	29	29
17.1	0	0	13	8	1	2	16	16
18.1	9	0	20	0	3	0	23	0
19.1	19	2	39	14	16	0	31	14
20.1	24	12	31	33	7	7	24	20
21.1	13	10	23	20	3	7	28	23
22.1	7	2	18	13	15	6	23	28

23.1	11	2	36	18	12	4	12	16
24.1	21	2	42	23	9	5	37	32
25.1	17	8	37	27	2	1	16	13
26.1	6	2	33	9	6	3	23	14
27.1	13	3	33	13	1	1	19	20
28.1	25	25	37	36	14	20	36	38
29.1	2	1	9	13	4	6	26	18
30.1	15	6	15	9	9	7	30	25
31.1	2	6	12	28	5	6	24	19

DEMOGRAPHICS AND WALKING DATA							
Id	SWEM_PRE	SWEM_POST	ONS_SATIS_PRE	ONS_SATIS_POST	ONS_WORTH_PRE	ONS_WORTH_POST	ONS_HAP_PRE
1.1	25	27	8	8	10	9	9
2.1	22	20	7	6	8	7	8
3.1	22	20	7	5	8	9	6
4.1	18	23	5	6	4	5	7
5.1	23	26	8	8	7	7	7
6.1	24	27	9	10	10	10	8
7.1	17	27	3	8	3	8	7
8.1	25	33	8	10	9	10	6
9.1	25	23	7	7	8	7	7
10.1	30	35	10	10	10	10	9
11.1	24	27	7	7	9	10	6

12.1	20	24	4	5	6	6	4
13.1	27	28	9	8	10	10	10
14.1	20	28	7	8	8	10	4
15.1	25	32	8	9	8	10	8
16.1	21	24	8	7	6	8	7
17.1	29	29	9	8	10	9	9
18.1	27	0	8	0	7	0	8
19.1	18	30	6	7	4	10	6
20.1	20	26	5	6	5	6	5
21.1	22	21	6	8	8	8	7
22.1	23	24	6	7	6	5	7
23.1	27	29	9	10	8	10	10
24.1	15	24	5	8	6	8	7
25.1	23	27	7	8	6	8	8
26.1	28	35	7	9	10	10	7
27.1	25	26	7	8	10	9	7
28.1	21	19	5	4	5	6	0
29.1	30	29	9	9	9	9	10
30.1	21	25	6	8	5	9	6
31.1	26	22	8	7	8	8	8

DEMOGRAPHICS AND WALKING DATA			
Id	ONS_HAP_POST	ONS_ANX_PRE	ONS_ANX_POST

1.1	8	2	5
2.1	5	2	3
3.1	1	6	8
4.1	7	6	5
5.1	8	5	1
6.1	9	8	6
7.1	7	4	8
8.1	8	6	4
9.1	4	4	4
10.1	9	1	3
11.1	8	4	6
12.1	4	6	4
13.1	6	0	6
14.1	9	6	1
15.1	9	5	2
16.1	7	10	7
17.1	9	1	0
18.1	0	2	0
19.1	7	5	1
20.1	7	10	5
21.1	7	5	7
22.1	6	0	0
23.1	10	6	2
24.1	8	4	4
25.1	6	4	0
26.1	9	4	0
27.1	10	7	0

28.1	0	8	7
29.1	9	0	1
30.1	8	4	2
31.1	2	5	9

APPENDIX E – SPSS DATA TABLE & OUTPUTS

SPSS Final Analysis.sav [DataSet1] - IBM SPSS Statistics Data Editor

FileEditViewDataTransformAnalyzeGraphsUtilitiesExtensionsWindowHelp

SPSS Final Analysis.sav [DataSet1] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help

32 : MBI_EE_POST

Visible: 54 of 54 Variable

	BI_EE_POST	MBI_DP_PRE	MBI_DP_POST	MBI_PA_PRE	MBI_PA_POST	SWEM_PRE	SWEM_POST	ONS_SATIS_PRE	ONS_SATIS_POST	ONS_WORTH_PRE	ONS_WORTH_POST
1	49	22	27	32	31	20	24	4	5	6	6
2	36	14	20	36	38	21	19	5	4	5	6
3	23	9	5	37	32	15	24	5	8	6	8
4	24	9	5	21	22	22	20	7	6	8	7
5	28	5	6	24	19	26	22	8	7	8	8
6	30	16	14	36	22	17	27	3	8	3	8
7	14	16	0	31	14	18	30	6	7	4	10
8	22	18	10	19	19	22	20	7	5	8	9
9	22	3	3	37	32	20	28	7	8	8	10
10	10	4	1	25	11	25	33	8	10	9	10
11	16	14	3	24	14	25	32	8	9	8	10
12	27	11	17	29	29	21	24	8	7	6	8
13	28	15	13	20	23	24	27	7	7	9	10
14	0	3	0	23	0	27	0	8	0	7	0
15	23	10	12	23	28	27	28	9	8	10	10
16	20	3	7	28	23	22	21	6	8	8	8
17	13	1	1	19	20	25	26	7	8	10	9
18	18	12	4	12	16	27	29	9	10	8	10
19	11	8	9	9	9	30	35	10	10	10	10
20	14	5	5	23	24	25	27	8	8	10	9
21	8	1	2	16	16	29	29	9	8	10	9
22	17	12	8	33	30	18	23	5	6	4	5
23	13	4	6	26	18	30	29	9	9	9	9
24	9	9	7	30	25	21	25	6	8	5	9
25	31	11	7	25	19	24	27	9	10	10	10
26	33	7	7	24	20	20	26	5	6	5	6
27	14	8	12	16	17	23	26	8	8	7	7
28	13	15	6	23	28	23	24	6	7	6	5
29	17	5	2	22	27	25	23	7	7	8	7
30	27	2	1	16	13	23	27	7	8	6	8
31	9	6	3	23	14	28	35	7	9	10	10

SPSS Final Analysis.sav [DataSet1] - IBM SPSS Statistics Data Editor

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32 : MBI_EE_POST

	ONS_WORTH_PRE	ONS_WORTH_POST	ONS_HAP_PRE	ONS_HAP_POST	ONS_ANX_PRE	ONS_ANX_POST	DIFF_BDI	DIFF_MBI_EE	DIFF_MBI_DP	DIFF_MBI_PA	DIFF_SWE M
1	6	6	4	4	6	4	-15.00	10.00	5.00	-1.00	4.00
2	5	6	0	0	8	7	.00	-1.00	6.00	2.00	-2.00
3	6	8	7	8	4	4	-19.00	-19.00	-4.00	-5.00	9.00
4	8	7	8	5	2	3	5.00	-10.00	-4.00	1.00	-2.00
5	8	8	8	2	5	9	4.00	16.00	1.00	-5.00	-4.00
6	3	8	7	7	4	8	-17.00	-7.00	-2.00	-14.00	10.00
7	4	10	6	7	5	1	-17.00	-25.00	-16.00	-17.00	12.00
8	8	9	6	1	6	8	2.00	-8.00	-8.00	.00	-2.00
9	8	10	4	9	6	1	-14.00	1.00	.00	-5.00	8.00
10	9	10	6	8	6	4	-11.00	-9.00	-3.00	-14.00	8.00
11	8	10	8	9	5	2	-11.00	-7.00	-11.00	-10.00	7.00
12	6	8	7	7	10	7	-4.00	3.00	6.00	.00	3.00
13	9	10	6	8	4	6	-4.00	-1.00	-2.00	3.00	3.00
14	7	0	8	0	2	0	-9.00	-20.00	-3.00	-23.00	-27.00
15	10	10	10	6	0	6	-7.00	12.00	2.00	5.00	1.00
16	8	8	7	7	5	7	-3.00	-3.00	4.00	-5.00	-1.00
17	10	9	7	10	7	0	-10.00	-20.00	.00	1.00	1.00
18	8	10	10	10	6	2	-9.00	-18.00	-8.00	4.00	2.00
19	10	10	9	9	1	3	-1.00	-12.00	1.00	.00	5.00
20	10	9	9	8	2	5	-6.00	-15.00	.00	1.00	2.00
21	10	9	9	9	1	0	.00	-5.00	1.00	.00	.00
22	4	5	7	7	6	5	-10.00	-8.00	-4.00	-3.00	5.00
23	9	9	10	9	0	1	-1.00	4.00	2.00	-8.00	-1.00
24	5	9	6	8	4	2	-9.00	-6.00	-2.00	-5.00	4.00
25	10	10	8	9	8	6	-2.00	-9.00	-4.00	-6.00	3.00
26	5	6	5	7	10	5	-12.00	2.00	.00	-4.00	6.00
27	7	7	7	8	5	1	-6.00	-12.00	4.00	1.00	3.00
28	6	5	7	6	0	0	-5.00	-5.00	-9.00	5.00	1.00
29	8	7	7	4	4	4	-5.00	-7.00	-3.00	5.00	-2.00
30	6	8	8	6	4	0	-9.00	-10.00	-1.00	-3.00	4.00
31	10	10	7	9	4	0	-4.00	-24.00	-3.00	-9.00	7.00



1 : COO_2

.34317916005383

Visible

	3WE	DIFF_ONSATI S	DIFF_ONS_WOR TH	DIFF_ONS_HA P	DIFF_ONS_AN X	WALKS_PER_W EEK	MINS_PER_WE EK	filter_\$	LOG_WALKS_PER_W EEK	LOG_MINS_PER_WE EK	LOG_AVGDURATI ON	COO_1
1	4.00	1.00	.00	.00	-2.00	1.82	80.16	Selected	.26	1.90	1.64	.63837
2	2.00	-1.00	1.00	.00	-1.00	2.93	143.34	Selected	.47	2.16	1.69	.30311
3	9.00	3.00	2.00	1.00	.00	.80	32.80	Selected	-.09	1.52	1.61	.10542
4	2.00	-1.00	-1.00	-3.00	1.00	1.00	44.00	Selected	.00	1.64	1.64	.09247
5	4.00	-1.00	.00	-6.00	4.00	.56	16.80	Selected	-.24	1.23	1.48	.07482
6	0.00	5.00	5.00	.00	4.00	4.37	131.04	Selected	.64	2.12	1.48	.06424
7	2.00	1.00	6.00	1.00	-4.00	2.02	42.40	Selected	.31	1.63	1.32	.06236
8	2.00	-2.00	1.00	-5.00	2.00	1.91	129.82	Selected	.28	2.11	1.83	.05068
9	8.00	1.00	2.00	5.00	-5.00	.28	34.05	Selected	-.53	1.53	2.08	.02512
10	8.00	2.00	1.00	2.00	-2.00	7.20	338.54	Selected	.86	2.53	1.67	.02003
11	7.00	1.00	2.00	1.00	-3.00	1.61	40.30	Selected	.21	1.61	1.40	.02003
12	3.00	-1.00	2.00	.00	-3.00	5.36	198.43	Selected	.73	2.30	1.57	.01521
13	3.00	.00	1.00	2.00	2.00	1.52	30.48	Selected	.19	1.48	1.30	.01521
14	7.00	-8.00	-7.00	-8.00	-2.00	.76	28.84	Selected	-.11	1.46	1.58	.01435
15	1.00	-1.00	.00	-4.00	6.00	.38	14.38	Selected	-.41	1.16	1.58	.00923
16	-1.00	2.00	.00	.00	2.00	1.45	62.28	Selected	.16	1.79	1.63	.00894
17	1.00	1.00	-1.00	3.00	-7.00	1.05	34.56	Selected	.02	1.54	1.52	.00780
18	2.00	1.00	2.00	.00	-4.00	.30	24.44	Selected	-.51	1.39	1.91	.00763
19	5.00	.00	.00	.00	2.00	4.03	177.41	Selected	.61	2.25	1.64	.00704
20	2.00	.00	-1.00	-1.00	3.00	4.10	246.21	Selected	.61	2.39	1.78	.00437
21	.00	-1.00	-1.00	.00	-1.00	1.75	94.50	Selected	.25	1.98	1.73	.00348
22	5.00	1.00	1.00	.00	-1.00	1.47	51.47	Selected	.17	1.71	1.54	.00337
23	-1.00	.00	.00	-1.00	1.00	2.97	145.52	Selected	.47	2.16	1.69	.00198
24	4.00	2.00	4.00	2.00	-2.00	1.49	98.46	Selected	.18	1.99	1.82	.00168
25	3.00	1.00	.00	1.00	-2.00	2.92	102.34	Selected	.47	2.01	1.54	.00107
26	6.00	1.00	1.00	2.00	-5.00	1.62	72.89	Selected	.21	1.86	1.65	.00104
27	3.00	.00	.00	1.00	-4.00	.30	11.83	Selected	-.51	1.07	1.60	.00099
28	1.00	1.00	-1.00	-1.00	.00	1.29	33.43	Selected	.11	1.52	1.42	.00091
29	2.00	.00	-1.00	-3.00	.00	1.60	70.47	Selected	.21	1.85	1.64	.00044
30	4.00	1.00	2.00	-2.00	-4.00	1.39	61.18	Selected	.15	1.79	1.64	.00039
31	7.00	2.00	.00	2.00	-4.00	1.48	93.06	Selected	.17	1.97	1.80	.00014

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14 :

	COO_2	COO_3	COO_4	COO_5	COO_6	COO_7	COO_8	COO_9	COO_10	COO_11	COO_12	COO_13
1	.34318	.84602	.02229	.00024	.02801	.01359	.01035	.00008	.00061	.48819	.22591	.01543
2	.06081	.12376	.15021	.02133	.08195	.01036	.82996	.03243	.04245	.22593	.05936	.13563
3	.01994	.00364	.01298	.00310	.03157	.00241	.00457	.00096	.00970	.08636	.01741	.00616
4	.00007	.00364	.00596	.01306	.00881	.00871	.01562	.00075	.00816	.07299	.00004	.00374
5	.21821	.00337	.00115	.01254	.00443	.00060	.08691	.06815	.00647	.16936	.26122	.00822
6	.01235	.00658	.08341	.02334	.31931	.14716	.00029	.05335	.00765	.07637	.01139	.05564
7	.09542	.34183	.10372	.05669	.00004	.26238	.00260	.01906	.04882	.04456	.07085	.08755
8	.00005	.04848	.00209	.01306	.02633	.00195	.08614	.04801	.02481	.05080	.00008	.00440
9	.00755	.00003	.01298	.01008	.00184	.01276	.15962	.03226	.01451	.01808	.00650	.00621
10	.01394	.00977	.04407	.02665	.03080	.00984	.01176	.00008	.03963	.21313	.04084	.15310
11	.00105	.09083	.01837	.01961	.00899	.01276	.01029	.00777	.02142	.01348	.00089	.01709
12	.01680	.05938	.01425	.00042	.00443	.00241	.00029	.03026	.00926	.01171	.03708	.03300
13	.01089	.00374	.01531	.00080	.00065	.00984	.01176	.01715	.00358	.03055	.01245	.01207
14	.09336	.01477	.17261	.65784	.39846	.28686	.16647	.03355	.63726	.00921	.09686	.22580
15	.12416	.01268	.02772	.00200	.00099	.00604	.05143	.20446	.03342	.00208	.16224	.06503
16	.00097	.03079	.00008	.00845	.00789	.00060	.00029	.02601	.00578	.00611	.00063	.00006
17	.03211	.00047	.00519	.00000	.00184	.00119	.02838	.10009	.00059	.00466	.03075	.00311
18	.01948	.02903	.02624	.00567	.03815	.01276	.02784	.01504	.01961	.00423	.02524	.01501
19	.01252	.00482	.00742	.13583	.04192	.00604	.00838	.00460	.08480	.00067	.02097	.00080
20	.01123	.00056	.00695	.00058	.00020	.00119	.00032	.02815	.00206	.00030	.02941	.03391
21	.02017	.00095	.00067	.00620	.00099	.00119	.00838	.03779	.00212	.00015	.01439	.00128
22	.00093	.00194	.01130	.00143	.00295	.04440	.00029	.00233	.00056	.00176	.00064	.00670
23	.00524	.00846	.00695	.00605	.00672	.00020	.00468	.00829	.00020	.00060	.00557	.00670
24	.01578	.00003	.00004	.00002	.00789	.05094	.01176	.00477	.00020	.00296	.01170	.00015
25	.01441	.00238	.00227	.00080	.03815	.00604	.01029	.00871	.00011	.00001	.01054	.00143
26	.03109	.00129	.00019	.00181	.00295	.01036	.01161	.00865	.00079	.00074	.02054	.00008
27	.00662	.02327	.00354	.00016	.00020	.00359	.00457	.01906	.02248	.00517	.03118	.00070
28	.00276	.05662	.02772	.00086	.00004	.03975	.00111	.03987	.00007	.00002	.00246	.02498
29	.00056	.00637	.02775	.00473	.00065	.00871	.01799	.00096	.00365	.00016	.00036	.01933
30	.00188	.00289	.00559	.00115	.00184	.00241	.00468	.02860	.00081	.00020	.00120	.00340
31	.06269	.00411	.01550	.08511	.01239	.00604	.01393	.02860	.05400	.00120	.04598	.01146

SPSS Final Analysis.sav [DataSet1] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help

	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	ID	Numeric	4	0		None	None	4	Center	Nominal	Input
2	DaysBetwe...	Numeric	18	0		None	None	18	Center	Scale	Input
3	TotalWalks	Numeric	10	0		None	None	10	Center	Scale	Input
4	AVGDuration	Numeric	19	0		None	None	19	Center	Scale	Input
5	MaritalStatus	String	23	0		None	None	18	Left	Nominal	Input
6	DOB	Date	10	0		None	None	13	Center	Scale	Input
7	AGE	Numeric	3	0		None	None	7	Center	Scale	Input
8	GENDER	String	8	0		None	None	12	Left	Nominal	Input
9	BDI_PRE	Numeric	7	0		None	None	13	Center	Scale	Target
10	BDI_POST	Numeric	8	0		None	None	14	Center	Scale	Target
11	MBI_EE_PRE	Numeric	10	0		None	None	18	Center	Scale	Target
12	MBI_EE_P...	Numeric	11	0		None	None	16	Center	Scale	Target
13	MBI_DP_P...	Numeric	10	0		None	None	17	Center	Scale	Target
14	MBI_DP_P...	Numeric	11	0		None	None	17	Center	Scale	Target
15	MBI_PA_PRE	Numeric	10	0		None	None	18	Center	Scale	Target
16	MBI_PA_PO...	Numeric	11	0		None	None	19	Center	Scale	Target
17	SWEM_PRE	Numeric	8	0		None	None	14	Center	Scale	Target
18	SWEM_POST	Numeric	9	0		None	None	15	Center	Scale	Target
19	ONS_SATIS...	Numeric	13	0		None	None	21	Center	Scale	Target
20	ONS_SATIS...	Numeric	14	0		None	None	18	Center	Scale	Target
21	ONS_WOR...	Numeric	13	0		None	None	20	Center	Scale	Target
22	ONS_WOR...	Numeric	14	0		None	None	19	Center	Scale	Target
23	ONS_HAP_...	Numeric	11	0		None	None	20	Center	Scale	Target
24	ONS_HAP_...	Numeric	12	0		None	None	18	Center	Scale	Target
25	ONS_ANX_...	Numeric	11	0		None	None	16	Center	Scale	Target
26	ONS_ANX_...	Numeric	12	0		None	None	18	Center	Scale	Target
27	DIFF_BDI	Numeric	8	2		None	None	10	Right	Scale	Input
28	DIFF_MBI_...	Numeric	8	2		None	None	13	Right	Scale	Input
29	DIFF_MBI_...	Numeric	8	2		None	None	13	Right	Scale	Input
30	DIFF_MBI_PA	Numeric	8	2		None	None	13	Right	Scale	Input
31	DIFF_SWEM	Numeric	8	2		None	None	11	Right	Scale	Input
32	DIFF_ONS_...	Numeric	8	2		None	None	16	Right	Scale	Input
33	DIFF_ONS_...	Numeric	8	2		None	None	16	Right	Scale	Input
34	DIFF_ONS_...	Numeric	8	2		None	None	14	Right	Scale	Input
35	DIFF_ONS_...	Numeric	8	2		None	None	14	Right	Scale	Input
36	WALKS_PE...	Numeric	8	2		None	None	16	Right	Scale	Input
37	MIN_PER...	Numeric	8	2		None	None	15	Right	Scale	Input

