

Community gardening insights:

Understanding the relationship
between **mindfulness, nature
connectedness, and
psychological well-being**

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Why is this important?



Contact and time spent in nature

- › more restoration
- › lower prevalence of mental health issues
- › increase in well-being
- › social cohesion

References:

Carrus et al., 2015; Shanahan et al., 2016; White et al., 2013; Krekel, Kolbe & Wüstemann, 2015

Aims of the study

Motivations

(RQ1) What was the initial motivation to start gardening and how did it change over time?

Aims of the study

Motivations

Underlying measures

(H1) Nature Connectedness will have a relationship with frequency of gardening

(H2) Nature Connectedness will have a relationship with Mindfulness

(H3) frequency of gardening will be predictive of greater Psychological Well-being, and this relationship could be mediated by Nature Connectedness

(H4) Mindfulness will be a significant predictor of Psychological Well-being

Aims of the study

Motivations

Underlying mechanisms


Development of NC and link with Mindfulness

(RQ2) How do gardeners perceive their connection to nature developing over time?

(RQ3) What aspects of mindfulness do gardeners experience and how do they relate to their experience of nature?

Methods:

Design, Materials and Procedure

13. I often feel like I am only a small part of the natural world around me, and that I am no more important than the grass on the ground or the birds in the trees. 

☐ Strongly disagree



☐ Neutral



☐ Strongly agree

Mixed method:
Online survey

Connectedness to Nature Scale

(Mayer and Frantz, 2004)

The Kentucky Inventory of
Mindfulness Skills

(Baer, Smith, & Allen, 2004)

The Psychological Well-being Scale

(Ryff and Keyes, 1995)

Self generated and open ended
questions

gardening frequency, motivations,
NC development, mindfulness

Methods: *Participants*



Approached personally
Emailed representatives
Posted on FB groups
Community gardens
across Scotland

Aberdeen

Glasgow

Stirling

Edinburgh

...and others

Methods:

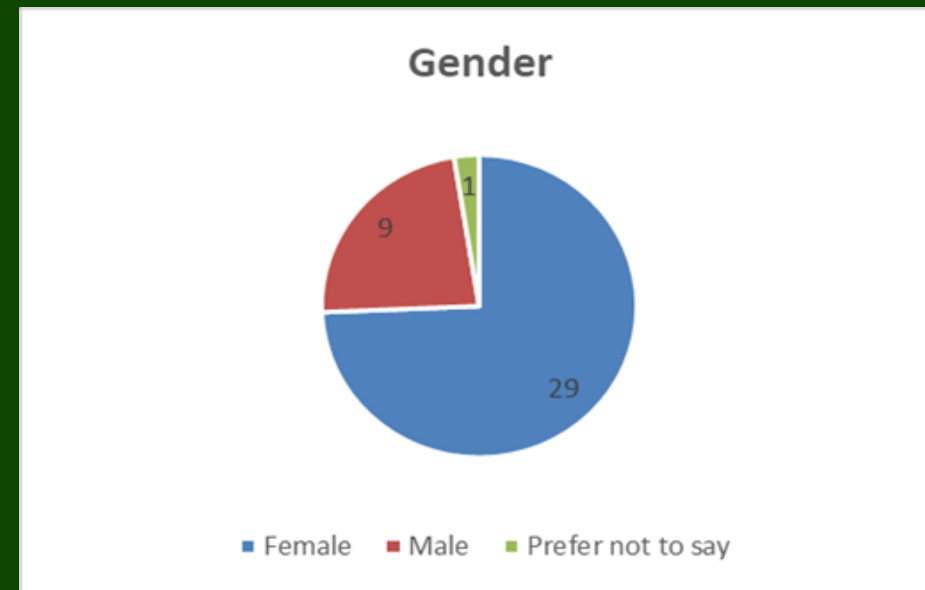
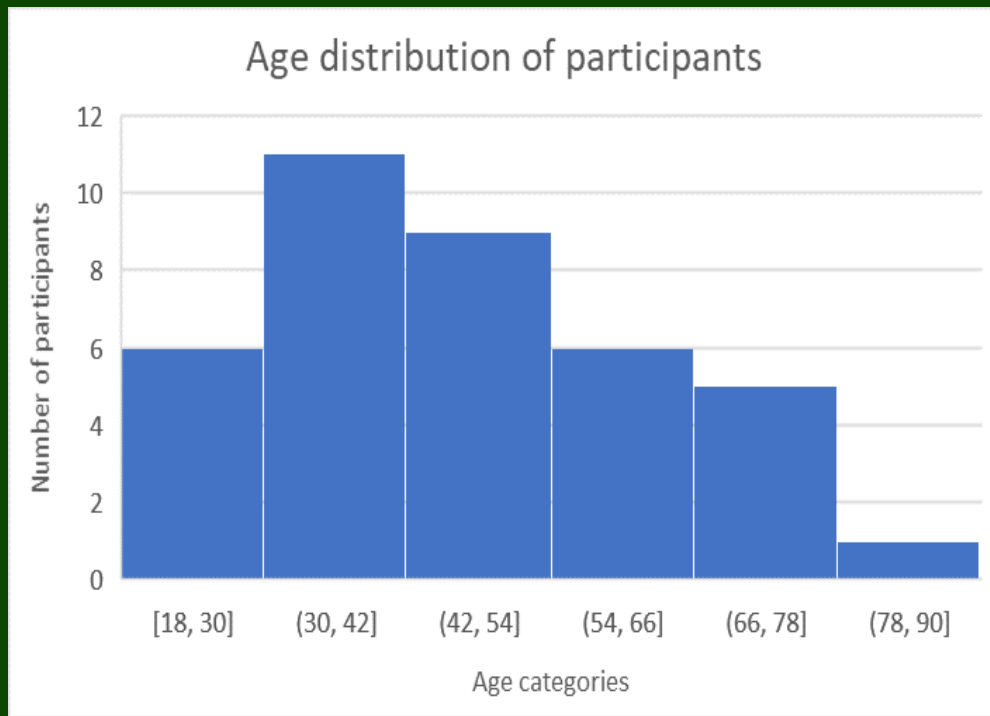
Participants

