Assessing Nature-Based Interventions in Social Work with Migrants: Methodological Challenges in Temporal Impact Evaluation

Supplementary

A. Mean and standard deviation of the scales used.

1. Positive and Negative Affect Schedule (PANAS)

Group	PANAS Positive (Pre)	PANAS Positive (Post)	PANAS Negative (Pre)	PANAS Negative (Post)
Healing Garden 2022	M=3.37, SD=0.73	M=3.72, SD=0.56	M=1.83, SD=0.49	M=1.77, SD=0.44
Healing Garden 2023	M=2.83, SD=0.68	M=3.53, SD=0.25	M=1.78, SD=0.76	M=1.40, SD=0.74
Botanical Garden 2023	M=2.93, SD=0.65	M=4.03, SD=0.54	M=2.07, SD=0.96	M=2.51, SD=1.64

2. Nature Relatedness Scale (NRS)

Group	NRS Pre	NRS Post
Botanical Garden 2023	M=4.26, SD=0.76	—
Healing Garden 2023	M=3.96, SD=1.03	—
Healing Garden 2022	M=4.38, SD=0.72	M=4.21, SD=0.63

3. Experiences of Social Inclusion Scale (ESIS)

Group	ESIS Pre	ESIS Post
Botanical Garden 2023	M=4.05, SD=0.53	—
Healing Garden 2023	M=3.91, SD=0.56	—
Healing Garden 2022	M=4.37, SD=0.45	M=4.46, SD=0.40

4. Restorative Outcomes Scale (ROS)

Group	ROS Pre	ROS Post
Botanical Garden 2023	—	M=4.21, SD=0.45
Healing Garden 2023	—	M=3.76, SD=1.29
Healing Garden 2022	M=4.52, SD=0.38	M=4.45, SD=0.36

5. Post-Only Measures: Metsähallitus Social Wellbeing & Metsähallitus Social Cognitive Skill scale (MET-Self and MET-Nature)

Measure	Botanical Garden	Healing Garden 2023	Healing Garden 2022
Social Wellbeing	M=4.20, SD=0.50	M=3.98, SD=0.53	M=3.71, SD=0.61
MET_self	M=4.33, SD=0.54	M=4.10, SD=0.60	M=4.20, SD=0.57
MET_nature	M=4.50, SD=0.42	M=4.52, SD=0.42	M=4.49, SD=0.55

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B. Questionnaire

Pre nature activity survey

Date_____

Respondent code_____

Inclusive Nature

Welcome to participate in the Inclusive Nature - study. The study aims to investigate how people of different nationalities perceive nature-based activities and how they influence their well-being and their experience of inclusion. The study will help in measuring the effectiveness of Nature-based Interventions and produce knowledge on whether nature-based activities can be used to promote the inclusion of people with a migrant background.

The survey is part of the EU-funded ASTRA- project. The information from the survey will be used in the development of nature-based inclusion programs. The survey is conducted by the Natural Resources Institute Finland and the University of XXX.

The respondents of the survey are welcome to share their experiences about nature-based activities in an interview afterwards. The date of the interview is not finalized but those who are interested will be informed. If needed it can be a telephone interview. The interview will take around 25 minutes. Individual responses and the identity of respondents will not be published.

Please give your contact details if you are willing to participate in an interview-

Mobile phone: E-mail address:

More information about the project: XXX

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I. Respondent´s background

1. In which municipality you live in Finland? _____

2. Age (years)

2.1 ☐ 18-30
2.2 ☐ 31-40
2.3 ☐ 41-50
2.4 ☐ 51-60
2.5 ☐ above 60

3. Gender

3.1 ☐ Male
3.2 ☐ Female
3.3 ☐ Others _____

4. What is your nationality? _____

5. What is your childhood home country? _____

6. What was your childhood neighbourhood?

6.1 ☐ Big city (>1 million people)
6.2 ☐ Small city (<1 million people)
6.3 ☐ Village
6.4 ☐ Countryside with few houses

7. In what type of housing do you currently live?

7.1 ☐ Apartment (more than 3 floors)
7.2 ☐ Small apartment (2-3 floors)
7.3 ☐ Terraced or semi-detached house
7.4 ☐ Detached house

8. How many people live in your household? _____

9. Do you live as-

9.1 ☐ Couple
9.2 ☐ Alone

10. Is your spouse or partner native Finn?

10.1 ☐ Yes
10.2 ☐ No

11. How many children of under 12 years lives in your household? _____

12. How many children of 13-18 years lives in your household? _____

13. What is the highest level of education you completed (choose only one option)?
13.1 ☐ Comprehensive/ secondary school
13.2 ☐ Upper secondary school
13.3 ☐ Vocational school
13.4 ☐ Lower academic degree
13.5 ☐ Higher academic degree
13.6 ☐ No education
13.7 ☐ I dropped out of school
13.8 ☐ Other, what kind of? _____