SPSS Final Analysis.sav [DataSet1] - IBM SPSS Statistics Data Editor

File Edit View Data Transform Analyze Graphs Utilities Extensions Window Help											
	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
37	MINS_PER...	Numeric	8	2		None	None	15	Right	Scale	Input
38	filter_\$	Numeric	1	0	DaysBetween ...	{0, Not Sele...	None	10	Right	Nominal	Input
39	LOG_WALK...	Numeric	8	2		None	None	20	Right	Scale	Input
40	LOG_MINS...	Numeric	8	2		None	None	19	Right	Scale	Input
41	LOG_AVGD...	Numeric	8	2		None	None	17	Right	Scale	Input
42	COO_1	Numeric	11	5	Cook's Distance	None	None	13	Right	Scale	Input
43	COO_2	Numeric	11	5	Cook's Distance	None	None	13	Right	Scale	Input
44	COO_3	Numeric	11	5	Cook's Distance	None	None	13	Right	Scale	Input
45	COO_4	Numeric	11	5	Cook's Distance	None	None	13	Right	Scale	Input
46	COO_5	Numeric	11	5	Cook's Distance	None	None	13	Right	Scale	Input
47	COO_6	Numeric	11	5	Cook's Distance	None	None	13	Right	Scale	Input
48	COO_7	Numeric	11	5	Cook's Distance	None	None	13	Right	Scale	Input
49	COO_8	Numeric	11	5	Cook's Distance	None	None	13	Right	Scale	Input
50	COO_9	Numeric	11	5	Cook's Distance	None	None	13	Right	Scale	Input
51	COO_10	Numeric	11	5	Cook's Distance	None	None	13	Right	Scale	Input
52	COO_11	Numeric	11	5	Cook's Distance	None	None	13	Right	Scale	Input
53	COO_12	Numeric	11	5	Cook's Distance	None	None	13	Right	Scale	Input
54	COO_13	Numeric	11	5	Cook's Distance	None	None	13	Right	Scale	Input

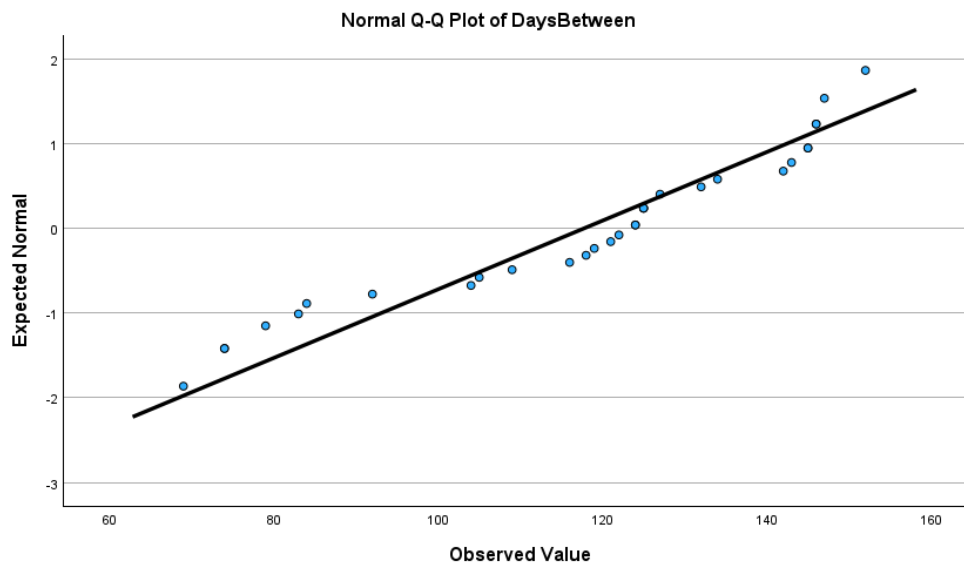
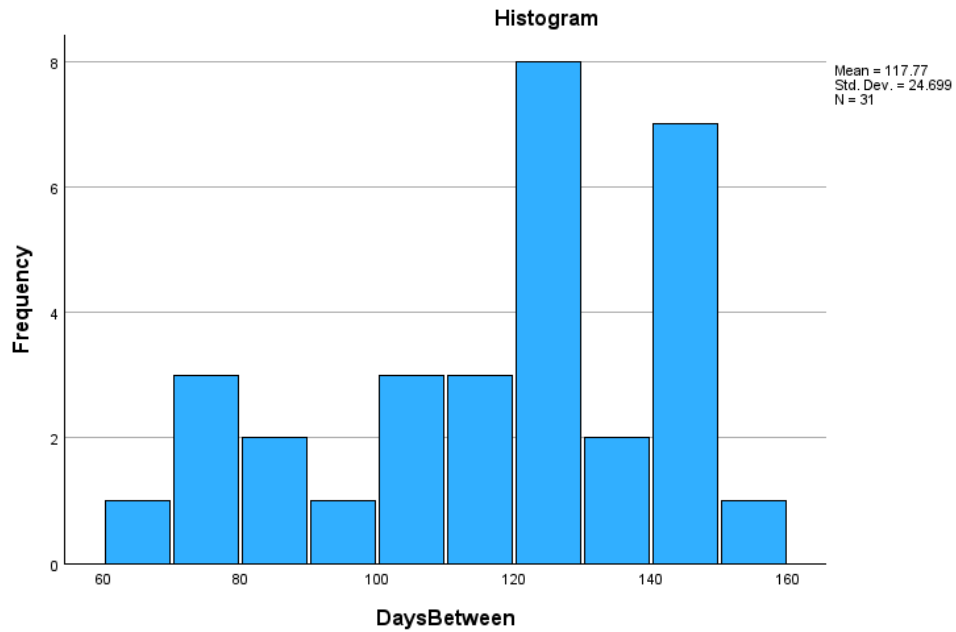
Descriptive Statistics									
	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness		Kurtosis	
						Statistic	Std. Error	Statistic	Std. Error
DaysBetween	31	69	152	117.77	24.699	-.603	.421	-.712	.821
TotalWalks	31	3	95	33.32	24.883	1.034	.421	.318	.821
AVGDuration	31	20	120	45.61	19.590	2.003	.421	6.092	.821
AGE	31	32	56	45.58	5.949	-.501	.421	-.002	.821
Valid N (listwise)	31								

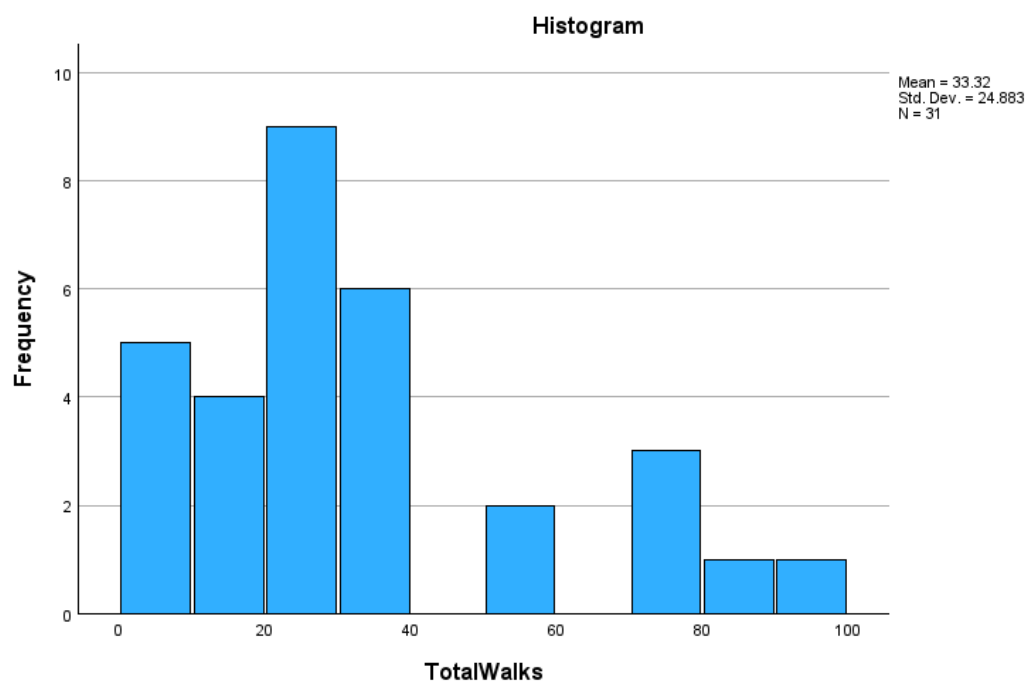
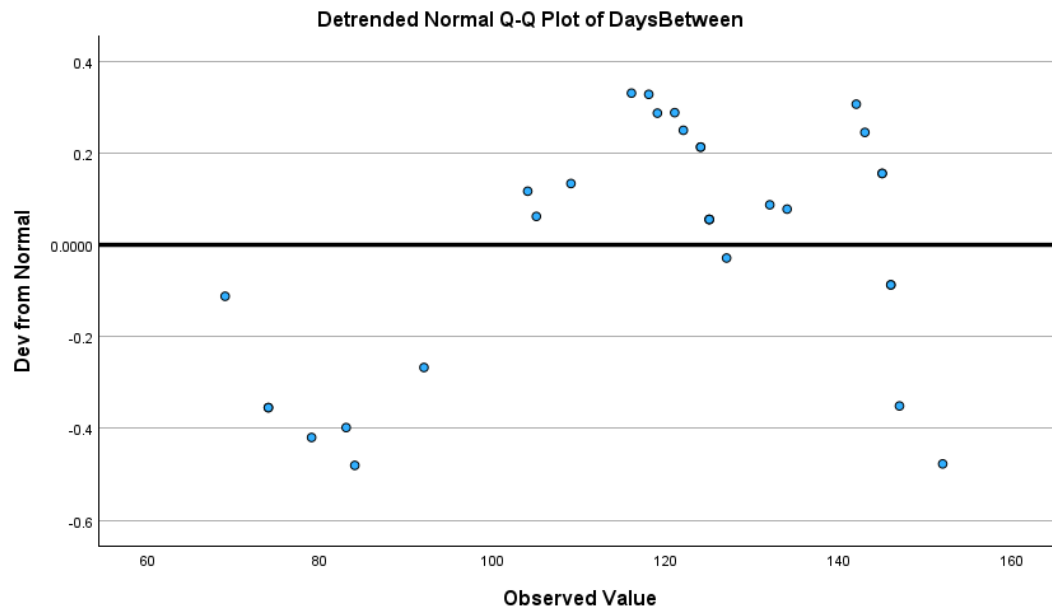
Descriptives					Statistic	Std. Error
DaysBetween	Mean				117.77	4.436
	95% Confidence Interval for Mean	Lower Bound			108.71	
		Upper Bound			126.83	
	5% Trimmed Mean				118.58	
	Median				124.00	
	Variance				610.047	
	Std. Deviation				24.699	
	Minimum				69	
	Maximum				152	
	Range				83	
	Interquartile Range				38	
	Skewness				-.603	.421
	Kurtosis				-.712	.821
TotalWalks	Mean				33.32	4.469
	95% Confidence Interval for Mean	Lower Bound			24.20	
		Upper Bound			42.45	
	5% Trimmed Mean				31.76	
	Median				27.00	
	Variance				619.159	
	Std. Deviation				24.883	
	Minimum				3	
	Maximum				95	
	Range				92	
	Interquartile Range				27	
	Skewness				1.034	.421
	Kurtosis				.318	.821
AVGDuration	Mean				45.61	3.519
	95% Confidence Interval for Mean	Lower Bound			38.43	
		Upper Bound			52.80	
	5% Trimmed Mean				43.65	
	Median				44.00	
	Variance				383.778	
	Std. Deviation				19.590	
	Minimum				20	
	Maximum				120	
	Range				100	
	Interquartile Range				14	
	Skewness				2.003	.421
	Kurtosis				6.092	.821

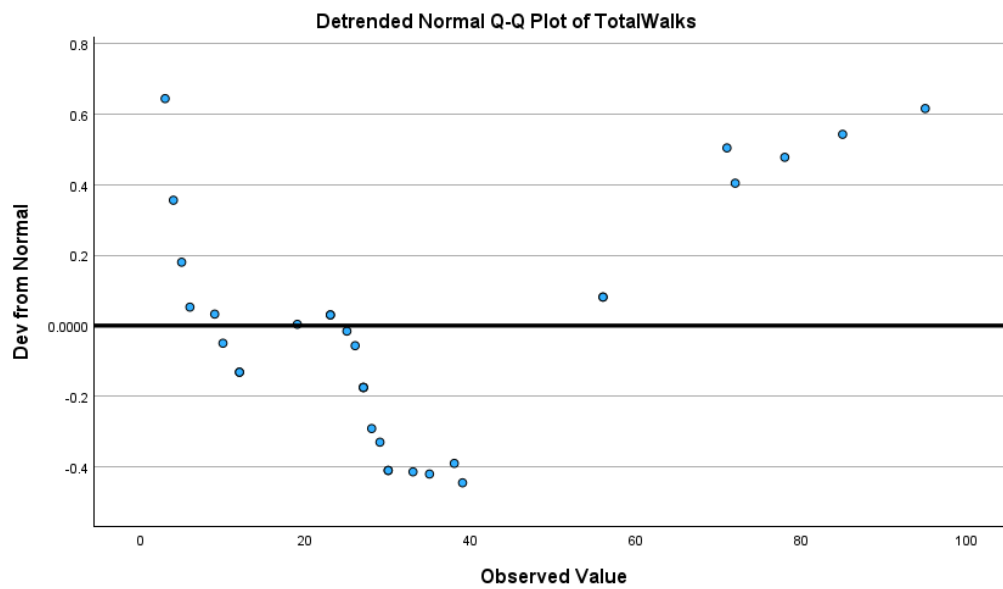
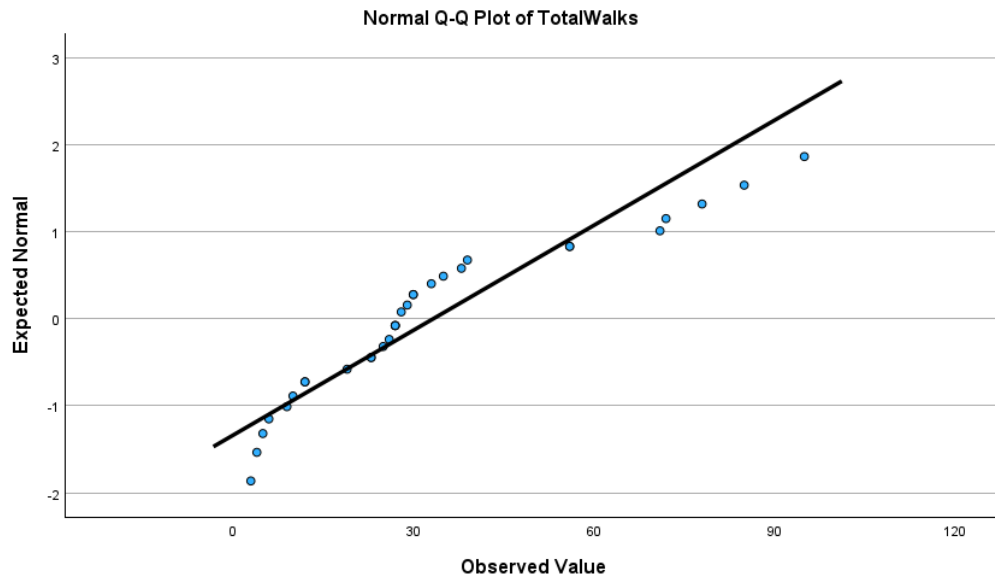
Tests of Normality

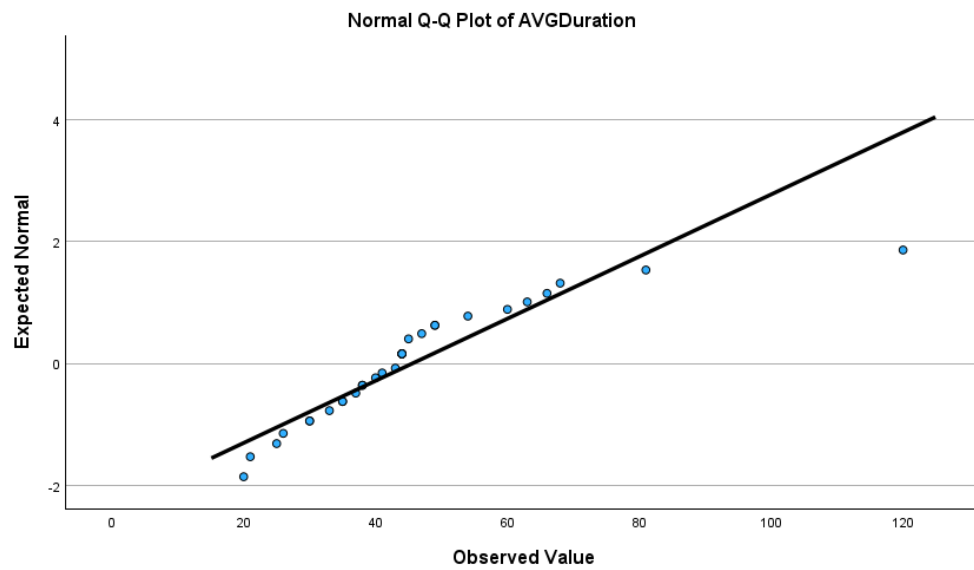
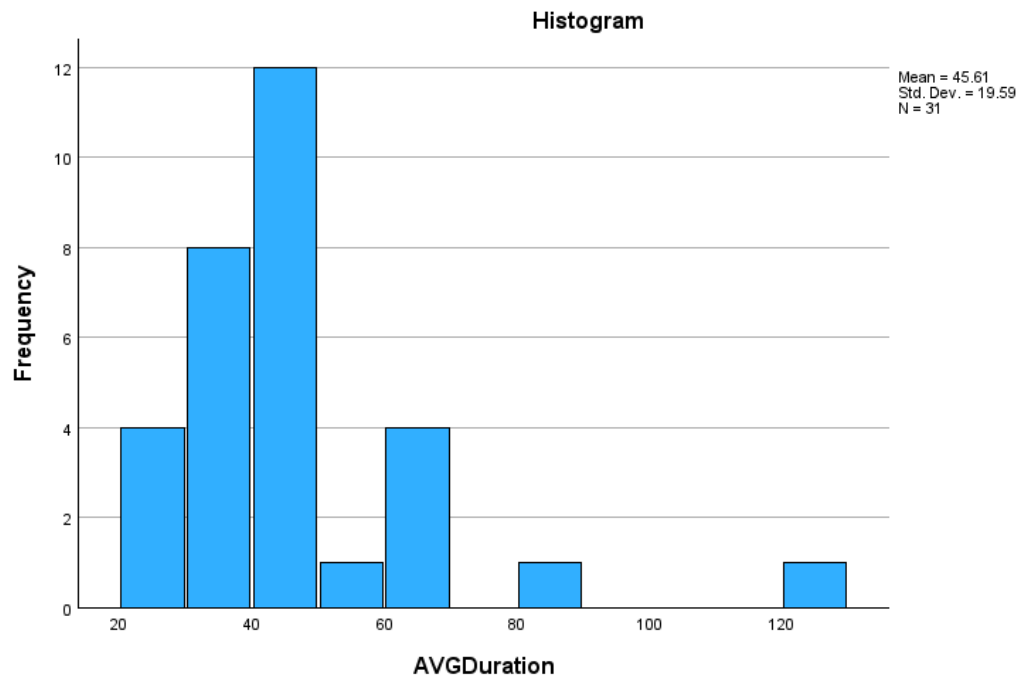
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DaysBetween	.149	31	.078	.914	31	.016
TotalWalks	.198	31	.003	.884	31	.003
AVGDuration	.206	31	.002	.836	31	<.001