Requirements: 18 yo, community gardener

39 participants completed survey

9 male, 29 female, 1 preferred not to say

Mean age $M = 46.4$, $SD = 16.2$



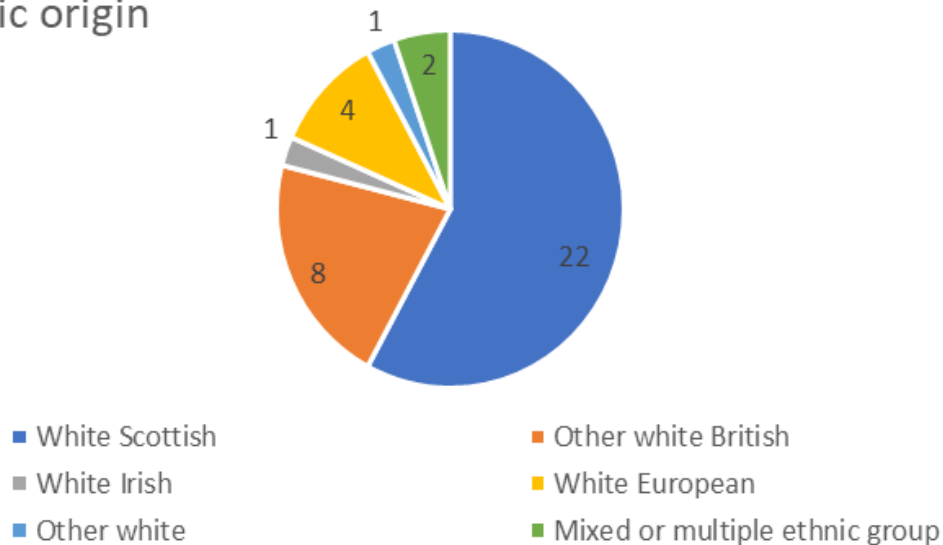
Methods:

Participants

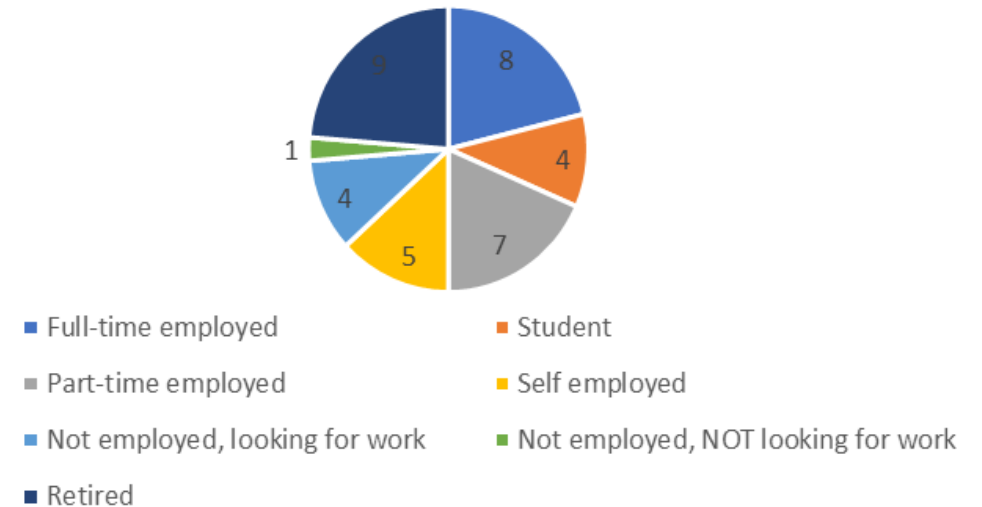
Majority identified as white

Variation in employment status

Ethnic origin



Employment status

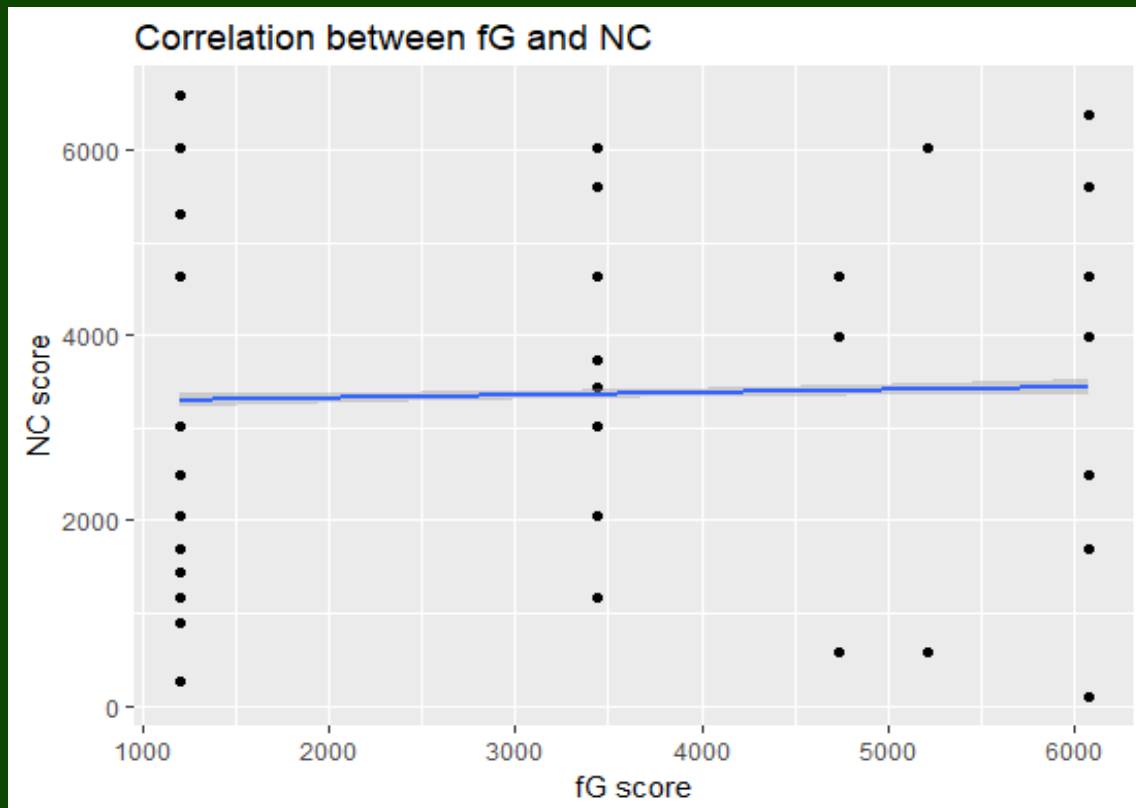


Quantitative Results:

(H1) Nature Connectedness (NC) will have a relationship with frequency of gardening (fG)

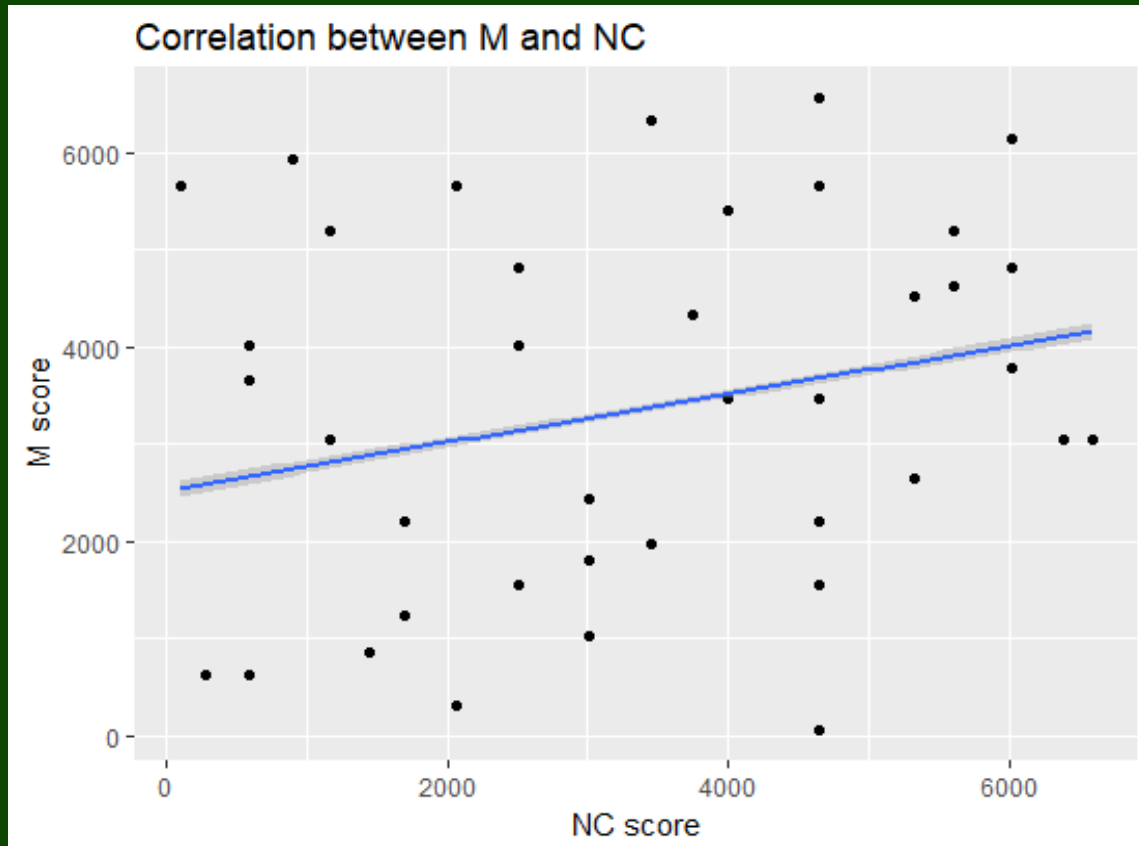
Small but significant positive association between NC and fG

($r_s = 0.02808154$, $p = 0.0213$)



