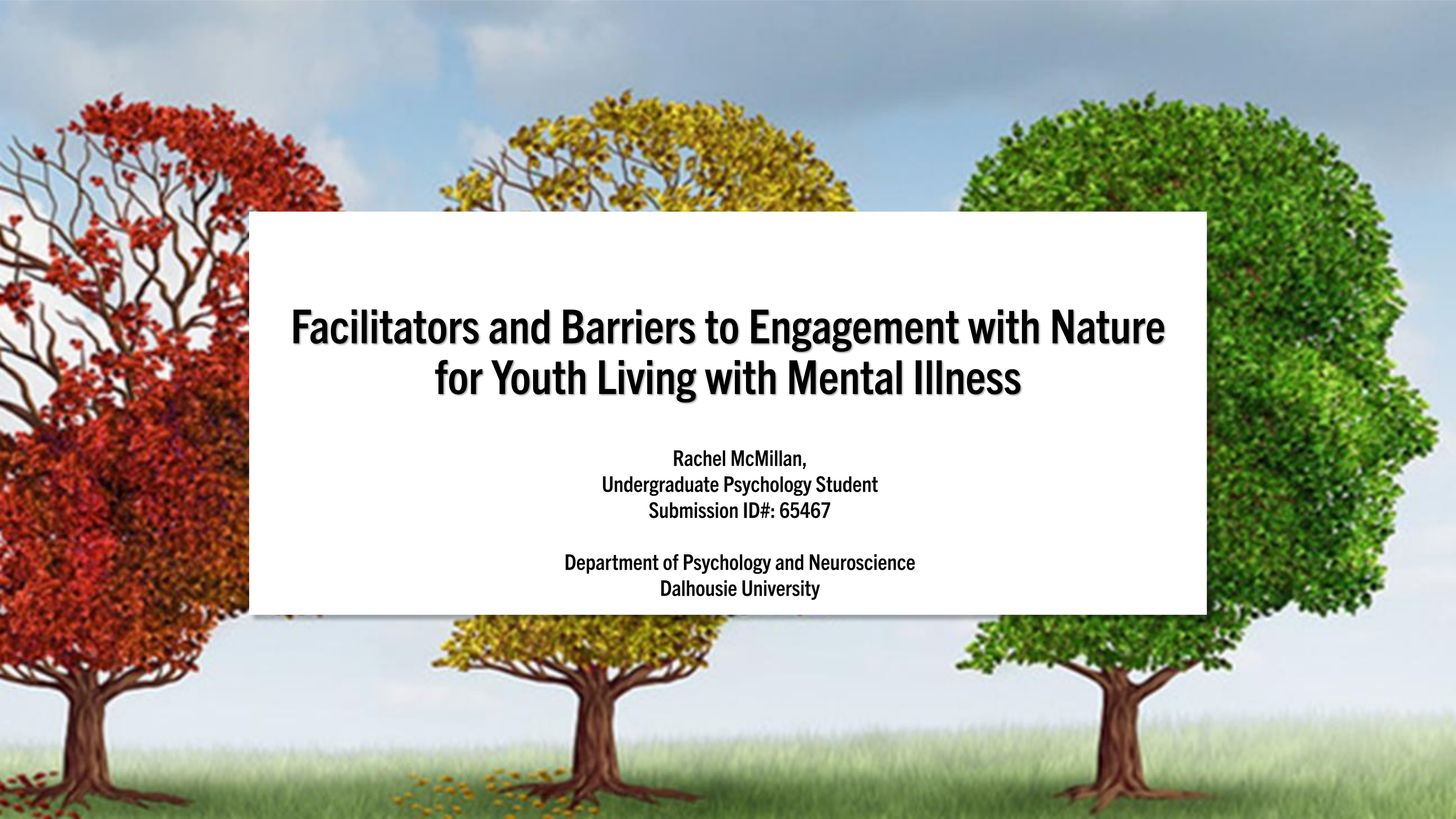

Facilitators and Barriers to Engagement with Nature for Youth Living with Mental Illness

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ABSTRACT

Rationale: Improved mental health is one of many benefits to spending time in nature, yet youth spend little time doing so. No prior research has examined time in nature for youth living with mental illness. Given the benefits, understanding nature engagement in this population is important for identifying ways to increase this behaviour.

