

Study Protocol: Randomised Control Trial of Lunchtime Walk and Nature Awareness for UK Workers

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Abstract

Work mental health is an area that has been highly focused on in the United Kingdom, as poor mental health of the workforce has yielded substantial costs to organisations and the economy. While various therapeutic approaches have been introduced and recommended, this study will focus on a nature-based approach – through nature walks and nature awareness – as a preventative activity. Nature-based approaches to mental health have begun to receive attention from researchers and practitioners globally; however, rigorous evaluation using a randomised control trial has not been conducted sufficiently. This protocol paper, therefore, will report a research design to evaluate the mental health effects of a 15-minute lunch time nature walk and recording participant awareness (e.g. noticing three good things in nature). This will take place over five days in a random control trial attended by UK public workers, where the control group will only engage in the walk without recording. Additionally, in order to capture their experience, qualitative data of their awareness will be collected and thematically analysed, followed by a focus group. Findings can inform a practical and feasible activity to support work mental health.

Keywords: protocol, workplace wellbeing, nature-based intervention, work mental health

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Background

Workplace Wellbeing

Workplace wellbeing relates to all aspects of working life, from the quality and safety of the physical environment, to how workers feel about their work, their working environment, the climate at work, and work organisation. Workers' wellbeing is a key factor in determining an organisation's long-term effectiveness (International Labour Organisation [ILO], 2009).

In 2016, an independent review was commissioned to ascertain how employers can better support mental health in the workplace. This included those employees already with mental health problems or poor well-being being able to remain in and thrive through work. The findings of the review formed the basis of Stevenson &

Farmer's (2017) "Thriving at Work" report. The ten-year vision identifies several changes that need to be made within the workplace. One of these changes identified that all organisations would be equipped with the awareness and tools to address and prevent mental ill-health caused by or worsened by work.

To meet the vision, the report set out a series of 'mental health core standards', a framework of actions that all organisations can and should implement quickly. These core standards are drawn from best practices and are evidence-based. In addition to this, there are a number of more ambitious 'enhanced' standards for organisations, who can and should do more to lead the way. These include public sector organisations such as the Environment Agency (EA).

For the third year running, the EA has secured the Gold award in the MIND (Mental Health Charity) Workplace Wellbeing Index. The 2019-21 wellbeing and mental health action plan for the EA focuses on three priority areas, one of which deals with tackling workplace stress. In addition, the EA plan involves sharing knowledge of mental health and wellbeing with the workforce. Therefore, this study hopes to address one of the factors that may lead to workplace stress and other mental distress.

Psychological Constructs

There are a number of psychological constructs that will be explored, which have been deemed relevant and important in examining the wellbeing of workers. Kotera et al. (2018) discovered that self-compassion was key to developing high mental wellbeing amongst workers. The urge to immediately respond to work-based messages, or telepressure, is also a construct found to be important in organisational psychology. Workers with poor mental wellbeing also tend to feel high telepressure (Barber & Santuzzi, 2015; Van Laethem et al., 2018). Work motivation has been shown in recent studies to be important, with intrinsic motivation being correlated with good mental wellbeing and extrinsic motivation with poor mental wellbeing (Kotera et al., 2018).

To date, none of these psychological constructs have been used to evaluate workplace wellbeing using nature interventions.

Attention Restoration Theory

The restorative basis of nature is well-known, and in recent years Attention Restoration Theory (ART) has become the main theoretical basis used to explain the beneficial effects of nature (Kaplan & Kaplan, 1989). ART uses nature to recover from Directed Attention (DA). DA is used during times of focus and concentration that demands effort, such as in the workplace, and is controlled by the central executive component of working memory in the brain. This DA is a limited resource, and when used over a period of time can run out of energy, leading to brain fatigue, or more specifically Directed Attention Fatigue (DAF).