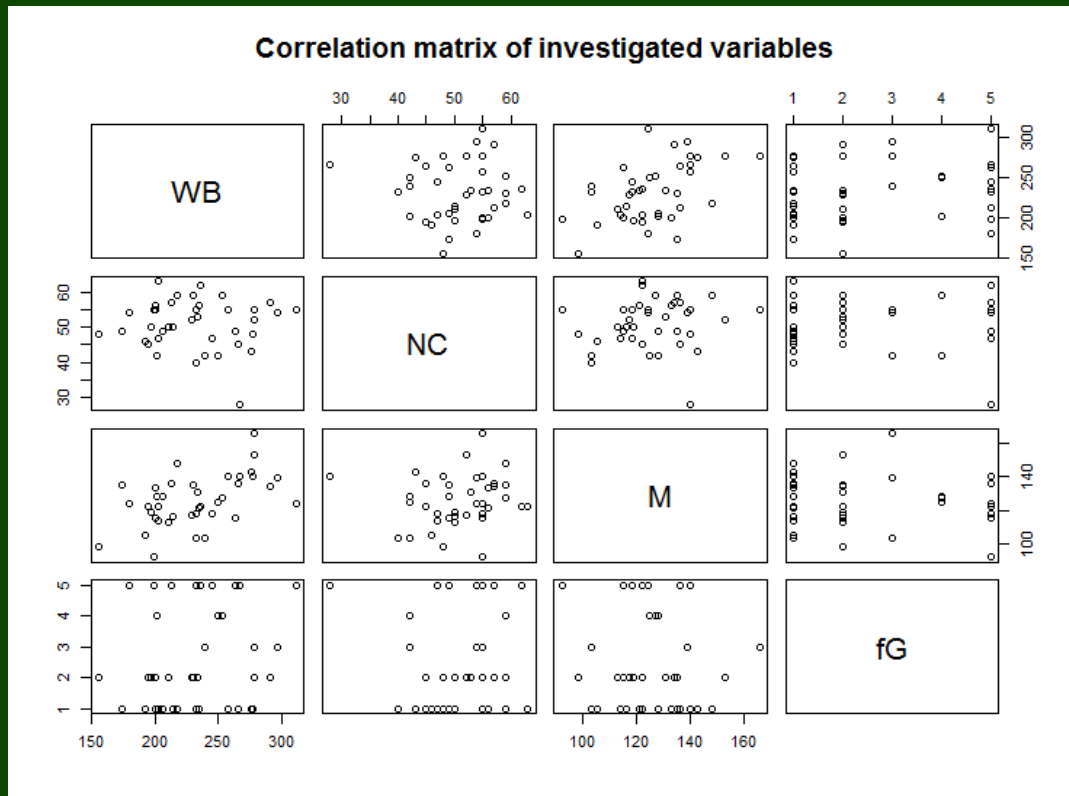
Quantitative Results:

(H2) Nature Connectedness (NC) will have a relationship with Mindfulness (M)



Small significant positive association of NC and M
($r_s = 0.2480104$, $p < 0.001$)

Quantitative Results:



(H3) Frequency of gardening (fG) will be predictive of greater Psychological Well-being (PWB), and Nature Connectedness (NC) could mediate this