Method: Participants of this study were Laing House members, a drop-in centre for youth living with mental illness. A mixed method sequential design, including questionnaires and focus groups, was used to examine facilitators and barriers impacting the behavior of spending time in nature. Study materials were based on theoretical domains framework (TDF) within the Capability, Opportunity, Motivation, and Behaviour model. Participants self-identified as regular or rare nature users.

Results: Participants who rarely accessed nature identified barriers in capability and motivation, but not in opportunity. Focus groups revealed that both user groups identified a more complex relationship with nature than previously reported. Participants described time in nature as a mood amplifier that can enhance both positive and negative mood states, depending on use of and perception of nature.

Conclusions: This study points to the importance of understanding an individual's relationship to nature before recommending it as a therapeutic intervention. Actions: By understanding the behavioural barriers of spending time in nature, Laing House can develop interventions to decrease these barriers, increasing participation in nature-based programming.

RATIONALE

Introduction

- Many studies have demonstrated that spending time in nature is related to improved mental health for all ages (Bratman, Hamilton, and Daily, 2015; Khan and Kumar, 2014; Zijlema, et al., 2017).
- This includes adults living with mental health issues (Berman, et al., 2012; Martyn and Brymer, 2016).
- Though there are benefits to spending time in nature, less youth do so with each generation (Frumkin et al., 2017; Soga and Gaston, 2016).
- **No prior studies have specifically examined how youth with mental illness perceive nature or the types of facilitators and barriers that affect their time and use of natural settings.**

Objectives

- In partnership with Laing House, a drop-in centre for youth aged 16-29 living with a diagnosis of mood disorder, psychosis, and/or anxiety disorder, **our goal is to explore facilitators and barriers that affect the behavior of being in nature** for Laing House members.
- To inform the development of behavior change interventions that will increase the potential for youth living with mental illness to use nature as a form of mental health self-care.
- The findings will be shared with Laing House staff to inform nature related program development.

Laing House

Berman, M. G., Kross, E., Krpan, K. M., Askren, M. K., Burson, A., Deldin, P. J., ... & Jonides, J. (2012). Interacting with nature improves cognition and affect for individuals with depression. *Journal of affective disorders*, *140*, 300-305. doi:10.1016/j.jad.2012.03.012
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Frumkin, H., Bratman, G. N., Breslow, S. J., Cochran, B., Kahn Jr, P. H., Lawler, J. J., ... & Wood, S. A. (2017). Nature contact and human health: A research agenda. Environmental health perspectives, 125(7), 075001. doi:10.1289/EHP1663
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Martyn, P., & Brymer, E. (2016). The relationship between nature relatedness and anxiety. Journal of health psychology, 21, 1436-1445. doi:10.1177/1359105314555169
Soga, M., & Gaston, K. J. (2016). Extinction of experience: the loss of human–nature interactions. Frontiers in Ecology and the Environment, 14, 94-101. doi:10.1002/fee.1225
Zijlema, W. L., Triguero-Mas, M., Smith, G., Cirach, M., Martinez, D., Dadvand, P., ... & Masterson, D. (2017). The relationship between natural outdoor environments and cognitive functioning and its mediators. Environmental research, 155, 268-275. doi:10.1016/j.envres.2017.02.017

METHOD

Mixed method sequential design using:

- Behaviour Change Wheel framework
- COM-B (Capability, Opportunity, Motivation, and Behaviour) system
- Theoretical Domains Framework

Participants:

Questionnaires *n* = 12, with a mean age = 23.4

- *n* = 9 self-identified regular nature users
- *n* = 3 self-identified rare nature users