The central element to ART is that nature offers better opportunities to ease DAF. There are four components that help in the restorative process (Kaplan & Kaplan, 1989):

- i) Contact with nature offers the individual a sense of being away from potential triggers of directed attention, especially in the mental sense
- ii) Nature is rich in scope, distracting the mind away from directed attention of the workplace, for example

- iii) There is less demand on the individual being out in nature; just being or walking offers little demand on the mind
- iv) Nature offers ‘soft fascination’ compared to urban situations or by being in the workplace – there are many visual sources, often of a fractal nature, and natural elements are often changing. There is movement, texture, colour, and indeed all of the senses are used. Little cognitive effort is used; it is a pleasant experience and has a positive effect by stopping negative or intrusive thoughts of work issues, for example. Therefore, soft fascination has the capacity to replenish our capacity for paying attention, vital for the workplace. Also, the more time spent in a state of soft fascination the more likely you are to ease the tension of any challenging problems at work

Nature Interventions

It has been found that noticing nearby nature brings sustained increases in connection with nature and wellbeing (Richardson & Sheffield, 2017), and the ‘three good things in nature’ approach will be examined in this study.

The Five Ways to Wellbeing were compiled by the New Economics Foundation (Foresight, 2008), using evidence from the government’s Foresight project on Mental Capital and Wellbeing. Evidence suggests that a small improvement in wellbeing can help to decrease some mental health problems and also help people to flourish. The five actions to improve personal wellbeing are:

- Connect – talk, listen, be there, feel connected
- Be active – do what you can, enjoy what you do, move your mood, engage in physical activity
- Take notice – remember the simple things that give you joy
- Keep learning – embrace new experiences, see opportunities, surprise yourself
- Give – your time, your words, your presence

However, this and guidance from the National Health Service (NHS) and MIND included no nature-specific solutions (Richardson, 2019). The five pathways to nature connectedness (Lumber et al., 2017) was developed as a framework to engage people with nature, and so Richardson (2019) proposed to combine the five ways to wellbeing with the five pathways to nature connection, to create the Five Ways to Wellbeing in Nature.

Workplace wellbeing programmes do not tend to include nature-based solutions (Lottrup et al, 2013), despite the benefits to health and restoration being well-known, such as creativity, vitality, and general

happiness (Capaldi et al, 2014). It has also been shown that exposure to nature improves concentration and mood. (Cervinka et al, 2012).

Aims and Objectives

The aim of this pilot study is to evaluate how time in nature, as on a lunchtime walk, can improve psychological wellbeing of UK workers. The research also aims to examine the feasibility of a larger study.

The objectives were of the pilot study are namely to:

- Evaluate the mental wellbeing of workers, pre-, post and follow up to intervention
- Evaluate self-compassion of workers, pre-, post and follow up to intervention
- Evaluate telepressure of workers, pre-, post and follow up to intervention
- Evaluate motivation of workers, pre-, post and follow up to intervention
- Evaluate nature connectedness of workers, pre-, post and follow up to intervention
- Compare any changes between control and intervention group
- Appraise the experiences of the participants in a one-hour focus group immediately following intervention and before follow-up questionnaires

Method

Study Design

A mixed method, randomised control trial design will be employed in this study, using questionnaires, a nature intervention, and a focus group with a semi-structured interview.

Before the study, the participants will be randomly allocated to one of two groups: an intervention group and a control group. Central block randomisation will be used, to ensure allocation concealment and equal distribution of participants in both groups (Dettori, 2010; Kim & Shin, 2014; Suresh, 2011).

Questionnaires:

A set of questionnaires will be given to the participants to respond to during the study:

1. The Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS) (Haver et al., 2015)
2. Self-Compassion Scale Short Form (SCS-SF) (Raes et al., 2011)
3. Workplace Telepressure Measure (Barber & Santuzzi, 2014)
4. Work Extrinsic and Intrinsic Motivation Scale (Tremblay et al., 2009)
5. Connectedness to Nature Scale (Mayer & McPherson, 2004)

The focus group will be recorded and transcribed, with the resulting transcript thoroughly checked for accuracy. Data will be analysed using a thematic approach (Braun & Clarke, 2006) to identify themes from the dataset.

