

WORKSHOP:

The more the merrier?! How biodiversity makes us happy

... and how this affects biodiversity conservation

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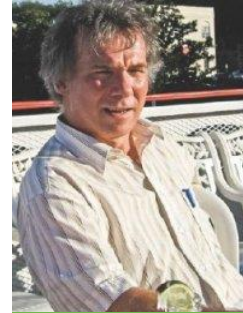
Who are we?



**Prof. Aletta
Bonn**



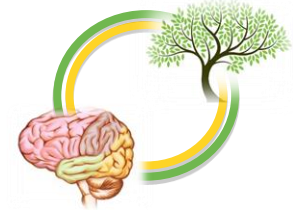
**Kevin
Rozario**



**Prof. Erich
Schröger**



UNIVERSITÄT
LEIPZIG



**Dr. Melissa
Marselle**



**Rachel
Oh**



**Dr. Dagmar
Müller**



**PD Dr. Urte
Roeber**

"Now that the physical science is clear, the fundamental problem of climate change is psychological" (Brick & van der Linden, 2018, p.3)



Herzlich Willkommen bei der IPU, der Initiative
Psychologie im Umweltschutz

Definitions:

Biodiversity is “the **variability of all living organisms from** all sources including, inter alia, **terrestrial, marine and other aquatic ecosystems** and the ecological complexes of which they are part; this includes diversity **within** species, **between species and of ecosystems**” (United Nations Convention on Biological Diversity 1992, p.3)

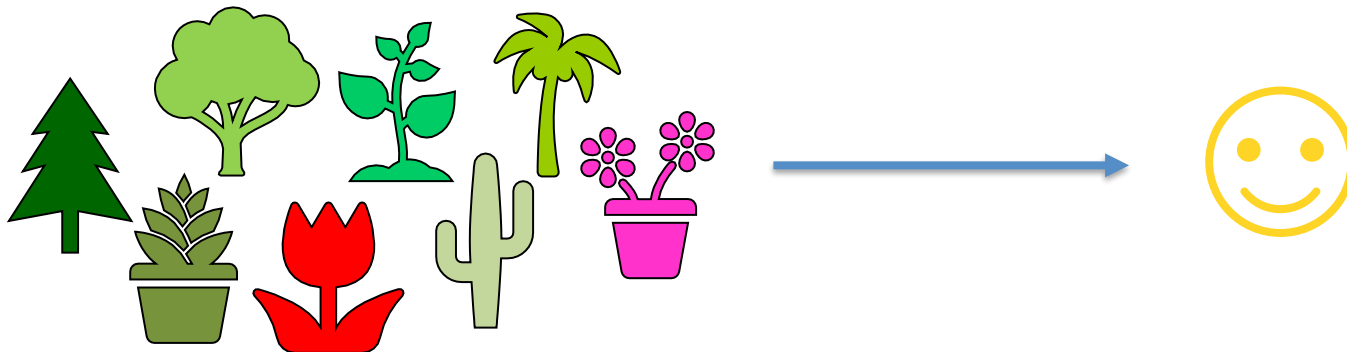
Mental health: “a state of well-being in which an individual **realizes his or her own abilities**, can **cope with** the normal **stressors** of life, can work productively and is able to make a **contribution to** his or her **community**” (WHO, 2016)

