

The impact of walking environment on Connectedness to Nature, Mindfulness and Empathy: A comparison of natural and urban locations.

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Background

- Walking in natural environments increases measures of nature connectedness (Mayer, Frantz, Bruehlman-Senecal and Dolliver, 2009).
- Nature connectedness is positively related to mindfulness (Howell, Dopko, Passmore and Buro, 2011) which is more easily achievable in natural environments (Tacón and McComb, 2009).
- Immersion in nature is related to increased caring behaviour (Weinstein, Przybylski and Ryan, 2009) and empathy with nature, which is also inter-related with empathy with humans (Tam, 2013).

The present study: It was anticipated that walking in a natural environment would lead to increased nature connectedness, increased mindfulness and increased empathy compared with walking in an urban environment.



Methodology

Design: A 2 x 2 mixed design was used. Participants completed measures of nature connectedness, mindfulness and empathy at two time points, before and after a walking intervention of three 30 minute walks over a period of three days in either an urban environment or a natural environment.

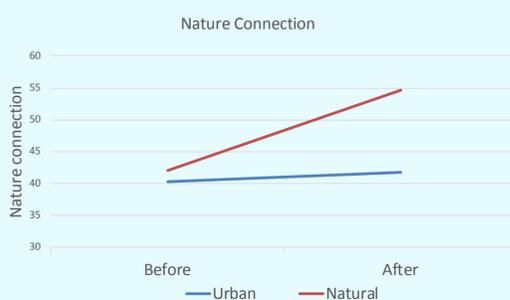
Participants: 44 adults aged between 18 and 66 years, mean age (sd) are included in the analysis.

Materials: The Connectedness to Nature Scale (CNS; Mayer and Frantz, 2004), the Mindfulness Attention Awareness Scale (MAAS; Brown and Ryan, 2003) and the Questionnaire of Cognitive and Affective Empathy (QCAE; Reniers, Corcoran, Drake, Shryane and Vollm, 2011). Maps and directions for the walking routes were issued to all participants.

Procedure: Participants completed the online questionnaires then carried out the three day walking intervention. Within 24 hours of the final walk they completed the questionnaires again.

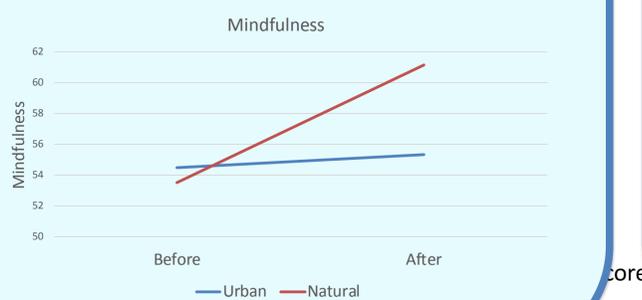
Results: Nature Connection

An interaction effect on nature connection was observed where nature connection increased after walking in a natural environment ($F(1,42) = 25.352, p < .001$)



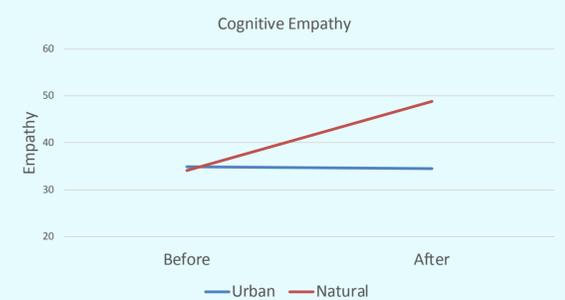
Results: Mindfulness

An interaction effect on mindfulness was observed where mindfulness increased after walking in a natural environment ($F(1,42) = 5.692, p < .001$)



Results: Cognitive Empathy

An interaction effect on cognitive empathy was observed where cognitive empathy increased after walking in a natural environment ($F(1,42) = 92.200, p < .001$)



Results: Affective Empathy No effect of walking intervention on affective empathy was observed. ($F(1,42) = .106, p = .747$)

Conclusions

- Results indicate that the hypotheses that walking in a natural environment would increase nature connectedness, mindfulness and cognitive empathy are supported.
- The implications of the findings are far reaching. Interventions involving walking in nature could be developed for use in schools, the workplace, in prisons and in hospitals to enhance cognitive empathy, mindfulness and nature connectedness.

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