Study Setting

Participants from five offices of the West and East Midlands Areas of the Environment Agency will be invited to take lunchtime walks close to their offices.

Intervention

The intervention that half of the group will be allocated to will comprise of taking a walk during lunchtime, and for 15 minutes of that walk noting down three good things in nature. This will be carried out each day for 5 days. The data obtained will be recorded on Qualtrics, and transferred to Excel and SPSS for analysis.

The participants in the control group will only undertake the walk for five days, with no recording carried out.

Participants

Before the study, baseline adjustment will be made based on their demographic information (e.g., age and gender).

Eligibility Criteria

Inclusion criteria:

All staff will be approached with an area-wide email, inviting participants to take part in the study. All interested staff will be included in a provisional list.

Exclusion criteria:

Staff who are on leave will be excluded.

Informed Consent

A formal participant information sheet will be provided to each participant, detailing the purpose of the study as well as what the study would involve. A consent form will also be provided to confirm their willingness to participate.

Debriefing

Following the completion of questionnaires and focus group, a debriefing sheet will be sent to all participants, restating the purpose of the study, what was done and why, and what will be done with the findings. The form will also state that there will still be a right to withdraw from the study at any time.

Ethical Considerations

The study was granted ethical approval by the University of Derby Research Ethics Committee in accordance with the British Psychological Society's ethical guidelines. Data collected as part of the study complied with the Data Protection Act 1988 and the

General Data Protection Regulation (GDPR) European Union (EU) 2016/679. Procedures were followed in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000.

Risk Assessment

No risks or distresses have been identified for participation in the study. If participants have any mental health concerns, there is mental health support within the Environment Agency, and signposting to mental services will also be provided.

Remuneration

No reward or incentive will be given for taking part in the study.

Data Protection

Online survey data will be stored securely in an online data management system, Qualtrics, within the University of Derby. This would only be accessed by the research team.

Confidentiality and Deception

Each participant will be asked to provide a unique identifier, which would consist of the last two digits of their postcode and last three digits of their mobile phone number. At the end of the survey, all data within Qualtrics will be downloaded onto the secure network of the University of Derby, after which data within Qualtrics will be destroyed.

The focus group will be convened on the Vodafone Meet Anywhere (WebEx) webinar conferencing system used by the Environment Agency. This will be recorded, then transcribed. The audio files and transcription will be securely stored on the network of the University of Derby.

All data will be destroyed when no longer needed, i.e. after the research is published. Participants will be fully informed of each stage of the study at all times, apart from group concealment. They will be asked not to divulge their experiences to other participants for the group concealment purposes. Grouping will be explained at the debriefing.

Study Limitations

The main limitation foreseen with this study is related to the small sample size. It will therefore be necessary to be cautious in interpreting the results. However, this is seen as a pilot study, conducted in one or two areas of the Environment Agency, which may lead to a larger study being carried out across all areas and possibly other groups of the Department for Environment, Food and Rural Affairs (DEFRA). Despite these limitations, it is foreseen that this study will provide useful insights

for future research into nature-based solutions to workplace wellbeing.

Outcomes and Dissemination

The results of this study will be shared with those who have an interest in workplace wellbeing:

- Peer-reviewed journals
- University researchers
- Staff of the Environment Agency – locally within study area, and ultimately nationally
- National Wellbeing and Mental Health Teams
- The wider DEFRA group

The findings from this study will inform the design of a more comprehensive study within the Environment Agency. All participants will receive a copy of the report. The findings will help to:

- Provide a nature-based solution to improving workplace wellbeing
- Refine the Five Ways to Wellbeing to incorporate the workplace using nature interventions
- Influence policy
- Develop a positive psychology tool that could help tackle workplace stress – a priority area highlighted in the Wellbeing and Mental Health Action Plan (2019-21)

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