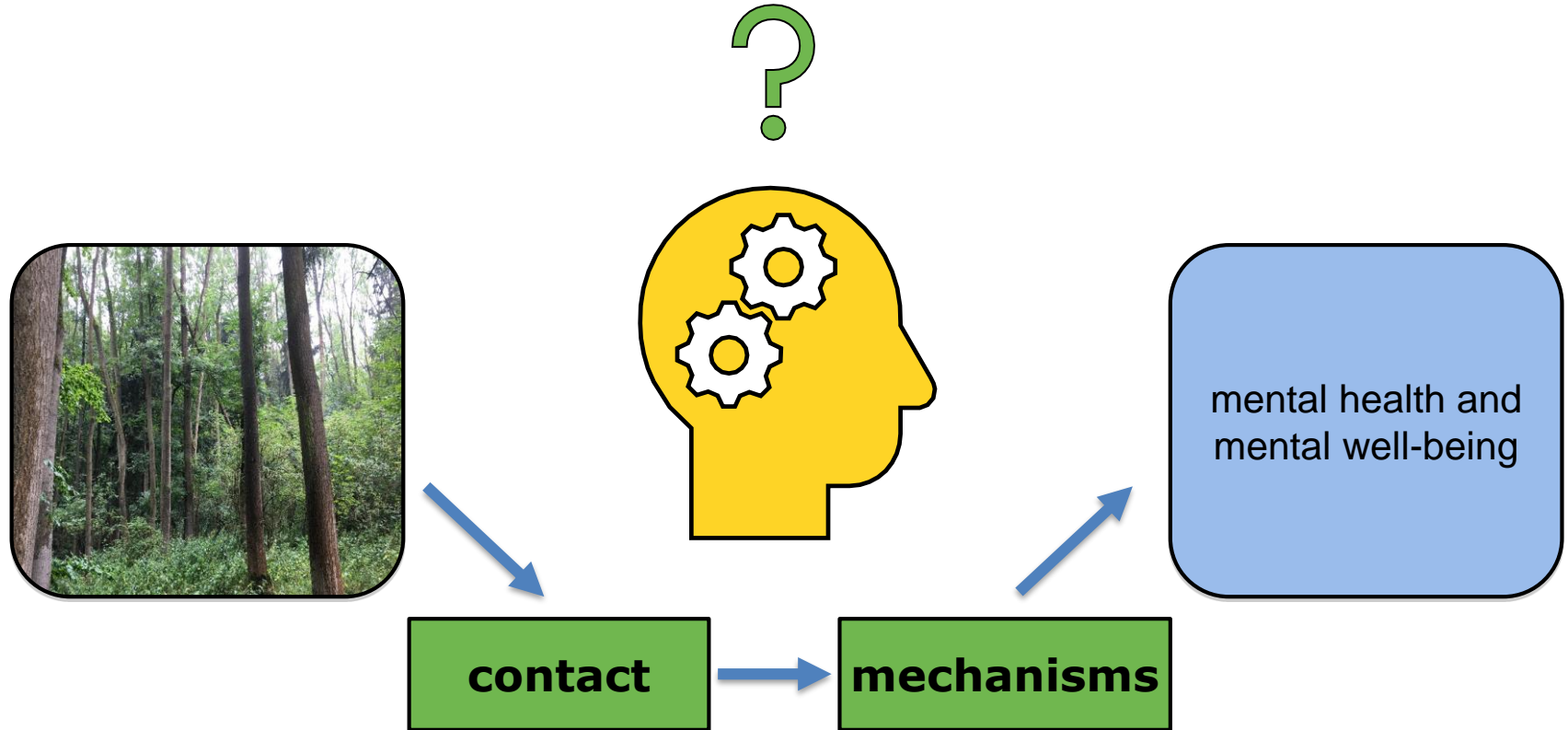
Mental well-being is “the **psychological, cognitive** and **emotional** quality of a person’s life. This includes the thoughts and feelings that individuals have **about** the **state of their life**, and a person’s **experience of happiness**” (Linton et al., 2016)

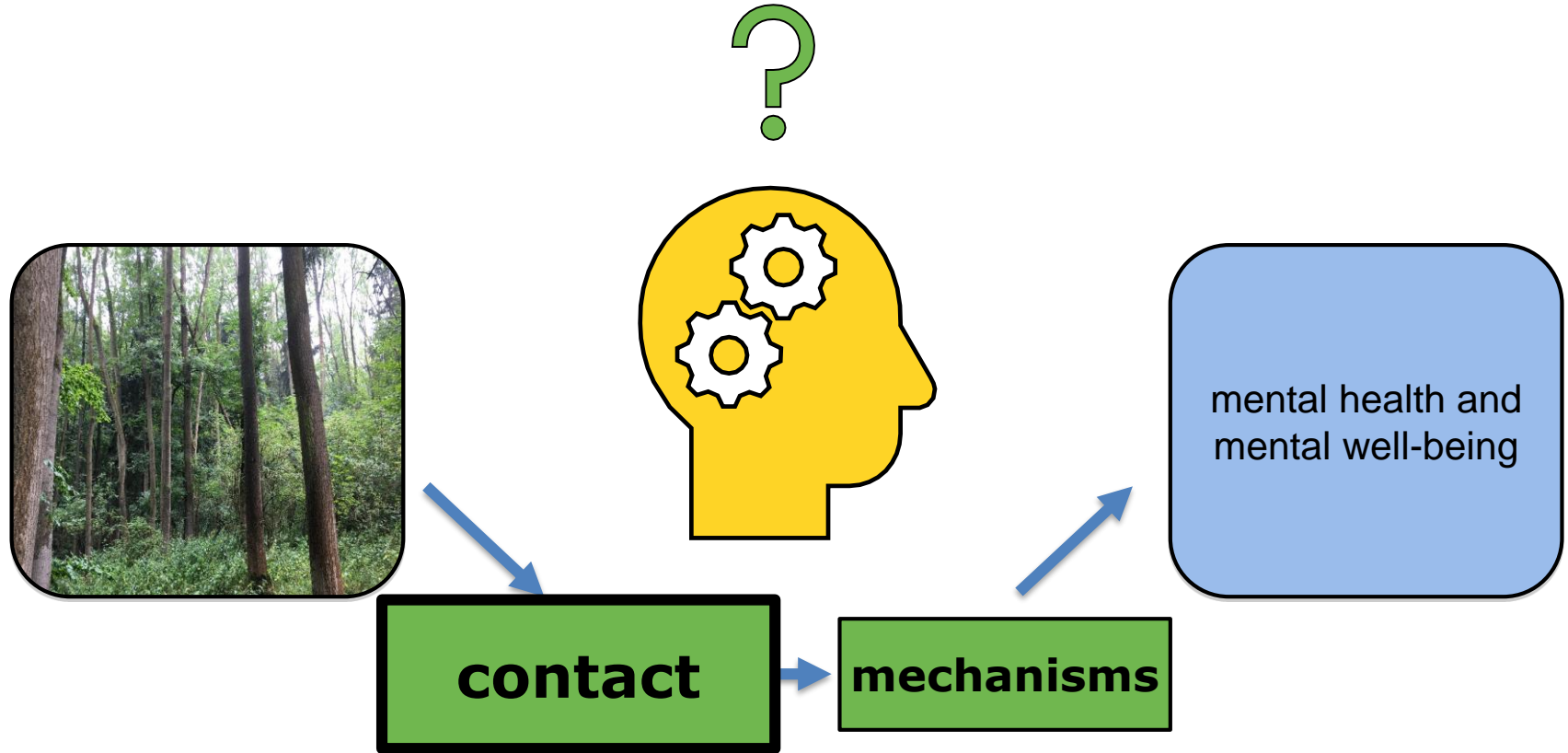
- 1) Contact with **nature** / green spaces promotes **mental health & mental well-being**
(e.g. Bratman et al., 2019; Frumkin et al., 2017; Hartig et al., 2014)