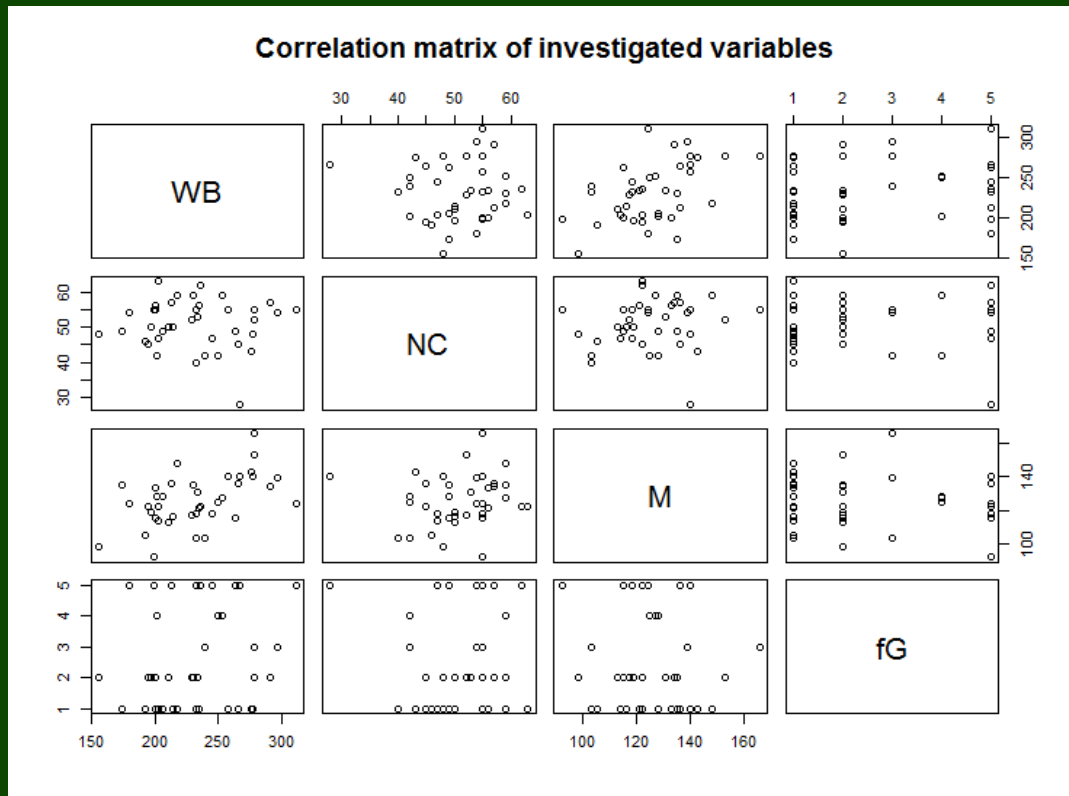
(H4) Mindfulness (M) will be a significant predictor of Psychological Well-being (PWB).

Multiple linear regression

Predictors: NC, M, fG

DV: PWB

Quantitative Results:



(H3) Frequency of gardening (fG) will be predictive of greater Psychological Well-being (PWB), and Nature Connectedness (NC) could mediate this

(H4) Mindfulness (M) will be a significant predictor of Psychological Well-being (PWB).

predictors explained 45.1% of the variance in PWB

($F(7, 6716) = 788.8, p < 0.001, R^2=0.4512$)