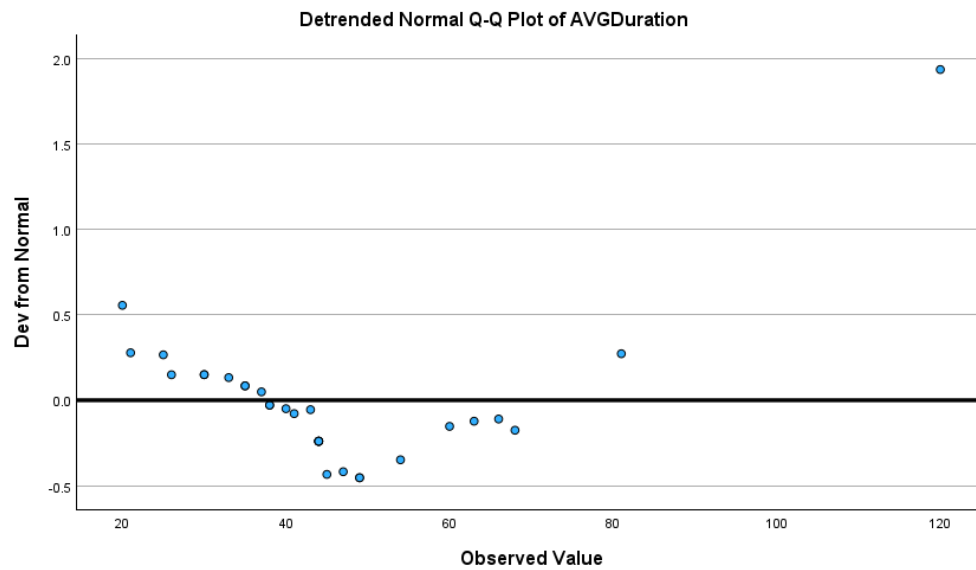
a. Lilliefors Significance Correction











Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	BDI_PRE	13.29	31	8.719	1.566
	BDI_POST	6.55	31	7.056	1.267
Pair 2	MBI_EE_PRE	26.84	31	9.420	1.692
	MBI_EE_POST	19.97	31	10.025	1.801
Pair 3	MBI_DP_PRE	8.97	31	5.462	.981
	MBI_DP_POST	7.19	31	6.177	1.110
Pair 4	MBI_PA_PRE	24.58	31	7.159	1.286
	MBI_PA_POST	21.06	31	8.021	1.441
Pair 5	SWEM_PRE	23.32	31	3.772	.677
	SWEM_POST	25.48	31	6.239	1.121
Pair 6	ONS_SATIS_PRE	7.03	31	1.643	.295
	ONS_SATIS_POST	7.39	31	2.028	.364
Pair 7	ONS_WORTH_PRE	7.45	31	2.063	.371
	ONS_WORTH_POST	8.10	31	2.181	.392
Pair 8	ONS_HAP_PRE	7.03	31	2.008	.361
	ONS_HAP_POST	6.68	31	2.786	.500
Pair 9	ONS_ANX_PRE	4.52	31	2.657	.477
	ONS_ANX_POST	3.58	31	2.826	.508

Paired Samples Correlations

		N	Correlation	Significance	
				One-Sided p	Two-Sided p
Pair 1	BDI_PRE & BDI_POST	31	.714	<.001	<.001
Pair 2	MBI_EE_PRE & MBI_EE_POST	31	.473	.004	.007
Pair 3	MBI_DP_PRE & MBI_DP_POST	31	.641	<.001	<.001
Pair 4	MBI_PA_PRE & MBI_PA_POST	31	.607	<.001	<.001
Pair 5	SWEM_PRE & SWEM_POST	31	.173	.176	.352
Pair 6	ONS_SATIS_PRE & ONS_SATIS_POST	31	.366	.021	.043
Pair 7	ONS_WORTH_PRE & ONS_WORTH_POST	31	.449	.006	.011
Pair 8	ONS_HAP_PRE & ONS_HAP_POST	31	.395	.014	.028
Pair 9	ONS_ANX_PRE & ONS_ANX_POST	31	.363	.022	.045

Paired Samples Test

		Paired Differences					Significance			
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	One-Sided p	Two-Sided p
Pair 1	BDI_PRE - BDI_POST	6.742	6.164	1.107	4.481	9.003	6.090	30	<.001	<.001
Pair 2	MBI_EE_PRE - MBI_EE_POST	6.871	9.999	1.796	3.203	10.539	3.826	30	<.001	<.001
Pair 3	MBI_DP_PRE - MBI_DP_POST	1.774	4.971	.893	-.049	3.598	1.987	30	.028	.056
Pair 4	MBI_PA_PRE - MBI_PA_POST	3.516	6.772	1.216	1.032	6.000	2.891	30	.004	.007
Pair 5	SWEM_PRE - SWEM_POST	-2.161	6.709	1.205	-4.622	.299	-1.794	30	.041	.083
Pair 6	ONS_SATIS_PRE - ONS_SATIS_POST	-.355	2.090	.375	-1.122	.412	-.945	30	.176	.352
Pair 7	ONS_WORTH_PRE - ONS_WORTH_POST	-.645	2.229	.400	-1.463	.173	-1.611	30	.059	.118
Pair 8	ONS_HAP_PRE - ONS_HAP_POST	.355	2.715	.488	-.641	1.351	.728	30	.236	.472
Pair 9	ONS_ANX_PRE - ONS_ANX_POST	.935	3.098	.556	-.201	2.072	1.681	30	.052	.103

Paired Samples Effect Sizes

			Standardizer ^a	Point Estimate	95% Confidence Interval	
					Lower	Upper
Pair 1	BDI_PRE - BDI_POST	Cohen's d	6.164	1.094	.641	1.535
		Hedges' correction	6.324	1.066	.625	1.496
Pair 2	MBI_EE_PRE - MBI_EE_POST	Cohen's d	9.999	.687	.290	1.075
		Hedges' correction	10.258	.670	.283	1.048
Pair 3	MBI_DP_PRE - MBI_DP_POST	Cohen's d	4.971	.357	-.009	.717
		Hedges' correction	5.100	.348	-.009	.699
Pair 4	MBI_PA_PRE - MBI_PA_POST	Cohen's d	6.772	.519	.140	.891
		Hedges' correction	6.947	.506	.136	.868
Pair 5	SWEM_PRE - SWEM_POST	Cohen's d	6.709	-.322	-.681	.042
		Hedges' correction	6.882	-.314	-.664	.041
Pair 6	ONS_SATIS_PRE - ONS_SATIS_POST	Cohen's d	2.090	-.170	-.523	.186
		Hedges' correction	2.145	-.165	-.510	.182
Pair 7	ONS_WORTH_PRE - ONS_WORTH_POST	Cohen's d	2.229	-.289	-.647	.072
		Hedges' correction	2.287	-.282	-.630	.071
Pair 8	ONS_HAP_PRE - ONS_HAP_POST	Cohen's d	2.715	.131	-.224	.483
		Hedges' correction	2.785	.127	-.218	.471
Pair 9	ONS_ANX_PRE - ONS_ANX_POST	Cohen's d	3.098	.302	-.061	.660
		Hedges' correction	3.178	.294	-.059	.643

a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation of the mean difference.

Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

Paired Samples Effect Sizes

			Standardizer ^a	Point Estimate	95% Confidence Interval	
					Lower	Upper
Pair 1	BDI_PRE - BDI_POST	Cohen's d	6.164	1.094	.641	1.535
		Hedges' correction	6.324	1.066	.625	1.496
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		Hedges' correction	10.258	.670	.283	1.048
Pair 3	MBI_DP_PRE - MBI_DP_POST	Cohen's d	4.971	.357	-.009	.717
		Hedges' correction	5.100	.348	-.009	.699
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		Hedges' correction	6.947	.506	.136	.868
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		Hedges' correction	6.882	-.314	-.664	.041
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		Hedges' correction	2.145	-.165	-.510	.182
Pair 7	ONS_WORTH_PRE - ONS_WORTH_POST	Cohen's d	2.229	-.289	-.647	.072
		Hedges' correction	2.287	-.282	-.630	.071
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a. The denominator used in estimating the effect sizes.

Cohen's d uses the sample standard deviation of the mean difference.

Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
DIFF_BDI	31	100.0%	0	0.0%	31	100.0%
DIFF_MBI_EE	31	100.0%	0	0.0%	31	100.0%
DIFF_MBI_DP	31	100.0%	0	0.0%	31	100.0%
DIFF_MBI_PA	31	100.0%	0	0.0%	31	100.0%
DIFF_SWEM	31	100.0%	0	0.0%	31	100.0%
DIFF_ONS_SATIS	31	100.0%	0	0.0%	31	100.0%
DIFF_ONS_WORTH	31	100.0%	0	0.0%	31	100.0%
DIFF_ONS_HAP	31	100.0%	0	0.0%	31	100.0%
DIFF_ONS_ANX	31	100.0%	0	0.0%	31	100.0%

Descriptives		Std. Error
DIFF_BDI	Mean	-8.7149
	Std. Deviation	8.6424
	Minimum	-18.00
	Maximum	2.00
	Range	20.00
	Interquartile Range	8.00
	Skewness	.083
	Kurtosis	.821
	Mean	-8.8110
	Std. Deviation	8.8984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
DIFF_MBI_EC	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
DIFF_MBI_DP	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
DIFF_MBI_PA	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
DIFF_SHEM	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
DIFF_OAS_8ATIS	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
DIFF_OAS_WORLTH	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
DIFF_OAS_HAP	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
DIFF_OAS_VIK	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008
	Mean	-10.2887
	Std. Deviation	9.9984
	Minimum	-25.00
	Maximum	18.00
	Range	43.00
	Interquartile Range	11.00
	Skewness	.218
	Kurtosis	.008

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
DIFF_BDI	.095	31	.200 [*]	.983	31	.887
DIFF_MBI_EE	.103	31	.200 [*]	.976	31	.693
DIFF_MBI_DP	.166	31	.030	.947	31	.132
DIFF_MBI_PA	.155	31	.055	.913	31	.015
DIFF_SWEM	.203	31	.002	.759	31	<.001
DIFF_ONS_SATIS	.194	31	.004	.803	31	<.001
DIFF_ONS_WORTH	.198	31	.003	.860	31	<.001
DIFF_ONS_HAP	.229	31	<.001	.915	31	.018
DIFF_ONS_ANX	.118	31	.200 [*]	.975	31	.656

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Hypothesis Test Summary

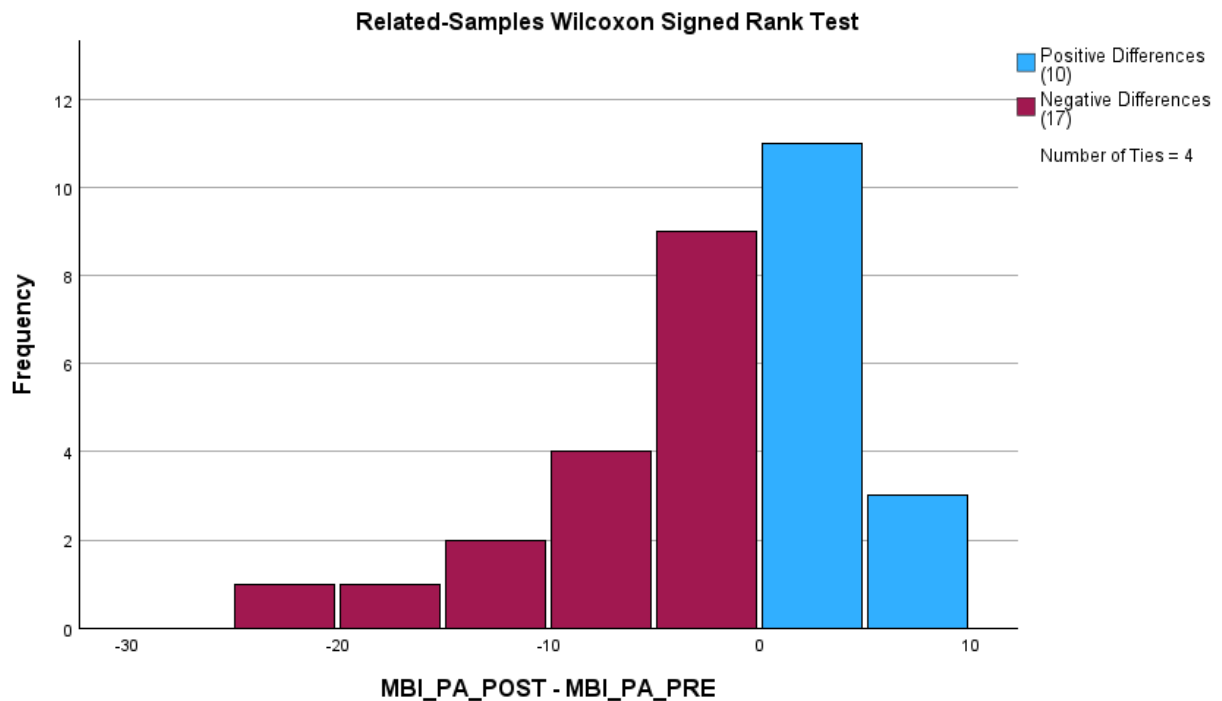
	Null Hypothesis	Test	Sig. ^{a,b}	Decision
1	The median of differences between MBI_PA_PRE and MBI_PA_POST equals 0.	Related-Samples Wilcoxon Signed Rank Test	.011	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Related-Samples Wilcoxon Signed Rank Test Summary

Total N	31
Test Statistic	83.000
Standard Error	41.458
Standardized Test Statistic	-2.557
Asymptotic Sig.(2-sided test)	.011



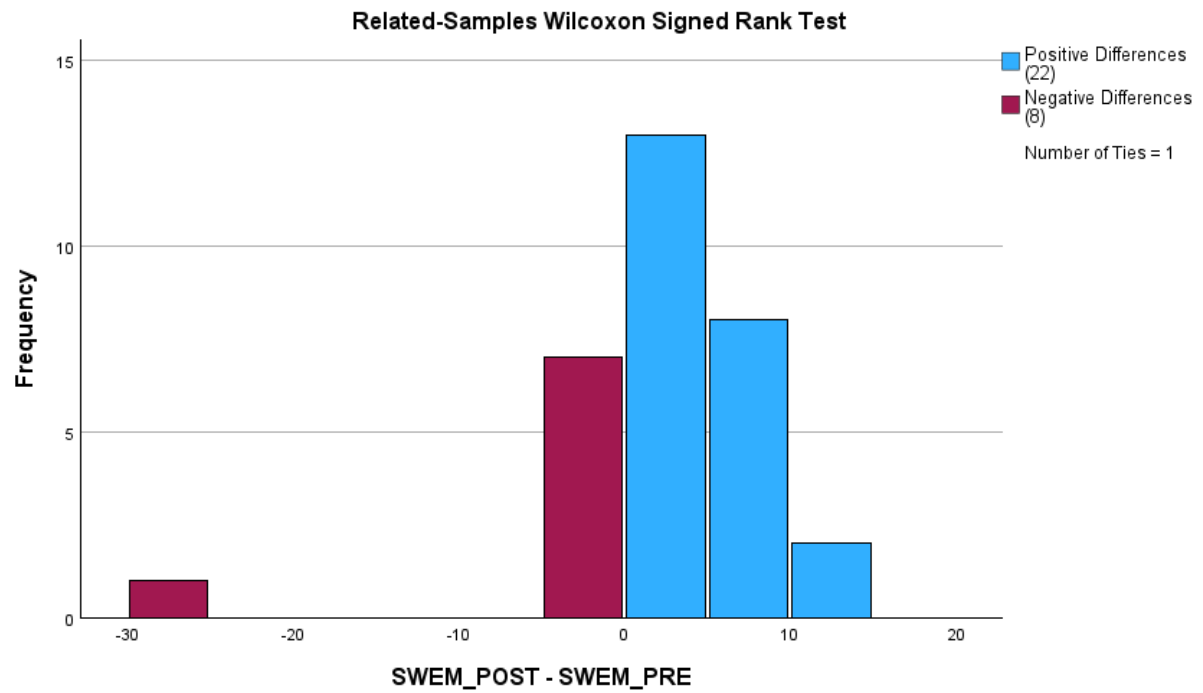
Hypothesis Test Summary				
	Null Hypothesis	Test	Sig. ^{a,b}	Decision
1	The median of differences between SWEM_PRE and SWEM_POST equals 0.	Related-Samples Wilcoxon Signed Rank Test	.003	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Related-Samples Wilcoxon Signed Rank Test Summary

Total N	31
Test Statistic	377.500
Standard Error	48.518
Standardized Test Statistic	2.989
Asymptotic Sig.(2-sided test)	.003



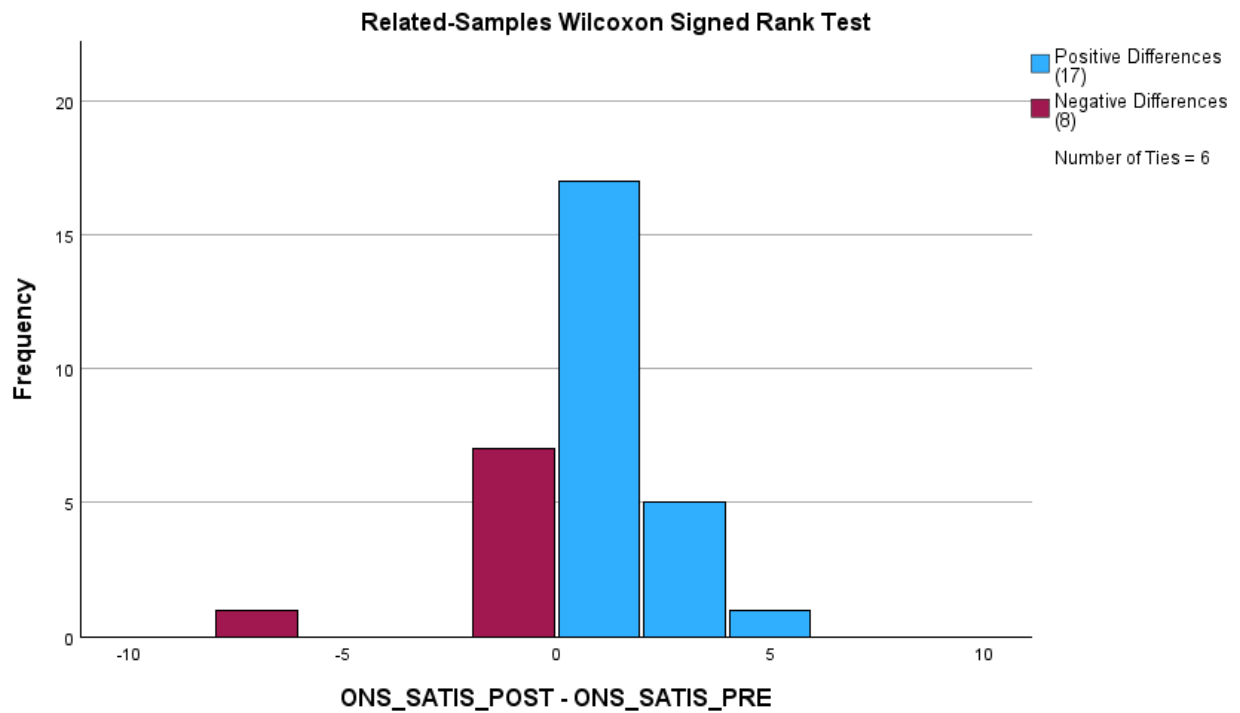
Hypothesis Test Summary				
	Null Hypothesis	Test	Sig. ^{a,b}	Decision
1	The median of differences between ONS_SATIS_PRE and ONS_SATIS_POST equals 0.	Related-Samples Wilcoxon Signed Rank Test	.076	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Related-Samples Wilcoxon Signed Rank Test Summary

Total N	31
Test Statistic	226.000
Standard Error	35.732
Standardized Test Statistic	1.777
Asymptotic Sig.(2-sided test)	.076