14. What is your present occupation? (Choose only one option)

☐ Employed
☐ Unemployed
☐ Student
☐ Entrepreneur
☐ Retired
☐ Stay-at-home parent
☐ Other, what kind of? _____

15, What is your year of arrival in Finland? _____

16, What was your legal Status on arrival in Finland?
16.1 ☐ Refugee (without seeking asylum)
16.2 ☐ Asylum seeker
16.3 ☐ Visa/ Resident card
16.4 ☐ Others, please specify….

17, What is your reason for arrival in Finland?
17.1 ☐ Work-based migration
17.2 ☐ Moving to live with family/spouse (family ties)
17.3 ☐ Student
17.4 ☐ Fleeing to escape persecution (such as armed conflicts or war)
17.5 ☐ Due to natural disasters (such as flooding)
17.6 ☐ Others, please specify _____

18, Do you have Finnish citizenship?
18.1 ☐ No
18.2 ☐ Yes

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II. Activities in Finland

19, What are your Finnish language skills?
☐ Elementary skills
☐ Satisfactory
☐ Good
☐ Fluent

20, Do you have any native-born Finn friends?
20.1 ☐ Yes
20.2 ☐ No

If yes, how many…….

21, How frequently do you purposely visit nature in your leisure time?
21.1 ☐ Never
21.2 ☐ Less often
21.3 ☐ Once a month
21.4 ☐ Once a week
21.5 ☐ Daily

22, Have you participated before in nature-based activities?
☐ Yes
☐ No

23, If yes, with whom you have participated in nature-based activity before? You may choose more than one option
☐ Alone
☐ With family
☐ With fellow country people
☐ With international friends
☐ With Finnish friends
☐ With a school class or study group
☐ With coworkers
☐ With an association or sports club
☐ Others, please specify_____

24, If yes, what kind of nature-based activities you have participated before? Please choose the activities. You may choose more than one option.

☐ Physical activities in nature (walking, biking, skiing, swimming, football, hiking, etc.)
☐ Gardening
☐ Observation of landscape and nature (e.g., landscape viewing, listening to sounds, animal observation, species recognition)

☐ Nature management and/or nature conservation (picking thrash, mowing, constructing duckboards, nest box, etc.)
☐ Environmental art
☐ Animal assisted activities (horse riding, feeding and/or taking care of animals, etc.)
☐ Gathering (e.g., picking flowers, mushrooms, berries)
☐ Fishing
☐ Relaxing (e.g., reading, picnic, sunbathing)
☐ Language training (e.g., language café) in nature
☐ Something else, what? _____

25, If you have participated before in nature-based activities, did nature-based activities help you in social interactions and understand better other people?
☐ Yes
☐ No

26, If yes, has the social interaction with native Finn led to friendship?
☐ Yes
☐ No
☐ There was no native Finn in our nature-based activity group

27, If you are participating in any nature-based activity or intervention now, please name it?.....

28, Why are you attending this intervention? You may choose more than one option-
☐ It is part of the welfare I receive from the municipality
☐ I won't get allowance if I do not attend
☐ My parents/guardians/caregivers asked me to attend
☐ To socialize with other people
☐ To improve mental well being
☐ To improve physical well being
☐ My friend asked me to join
☐ I decided by myself to attend
☐ Others, please specify_____

29. Indicate to what extent you have felt this way during past few days. This scale consists of several words that describe different feelings and emotions. Mark the option that best describes your feelings: 1 = very slightly, 2 = a little, 3 = moderately, 4 = quite a bit, 5 = extremely. (Positive and Negative Affect Schedule- PANAS)

	very slightly	a little	moderately	quite a bit	extremely
Interested	☐	☐	☐	☐	☐

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Distressed	☐	☐	☐	☐	☐
Excited	☐	☐	☐	☐	☐
Upset	☐	☐	☐	☐	☐
Strong	☐	☐	☐	☐	☐
Scared	☐	☐	☐	☐	☐
Guilty	☐	☐	☐	☐	☐
Hostile	☐	☐	☐	☐	☐
Enthusiastic	☐	☐	☐	☐	☐
Proud	☐	☐	☐	☐	☐
Irritable	☐	☐	☐	☐	☐
Alert	☐	☐	☐	☐	☐
Ashamed	☐	☐	☐	☐	☐
Inspired	☐	☐	☐	☐	☐
Nervous	☐	☐	☐	☐	☐
Determined	☐	☐	☐	☐	☐
Attentive	☐	☐	☐	☐	☐
Jittery	☐	☐	☐	☐	☐