Focus groups *n* = 4

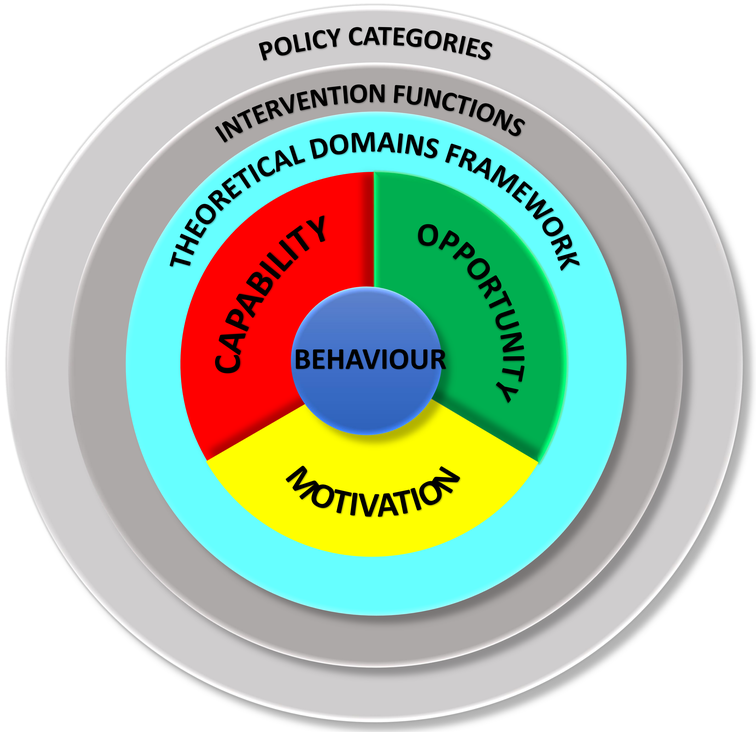
- *n* = 2 self-identified regular nature users
- *n* = 2 self-identified rare nature users

Phase 1: Questionnaires:

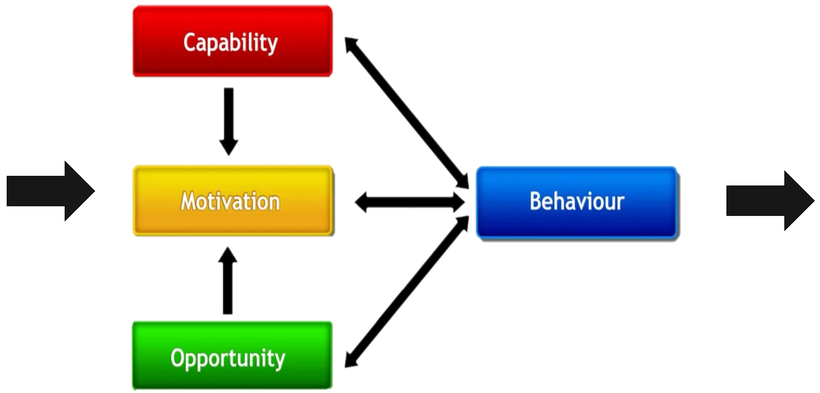
- Nature Contact Scale
- Engagement with Nature Scale
- Connectedness to Nature Scale
- Background questionnaire

Phase 2: Semi-structured focus groups:

- 2 focus groups divided by level of engagement with nature



The Behaviour Change Wheel



The COM-B system

COM	Theoretical Domains	Subcategories
Capability	Knowledge	Knowledge
	Physical	Physical skills
	Behavioural regulation	Action planning
		Coping planning
	Nature of the behaviors	Automaticity
		Memory
		Attention
		Decision processes
Motivation	Social/professional role and identity	Identity
	Beliefs about capabilities	Self-efficacy
		Perceived behavioral control
	Optimism	Optimism
	Beliefs about consequences	Attitude
		Outcome expectancies
		Reinforcement
	Intentions	Intentions
	Goals	Priority
	Emotions	Positive emotions
		Negative emotions
Opportunity	Social influences	Subjective norms
		Descriptive norms
		Social support
	Physical	Environmental context and resources

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RESULTS

NATURE CONTACT SCALE

Regular Users:

- 91% spend time in nature weekly and would like to be spending more time in nature
- 91% would also like to spend more time in nature with others
- 100% identified mental health in their top 3 reasons to get outside

Rare Users:

- 33% spent time weekly, 33% monthly and 33% annually
- 67% would like to spend more time in nature
- 67% identified mental health in their top 3 reasons to get outside

CONNECTEDNESS TO NATURE SCALE

- Regular users scored higher in all questions, with each question averaging to 'agree'
- Rare user's responses averaged to 'neutral' for all questions