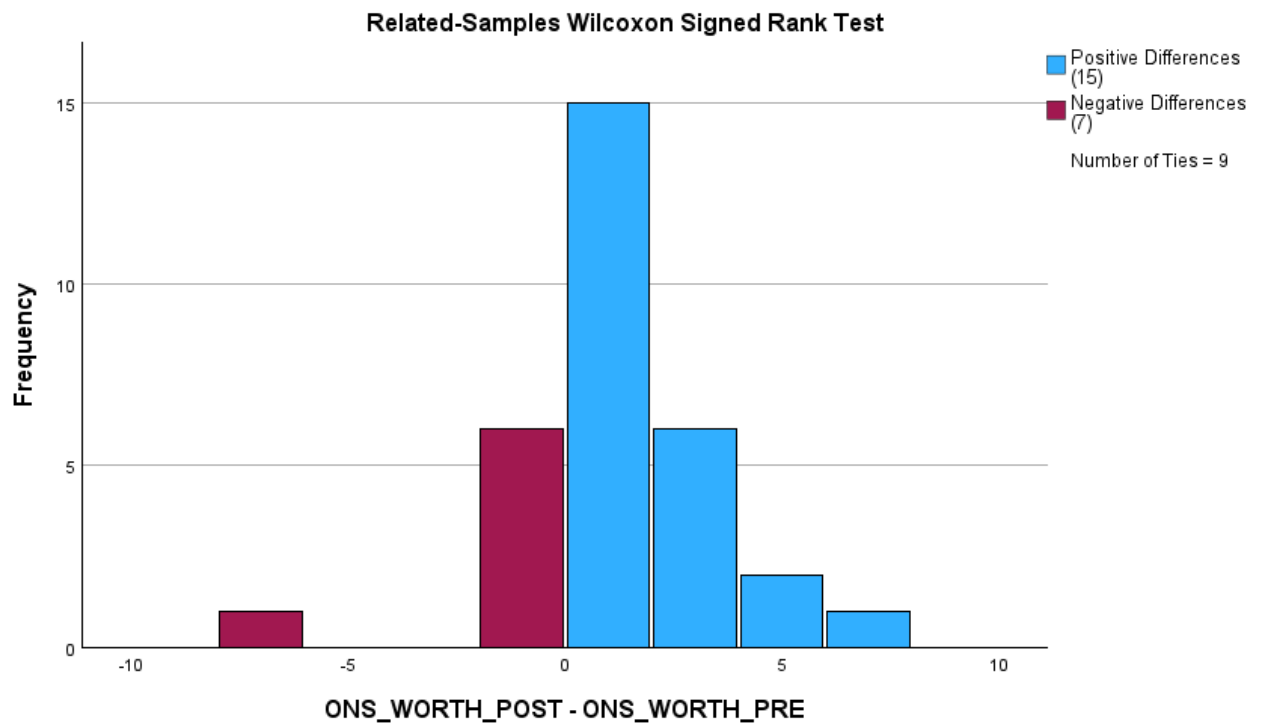
Hypothesis Test Summary			
	Null Hypothesis	Test	Sig. ^{a,b}
1	The median of differences between ONS_WORTH_PRE and ONS_WORTH_POST equals 0.	Related-Samples Wilcoxon Signed Rank Test	.030
			Decision
			Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Related-Samples Wilcoxon Signed Rank Test Summary

Total N	31
Test Statistic	192.000
Standard Error	30.143
Standardized Test Statistic	2.173
Asymptotic Sig.(2-sided test)	.030



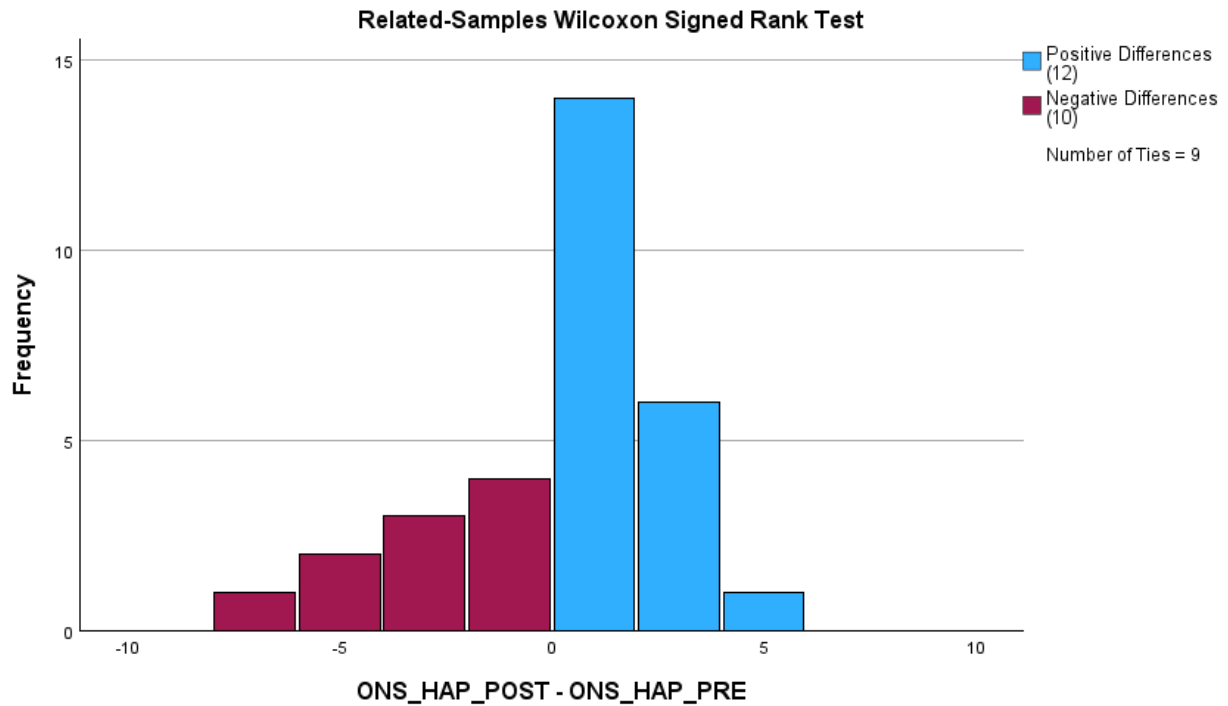
Hypothesis Test Summary			
	Null Hypothesis	Test	Sig. ^{a,b}
1	The median of differences between ONS_HAP_PRE and ONS_HAP_POST equals 0.	Related-Samples Wilcoxon Signed Rank Test	.719
Decision			
Retain the null hypothesis.			

a. The significance level is .050.

b. Asymptotic significance is displayed.

Related-Samples Wilcoxon Signed Rank Test Summary

Total N	31
Test Statistic	115.500
Standard Error	30.549
Standardized Test Statistic	-.360
Asymptotic Sig.(2-sided test)	.719



Descriptive Statistics									
	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness		Kurtosis	
WALKS_PER_WEEK	31	.28	7.20	1.9915	1.59473	1.627	.421	2.852	.821
MINS_PER_WEEK	31	11.83	338.54	86.6266	74.56883	1.725	.421	3.383	.821
AVGDuration	31	20	120	45.61	19.590	2.003	.421	6.092	.821
Valid N (listwise)	31								

Descriptive Statistics									
	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness		Kurtosis	
WALKS_PER_WEEK	31	.28	7.20	1.9915	1.59473	1.627	.421	2.852	.821
MINS_PER_WEEK	31	11.83	338.54	86.6266	74.56883	1.725	.421	3.383	.821
AVGDuration	31	20	120	45.61	19.590	2.003	.421	6.092	.821
LOG_WALKS_PER_WEEK	31	-.53	.86	.1720	.35810	-.350	.421	-.099	.821
LOG_MINS_PER_WEEK	31	1.07	2.53	1.7952	.36504	-.019	.421	-.574	.821
LOG_AVGDURATION	31	1.30	2.08	1.6274	.16474	.368	.421	1.023	.821
Valid N (listwise)	31								

Correlations													
		WALKS_PER_WEEK	MINS_PER_WEEK	AVGDuration	DIFF_BDI	DIFF_MBL_EE	DIFF_MBL_DP	DIFF_MBL_PA	DIFF_SWEM	DIFF_ONS_SATIS	DIFF_ONS_WORTH	DIFF_ONS_HAP	DIFF_ONS_ANX
WALKS_PER_WEEK	Pearson Correlation	1	.934**	-.139	.003	.007	.147	-.225	.246	.195	.189	.164	.132
	Sig. (2-tailed)		<.001	.455	.986	.972	.429	.224	.182	.294	.309	.378	.478
	N	31	31	31	31	31	31	31	31	31	31	31	31
MINS_PER_WEEK	Pearson Correlation	.934**	1	.111	.102	-.013	.213	-.136	.173	.120	.079	.131	.131
	Sig. (2-tailed)	<.001		.552	.584	.945	.250	.465	.353	.521	.672	.483	.483
	N	31	31	31	31	31	31	31	31	31	31	31	31
AVGDuration	Pearson Correlation	-.139	.111	1	-.010	-.021	.127	.121	.057	.021	.046	.239	-.232
	Sig. (2-tailed)	.455	.552		.955	.911	.498	.517	.760	.909	.804	.195	.209
	N	31	31	31	31	31	31	31	31	31	31	31	31
DIFF_BDI	Pearson Correlation	.003	.102	-.010	1	.261	.256	.395*	-.427*	-.429*	-.415*	-.425*	.369*
	Sig. (2-tailed)	.986	.584	.955		.157	.165	.028	.016	.016	.020	.017	.041
	N	31	31	31	31	31	31	31	31	31	31	31	31
DIFF_MBL_EE	Pearson Correlation	.007	-.013	-.021	.261	1	.528**	.308	-.041	-.045	.008	-.166	.414*
	Sig. (2-tailed)	.972	.945	.911	.157		.002	.092	.826	.809	.965	.371	.021
	N	31	31	31	31	31	31	31	31	31	31	31	31
DIFF_MBL_DP	Pearson Correlation	.147	.213	.127	.256	.528**	1	.299	-.180	-.098	-.269	.023	.144
	Sig. (2-tailed)	.429	.250	.498	.165	.002		.103	.332	.601	.143	.900	.439
	N	31	31	31	31	31	31	31	31	31	31	31	31
DIFF_MBL_PA	Pearson Correlation	-.225	-.136	.121	.395*	.308	.299	1	.102	.070	-.061	.051	.170
	Sig. (2-tailed)	.224	.465	.517	.028	.092	.103		.584	.709	.744	.784	.360
	N	31	31	31	31	31	31	31	31	31	31	31	31
DIFF_SWEM	Pearson Correlation	.246	.173	.057	-.427*	-.041	-.180	.102	1	.870**	.820**	.741**	-.161
	Sig. (2-tailed)	.182	.353	.760	.016	.826	.332	.584		<.001	<.001	<.001	.387
	N	31	31	31	31	31	31	31	31	31	31	31	31
DIFF_ONS_SATIS	Pearson Correlation	.195	.120	.021	-.429*	-.045	-.098	.070	.870**	1	.722**	.681**	-.065
	Sig. (2-tailed)	.294	.521	.909	.016	.809	.601	.709	<.001		<.001	<.001	.727
	N	31	31	31	31	31	31	31	31	31	31	31	31
DIFF_ONS_WORTH	Pearson Correlation	.189	.079	.046	-.415*	.008	-.269	-.061	.820**	.722**	1	.513**	-.088
	Sig. (2-tailed)	.309	.672	.804	.020	.965	.143	.744	<.001	<.001		.003	.637
	N	31	31	31	31	31	31	31	31	31	31	31	31
DIFF_ONS_HAP	Pearson Correlation	.164	.131	.239	-.425*	-.166	.023	.051	.741**	.681**	.513**	1	-.524**
	Sig. (2-tailed)	.378	.483	.195	.017	.371	.900	.784	<.001	<.001	.003		.002
	N	31	31	31	31	31	31	31	31	31	31	31	31
DIFF_ONS_ANX	Pearson Correlation	.132	.131	-.232	.369*	.414*	.144	.170	-.161	-.065	-.088	-.524**	1
	Sig. (2-tailed)	.478	.483	.209	.041	.021	.439	.360	.387	.727	.637	.002	
	N	31	31	31	31	31	31	31	31	31	31	31	31

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Correlations													
		WALKS_PER_WEEK	MINS_PER_WEEK	AVGDuration	DIFF_BDI	DIFF_MBL_EE	DIFF_MBL_DP	DIFF_MBL_PA	DIFF_SWEM	DIFF_ONS_SATIS	DIFF_ONS_WORTH	DIFF_ONS_HAP	DIFF_ONS_ANX
Spearman's rho	WALKS_PER_WEEK	Correlation Coefficient	1.000	.894**	.032	.085	.086	.109	-.227	.205	.035	.150	.060
		Sig. (2-tailed)		<.001	.863	.651	.644	.560	.220	.269	.854	.420	.748
	N	31	31	31	31	31	31	31	31	31	31	31	31
	MINS_PER_WEEK	Correlation Coefficient	.894**	1.000	.379*	.191	.064	.204	-.200	.126	.075	.072	.052
		Sig. (2-tailed)	<.001		.036	.303	.734	.272	.281	.499	.689	.699	.782
	N	31	31	31	31	31	31	31	31	31	31	31	31
	AVGDuration	Correlation Coefficient	.032	.379*	1.000	.164	-.019	.172	.085	-.092	-.028	-.006	.026
		Sig. (2-tailed)	.863	.036		.379	.918	.356	.648	.624	.881	.975	.891
	N	31	31	31	31	31	31	31	31	31	31	31	31
	DIFF_BDI	Correlation Coefficient	.085	.191	.164	1.000	.209	.242	.348	-.724**	-.630**	-.484**	-.456*
		Sig. (2-tailed)	.651	.303	.379		.260	.190	.055	<.001	<.001	.006	.010
	N	31	31	31	31	31	31	31	31	31	31	31	31
	DIFF_MBL_EE	Correlation Coefficient	.086	.064	-.019	.209	1.000	.536**	.178	-.224	-.226	.047	-.153
		Sig. (2-tailed)	.644	.734	.918	.260		.002	.338	.225	.221	.802	.085
	N	31	31	31	31	31	31	31	31	31	31	31	31
	DIFF_MBL_DP	Correlation Coefficient	.109	.204	.172	.242	.536**	1.000	.201	-.236	-.272	-.182	-.042
		Sig. (2-tailed)	.560	.272	.356	.190	.002		.279	.201	.139	.327	.528
	N	31	31	31	31	31	31	31	31	31	31	31	31
	DIFF_MBL_PA	Correlation Coefficient	-.227	-.200	.085	.348	.178	.201	1.000	-.446*	-.413*	-.342	-.247
		Sig. (2-tailed)	.220	.281	.648	.055	.338	.279		.012	.021	.059	.181
	N	31	31	31	31	31	31	31	31	31	31	31	31
	DIFF_SWEM	Correlation Coefficient	.205	.126	-.092	-.724**	-.224	-.236	-.446*	1.000	.722**	.663**	.678**
		Sig. (2-tailed)	.269	.499	.624	<.001	.225	.201	.012		<.001	<.001	<.001
	N	31	31	31	31	31	31	31	31	31	31	31	31
	DIFF_ONS_SATIS	Correlation Coefficient	.035	.075	-.028	-.630**	-.226	-.272	-.413*	.722**	1.000	.453*	.615**
		Sig. (2-tailed)	.854	.689	.881	<.001	.221	.139	.021	<.001		.011	<.001
	N	31	31	31	31	31	31	31	31	31	31	31	31
	DIFF_ONS_WORTH	Correlation Coefficient	.150	.072	-.006	-.484**	.047	-.182	-.342	.663**	.453*	1.000	.405*
		Sig. (2-tailed)	.420	.699	.975	.006	.802	.327	.059	<.001	.011		.024
	N	31	31	31	31	31	31	31	31	31	31	31	31
	DIFF_ONS_HAP	Correlation Coefficient	.060	.052	.026	-.456*	-.153	-.042	-.247	.678**	.615**	.405*	1.000
		Sig. (2-tailed)	.748	.782	.891	.010	.410	.822	.181	<.001	<.001	.024	
	N	31	31	31	31	31	31	31	31	31	31	31	31
	DIFF_ONS_ANX	Correlation Coefficient	.188	.132	-.144	.437*	.315	.118	.196	-.374*	-.286	-.249	-.589**
		Sig. (2-tailed)	.311	.479	.441	.014	.085	.528	.290	.038	.118	.177	<.001
	N	31	31	31	31	31	31	31	31	31	31	31	31

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	BDI_PRE ^b	.	Enter

a. Dependent Variable: BDI_POST

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.714 ^a	.509	.492	5.027

a. Predictors: (Constant), BDI_PRE

b. Dependent Variable: BDI_POST

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	760.686	1	760.686	30.096	<.001 ^b
	Residual	732.991	29	25.276		
	Total	1493.677	30			

a. Dependent Variable: BDI_POST

b. Predictors: (Constant), BDI_PRE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.128	1.665		-.677	.504
	BDI_PRE	.578	.105	.714	5.486	<.001

a. Dependent Variable: BDI_POST

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.13	24.29	6.55	5.035	31
Std. Predicted Value	-1.524	3.522	.000	1.000	31
Standard Error of Predicted Value	.903	3.357	1.196	.456	31
Adjusted Predicted Value	-1.27	20.49	6.40	4.666	31
Residual	-9.001	11.689	.000	4.943	31
Std. Residual	-1.790	2.325	.000	.983	31
Stud. Residual	-1.845	2.440	.013	1.023	31
Deleted Residual	-9.559	12.878	.145	5.394	31
Stud. Deleted Residual	-1.930	2.690	.021	1.060	31
Mahal. Distance	.001	12.407	.968	2.215	31
Cook's Distance	.000	.638	.050	.124	31
Centered Leverage Value	.000	.414	.032	.074	31

a. Dependent Variable: BDI_POST

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	MBI_EE_PRE ^b	.	Enter

a. Dependent Variable: MBI_EE_POST

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.473 ^a	.223	.197	8.986

a. Predictors: (Constant), MBI_EE_PRE

b. Dependent Variable: MBI_EE_POST

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	673.313	1	673.313	8.339	.007 ^b
	Residual	2341.655	29	80.747		
	Total	3014.968	30			

a. Dependent Variable: MBI_EE_POST

b. Predictors: (Constant), MBI_EE_PRE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.470	4.945		1.308	.201
	MBI_EE_PRE	.503	.174	.473	2.888	.007

a. Dependent Variable: MBI_EE_POST

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	11.00	27.59	19.97	4.737	31
Std. Predicted Value	-1.894	1.609	.000	1.000	31
Standard Error of Predicted Value	1.621	3.501	2.219	.544	31
Adjusted Predicted Value	10.41	28.21	19.88	4.882	31
Residual	-16.528	22.916	.000	8.835	31
Std. Residual	-1.839	2.550	.000	.983	31
Stud. Residual	-1.887	2.670	.004	1.021	31
Deleted Residual	-17.395	25.122	.084	9.539	31
Stud. Deleted Residual	-1.980	3.021	.015	1.068	31
Mahal. Distance	.008	3.586	.968	.978	31
Cook's Distance	.000	.343	.041	.073	31
Centered Leverage Value	.000	.120	.032	.033	31

a. Dependent Variable: MBI_EE_POST

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	MBI_DP_PRE ^b	.	Enter

a. Dependent Variable: MBI_DP_POST

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.641 ^a	.411	.391	4.821

a. Predictors: (Constant), MBI_DP_PRE

b. Dependent Variable: MBI_DP_POST

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	470.913	1	470.913	20.264	<.001 ^b
	Residual	673.925	29	23.239		
	Total	1144.839	30			

a. Dependent Variable: MBI_DP_POST

b. Predictors: (Constant), MBI_DP_PRE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.689	1.685		.409	.686
	MBI_DP_PRE	.725	.161	.641	4.502	<.001

a. Dependent Variable: MBI_DP_POST

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.41	16.65	7.19	3.962	31
Std. Predicted Value	-1.459	2.386	.000	1.000	31
Standard Error of Predicted Value	.866	2.271	1.186	.309	31
Adjusted Predicted Value	1.35	14.27	7.15	3.859	31
Residual	-12.295	10.353	.000	4.740	31
Std. Residual	-2.550	2.148	.000	.983	31
Stud. Residual	-2.670	2.435	.004	1.032	31
Deleted Residual	-13.474	13.308	.044	5.241	31
Stud. Deleted Residual	-3.021	2.682	.005	1.097	31
Mahal. Distance	.000	5.693	.968	1.144	31
Cook's Distance	.000	.846	.056	.160	31
Centered Leverage Value	.000	.190	.032	.038	31

a. Dependent Variable: MBI_DP_POST

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	MBI_PA_PRE ^b	.	Enter

a. Dependent Variable: MBI_PA_POST

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.607 ^a	.369	.347	6.482

a. Predictors: (Constant), MBI_PA_PRE

b. Dependent Variable: MBI_PA_POST

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	711.378	1	711.378	16.931	<.001 ^b
	Residual	1218.493	29	42.017		
	Total	1929.871	30			

a. Dependent Variable: MBI_PA_POST

b. Predictors: (Constant), MBI_PA_PRE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.345	4.227		1.028	.312
	MBI_PA_PRE	.680	.165	.607	4.115	<.001