Active	☐	☐	☐	☐	☐
Afraid	☐	☐	☐	☐	☐

30, What do you think about the following statements concerning yourself. For each of the following, please rate the extent to which you agree with each statement (using the scale below). Please respond as you really feel, rather than how you think "most people" feel. (Nature Relatedness Scale-NRS)

	Strongly disagree	**Somewhat disagree**	**Neither agree nor disagree**	**Somewhat agree**	**Strongly agree**
My ideal vacation spot would be a remote, wilderness area	☐	☐	☐	☐	☐
I always think about how my actions affect the environment	☐	☐	☐	☐	☐
My connection to nature and the environment is a part of my spirituality	☐	☐	☐	☐	☐
I take notice of wildlife wherever I am	☐	☐	☐	☐	☐
My relationship to nature is an important part of who I am	☐	☐	☐	☐	☐
I feel very connected to all living things and the earth	☐	☐	☐	☐	☐
I have spent time in nature a lot since I was a child	☐	☐	☐	☐	☐

31, To what extent do you agree or disagree with the following statements? For each statement, mark the option that best describes your own experience. (Experiences of Social Inclusion Scale-ESIS)

	Strongly disagree	**Somewhat disagree**	**Neither agree nor disagree**	**Somewhat agree**	**Strongly agree**
I feel that what I do every day is significant	☐	☐	☐	☐	☐
I get positive feedback on what I do	☐	☐	☐	☐	☐
I belong to a group or community that is important for me	☐	☐	☐	☐	☐
Other people need me	☐	☐	☐	☐	☐

I can influence the course of my life	☐	☐	☐	☐	☐
I feel that my life has purpose	☐	☐	☐	☐	☐
I can strive for things that are important for me	☐	☐	☐	☐	☐
I get help when I really need it	☐	☐	☐	☐	☐
I feel trusted	☐	☐	☐	☐	☐
I can influence some things in my living environment	☐	☐	☐	☐	☐

32, How do you feel after the nature-based activity? To what extent does the following statements correspond to your emotional state? For each statement, mark the option that best describes your own experience. (Restorative Outcome Scale-ROS)

	Strongly disagree	**Somewhat disagree**	**Neither agree nor disagree**	**Somewhat agree**	**Strongly agree**
I feel restored and relaxed	☐	☐	☐	☐	☐
I feel calm	☐	☐	☐	☐	☐
I have enthusiasm and energy for my everyday routines	☐	☐	☐	☐	☐
I feel focused and alert	☐	☐	☐	☐	☐
I can forget everyday worries	☐	☐	☐	☐	☐
My thoughts are clear	☐	☐	☐	☐	☐

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Post only Measures

Date_____
Respondent code_____

1, How do you experience nature-based activities have affected the following statements? Mark the option that best describes your feelings. (Metsähallitus Social Wellbeing Scale)

	Strongly disagree	**Somewhat disagree**	**Neither agree nor disagree**	**Somewhat agree**	**Strongly agree**
My work motivation intensified	☐	☐	☐	☐	☐
It was possible to break away from everyday life	☐	☐	☐	☐	☐
My motivation for everyday life was strengthened	☐	☐	☐	☐	☐
I enjoy meeting new people during the trip	☐	☐	☐	☐	☐
In nature, it was easier to discuss personal issues	☐	☐	☐	☐	☐
Being around other people reinforced my sense of security	☐	☐	☐	☐	☐
I enjoy being alone	☐	☐	☐	☐	☐

2, How do you feel that nature-based activities have affected the following things? Mark the option that best describes your feelings. **(**Metsähallitus Social Cognitive Skill Scale)

	Strongly disagree	**Somewhat disagree**	**Neither agree nor disagree**	**Somewhat agree**	**Strongly agree**
I got to realize myself (MET_Self)	☐	☐	☐	☐	☐

I got new creative thoughts (MET_Self)	☐	☐	☐	☐	☐
I learned new skills (MET_Self)	☐	☐	☐	☐	☐
I learned more about nature (MET_Nature)	☐	☐	☐	☐	☐
My interest in nature increased (MET_Nature)	☐	☐	☐	☐	☐
My appreciation for nature increased (MET_Nature)	☐	☐	☐	☐	☐

Thank you for participating in the survey!