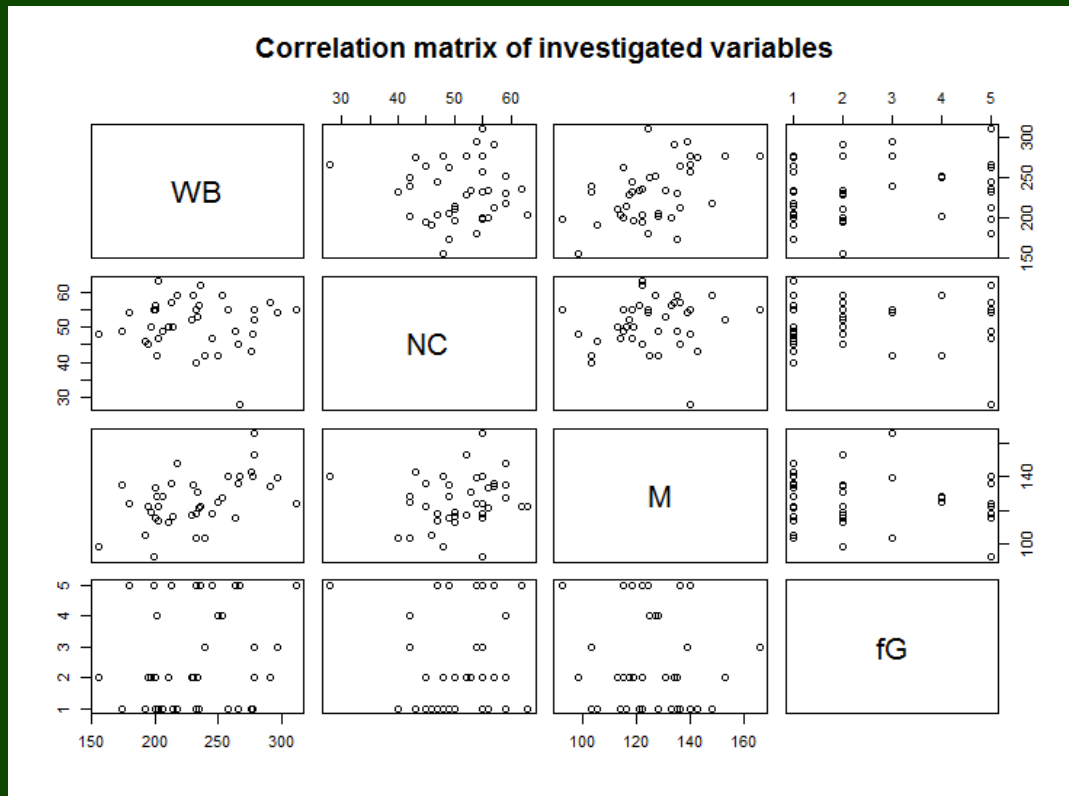
fG and M were significant predictors

fG ($\beta = 35.446, p = 0.01936$)

M ($\beta = 2.44, p < 0.001$)

NC n.s. ($\beta = -0.202, n.s.$).

Quantitative Results:



(H3) Frequency of gardening (fG) will be predictive of greater Psychological Well-being (PWB), and Nature Connectedness (NC) could mediate this

Compared models including and excluding NC, bootstrapping:

Significant mediation effect of NC on the relationship between fG and PWB

ACME = 0.111 ($p < 0.001$)

Qualitative Findings

(RQ1) What was the initial motivation to start gardening and how did it change over time?

(RQ2) How do gardeners perceive their connection to nature developing over time?

(RQ3) What aspects of mindfulness do gardeners experience and how do they relate to their experience of nature?

Thematic analysis

Themes:

Social Connection

Connection to Nature

Mindful Experience

Mental and Emotional Well-being

Qualitative Findings

„**Rootedness and belonging** too. I'm a migrant in the UK, moved to [city] a couple of years ago, and I feel community gardening, along with other group/voluntary activities, **helped me belong to a community**, especially in a very uncertain post-Brexit environment.“

Social Connection

„The need to **spend time outdoors with my son** and do something to create a space for wildlife and have my son grow up with a love and desire to want to conserve wildlife and a love of the outdoors.“

„I felt quite unable to be myself in concrete land and with people inside boxes. **I am more able to socialise in greenspaces** and gardens when doing something I feel good at and about morally.“

Qualitative Findings

Connection with Nature

*„I grew up in the country and **I have been missing nature so much** as I can't just put my shoes on and go on long walks in woods and fields where I am.“*

*„Fundamental, nurturing and peaceful. I think **gardening has deepened my relationship with nature** and also changed my perception of it. It helped me understand my place in the workings of nature, **I now know I'm always a part of it**, and not just an observer.“*

Qualitative Findings



Mindful Experience

*„I am much more **aware of the seasons**, more **aware of when animals are present** or have visited, **I notice the small changes** such as buds breaking, bulbs growing etc.“*

*„Part of me is **aware of what I'm doing**, and why: pruning the tomatoes, say, to aid fruit production; but mostly **when I'm gardening I'm just ,being‘** – enjoying the warmth of the sun, the smells, the sounds of the birds...“*

Qualitative Findings

Mental and Emotional Well-being



„As I begin gardening I may be stressed, anxious, distracted and ungrounded, but over time I become more meditative and peaceful.

Gardening is often my chance to process things, but also allows me to let go of thought and feelings by providing a distraction. It leaves me feeling fulfilled, grounded and happy.“

Limitations



Not normally distributed data

unidentified subpopulations

factors unaccounted for in the model

caution when interpreting

Carried out over winter months

Self reported

Not comparing samples,
correlational

Summary

Correlations between

fG and NC

NC and M

fG and M predicted well-being

Themes very intertwined

Social aspect (not included in
quant model)

Implications

Association with well-being
in urban environment



Targetting loneliness and
creating sense of belonging

Developing connection with
nature early in life