a. Dependent Variable: MBI_PA_POST

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	10.47	29.51	21.06	4.870	31
Std. Predicted Value	-2.176	1.735	.000	1.000	31
Standard Error of Predicted Value	1.166	2.827	1.580	.470	31
Adjusted Predicted Value	10.81	29.74	21.02	4.844	31
Residual	-19.989	9.168	.000	6.373	31
Std. Residual	-3.084	1.414	.000	.983	31
Stud. Residual	-3.137	1.505	.003	1.009	31
Deleted Residual	-20.690	10.384	.042	6.718	31
Stud. Deleted Residual	-3.793	1.540	-.021	1.090	31
Mahal. Distance	.003	4.737	.968	1.231	31
Cook's Distance	.000	.173	.027	.043	31
Centered Leverage Value	.000	.158	.032	.041	31

a. Dependent Variable: MBI_PA_POST

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	SWEM_PRE ^b	.	Enter

a. Dependent Variable: SWEM_POST

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.173 ^a	.030	-.004	6.250

a. Predictors: (Constant), SWEM_PRE

b. Dependent Variable: SWEM_POST

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.968	1	34.968	.895	.352 ^b
	Residual	1132.774	29	39.061		
	Total	1167.742	30			

a. Dependent Variable: SWEM_POST

b. Predictors: (Constant), SWEM_PRE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.808	7.145		2.632	.013
	SWEM_PRE	.286	.303	.173	.946	.352

a. Dependent Variable: SWEM_POST

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	23.10	27.40	25.48	1.080	31
Std. Predicted Value	-2.207	1.770	.000	1.000	31
Standard Error of Predicted Value	1.127	2.757	1.529	.434	31
Adjusted Predicted Value	22.88	28.35	25.42	1.161	31
Residual	-26.537	8.177	.000	6.145	31
Std. Residual	-4.246	1.308	.000	.983	31
Stud. Residual	-4.389	1.367	.005	1.018	31
Deleted Residual	-28.349	8.922	.062	6.585	31
Stud. Deleted Residual	-7.441	1.388	-.093	1.494	31
Mahal. Distance	.007	4.869	.968	1.199	31
Cook's Distance	.000	.658	.036	.119	31
Centered Leverage Value	.000	.162	.032	.040	31

a. Dependent Variable: SWEM_POST

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ONS_SATIS_PRE ^b		Enter

a. Dependent Variable: ONS_SATIS_POST

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.366 ^a	.134	.104	1.919

a. Predictors: (Constant), ONS_SATIS_PRE

b. Dependent Variable: ONS_SATIS_POST

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.556	1	16.556	4.496	.043 ^b
	Residual	106.799	29	3.683		
	Total	123.355	30			

a. Dependent Variable: ONS_SATIS_POST

b. Predictors: (Constant), ONS_SATIS_PRE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	4.207	1.539		2.734	.011
	ONS_SATIS_PRE	.452	.213	.366	2.120	.043

a. Dependent Variable: ONS_SATIS_POST

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.56	8.73	7.39	.743	31
Std. Predicted Value	-2.454	1.806	.000	1.000	31
Standard Error of Predicted Value	.345	.926	.468	.138	31
Adjusted Predicted Value	4.82	8.52	7.36	.787	31
Residual	-7.825	2.436	.000	1.887	31
Std. Residual	-4.077	1.270	.000	.983	31
Stud. Residual	-4.170	1.450	.006	1.016	31
Deleted Residual	-8.183	3.177	.024	2.019	31
Stud. Deleted Residual	-6.475	1.479	-.069	1.360	31
Mahal. Distance	.000	6.024	.968	1.299	31
Cook's Distance	.000	.398	.036	.089	31
Centered Leverage Value	.000	.201	.032	.043	31

a. Dependent Variable: ONS_SATIS_POST

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ONS_WORTH_PRE ^b	.	Enter

a. Dependent Variable: ONS_WORTH_POST

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.449 ^a	.202	.174	1.982

a. Predictors: (Constant), ONS_WORTH_PRE

b. Dependent Variable: ONS_WORTH_POST

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.806	1	28.806	7.334	.011 ^b
	Residual	113.904	29	3.928		
	Total	142.710	30			

a. Dependent Variable: ONS_WORTH_POST

b. Predictors: (Constant), ONS_WORTH_PRE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.557	1.355		3.364	.002
	ONS_WORTH_PRE	.475	.175	.449	2.708	.011

a. Dependent Variable: ONS_WORTH_POST

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.98	9.31	8.10	.980	31
Std. Predicted Value	-2.158	1.235	.000	1.000	31
Standard Error of Predicted Value	.365	.858	.489	.123	31
Adjusted Predicted Value	5.52	9.34	8.07	1.026	31
Residual	-7.882	3.543	.000	1.949	31
Std. Residual	-3.977	1.788	.000	.983	31
Stud. Residual	-4.046	1.912	.006	1.013	31
Deleted Residual	-8.158	4.051	.024	2.071	31
Stud. Deleted Residual	-6.025	2.009	-.055	1.303	31
Mahal. Distance	.048	4.656	.968	1.046	31
Cook's Distance	.000	.287	.032	.071	31
Centered Leverage Value	.002	.155	.032	.035	31

a. Dependent Variable: ONS_WORTH_POST

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ONS_HAP_PR E ^b	.	Enter

a. Dependent Variable: ONS_HAP_POST

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.395 ^a	.156	.127	2.602

a. Predictors: (Constant), ONS_HAP_PRE

b. Dependent Variable: ONS_HAP_POST

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.362	1	36.362	5.369	.028 ^b
	Residual	196.412	29	6.773		
	Total	232.774	30			

a. Dependent Variable: ONS_HAP_POST

b. Predictors: (Constant), ONS_HAP_PRE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.822	1.728		1.633	.113
	ONS_HAP_PRE	.548	.237	.395	2.317	.028

a. Dependent Variable: ONS_HAP_POST

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2.82	8.30	6.68	1.101	31
Std. Predicted Value	-3.502	1.478	.000	1.000	31
Standard Error of Predicted Value	.467	1.728	.615	.247	31
Adjusted Predicted Value	4.53	8.58	6.74	.936	31
Residual	-7.208	3.985	.000	2.559	31
Std. Residual	-2.770	1.531	.000	.983	31
Stud. Residual	-2.827	1.622	-.009	1.023	31
Deleted Residual	-7.508	4.469	-.058	2.794	31
Stud. Deleted Residual	-3.263	1.671	-.032	1.083	31
Mahal. Distance	.000	12.264	.968	2.240	31
Cook's Distance	.000	.830	.052	.151	31
Centered Leverage Value	.000	.409	.032	.075	31

a. Dependent Variable: ONS_HAP_POST

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ONS_ANX_PRE ^b	.	Enter

a. Dependent Variable: ONS_ANX_POST

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.363 ^a	.132	.102	2.678

a. Predictors: (Constant), ONS_ANX_PRE

b. Dependent Variable: ONS_ANX_POST

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.531	1	31.531	4.396	.045 ^b
	Residual	208.017	29	7.173		
	Total	239.548	30			

a. Dependent Variable: ONS_ANX_POST

b. Predictors: (Constant), ONS_ANX_PRE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.838	.960		1.914	.066
	ONS_ANX_PRE	.386	.184	.363	2.097	.045

a. Dependent Variable: ONS_ANX_POST

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.84	5.70	3.58	1.025	31
Std. Predicted Value	-1.700	2.064	.000	1.000	31
Standard Error of Predicted Value	.489	1.118	.652	.199	31
Adjusted Predicted Value	1.22	5.84	3.57	1.035	31
Residual	-4.539	5.233	.000	2.633	31
Std. Residual	-1.695	1.954	.000	.983	31
Stud. Residual	-1.749	1.987	.001	1.011	31
Deleted Residual	-4.836	5.413	.008	2.788	31
Stud. Deleted Residual	-1.818	2.101	.007	1.032	31
Mahal. Distance	.033	4.261	.968	1.267	31
Cook's Distance	.000	.204	.029	.039	31
Centered Leverage Value	.001	.142	.032	.042	31

a. Dependent Variable: ONS_ANX_POST

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LOG_MINS_PER_WEEK, SWEM_PRE ^b	.	Enter

a. Dependent Variable: SWEM_POST

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.281 ^a	.079	.013	6.197

a. Predictors: (Constant), LOG_MINS_PER_WEEK, SWEM_PRE

b. Dependent Variable: SWEM_POST

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	92.422	2	46.211	1.203	.315 ^b
	Residual	1075.320	28	38.404		
	Total	1167.742	30			

a. Dependent Variable: SWEM_POST

b. Predictors: (Constant), LOG_MINS_PER_WEEK, SWEM_PRE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	12.365	8.828		1.401	.172		
	SWEM_PRE	.270	.300	.163	.901	.375	.998	1.002
	LOG_MINS_PER_WEEK	3.795	3.102	.222	1.223	.231	.998	1.002

a. Dependent Variable: SWEM_POST

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	SWEM_PRE	LOG_MINS_PER_WEEK
1	1	2.959	1.000	.00	.00	.00
	2	.031	9.755	.01	.30	.74
	3	.010	16.943	.98	.70	.25

a. Dependent Variable: SWEM_POST

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	22.17	29.01	25.48	1.755	31
Std. Predicted Value	-1.886	2.010	.000	1.000	31
Standard Error of Predicted Value	1.117	2.837	1.864	.501	31
Adjusted Predicted Value	21.69	28.62	25.40	1.846	31
Residual	-25.207	7.592	.000	5.987	31
Std. Residual	-4.068	1.225	.000	.966	31
Stud. Residual	-4.275	1.284	.006	1.016	31
Deleted Residual	-27.844	8.339	.085	6.624	31
Stud. Deleted Residual	-7.124	1.300	-.086	1.451	31
Mahal. Distance	.008	5.318	1.935	1.523	31
Cook's Distance	.000	.637	.036	.113	31
Centered Leverage Value	.000	.177	.065	.051	31

a. Dependent Variable: SWEM_POST

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LOG_MINS_PE R_WEEK, BDI_PRE ^b	.	Enter

a. Dependent Variable: BDI_POST

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.734 ^a	.539	.506	4.959

a. Predictors: (Constant), LOG_MINS_PER_WEEK, BDI_PRE

b. Dependent Variable: BDI_POST

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	805.123	2	402.561	16.370	<.001 ^b
	Residual	688.554	28	24.591		
	Total	1493.677	30			

a. Dependent Variable: BDI_POST

b. Predictors: (Constant), LOG_MINS_PER_WEEK, BDI_PRE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-6.908	4.603		-1.501	.145		
	BDI_PRE	.558	.105	.689	5.316	<.001	.980	1.020
	LOG_MINS_PER_WEEK	3.368	2.505	.174	1.344	.190	.980	1.020

a. Dependent Variable: BDI_POST

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	BDI_PRE	LOG_MINS_PER_WEEK
1	1	2.775	1.000	.00	.03	.00
	2	.206	3.673	.03	.97	.03
	3	.019	11.952	.97	.00	.97

a. Dependent Variable: BDI_POST

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1.67	24.04	6.55	5.180	31
Std. Predicted Value	-1.586	3.376	.000	1.000	31
Standard Error of Predicted Value	.891	3.316	1.468	.483	31
Adjusted Predicted Value	-3.05	20.03	6.42	4.866	31
Residual	-7.907	10.706	.000	4.791	31
Std. Residual	-1.595	2.159	.000	.966	31
Stud. Residual	-1.722	2.294	.011	1.026	31
Deleted Residual	-9.415	12.085	.127	5.448	31
Stud. Deleted Residual	-1.788	2.499	.019	1.064	31
Mahal. Distance	.001	12.448	1.935	2.303	31
Cook's Distance	.000	.488	.050	.102	31
Centered Leverage Value	.000	.415	.065	.077	31

a. Dependent Variable: BDI_POST

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	MBI_EE_PRE, LOG_MINS_PER_WEEK ^b	.	Enter

a. Dependent Variable: MBI_EE_POST

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.473 ^a	.223	.168	9.144

a. Predictors: (Constant), MBI_EE_PRE, LOG_MINS_PER_WEEK

b. Dependent Variable: MBI_EE_POST

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	673.833	2	336.917	4.030	.029 ^b
	Residual	2341.135	28	83.612		
	Total	3014.968	30			

a. Dependent Variable: MBI_EE_POST

b. Predictors: (Constant), MBI_EE_PRE, LOG_MINS_PER_WEEK

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7.094	9.368		.757	.455		
	LOG_MINS_PER_WEEK	-.362	4.584	-.013	-.079	.938	.995	1.005
	MBI_EE_PRE	.504	.178	.473	2.836	.008	.995	1.005

a. Dependent Variable: MBI_EE_POST

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	LOG_MINS_PE R_WEEK	MBI_EE_PRE
1	1	2.905	1.000	.00	.00	.01
	2	.077	6.148	.04	.12	.91
	3	.018	12.608	.96	.87	.08

a. Dependent Variable: MBI_EE_POST

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	10.85	27.71	19.97	4.739	31
Std. Predicted Value	-1.925	1.633	.000	1.000	31
Standard Error of Predicted Value	1.713	4.244	2.756	.716	31
Adjusted Predicted Value	9.21	28.50	19.89	5.083	31
Residual	-16.643	22.944	.000	8.834	31
Std. Residual	-1.820	2.509	.000	.966	31
Stud. Residual	-1.893	2.629	.004	1.021	31
Deleted Residual	-17.993	25.193	.074	9.881	31
Stud. Deleted Residual	-1.990	2.975	.014	1.067	31
Mahal. Distance	.085	5.496	1.935	1.518	31
Cook's Distance	.000	.261	.040	.064	31
Centered Leverage Value	.003	.183	.065	.051	31

a. Dependent Variable: MBI_EE_POST

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	MBI_PA_PRE, LOG_MINS_PE R_WEEK ^b	.	Enter

a. Dependent Variable: MBI_PA_POST

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.613 ^a	.375	.331	6.561

a. Predictors: (Constant), MBI_PA_PRE,
LOG_MINS_PER_WEEK

b. Dependent Variable: MBI_PA_POST

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	724.575	2	362.288	8.416	.001 ^b
	Residual	1205.296	28	43.046		
	Total	1929.871	30			

a. Dependent Variable: MBI_PA_POST

b. Predictors: (Constant), MBI_PA_PRE, LOG_MINS_PER_WEEK

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7.347	6.907		1.064	.297		
	LOG_MINS_PER_WEEK	-1.831	3.307	-.083	-.554	.584	.985	1.016
	MBI_PA_PRE	.692	.169	.617	4.102	<.001	.985	1.016

a. Dependent Variable: MBI_PA_POST

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	LOG_MINS_PER_WEEK	MBI_PA_PRE
1	1	2.928	1.000	.00	.00	.01
	2	.054	7.335	.04	.20	.89
	3	.018	12.738	.96	.80	.11

a. Dependent Variable: MBI_PA_POST

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	9.46	30.17	21.06	4.915	31
Std. Predicted Value	-2.362	1.852	.000	1.000	31
Standard Error of Predicted Value	1.206	3.394	1.965	.561	31
Adjusted Predicted Value	9.62	29.80	21.03	4.917	31
Residual	-20.584	9.697	.000	6.338	31
Std. Residual	-3.137	1.478	.000	.966	31
Stud. Residual	-3.237	1.592	.003	1.009	31
Deleted Residual	-21.915	11.254	.037	6.927	31
Stud. Deleted Residual	-4.019	1.640	-.026	1.108	31
Mahal. Distance	.045	7.061	1.935	1.685	31
Cook's Distance	.000	.226	.031	.053	31
Centered Leverage Value	.002	.235	.065	.056	31

a. Dependent Variable: MBI_PA_POST

APPENDIX F - INTERVIEW TRANSCRIPTS FOR P7, P21 & P27

Transcript P7

12 August 2025, 09:04am



Jay Worthy

So it's been like 18 months to two years since the walking intervention. So it's actually given me a really nice opportunity to go back to people and just do a follow up. So then it goes from being like a real quantitative study where we're looking at just data to much richer discussion about how you are feeling about the study and your time in nature.



Participant #7

Sounds great.



Jay Worthy

All right, here we go. Good. So I am recording and transcribing. So a couple of things, I don't use the video. It's just so that I can capture the notes that I'll include in the thesis. But then the video will be deleted, the audio gets transcribed, and I replace your name with your ID code. So I've given everybody a participant ID. So it wouldn't say your name, it would just say, you know participant #7. And if you during our conversation, mention family names or anything, which is totally fine. I just kind of redact it



Participant #7 3:52

Sounds perfect. Let's do it.



Jay Worthy 3:53

OK I'll try and keep us to about 20 minutes and that should be more than enough. So first of all, can you tell me a little bit and I won't make notes because I'm obviously

transcribing it, so it just means that we can just chat. So can you tell me a little bit about, I guess what life has been like for you?

AG Participant #7

No worries.

OK.

Yes.



Jay Worthy

Since you did the study, just generally speaking.

AG Participant #7

Overall, life has been good. I'm thankful for where I am. I'm thankful for my family, for the job that I have. Could it be better? Yes, of course.

Health wise, I feel that.

Since the beginning of the year, I've been in a in a really good place. Things are going much better than the year before, and especially as you know, because of my, my mom's passing and all that, I was still working out, but I was not seeing good results. My nutrition wasn't great. Now I'm feeling physically. I'm feeling good despite my injuries, which I have a few, but physically I'm feeling good mentally so but there are many factors that are impacting my mental health right now.



Jay Worthy

Yeah, yeah.

AG Participant #7

But this is one thing I need to tell you and be very honest. There is a lot going on in my life right now that I hope it doesn't distort the results. You know, from your research.



Jay Worthy

You know, in a way, XXXX, that's exactly the point. So I really appreciate you flagging

it and that actually really draws out why I'm doing the study this way. Do you remember the study, I asked you to do a survey, then you went for a bunch of walks and you decided how many how.

 Participant #7

Yes.

 Jay Worthy

It was entirely up to you at what the duration was, and then you did the survey again. That's very helpful because you're comparing data and you can see trends you can and possible movement, you can look for statistical significance.

 Participant #7

Yes.

 Jay Worthy

The downside is sometimes statistical significance can be there, but the kind of lived experience and how you're feeling doesn't match the data. So for example your well-being and your kind of burnout risk and maybe depression scores may have improved but you may not be feeling it, or vice versa.

From survey one to survey 2, but that person perhaps doesn't feel great emotionally. And so that's what this is all about. It's just drawing out a little bit about those feelings. There is no right or wrong, and so, you know, that's really what this is all about. Just just to see how you are feeling.

 Participant #7

Ah great, OK.

 Jay Worthy

Do those feelings exist? If they do, how are you handling them? That would be a really interesting question. I'd love to know the answer to. So do you have any kind of coping mechanisms right now for when you're feeling, you know, mentally in not a

great place and if you do, do those include nature?

AG Participant #7

Yes, absolutely. Now, before I answer that question, I also want to tell you something that could potentially impact the study and this is that in December or actually in October, November of last year, right after I turned 40.



Jay Worthy

Mm-hmm.

AG Participant #7

My feet gave up and I developed really bad plantar fasciitis and I neglected it. I kept running. I kept playing tennis. I kept going for walks. It didn't get any better to a point that it became chronic. So I finally went to the Doctor and the podologist, like around March of this year.

I still have it, but the doctor told me don't run anymore for a few months. You can play tennis here and there, but you have to find another alternative. Either go cycling or swimming or whatever it is which has been good because it's given me the opportunity to explore a new sport which is swimming. I've been swimming a lot. Not lately, not open water swimming. I've been going to the pool, but it's an outdoor pool where it's a beautiful pool I'm using. It's surrounded by trees, and I actually, even though it's not in a lake or in the ocean, I still feel that I'm outdoors.



Jay Worthy

Hmm. Wow that's great.

AG Participant #7

Plus, it's a pool that is in a public complex that is in the middle of a forest. So it does feel a little bit like I'm in the middle of nature.



Jay Worthy

Beautiful. Yeah. Yeah. And. And you know, nature connection. XXXX is what works for you, right. I mean, if you lived in downtown Chicago, it's harder for you to get to. I know you don't. But if you if you were back there living it's harder to get right out into nature. So nature connection is about.



Jay Worthy

Ways that you find to get outside of the box and closer to the natural world. So that sounds perfect. Does it make you? How do you feel before you go for a swim and then after do you see a difference?



AG Participant #7

Yes.

Yes, yes.

Absolute 100% and I'll tell you why. It's because I I personally have never enjoyed swimming. I learned how to swim when I was little. My mom put me in classes, so I think I'm a pretty decent swimmer.



Jay Worthy

Hmm.



