

What is the impact of a 4-week solo nature-based walking program on depression scores in full-time working fathers?

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Background & Introduction

Research over the last 30 years has consistently indicated that exposure to nature is good for humans and can positively affect mood and mental wellbeing.

Nature-based therapy and interventions have been the subject of extensive study since the early seminal theories of Wilson (1984) and Kaplan (1989). To this day, research consistently points to positive health and wellbeing outcomes correlated with time in nature:

- In a meta-analysis of existing research, Annerstedt & Wahrborg (2011,p.371) found that 26 out of 29 studies pointed to significant improvements in all-round health for participants taking part in nature-based interventions.
- Pretty et al. (2005, p.319) studied the synergistic benefits of exercising whilst outdoors (vs indoors) and found that 4 out of 6 mood measures improved when participants exercised in "pleasant" landscapes.
- Multiples studies have demonstrated similar findings and point to strong evidence that repeated exposure to nature and the natural world is good for our mental and physical wellbeing (Brymer, 2010; Hanson & Jones, 2015; Loureiro, 2021; Robertson, 2011; Rogerson, 2020; Twohig-Bennett & Jones, 2018).

Whilst recommendations from governments, charities, and the private sector encouraging people to spend time outdoors are becoming ubiquitous, it is clear that people's lives are busier than ever. One concern raised in the literature relates to dose-response and the issue of how long a person needs to be exposed to nature to get positive mental health benefits.

A meta-analysis in 2010 explored this concept to identify recommendations for the optimal type and duration of exposure to nature to generate positive improvements in mood and self-esteem. The study suggested that "...the greatest benefits to mood and self-esteem occur within the first five minutes of exposure" (Barton et al., 2016, p.31).

Given the often overwhelming pressure of parenthood, stress factors associated with work, being the primary earner in a household and the lack of free time in an "always-on" world; more research into the type, duration and frequency of doses of nature could be a powerful next step in helping people build time in nature into our daily lives.

Aims & Objectives

This study aimed to investigate the impact of a nature-based solo walking intervention on the mental health and wellbeing of busy, working fathers.

The study aims to examine the relationship between stress and nature exposure by asking participants to complete a validated depression scale before heading out on regular solo walks in nature and completing the questionnaire again at the end of the intervention.

Key objectives:

- Measure the difference between depression scores before and after the program to identify possible links
- Explore the notion of dose-response to identify the extent to which short-bouts of walking in nature may or may not affect mood and wellbeing over a relatively short time period
- Leverage semi-structured interviews to encourage the participants to talk more about their feelings and experiences
- Identify opportunities for future research and establish potential recommendations

Research Methods

With institutional ethical approval, this study adopted a mixed-methods approach. According to the National Research Council (2002), as cited by Gorard and Taylor (2004, p. 1), research claims are stronger when they employ a combination of research methods. Given that much of the existing literature base in this field employs single-method designs, it was felt that combining validated questionnaire data with semi-structured interviews could help further the insights already established relating to the wellbeing impact of nature-based interventions.

Participants were recruited who met the following criteria: identifying as male and a father, living full-time with at least one child under sixteen and working at least 40 hours per week.

Participant info

- Seven adult males ranging in age from 37 to 50 years old (M=42, SD=4.18); 6 UK residents and 1 US resident.
- All lived with at least one child under 16 (M=2.57, SD=0.42)

Setting Details

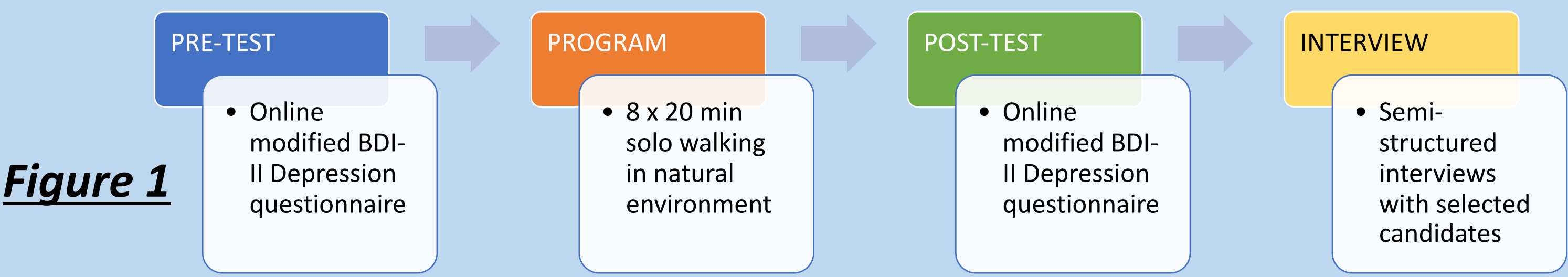
- Participants were not monitored for the walking program and were free to choose a place and route that was convenient for them
- Participants were asked not to wear headphones and to be alone on the walks (appropriate safety guidance given)

Program Details

- Participants had to complete 8 x 20-minute walks in nature over at least three weeks
- Participants completed a modified Beck Depression Inventory (BDI-II) before and after they had completed eight walking sessions (*Figure 1*)
- Days between tests ranged from 24 to 71 days (M=42, SD=14.24)

Follow-up Interviews

- Due to participant availability, no semi-structured interviews had taken place at the time of publishing this summary



Results & Conclusions

There was a statistically significant difference between pre-test scores (M=12.43, SD=6.9) and post-test scores [M=4.57, SD=2.99, t(6)=2.834, P=0.030]. Posthoc analysis to assess effect size using Cohen's parameters (1988) suggests an effect size of 0.57 (medium).

All participants self-reported completing the required eight bouts of 20 mins walking in nature between tests and only one participant showed no change between pre and post-test scores. The results indicate a positive impact of repeated short bouts of walking in a natural setting on mood and depression scores for busy, working fathers.

Future studies should consider a broader sample size and could further explore sensitivities around dose-response. Additionally, research incorporating activity logging technology to reliably identify potential trends in frequency and correlations with dose would be welcome to help practitioners develop effective walking interventions for depressed men.

Key References

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