ENGAGEMENT WITH NATURE SCALE

Theoretical Domains	Subcategories	Regular Users of Nature	Rare Users of Nature
Knowledge	Knowledge	4.4	2.8
Physical	Physical skills	3.9	2.8
Capability TOTAL AVERAGE		3.5 (AGREE)	2.7 (NEUTRAL)
Social role & identity	Identity	3.7	2.7
Optimism	Optimism	4.2	2.8
Beliefs about consequences	Attitude	4.4	3.3
Motivation TOTAL AVERAGE		3.8 (AGREE)	3.1 (NEUTRAL)
Opportunity TOTAL AVERAGE		3.6 (AGREE)	3.1 (NEUTRAL)

Averaged score for each domain subcategory comparing self-identified user types using likert-type scoring:
1 = strongly disagree to 5 = strongly agree

SUMMARY OF KEY DOMAINS USING DEDUCTIVE ANALYSIS OF FOCUS GROUP TRANSCRIPTS

	Theoretical Domains	Subcategories	Regular Users of Nature	Rare Users of Nature
MOTIVATION	Optimism	Optimism	**'I definitely now always try to have a positive mood when I'm spending time in nature… I go into nature with a positive mood not just that nature impacts me positively.'** '…being in the present moment, I find is easier in nature … to be in that mindful moment of like I'm just here in the present moment just breathing.'	'With my anxiety I worry a lot like if I go out you know what's going to happen and like what if I meet somebody like what is this person going to say or like are they going to judge me about something or like I just feel really self-conscious going out.'
	Beliefs about consequences	Outcome expectancies	**'…it can kind of enhance whatever you're coming in with… if you were coming in with feeling low and alone and isolated then I think it can definitely amplify that but if you're approaching it with the mentality of it being restorative then that's different, it's more apt to be uplifting.'**	'… people who have better mental health tend to spend more time in nature so just working on that (mental health) could make it easier.' 'You kind of have to work on your mental health to want to get outside and getting outside kind of helps your mental health.'
	Goals	Priority	'It can help with kind of short-term goal setting, so you have something to look forward to, something to focus your attention on…'	'It's too big of a goal to get out in nature.' '…it can be really hard to even get out of bed some days so the last thing on my mind is to get out in nature.'
	Emotions	Positive & Negative	**'It's all to do with how you spend time in nature… I used nature to spend time alone and ruminate and so you could say that me spending time in nature was very negative, a negative impact on my mental health. With cognitive behavioural therapy, practicing how to spend time in nature or just spend time with yourself in a more positive manner. Now spending time in nature is positive for my mental health because I think more positively when I'm out in nature.'**	'I have generalized anxiety disorder and like, it kind of made me so a lot of things kind of made me feel anxious. Leaving the house a lot of the times was one of those things.' 'What's the point in going out if I'm not, like, enjoying it.'

DISCUSSION

The behaviour of **being in nature** can **amplify mood** for youth living with mental illness.

It can **enhance positive mood states AND** it can be used as an opportunity to **ruminate and self-isolate**.

- **Results demonstrate that HOW one engages with nature can impact mental health**

- **Understanding an individual's relationship to nature and providing a framework for engagement when recommending it as a therapeutic intervention is important**

Barriers

- Rare users identified lack of knowledge, experience, physical skill and stamina as reasons why they choose not to spend time in nature
- Closely linked to this, rare users also describe a lack of confidence in their skill and ability, especially if they don't have others with them when participating in nature
- Rare users disagreed that spending time in nature was pleasurable or interesting

Facilitators

- Application of learned skills during therapy aided with a positive connection to nature
- Being more connected to nature is correlated to increased use of nature
- Experiencing being in nature as a need is correlated to increased participation in nature
- Relating to being in nature as a part of one's identity is correlated to increased participation in nature

Research specific

- Low sample size impacts the transferability of these findings
- Initial goal of applying youth engagement model may have aided with increased responses
- Including Laing House staff's perspective would have aided with triangulation

Next steps

- Implementing and assessing interventions that target aspects of capability and motivation using the behaviour change wheel process to determine what type of interventions may be most effective
- Continuing development and testing of Nature Contact Scale & Engagement with Nature Scale
- Applying youth engagement model to future research involving youth living with mental illness