AG Participant #7

I always hated getting on the pool, so I'll be honest, even to this date, grabbing my backpack, putting on my bathing suit, driving to the pool, stretching, jumping in the pool. That whole process is painful and I'm like ****, do I really need to do this? But then by the time I'm done, 30 minutes later, 40 minutes later.



Jay Worthy

Mm-hmm.

Yeah.



AG Participant #7

I'm a new man and I believe this is the one activity in the day where I'm fully present

where I'm not distracted by my phone or music, because even before when I went for walks or runs, I still had some music. I still had some podcasts. I still had some external entertainment here.



Jay Worthy

Hmm.

Yeah. OK.



AG Participant #7

It's just me, the water, my breathing.



Jay Worthy

That's really interesting. Yeah. And your phone presumably, is like on the side of the pool.

Yeah.

Yeah. OK.



AG Participant #7

I'm not even paying attention because I'm swimming, so I'm not even looking at it so.



Jay Worthy

Hmm.



AG Participant #7

It's amazing because I remember you and XXX always said you like to meditate, you have to focus on your breathing and I always find it so difficult to do it. Until now that I'm in the pool and that's the only option I have to focus on my breathing, because otherwise I drowned and I have no external factor or entertainment or distraction.



Jay Worthy

Yeah.

OK.

Yes.

 Participant #7

So I'm fully in the person moment, so when I when I leave the pool and I feel amazing.

 Jay Worthy

I love that. So is it fair to say that you kind of discovered this, this kind of outdoor swimming experience as a result of injury? Is that yeah, you don't think you would have found it before?

 Participant #7

Mm-hmm.

Yes, totally.

No, no. And right now I'm absolutely right. Now I I've reached the point where I'm actually looking forward to it because I see the positives in it that now it's not that difficult for me to get prepared and drive to the pool and get on the water like that whole process that.

 Jay Worthy

You weren't looking. That's really interesting.

 Participant #7

For the first six months of this year, sucked. Now I look forward to it. So I'm swimming two or three times a week. I don't run anymore. I'm not walking because I'm resting my feet. My injuries are getting better and I feel a difference mentally and physically.

 Jay Worthy

Do you think do you think that you would feel exactly the same if that was an indoor swimming pool?

AG Participant #7

If it was an indoor pool?



Jay Worthy

If it was an indoor pool in your apartment building, or, you know, at work or in a leisure centre, do you think you'd get all of the same benefit?

AG Participant #7

I think it would be good. But I did go to an indoor pool before I did. Then recently switched to this one.



Jay Worthy

OK.

Interesting.

AG Participant #7

I guess the proof the best way to answer your question is I do have two options I can go to an indoor pool or I can go to an outdoor pool. The indoor pool is much newer, much bigger, much nicer, much longer because it's 50 metres.



Jay Worthy

OK.

AG Participant #7

So everything tells you the indoor pool is a better option. However, I always go to the outdoor pool so that answers your question you know.



Jay Worthy

Yeah.

OK. That's nice. Yeah. And you and you, so you're you feel like you're doing that because it's giving you something in addition to just the swimming?

AG Participant #7

Correct, yes.

Jay Worthy

What about before, before and after the swim? Is there any kind of ritual associated? Are you sat by the pool after the swim thinking before you know, I do. And there's no right or wrong answer, right? But do you get out of the pool and grab your phone straight away? Or do you find that you like to sit dry off? Reflect is there. Is there some kind of ritual around? The pre and post swim.

AG Participant #7

It depends on how much time I have, but usually my ritual is they don't allow you to bring your bag to the pool, so you're forced to leave your bag many metres away, which is good because there's a point where I put my phone in my bag and.

Jay Worthy

Mm-hmm.

OK. Yeah.

AG Participant #7

I forget about it for 45 minutes.

Jay Worthy

Yeah.

AG Participant #7

Usually I go I stand in front of the pool, I do some mobility, some stretches, deep

breath in and out, and then I jump in. That's basically my ritual. And then when I come out.



Jay Worthy

OK.



Participant #7

I just usually get out.

I'm exhausted by the time I'm done. Walk, to the lockers, change, and only then I look at my phone and see you know who called me. One thing I've noticed is I'm not desperate to look at my phone to see who's texted me or who's called me.



Jay Worthy

Yeah.

Mm-hmm.



Participant #7

I wait until I'm exiting the complex to actually say OK back to the real world who's who emailed me, you know?



Jay Worthy

Yeah, yeah, that's nice. And then so I know that the foot injury and plantar fasciitis has made it tricky, but do you still go for walks alone in nature ever? Or is that completely dried up now?



Participant #7

Yeah.

Completely out. I haven't done it in in a long time.



Jay Worthy

OK.

Do you remember how it made you feel when you did it?

AG Participant #7

Yes, I always now remember In my case it was never walking. It was always running. And just because I have a very condensed amount of time. So I can only dedicate 30 minutes and I rather run for 30 minutes and walk for 30 minutes.



Jay Worthy

Sure. Yeah.

AG Participant #7

But where I live, it's a beautiful place with a lot of green areas. So. Back when I was running a lot until October, November of last year, that was my therapy. You know, even I remember talking to my wife saying, hey, I'm not feeling good. OK, go for a run. She knew already that this was going to make me.



Jay Worthy

Mm-hmm.

Mm-hmm.

AG Participant #7

I was leaving a version of myself, and I'm coming back in a different version of myself. So yes, absolutely. It was my therapy. But I'm glad I found this alternative you know, otherwise I will be in a pretty bad spot.



Jay Worthy

Do you think? And again there's never any right or wrong answer with this, right? I'm curious to know if you think that that taking part in the study had any impact on you in terms of maybe how you prioritise time outdoors or self-care or any changes in how you handle?

And or stress just based on what you just said about, you know, your wife saying, hey, go for a run because you're, you know you're stressed or you're, you know, overwhelmed or what have you did you did the did the study kind of draw that into focus at all or do you think you were just pretty good at that anyway?

AG Participant #7

I think I've always been pretty good at that.

 Jay Worthy

Yeah.

AG Participant #7

Honestly and to be fair, I think it was done in 2022, right, 20 I remember we started or 23, OK, so I was already here in France and.

 Jay Worthy

It was 2023. Yeah.

AG Participant #7

Obviously for that period of time when we did the study, I had this external factor also motivating me, but then I forgot about it to be honest, and I still did it. So I think I'm.

 Jay Worthy

Mm-hmm.

AG Participant #7

I'm disciplined enough that even if I didn't have the study, I was already. I already knew that the outdoors helps.

Another thing is, you know I'm moving next month and it was very important to me to be close to nature. We had the option of living closer to the city and in fact my wife wanted that option.

 Jay Worthy

Mm-hmm.

AG Participant #7

And I pushed back a lot because it ivery important to me to be to live close to a forest or somewhere where I can just go and and enjoy nature not in the middle of buildings. And luckily we were able to find a place that that is in a neighbourhood that like this.



Jay Worthy

And that's, I guess not always been the case for you, right? So when you were younger and you've lived in quite urban areas, so what's changed over the years that's made that so important to you?

AG Participant #7

Mm-hmm.

Correct.

That fact that I realise the benefits of it to me. Yes, when I lived in Chicago, when I lived in well, Miami, I was always close to the water. I could say that. But when I when I lived in Chicago, I was in the middle of downtown, it was a concrete jungle with building, 1 building here building there.



Jay Worthy

Yeah.

AG Participant #7

Yeah.

I'll be honest, I I don't. I wouldn't. I couldn't go back to that. I think going forward where we live it will, it will have to be somewhere close to nature.



Jay Worthy

Yeah, yeah.

It's interesting you say as well that you couldn't go back that that's kind of scratching image I had from something you said a little while ago which was you know the injury or the foot pain cause you to kind of go.

AG Participant #7

OK.

 **Jay Worthy**

And find something else. You found swimming. You're choosing more often than not to do that in an outdoors environment because you like what it gives you. That's kind of paraphrasing every everything you said. If the doctor said to you tomorrow.

Full Bill of health, feet are fine back to running back to tennis every day. Do you think that you would continue to swim in that outdoor pool?

AG Participant #7

Yes.

 **Jay Worthy**

Interesting, yeah.

AG Participant #7

100% because I've discovered.

 **Jay Worthy**

Yep.

AG Participant #7

What it is, and I've made it a habit after doing it for six months.

 **Jay Worthy**

Yeah.

AG Participant #7

And now I know what it feels when I come out of the pool and how my body feels

like more relaxed, less pain. Before I was in a lot of pain everywhere. Now only my feet and like, little by little, it's disappearing so.



Jay Worthy

Yeah.

What about the mind? So the when you, when you finish the swim, you feel less pain. You said you feel more kind of relaxed. Anything kind of mentally. How does? How does your mind feel after a swim?



AG Participant #7

I have a lot more mental calm and.



Jay Worthy

Yeah.



AG Participant #7

Right now I can think of two pretty clear examples in the last month where I've gone in the pool with a problem from work that I thought, ****, how am I going to solve this? And then while I'm swimming?



Jay Worthy

Yeah.



AG Participant #7

I'm solving it and I'm finding solutions and then when I'm out of the pool, I'm like OK, I that's a good option. We can try that and maybe that solves it, maybe it doesn't, but this is something that I didn't have in my mind before I came in the pool so.



Jay Worthy

Yeah.

AG Participant #7

It's again, that meditative state that you're just there focusing.

 Jay Worthy

Hmm.

It's so fascinating to hear you say that. I love it when people say stuff like that because it kind of brings to life what you read in the literature. So there's quite a lot of research literature around time in nature being correlated to improved creativity and problem solving skills.

AG Participant #7

Mm-hmm.

 Jay Worthy

And you can't. You read a study and like that, you know, sounds amazing, but this kind of a conversation really brings that to life. And you'll often hear people say, you know, when they're stressed, like, go for a walk. Right. and, you know, it's like an old wives tale, right. Just go for a walk and clear your head. But it's kind of deeply connected to kind of human health and well-being.

AG Participant #7

Yes.

Right. I feel that too. Absolutely. Yep, that's totally true. Yes, I mean it. I understand why people go out to be inspired by nature and. Yeah, I mean, it's happened to me. It's very interesting because this just happened last last week where I had no idea how I was going to solve a problem and even though the problem is not solved here, but I was able to come up with two alternatives that I could explore right there in 30 minutes while I was in the pool.

 Jay Worthy

Yeah, I love that. What about just real quick, just the I'm thinking about the barrier, so an obvious barrier to you to walk in in nature has been, you know, injury to, you

know, to your feet. And so that's prevented you from kind of continuing to walk in nature.

AG Participant #7

Yeah.

Mm-hmm.



Jay Worthy

But what other barriers? You know, you're a you're a senior executive, you know, very successful executive. You've got two children, you know, you're living a kind of an expat lifestyle outside of, you know, not only your native country, but, you know, your your wife's native country as well. So there's a lot going on in your world. So what are some of the barriers that exist for someone Like You to maintain that so you understand that time in nature is kind of therapeutic for you as an individual. What are some of the things that stop you?

AG Participant #7

Mm-hmm.



Jay Worthy

Getting out there and what might be some of the things that would help make it easier?

AG Participant #7

Luckily I always prioritise it, so I make I make sure that.



Jay Worthy

Mm-hmm.

AG Participant #7

Every day I do something, it doesn't have to be a long time, but every day I have to do some sort of physical activity. But there are days, obviously where it it's inevitable,

right? I think timing is one of the biggest constraints. But I am at a point in my life where I have made it a priority and a lifestyle to anything that happened. I can be travelling and it's just a matter of making choices, right? I can go to the bar and have a drink with my colleagues. Or I can excuse myself and go for a walk or back. Then it was a run or something to make sure that I that I, I do my physical activity of the day.



Jay Worthy

Yeah.



AG Participant #7

Another thing could be proximity, right? If you live in a place like right now.



Jay Worthy

Yeah.



AG Participant #7

I will have to drive to the forest, but it's not a long drive. It's a 5 minute drive.



Jay Worthy

Yeah.



AG Participant #7

That could be a barrier also, because there's that. But as I said, I prioritise it. So to me there's not really a barrier.



Jay Worthy

Yeah.

It is a fascinating kind of area because, you know, I was, I was chatting to somebody the other day about who's a busy executive, like you travels a lot. And I was saying, you know, it's difficult to choose a hotel. At least it used to be 10 years ago. You would struggle to find a hotel with a gym, or at least be able to search for hotels now on hotels.com and bookings and Expedia, you can filter by gym now, right? Has it

got a gym? That's progress, but it's difficult to filter by, you know, proximity to nature trails for example.

AG Participant #7

Yeah.

Mm-hmm.

Yes.

True, yes.



Jay Worthy

And so, you know, they're the kind of barriers that I think also exists, right, or you for you, you know, proximity to an outdoor swimming pool or something like that. You know, it's that that could be that could be an interesting enabler for somebody in your situation to be able to continue to kind of get their nature fix.

AG Participant #7

Yes.

Yes, for sure. I like that idea. Yeah.



Jay Worthy

And like just last question for me then, anything, anything else that's in your mind about either the study or your experiences in nature or parenting in general, anything that you want to share with me?

AG Participant #7

I'm trying to. Push, no not push, but expose my daughters to the outdoors.



Jay Worthy

Hmm.

AG Participant #7

My wife, for example, sometimes she can be inside the house and not leave and she's

fine. You know, she has something. I am the type of person that I need to be out. I need to look at the sun. I need to look at things. I can't be inside the house.



Jay Worthy

Mm-hmm.



Participant #7

And I'm trying to cultivate that same.

Need for nature to my, especially my oldest daughter XXXX, who is 5 1/2 now and every opportunity we have. Hey, I have 30 minutes between meetings, OK? We're going to go out and be in the garden and even when I'm stretching.

OK, you come. You're going to stretch with me here. Try to do what I'm doing outdoors. I try to stretch also outdoors. Every single activity that I'm trying to do, which back in the day when I lived in Chicago, I would do indoor. Now let's take it to the yard and we're going to do it there. I'm going to stretch outdoors. I don't need to be inside.



Jay Worthy

Mm-hmm.

Mm-hmm.



Participant #7

Inside the house and I tried to involve my daughter, but XXXX is much smaller, so she doesn't really. At some point I'm gonna start doing it with her too. But it's important to me. And I think it should. I should pass on these to them.
Yeah.



Jay Worthy

That's beautiful. I love that. Thank you for sharing. And also, you know, as you were saying that kind of made me elicit thoughts of it. Feels like that's something that in recent maybe decades has been lost a little bit in human history.

AG Participant #7

So true.

 **Jay Worthy**

But actually you don't need to go back, you know, probably even more than one generation to see that that would actually have been part and parcel of family life. I mean, you know, where you grew up in South America, you would have been outside all the time, I think.

AG Participant #7

Mm-hmm. Absolutely.

 **Jay Worthy**

You know, families all around the world were kind of passing that knowledge down and for some reason it got it, it almost got stopped as we became more urbanised, living more indoors. So it's a beautiful thing to hear a father want to do.

AG Participant #7

Yes. Thank you.

Well.

It's that and you know, it's also technology, right. You have your phone, you you have entertainment in your hands. You don't need to search for anything else. I'm that really worries me. The other day, for example, this just the first thing that came to mind. But I had my cousin and her daughter visiting it, visiting it, visiting us from the US.

 **Jay Worthy**

Yeah.

Hmm.

AG Participant #7

My cousin is a little older than me. She had a fantastic time and her daughter was turning 15.

We were driving by the most beautiful landscapes in in our region.

And this girl was like this the entire 3 hours. Yes, and I.



Jay Worthy

Head down.

Looking at her phone?

Yeah.



Participant #7

Exactly. Put the phone down, enjoy the views. You know, look at look at. Look at the world. And it's only like I'm. I'm worried and it's only going to get worse. So that's something that I'm trying to and we need to take good care of our kids and make sure that they they're they don't need that like that.



Jay Worthy

Hmm.

Yeah.

It's a. It's a really powerful and beautiful message and I think it kind of it plays to this notion of elders. It's kind of a little bit like I was saying before is I think a few generations ago they're kind of elders in every community and they're guiding the young people and and that feels like it's been lost a little bit.

From modern society, and so, you know, pet parents have to be the elders and and guide and the children and young people in our lives are looking to, you know, these kind of folks on social media and influences as their, as their guides and their elders. And they're not necessarily the best people to be guiding them. So.



Participant #7

Yes.

Mm-hmm.

Right, exactly.



Jay Worthy

Yeah.

Yeah, I could talk about that all day long, but I want to be really respectful of your time. I just wanted to say huge thank you. I really appreciate it. It means it means the world to me. And when I've submitted my dissertation after it's been graded, then then I'm able to share it with you. So to the extent you want to read it, you'd be welcome to..



Participant #7

Thank you.

Of course.



Jay Worthy

Alright, I'm gonna switch off the recording now. Thank you so much.



Participant #7

OK. Thank you.

□ **Jay Worthy** stopped transcription

Transcript P21

14 August 2025, 03:00pm

● **Jay Worthy** started transcription



Participant #21

What's up? How are you doing here? Alright.



Jay Worthy

Hello XXXX How you doing? Yeah, good thank you and you?

JE Participant #21
I'm all good, mate. I'm all good.

 **Jay Worthy**
Did you say you're in Saudi?

JE Participant #21
I am. Yeah. I've been here for three months.

 **Jay Worthy**
Wow

JE Participant #21
Yeah.

 **Jay Worthy**
How's that going?

JE Participant #21
Well you know what it's like mate. It's painful sometimes.

 **Jay Worthy**
Yeah, yeah, it can be.

JE Participant #21
OK that's kind of why I'm here. I'm just like, I couldn't do it anymore. Backwards and forwards. So I just went. I'll just. I'll just come and live here. So, I mean, it helps. I'm going through about 3 months into it and nearly 3 1/2 months into a divorce.



Jay Worthy

Oh XXXX, I am so sorry



Participant #21

So that kind of made it a little bit easier because I was like right, it means a chance I can actually get get out there. So I've done three months, I go back soon, I'm actually flying back tonight till Wednesday, but I go back to see the kids. So every two weeks and then straight back here which is hard.



Jay Worthy

Yes I can only imagine



Participant #21

I've got. I've just finalised a new place I'm moving to Dubai on the 27th of August, so I'm going to be based in Dubai and then I'll basically- it's only an hour's flight, you see £500 to fly here, so I'll just hop over backwards and forwards



Jay Worthy

OK. That sounds tough but do you feel Dubai is a better place to be based?



Participant #21

Yeah, I can. I've figured it out. I can do about seven to 10 days in Saudi before I start losing my mind, so I'm like, I've got to because all I do is I end up sitting in my computer and working and I guess I like 11:00 at night and I'm like, there's nothing else to do, literally nothing to do so its not been good for my mental health. So you can't go and have a beer and you can't get outside because it's too hot. So I'm like, at least can live in Dubai. I can go have weekends in Dubai and then I can come back, come back here.



Jay Worthy

So, do you miss the greenery of the UK?

JE Participant #21

So yeah, a lot. I miss the trees and fields. But in all honesty, it's essential for me to be here because of the business. Its because they're just not going to implement, they can't implement anything without me. So there is a lot of pressure.



Jay Worthy

I can imagine that must be a real challenge for you.



Jay Worthy

Well thank you so much for doing this. I know you're busy and I know it's probably a bit of a challenge to make time,

JE Participant #21

Yeah. OK.

Yeah, I don't mind. Yeah. Yeah. No. Yeah. No, of course. Yeah. Yeah, yeah.

JE Participant #21

Yeah. OK.

I make no worries. I actually found it quite interesting. So I've been on. It's been a bit of a journey for me over the last 18 months. So when I was doing it, I was a bit like I had this probably it's probably I'm not that I'm probably not a bad case study actually because it's been up and down for my mental health.



Jay Worthy

I can imagine.

JE Participant #21

Yeah.

Yeah.

Yeah, man.

Yep.



Jay Worthy

But maybe just start by a summary of like, what's life been like for you over the last, you know, couple of years since you since you did the study with me?

Start there maybe.



Participant #21

Well, I suppose dramatically, quickly changed in lots of different directions. I think at the time when I did the study, I was I was, it was kind of a, it was like a welcome thing to go outside. I needed something to do as a distraction. I was getting so embroiled in work.



Jay Worthy

Right



Participant #21

You know, and being part of a global organisation was never the plan for it to to be, but it ended up being there quicker than I would have liked and then being stuck in it going now it's there. I can't really get out of it. So I needed to do something else because.



Participant #21

All my hobbies and things of playing cricket and golf and things like that had just gone by the wayside and you know, it was my office was at home after COVID, so I'd work. I'd go inside, spend time with the kids, go back to work and just do that. So you know,



Jay Worthy

Yep that must have been pretty overwhelming. Where were you living at the time?



Participant #21

In Blackpool on the beachfront, so going for a walk on the on the beach was

something easy. All in all honesty, getting the time to go out and do it as regularly as I wanted to was a challenge because work was so hard.



Jay Worthy

Mm-hmm.



Participant #21

But what I found really interesting is when I did it, how much more thinking time I have, how much more time I could think about the kids and the family and stuff that what I was doing, putting the brakes on a bit and actually thinking about my problems.



Jay Worthy

Interesting.

Yeah.



Participant #21

I tried to make it part of what I should have done every morning at 7:00 in the morning. It was always there. I should go out and do a walk. I should go and do a workout and and just didn't get around to it as much. But the actual effects of doing it were huge when I did it.



Jay Worthy

Yeah, yeah.

Yeah.

Yeah. Was that surprising to you?



Participant #21

I always find that.

Yeah, but it shouldn't be because I know exercise does the same, but something that I'm always. I'm always fascinated by is how getting outside makes me feel happier.



Jay Worthy

Right. So interesting.



Participant #21

Exercise is is the best medicine or being outside and walking is the best medicine and everyone feels really good after it, but then never wants to do it again and I find it. That's the bit from a psychology point of view. I find it fascinating to go if you do something that makes you feel so much better.



Jay Worthy

Mm-hmm.

Yeah.



Participant #21

Should be challenged to do it again, and I don't know the answer to that.



Jay Worthy

For you personally, obviously I know a little bit about the, you know, the roller coaster that you've had with your business. But so there was a kind of an acknowledgement and a recognition that walking outside on the beach or in nature in general was actually really helpful for you. Sounds like it gave you space to think and perspective?



Participant #21

Yeah exactly. Totally.



Jay Worthy

So it gave you everything you want, and yet to your point, you still struggle to do it. As you remember it then what were some of the barriers stopping you doing it? Was it just workload or anything else?

JE Participant #21

Yeah.

Yeah, I'd be. I'd be a really unhealthy relationship with my emails and my phone. So the thought of not being in the office and being productive was something that gave me anxiety. So when I was out, if I was in somewhere, you know, I was brought up in the countryside anyway. So as a kid, I was walking a lot through the lakes and stuff



Jay Worthy

OK.

Interesting.

JE Participant #21

You know places that we're all full of water and streams. That's why I was always outside as a kid. So during the study, if I was to go anywhere that didn't have phone signal, that would instantly give me a panic on.



Jay Worthy

Wow, OK.

JE Participant #21

So I would be like I can't be in that situation for an hour. I can't have my phone with me



Jay Worthy

Yeah. And is that the weight of the responsibility at work? It's just like if I don't reply quick enough, then the business might fail or something might go wrong and it'll be my fault.

JE Participant #21

Yeah, almost catastrophizing situations as well from that where, you know, I'd be like going.



Jay Worthy

That must have been so hard,



Participant #21

Yeah, I knew it was crazy but I knew something might happen and if I didn't know about it I would hate that feeling. I've learned now over the last couple of months that how to control that better. But at the time, the thought of going out and walking as much as it gave me free thinking time it then turned into a point where I was going.



Jay Worthy

That's so interesting.



Participant #21

I'm not walking and I need to be at my computer or doing it was completely unjustified. But you know your brain just takes over and I couldn't. I couldn't help it. So that was a massive barrier to doing it. So that, yeah, that was a huge barrier. Just every minute that was available, I wanted to be in the office working



Jay Worthy

Right



Participant #21

Sitting there going, I can't be away from this. This desk. And you know my wife at the time would be going come on just take the dog for a walk or spend time with the kids outside. When I look back. I see I should have gone but I didn't



Jay Worthy

Do you feel like your work kind of got in in the way of your relationship?



Participant #21

Yeah one hundred per cent. Just completely embroiled that, the panic, the anxiety about being away from my work or making time for anything. Just put so much, so much pressure on our marriage.



Jay Worthy

I'm so sorry to hear that



Participant #21

So much pressure on and I couldn't cope



Jay Worthy

What about now, XXXX? So obviously, life is very different. Now. If you're going through a divorce and and you are living in the Middle East now. So you're not with the kids every day?



Participant #21

No unfortunately not



Jay Worthy

What is your relationship with nature like now, particularly as you recognise that time and nature was kind of helpful for you and therapeutic for you previously. Are you using time in nature now? I guess it's quite difficult in the part of the world you are as well. So I'm curious to know how nature plays a part in your life today?



Participant #21

Yeah. No, absolutely, it's interesting because that is a that is a massive negative for being here, especially in July and August when it's 55 degrees



Jay Worthy

Wow that must be too hot to go outside?

JE Participant #21

It's definitely too hot. I mean, I looked yesterday. I needed to go to the shop yesterday and it was a mile away and I thought, you know, I'm going to walk. I'm not getting an Uber again in air conditioned. And as much as it was nice,, it was brutally difficult to get my backpack on, and it was over 40 degrees. And it's just dessert – no trees or greenery really.



Jay Worthy

Right

JE Participant #21

I actually I enjoyed the walk though. You know, I used it as a bit of a workout and it's sweat on and I was just like, no, I'm not going to get in an Uber and just sit in a thing again. But it is difficult. You know, I live in a compound that isn't easy just to get out and walk around because nobody does that here. There aren't even pavements!



Jay Worthy

Oh I see – that makes it difficult for sure!

JE Participant #21

And what I try and do is when I'm here, I try and maximise as much time as possible doing work things and Saudi things but in a positive way, not in a negative like I used to. But it means that when I'm at home now I just don't, I just turn my phone off.



Jay Worthy

That's good.

JE Participant #21

So I turn my phone off and I get the kids out and I go out and do stuff with the kids when I'm back home, and I appreciate being back so much in Blackpool. Not the most glamorous place in the world, you know. The sea is only at the end of my road

thought and you know, I get them out on the bikes and I walk down the front and and I use that time when I'm back a lot to appreciate that, which I can't do while I'm here and so it feels special.



Jay Worthy

That must be so nice?



Participant #21

That mixed with not having technology in my hand all the time has made a huge difference to my life when I visit England. Huge difference.



Jay Worthy

So would you say you have been able to kind of successfully break a little bit of that dependence on e-mail and phone and stuff?



Participant #21

Completely. It's completely gone. I don't have it and that's because when I went through the, I'll call it a separation with XXXX first and foremost and so much, so much happened from then that I was able to put the brakes on and go right.



Jay Worthy

Yeah.



Participant #21

The world isn't going to end like there's lots more things are going on. And actually I don't want to do all of these things that I'm sure that we're trying to do. I don't want to do that now. I'm not in a partnership anymore. I don't have to do it for other people as well. It's for me. And I was like, I've sacrificed enough already.



Jay Worthy

Yeah, yeah.

Yeah.

Right

JE Participant #21

Everything for XXXX, but I've my family and everything has been sacrificed for it. So I had two weeks completely off. I didn't answer phone. I turned off my WhatsApp, I turned off my emails and it was difficult for the first couple of days, but after that I was amazing.



Jay Worthy

Yeah.

JE Participant #21

I don't need. I don't need my phone. People can wait. And so, you know, I've been for. There's a place back home that I love called Ingleton Falls, which is north of where I live, near the lakes. You know, I've been there. There's no phone signal, and I can walk there for 2-3 hours. And I'm like, I don't care what my messages are saying. That's progress for sure.



Jay Worthy

Absolutely

JE Participant #21

I don't care if I come back and I've got 100 whatsapps and 100 emails. I'm just like I'm not bothered so I, but I had to train myself to do that. I had to make a real conscious effort to go this habit that I have with my phone and my emails. It's got to go. It's got to go.



Jay Worthy

Yeah, of course.

JE Participant #21

And there's times now where I just leave my phone in a different room and I'll go the whole evening and I'll go and look at it and think I will sort that out in the morning.

 Jay Worthy

That's really, really positive to hear. And and it's great that when you come back to the UK, you've got that that kind of destination, all those destinations you like to go to, particularly with the kids and of course, you know, I hadn't even, well, I had obviously, but I suppose it's it's important to recognise that you kind of gone through 2 separations.

JE Participant #21

Yeah.

Yeah.

 Jay Worthy

Like if you've got your marriage separation and then you know XXX, business partner and you know, really, really good friend not not making any assumptions about where you're at now with your relationship with him, but it must have been fairly bumpy.

JE Participant #21

Yeah.

Yeah. I mean, we're in, we still speak, we still chat and speak. But you know we've we've gone. We've had to go on different paths to I've got to you know to carry on. I've still got a I've still got a company to look after and and support.

 Jay Worthy

Yeah.

JE Participant #21

You know, I just the split and separation from work perspective, I was like, but these are the things that I'm not doing anymore. So if they don't get done by someone else in the business tough, I'm not doing them anymore. This is what I'm good at. This is what I started and what I love doing. And this is what I'm going to do. And so I'll set a very common ground with Anthony right at the start on that.



Jay Worthy

Yeah. Right.

Need a bit of space and time, right? One of the things one of the things I wanted to just chat to you about is, you know, a few of the folks that I've spoken to are kind of living in quite rural locations. And so there's a certain amount of, I'll call it, access.



Participant #21

Yeah.



Jay Worthy

And access that you get by living in a rural location when you were living in Blackpool, you were right by the beach. So your access to blue spaces and nature is kind of right there. That removes a lot of friction and barriers. Now you're in quite a unique situation. I'm keen to just explore a little bit. So you're living in a part of the world now that's that's kind of obscenely hot couple of months.



Participant #21

Yeah.

Yeah.

Yep.



Jay Worthy

So curious to know, linking back to your first point, you know, you kind of recognise that nature was really therapeutic for you and you've got the the falls in the UK that you go to because that's therapeutic. Have you given any thought to how you might kind of get that nature fix living in the Middle East and in what way?

JE Participant #21

Yeah. And I think I think that's one of the reasons for the shift and move to Dubai. So because you can't walk here because there's no footpath, so you can't walk. You know, when I walked that mile of the day, I was walking over building sites and busy roads.

 Jay Worthy

Yeah, right.

JE Participant #21

It's basically a desert. So that was one of those reasons for Dubai and you know, going back close to the sea. So, you know, my apartment I'm living in is on the Marina. So, you know, walking around, walking around the Marina and gives me that same thing. It's a beautiful place and I love being close to the water.

 Jay Worthy

That makes so much sense.

JE Participant #21

And you know, it's very different. It's not got the trees and the and the green grass. But there is areas where there's big parks and things like that. So that was part of the reason to go. I want to be in a place where it's a little bit more normal than you know, well this is literally a concrete jungle in the desert and it's a miserable place.

 Jay Worthy

So that's interesting because a few a few times you've mentioned water, you know, Blackpool, the beach you talked about as a kid, streams and rivers, right. So and then then you talked about your your favourite kind of soak spot where you go, where there's no signal to get away from it all is a waterfall. So it sounds like you've got a bit of a strong connection with water. Is that fair to say?

JE Participant #21

Yeah. Yeah, it's probably interesting because I have probably never seen it like that but now you say it I think you are right. I'm not. I'm not a big swimmer, but if I was to choose if someone said to me you can live anywhere in the world, I would have a big cottage on the side of the Lake Windermere.



Jay Worthy

Yeah, interesting.

JE Participant #21

You know that that's because I just that sort of view and look and that that's what I just look at it and go. That's peaceful. I think the water I find peaceful and you know I love the Marina. The apartments got a balcony, overlooks the Marina and when I stand there and look at it and look at the water and everything around it. I find it fascinating so you know. But I don't like boats. They make me sick!



Jay Worthy

Right

JE Participant #21

So I don't like going out on boats and stuff like that, but, but yeah I like being near water. It relaxes me I think,



Jay Worthy

Look, last question for me, this has been really helpful. I'm very grateful. Is there anything else from your time doing the study your last couple of years, you know as you're reflecting on your relationship with nature, you've been you know you've been through some.

JE Participant #21

Yeah, I think the one I think when it all came to a head when the whole, you know,

when everything came about, I was struggling, really struggling, like really struggling, you know, I was actually, I was actually here in Saudi and then I couldn't leave the house for two days of panic attacks. I was I was mentally just done.



Jay Worthy

That sounds awful.



JE Participant #21

And that was the first thing to turn to was just come away and get into somewhere where there's no people and it's nature and water, you know, part of that two weeks was spent, like I said, in the Lake District cottages. And that was always my go to thing. So that was, like I said, I was a kid. It means a lot meant a lot to me as a kid.



Jay Worthy

Right



JE Participant #21

I remember vividly the days out of being near water and walking in places where you know streams and rocks and making dams and things like that. So I think that that is it's been so important to me. But without me really realising it.



Jay Worthy

Yeah.



JE Participant #21

You know, it wasn't conscious. I need to get into nature and see those things, which just that's what you know, when I was looking right, I need to go and stay somewhere for at least a week away from everyone. I have to go to the Lake District and be around that view. And when I stand there and look at like Windermere and it's all there and it's quiet and peaceful and my everything feels a bit more calm.



Jay Worthy

Yeah, yeah.



Participant #21

And it gave me a chance to really. I mean, yeah. During that time of being here and having those panic attacks, I can, I physically couldn't stay there. I don't know what I'd have done. So, yeah, it did. Yeah.



Jay Worthy

Yeah.

Yeah. So it gave it sounds like it gave you a real perspective like space, space to think and maybe understanding of your problems and worries in the context of the big, the big world, right?



Participant #21

Yeah, yeah.

Yeah, I think you do. I think sometimes when you look at nature and you realise how real it is and you realise everything else that's going on, you're going nothing really matters. It's like nothing really, this this whole thing survives without any human interaction. It's just it's just real, you know, and we're creating all these things that cause us so many problems. And you know, I've got a phone of me and I want to throw into.



Jay Worthy

Yeah.

Yeah.

Right. Yeah, yeah.

Mm-hmm.



Participant #21

Because it just makes me so stressed that I'm, like, none of this needs any of that and

I go could you live? Could you live here in nature? In a little log cabin with nothing? Yeah, it's brilliant. You don't need anything. So it did definitely did.



Jay Worthy

Yeah.

Yeah, lovely.

Good. Well, I'm look, I'm glad it was in some way helpful. I know it was difficult to get out in nature as much as you wanted to, but it sounds like you've got a really good point of view on how it can help restore you and give you perspective. And so I guess if I had one, hope it would be that you'll keep finding ways to be out in nature.



Participant #21

Absolutely.



Jay Worthy

You know, you'll continue to leverage that as opportunities to kind of help you feel relaxed and calm and connect with nature. I'm a I'm a big ambassador for that, as as I think you know, so.



Participant #21

Absolutely, 100%, yeah.

Yeah, yeah, I think it's brilliant. I think it's people don't realise it, but when you can go out and you know XXX and I actually used to do it, there's a place in Bolton. It was a big, big hill that used to climb up and it was a bit of a mission to get there. You had to climb over rocks and ups all sorts to get to the top. But whenever it got really tough and we had stuff to talk about, we just always used head over there.



Jay Worthy

Love that.



Participant #21

To meet there and just walk. And we never really acknowledged that that how

important that place was. And I think that during the times when it got really tough near towards the end of the partnership, we forgot about what that place did. You know, there's a little I remember now as a little stone bench right at the top and there's times that we sat on it and just talked about stuff that and we came down the bottom. We were energised.



Jay Worthy

Right. Yeah.



Participant #21

We were walking and we were, you know, you know, times at the top of this mountain, there was just clouds. You couldn't see anything, but you just felt you just felt like you were away from everything. You know, it's good. It was like a seven mile walk or hike, but we used to do it in the early days, used to it a lot. And, you know, be like, right. I've got some ideas. Want to chat to you about meet me at the car park in Bolton. We'll go for a walk.



Jay Worthy

Yeah.



Participant #21

Look, we used to do it a lot. ***** down with rain and soaking wet, and you didn't really. It didn't matter. You couldn't. No one could get hold of you, so yeah it felt free.



Jay Worthy

Yeah, I love that.

XXXX, thank you so much. I am so grateful for your time and thank you for sharing your thoughts and your story with me. It really means a lot.



Participant #21

Anytime, mate.

● **Jay Worthy** stopped transcription

Transcript – Participant 27

8 August 2025, 11:02am



Jay Worthy

Hey, XXXX



Participant 27

Hello how are you doing?



Jay Worthy

How you doing? Yeah, very long time no speak.



Participant 27

I'm good. Are you?

It is indeed. How's life treating you?



Jay Worthy

Where in the world are you these days?



Participant 27

Well, I haven't moved far from when we last spoke, so I'm in the world of Ely today.



Jay Worthy

Are you are you still at XXXX? Amazing. Where where's the office now?



Participant 27

Yeah, yeah, yeah. So it's moved to a business park in Ely, so it's not too far from where the office was previously, but it's a much nicer space.



Jay Worthy

Good. How many years is that for you now?

SA Participant 27

22.. Mad, isn't it? Yeah, I can't believe it.



Jay Worthy

Oh wow, that's amazing. Yeah. How's, how's things going, though? Are you doing well?

SA Participant 27

Yeah, really good. Thank you. Yeah. Yeah. Still enjoying working and yeah. Can't grumble really. I'm looking after the world of the distributors as well as the UK now. So always something new to learn and try and get your head around. Yeah, it's good.



Jay Worthy

Good. I really appreciate you agreeing to do this follow up

SA Participant 27

Yeah, that's fine. No problem. Yeah, of course.



I know it was a couple of years ago, but can you tell me about how life has been since then for you?

SA Participant 27

My life hasn't changed that much in terms of the day-to-day since 2023. If I think back, obviously children have got a little bit older. So 17 and 20. So it's quite a big difference in terms of what they need from me. I guess from 14.,,You're doing school runs and different things there to now, teaching them how to drive so they can do that themselves. So I guess the demands on me as a mum have gone down a little bit in terms of the day-to-day stuff, which helps me in the mornings. It means I can put a little bit more focus back on what I want to do in the.



Jay Worthy

Yeah, right. Yeah.



Participant 27

So the dogs get longer walks in the mornings because there's that little bit more time in the day and the same really at the weekends and stuff. I guess they do their own thing a little bit more now. So the focus just comes back so that you have a little bit more time for yourself.



Jay Worthy

Yeah.

Yeah.



Jay Worthy

So would you say you feel a bit less rushed as the kids have got older?



Participant 27

Yeah, there's more time. There's more time in the in the day, and it's an adjustment really. Actually, it's quite a strange adjustment to start with as they start working and doing their own things at the weekends and you're not thinking it's Saturday. What are we going to do with the kids today? Because they're already telling you what they're doing.



Jay Worthy

Yeah.

Right, right.



Participant 27

So it's definitely left less rushed. I've probably filled that void a bit with work, which probably is the wrong balance you tend to. Yeah, you can get out to take the dog

slightly longer, but probably in the office at 8 now rather than nine like. So you fill that with more work.



Jay Worthy

Mm-hmm.

Yeah.



SA Participant 27

And the pressures that come from a busy job I guess, but I would say I'm definitely more active than I was two or three years ago as well. So I've been desperately trying to lose weight. So with that increase the activity, so at the moment I'm doing that more in the gym than outside at the moment.



Jay Worthy

Mm-hmm.

Yeah.



SA Participant 27

But yeah, so more active the most time I spend in terms of the outside world would be with the dogs and at the weekends probably sort of an hour or so walk out and about in the in the wide world.



Jay Worthy

Yeah.

On the weekends, about an hour. Yeah. What about in the mornings? Midweek is it?



SA Participant 27

Yeah, yeah.

Probably about 20 minutes in the mornings. Like. Yeah, not not long periods of time.



Jay Worthy

Yeah.

Is that just? Is that normally just you and you and the dogs or is it is just? Yeah, so it's it's real kind of quiet time for you.

SA Participant 27

Yeah, yeah.

Yeah, yeah. And quite early in the mornings as well. So before anyone else is around usually and it's too hectic, yeah.



Jay Worthy

Yeah, yeah. So a couple of years ago, I guess you would have had a 15 year old and an 18 year old. So how are those mornings and weekends? Are they different? Is it just because they're longer or is it, does it change what you're thinking about when you're walking, do you think?

SA Participant 27

None.

Good question.

Umm.

Yeah. I guess in the mornings at the, it's hard to think back a little bit, but in the mornings at the minute, I'm thinking about the day ahead. I guess what's on the agenda where I need to be, what I'm what I'm doing? What's for dinner, you know, because you're just pondering on your own, looking across what what you need to plan in that day.



Jay Worthy

Yeah.

Yeah.

Yeah, yeah.

Yeah.

SA Participant 27

Yeah, I guess three years ago it's a bit of a hard one to answer. There would still have been lots of elements of that, but probably more So what the children are going

through at that time, whether it was GCS, ES or whatever, what they need from you, where you're where you're running them to and from as part of that.



Jay Worthy

Yeah.

Right.



Participant 27

Piece so the thoughts probably, yeah, they probably steer more work way now than than what the children need from me, I guess.



Jay Worthy

Yeah.

That's interesting. So so sound. I don't mean to paraphrase because I don't want to use the wrong words, but it kind of sounds like still busy mind, but maybe busy with different things.



Participant 27

Yeah, yeah, definitely.



Jay Worthy

Less the kids and more work and other bits and pieces.



Participant 27

Yeah.

Yeah.

Definitely. So during the week the mine's probably less busy at the weekends. Now it's like I said, usually you're thinking of activities you're doing with the children or clubs that they're attending and so still at 15 and 18, they were horse riding and stuff like that. So you was getting up on a Saturday morning and thinking where you was going with that.



Jay Worthy

Yeah.

OK.

Yeah, right. Yeah.



Participant 27

Now it's more like I actually get to speak to my husband and decide where we're going at the weekend. Like, what are we doing today so that.



Jay Worthy

Right, yeah, which is nice. Yeah. Does he? Does he join you on the weekend walks? Normally? No, you can't. That's your thing, is it? So how so would you mind just talking me through? Like, what's a typical walk like for you? So is it?



Participant 27

No, no.

Yeah, me and the dogs.



Jay Worthy

Is it quite ritualistic? I mean, I have dogs, so I know like the minute you grab the lead there. So, like, what does that look like? Is it different every day or is it the same route? Is it?



Participant 27

No different routes, so we obviously we're out in the in the fence a little bit. So you're soon you're soon out of the village where I live. So you walk along the the the main road to get sort of onto the the tracks across the farms and things like that.



Jay Worthy

Yeah, yeah.

Mm-hmm.

Yeah.

SA Participant 27

And it's about a 40 minute walk around sort of very quiet droves, really, I would say, but there's probably 3 or 4 main routes. I would go different in the in the week. It's more sort of through the village where there's cars and stuff at the weekend, there's more tracks.



Jay Worthy

Yeah.

Right, yeah.

SA Participant 27

Once you're off the road for about 5 minutes, it's the it's the tracks and the you and you can. Yeah. And you can you can literally like see the cathedral across the green. It's it's. It's quite a nice space out there and and not too built up either. So it's quite a nice.



Jay Worthy

Yeah, you you got the chance to go a bit further afield.

MMM.

Yeah.

SA Participant 27

Nice walk and I enjoyed that in the winter as much as I do in the summer, to be honest with you, I really like getting out in the not so much the rain. I'll be honest. But the cold and you know when it's cold and you wrap up and and you can you can get out there a bit. So yeah, it's.



Jay Worthy

Yeah.

OK. Yeah.

Yeah, yeah, yeah.

Right.

And is it? Is it like you wake up and it's OK dogs first? Or do you have a little bit of a morning ritual before that?

SA

Participant 27

I tend to the dogs tend to tell me that it's time to go. They stand by the lead when they see me get out of bed. They usually let me get dressed. Yeah, but no, I would. I tend to get up and do it, to be honest with you and then come back and have a coffee or whatever after that.



Jay Worthy

It's time to go for a walk.

Yeah.

Yeah, yeah.

Nice. So it's a bit. It's like your morning routine. And with your job being, you know, busier than busier than ever. Are there days when that morning walk can't happen sometimes or do you and and on those days do you notice a difference in yourself in your mood?

SA

Participant 27

Yeah, yeah.

Yeah, for sure. Yeah.



Jay Worthy

Or is does it feel about the same?

SA

Participant 27

None.

Probably not so much in my mood, I would say, but I can definitely feel like I need to get up and move by the time it gets to lunchtime. If I've not done that in the

morning, and because you're sitting so much during the day that walk in the morning does stretch, I mean it's only 20 minutes, but it does stretch you out.



Jay Worthy

Right, yeah.

Mm-hmm.

Yeah, yeah.



Participant 27

It makes you feel like you've actually done something before you're sitting at a desk for the next 4 hours before you hit lunchtime. I'm not sure that I've noticed it in my mood quite so much.



Jay Worthy

Yeah.

Yeah.

Yeah, it's one of those things as well, which I think is really interesting, right, because sometimes we don't necessarily correlate things. So we might not necessarily do that, but even after this conversation, you might you might be more aware of it and say OK, next time I have to miss the dog walk, just be more.



Participant 27

Yeah.

Notice.

Yeah.



Jay Worthy

You know, thoughtful about. Oh, did that, did that feel any different? Was I, you know, slightly more irritable with anybody at work or less or was I, you know, that's kind of an interesting question. Do you do you feel after the over the last couple of years your relationship with nature has changed in any way or is it broadly the same?

SA Participant 27

Yeah.

Definitely is.

I've probably got more of an appreciation for it and I think this I should get a bit older as well. Sounds a bit sad, doesn't it? I'm getting old but definitely more the weekends. I really appreciate like the weekend walks because.

Jay Worthy

Yeah.

Yeah.

Mm-hmm.

SA Participant 27

There's not that rush to get back. There's you're out further, you're out of the village. It's yeah. So, yeah, I probably appreciate it more now than I have ever done before, I would say.

Jay Worthy

Yeah.

Yeah.

Yeah, that's something I hear consistently is with through this whole research that I've done over the last few years is that there's I think there's some kind of link between pace and presence, you know, is probably the best way to describe it. You know, we're sometimes we're rushing around so much, we don't necessarily feel like totally present.

SA Participant 27

Yeah.

Hmm.

Jay Worthy

You know, an it's particularly seems relevant when people are walking dogs because

it's like they love it and it's something they have to do, but it's sometimes I got to get it done and now I've got to get back. I've got to get dressed. I've got to get to work and I got that meeting. I don't want to get caught in traffic.

SA Participant 27

Yeah.

The the dogs are an interesting one, actually, because they're definitely the driver for it. Like I said, they stand at the bottom of the stairs by the leads. Looking at me like you're not going to not do this today. If I didn't have the dogs, I do think I'd still. I'd definitely still do it at the weekends. I probably wouldn't be. I'd lose that routine quite quickly in the week.



Jay Worthy

Yeah.

MMM.

Yeah, yeah, yeah.

That's interesting.

Yeah.

SA Participant 27

Because in the week it's more of a chore than I need to take the dogs out because I'm leaving them on their own at the weekend. It's because I want to and I've got more time if that makes sense. If I didn't work, that would be a different dynamic, but.



Jay Worthy

Yeah, right.

Yeah, no, it makes total sense even even though, right, even though you're saying you enjoy it in the week when you do it, it's still functional. You have to do it for the dogs more than more than for you.

SA Participant 27

Yeah, feel better for it.

Yeah.

But it's for both of us. But yeah, the, the, the dogs are the driver for it, they're for sure.



Jay Worthy

Yeah.

Yeah. Do you?

But you were obviously doing that when I first asked you to do this, this study, so presumably you were walking with the dogs pretty much every day anyway, were you? You had them then, and so did you notice any change in, in the kind of the experience of going for walks? Did it, did it make you think more about the walk in?



Participant 27

Yeah, yeah.



Jay Worthy

Feel like it was just broadly the same.



Participant 27

Probably broadly the same, but I say like it's it's getting the yeah, broadly the same. I'll stop there.



Jay Worthy

Yeah.

No, it's OK. I think you know and it's like all we did right was a survey. And I and I said to you do what you want to do, right. So it's not like I said to you, OK, you must walk 10 minutes every day, you know. And and there there are, you know, that is one way of doing a study like this. But what I wanted to do was just allow people to do.



Participant 27

Yeah.

Hmm.

Yeah.



Jay Worthy

Do what felt normal or natural and then just see is there an impact? What what's really interesting is for you there there was like there was an improvement in your overall kind of score meaning?

It felt like you were more at the end of the study. You were more relaxed, more calm and perhaps feeling less anxious or overwhelmed. So I know it's a long time ago, but were you aware of anything that was going on? Was it just like teenage 15-18 year old schools?



Participant 27

Hmm.



Jay Worthy

GCSE's A levels, all that kind of stuff. Maybe. Do you think it was just life or?



Participant 27

Yeah, I'm not sure. I'm not sure. So it's going back quite a while, isn't it to that period of time, but nothing I can.



Jay Worthy

Yeah, it is. It is a while.

Yeah.



Participant 27

Nothing I can pin it. Pin it to off the top of my head.



Jay Worthy

Yeah. So sometimes you get a little bit of a, you know, a positive effect just from you're more thoughtful about those things. So you, you, you do, you do the

questionnaire and you start to think about those questions, then you're walking and maybe even if you weren't consciously thinking about it, you're more subconsciously aware.

SA Participant 27

Doing it, yeah.

 Jay Worthy

Of those things. So, so, So what the research does sort of indicate is that when we're in nature, we generally get more perspective on the things that we have going on because we're in this kind of greatness. And I know the area you're talking about, obviously because I worked over there. So when you're you're kind of looking over the vastness.

SA Participant 27

No.

Yeah.

Yeah.

 Jay Worthy

Feels and you see the massive cathedral and it looks pretty small. And you're like, wow, you know, like this, this world's quite big it. It can kind of subconsciously help you, you know, have perspective on everything that's going on.

SA Participant 27

Yeah.

Yeah.

 Jay Worthy

So do you think that, you know, we already talked about having the having the dogs is a is a really important part of it, would you, would you ever go for a walk without the dogs?

SA Participant 27

Yeah. Yeah, I would.

 **Jay Worthy**

Yeah. So sometimes you just leave them to it and you go.

SA Participant 27

Yeah. No, again, probably not on my own with a friend. Sometimes we want to go a bit further and the dogs are getting a bit older, so we'll we'll go out a bit further along the river without the dogs and use that as a bit of social time.

 **Jay Worthy**

Hmm.

Yeah. Nice. OK.

Yeah. And what does that give you, XXX? Like what? What do you get from that? Why? Why is that important to you?

SA Participant 27

I don't.

None.

It gives me some time to myself away from the family and before we was always sitting in a coffee shop or something like that and we was both trying to be more active. So we used that as an opportunity to try and increase the activity while we was catching up really.

 **Jay Worthy**

Yeah.

Yeah.

SA Participant 27

And again, it's nice to be able to go that little bit further. So we perhaps go up well

not regularly but up to like 5K. We'll set the we'll set the trackers up and see if we can get the 5K in perhaps once a month, something like that and have a good natter along the way.



Jay Worthy

Yep.

Right.



Participant 27

And I think that's good for you. Just to to be outside and to to be moving and to be to be with friends as well.



Jay Worthy

Yeah, for sure. Yeah.

Hmm.



Participant 27

I just don't think I've probably. I'm probably selfish enough to do that on my own. It always has to be a purpose for somebody else, almost like it's for the dogs or it's because I'm meeting a friend. Like, yeah, and yeah, they're selfish. It's not selfish. But you know what I mean.



Jay Worthy

Yeah, yeah.

Yeah.

Do you think after?

Yeah. No, no, I know what you mean. And I'm wondering, do you think after this discussion if you reflected on it, you might think you might try just going for a walk on your own without without, because I think what's really interesting without trying to kind of lead the witness, that's not the purpose of the call, right? I I'm listening to you and just.

SA Participant 27

Yeah.

I should go on my own. Yeah, yeah.

Another reason?

Hmm.

 **Jay Worthy**

Absorbing it all. And you know, we'll look back on the notes, but but what I what I have learned is I I was a bit like that is like OK, there always has to be a purpose for the walk. So it's like it's fitness or it's social or it's dog walking or it's you know.

SA Participant 27

Hmm.

 **Jay Worthy**

Family time and and what I realised was I just wasn't walking on my own. And so when we get out in nature on our own, you know, we can really be present, right? Because you're not worried that the dog's done a done its business on somebody's, you know, or fighting another dog or.

SA Participant 27

Yeah.

 **Jay Worthy**

You know all of those things, right? And your friends chatting to you, which is lovely and it's so social and it's all those good things. But just there there there appears to be from the literature really powerful and therapeutic results for people that take intentional solo time in nature in a safe environment obviously but.

SA Participant 27

Yeah.

Yeah.



Jay Worthy

But you know, just that I'm going to take particularly for, you know, busy professional like you, who's got a stressful job to be able to say, you know what? I'm going to have 10 minutes today where I'm not going to have my phone in my hand. You know, you might want it in your pocket for safety, but. And I'm just going to.

Be present and look and there's some really cool I can send you an e-mail on this, but there's some really cool grounding exercises you can do so you can as you walk you can say I want to identify 5 things. I can see four things I can hear, three things I can smell. Two things like right. So we really kind of.



SA Participant 27

Yeah.

Yeah.



Jay Worthy

Bringing the senses to the present and stopping our mind floating to that. You know, 4:00 PM call that we've got there. We've got the the logistics problem that we've got handle or what have you. So yeah. Now that might be that might be just one little reflection maybe it's just you know some XXX time even if it's just once a month right.



SA Participant 27

Yeah, yeah.



Jay Worthy

Can be really, really powerful and therapeutic. I don't want to take up too much more of your time, but I did just want to ask you a few questions. Around what? What do you, you now kind of on the on the end of the the kind of the parental journey in terms of the day-to-day care of being a parent. I mean, you're a parent for life, right? But but in terms of the day-to-day care.

SA Participant 27

Mm-hmm.

 Jay Worthy

Yeah. So as you look back on when your children were younger, what do you think were some of the barriers that were there for you to be more present in nature and have you, are there any things you think would have made it easier for you if you had access to them with, you know, whatever that may be?

Yeah.

SA Participant 27

I mean, for me it was probably time because I was working when the children were really young as well. So you're you're a bit restricted for time. You're you're working in the day. You're picking them up, you take the time you're feeding them, you're bathing them.

 Jay Worthy

Yeah.

Yeah.

Yeah.

SA Participant 27

I say I'm going back to when they were really small, obviously, so time was a big a big factor in that, I guess. That said again at the weekends when they're younger, that's one of the things they want to do. They want to get out and say.

 Jay Worthy

Yeah, yeah.

SA Participant 27

Whether that be out with the horses, you're you're walking around fields and things

like that with them and they're out, out and about or depending on their hobbies at the time. So parks and stuff like that, you take them as a go to, don't you? It's forests. That type of thing. So there's there's things I think at the weekend where you probably was more out and about a bit in nature.



Jay Worthy

Yeah, yeah.

Yeah.



Participant 27

But again, it's that purpose of entertaining the children rather than it being a something to do, to be in nature for yourself and again in the in the week that was limited for from a time perspective, I think.



Jay Worthy

Yeah.

Yeah, yeah, for sure.



Participant 27

None.

You don't need much resource to get out and and be in nature, do you? It's there, it's free. It's it's. Yeah.



Jay Worthy

Yeah.

Yeah. Yeah. And I guess in your in your part of the world, it is, as you said earlier, it's right on your doorstep, I suppose, for some people living in more kind of urban environments, maybe it's it's less accessible for them, but but yeah, the barriers around time.



Participant 27

Yeah.



Jay Worthy

And then I guess childcare, if they're really young, yeah.



Participant 27

Yeah, yeah. I mean, we're lucky where we are, say, 5-10 minutes. You're on a backtrack. You can't see any cars with people really like that time of the morning. When I go out, it's, it's it's just peaceful. You couldn't tell you're driving the car, you're in a forest within 30 minutes. The beach within 40 minutes. So there's some lovely.



Jay Worthy

Yeah, yeah.

Yeah.

Yeah.



Participant 27

There's some lovely places around us, really, that I think just sitting here talking to you take for granted until you sit here and think about what you've got on your doorstep, I guess. Yeah, yeah.



Jay Worthy

Yeah.

Right in front of you? Yeah. Absolutely. Yeah. No, it's it's it's an amazing kind of resource to have available to you. If it is right there. And I think sometimes, you know that language of we take it for granted. I totally, I totally get that resonates to me because it's just we're sometimes we're in so much of a hurry aren't we.



Participant 27

Hmm.

Yeah.



Jay Worthy

So I guess final final question that I have for you is just in terms of your, you know kind of relationship with nature going on. Is there anything that you think either from this discussion or from?

You know, doing the study or your time walking the dogs that that you want to, you want to do differently in terms of time and nature or do more of or less of.



Participant 27

Yeah, I. And again, I'm literally sitting here thinking I'm not going to go straight back to my desk and eat my lunch. There's a lovely reservoir around here that is about a 15 minute walk. I'm going to go and put my trainers on and I'm going to go and just see how that feels.



Jay Worthy

Yeah.

Amazing.

Yeah.



Participant 27

Because I very, very rarely take a break during the working day, the last of myself doing that to me isn't. It's nobody else and I was just thinking as well, like where I've been trying to go to the gym, I'm only walking on the treadmill. I'm going to go and do a bit more of that outside, I think.



Jay Worthy

Yeah.

You know.

Yeah.

Yeah. Love that. Yeah, well, a couple. So I love that. Thank you so much for sharing and a couple of things I would say real quick. One is just to give you some reference points for that as you're walking around the reservoir, the literature seems to suggest

or is very strongly suggesting that both our creativity and our problem solving capabilities.

 Participant 27

But I think you get more out of it, don't you?

 Jay Worthy

Is increased when we spend time in nature and and that resonates I think with people because it sounds very academic. But actually when you think about it, you know you'll often be walking and and you've got you've got space and you'll think I should do that. And so it just gives you that kind of space and perspective. So you know hopefully that will be that will be valuable. And then the other thing which is a bit of a.

 Participant 27

Hmm.

Yeah.

 Jay Worthy

With a hat tip to life fitness, but if you do find yourself in the gym walking on the treadmill, obviously you've got those. I don't know what they're called these days, but they used to be called lifescape courses and so. But there is, yeah. And there is, you know, so you can be walking in New Zealand or.

 Participant 27

Hmm.

Oh yeah. See, pretend you're at nature.

 Jay Worthy

You know or wherever, but there is a lot of really good literature that points to if you can't get outside finding ways to bring an experience of nature indoors is really

helpful. So for example, and we never did this at Life Fitness, but I didn't know the research at the time. But what's interesting is if you.

 Participant 27

Yeah.

Yeah.

 Jay Worthy

First time you're on the treadmill and it was a, you know, discover treadmill. I had the the life, the lifescape. You can walk in New Zealand wherever you're walking in the woods or wherever in Yukon or what have you. If you put headphones in and put the sounds of nature on instead of music, you will elicit the same or similar. I should say similar rejuvenating effects.

 Participant 27

Hmm.

 Jay Worthy

As as you do if you're outdoors not quite as much, not quite as profound, but it's still pretty meaningful, so you can almost like dupe your brain into thinking you're outside.

 Participant 27

Testing.

Yeah.

Yeah.

Yeah. Yeah. No, it's interesting. I'll try it. Yeah. Yeah. Open to try.

 Jay Worthy

Makes it more immersive.

Yeah, it's worth a try. Worth a try, but look, I'm so grateful. I know I completely contacted you out of the blue and just wanted to say, you know, thank you so much

for supporting me and helping me. And once the once the thesis is graded, I'll then find out if it's going to get published and if it gets published, I can.

SA Participant 27

That's fine.



Jay Worthy

I'll share it with you. I mean, even if not, if you're interested in reading, I could send it to you, but might might send you to sleep. But.

SA Participant 27

Yeah, definitely, yeah.

No good luck with it. I don't know how you fit it all in your day, Jay.



Jay Worthy

All right. It's been lovely to see you. Yeah, well, it's been. It's been a, you know, I started when I wasn't back at work full time, right. And then ended up going back full time. So the last last six months has been a bit of a challenge, but nearly over the finish line, so.

SA Participant 27

Yeah.

Yeah, you're getting there. Brilliant. OK. Do I have to do anything else now? Did did I see on there? You wanted to extend the? I did the survey this morning, but was there a one where you wanted to log the walks again or no, no, nothing else. OK.



Jay Worthy

Alright. Thanks XXX. Lovely to see you.
Perfect.

□

Jay Worthy stopped transcription