- 2) Contact with environments of medium / high **biodiversity** likely promotes **mental health & mental well-being** (e.g. Marselle et al., 2019; Lovell et al., 2014)







Contact with biodiversity

Conceptual framework for study conceptualization at the interface of biodiversity and health (Marselle et al., 2021)


- **Exposure (amount of contact):**
Frequency & duration
- **Experience:** 
Direct vs. indirect
Incidental vs. intentional

Table 1
Typology of people's experiences with biodiversity.

Degree of physical proximity	Type of interaction	
	Incidental	Intentional
Indirect Experiencing biodiversity without being physically present in it	Experiencing biodiversity as a by-product of another activity A person has no physical contact with biodiversity, and interaction is a by-product of another activity, e.g. video of an aquarium in the dentist waiting room (Clements et al., 2019).	Experiencing biodiversity through direct intention A person has no physical contact with biodiversity but interaction is intentional, e.g. viewing fish in an aquarium (Cracknell et al., 2016), or trees through a window (Cox et al., 2019, 2017a) or bird watching through a hide (Keniger et al., 2013).
Direct Experiencing biodiversity by being physically present in it	A person is physically exposed to biodiversity, but the interaction is incidental to another activity, e.g. walking with others outdoors (Marselle et al., 2016, 2015), driving along vegetated roadsides (Parsons et al., 1998) encountering vegetation indoors (Bringslimark et al., 2009) or working on a farm (Fontoura-Junior and Guimarães, 2019) or in a forest (Covert and Langley, 2002).	A person is physically exposed to biodiversity through direct intention (e.g. gardening , camping, diving, hunting, citizen science activities or conservation volunteering (Currie et al., 2016)).

Contact with biodiversity

- unisensory vs. multisensory?



- Actual vs. perceived biodiversity (Dallimer et al., 2012)



monoculture



3 species mix

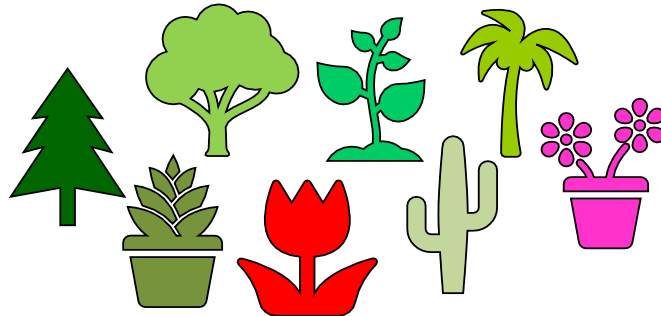


5 species mix

INTERACTIOOOOOON

Take **5 minutes**: experience biodiversity indirectly & intentionally!

- 1) Experience biodiversity within close proxy (e.g. indoor plants / fish in an aquarium / balcony plants / look outside of your window / do an ecosia (or google) search for forest / marine / aquatic diversity)
S
- 2) Write down some of your most intriguing thoughts / feelings



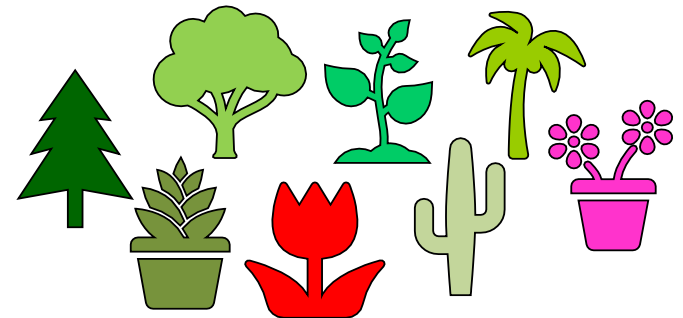
INTERACTIOOOOOON

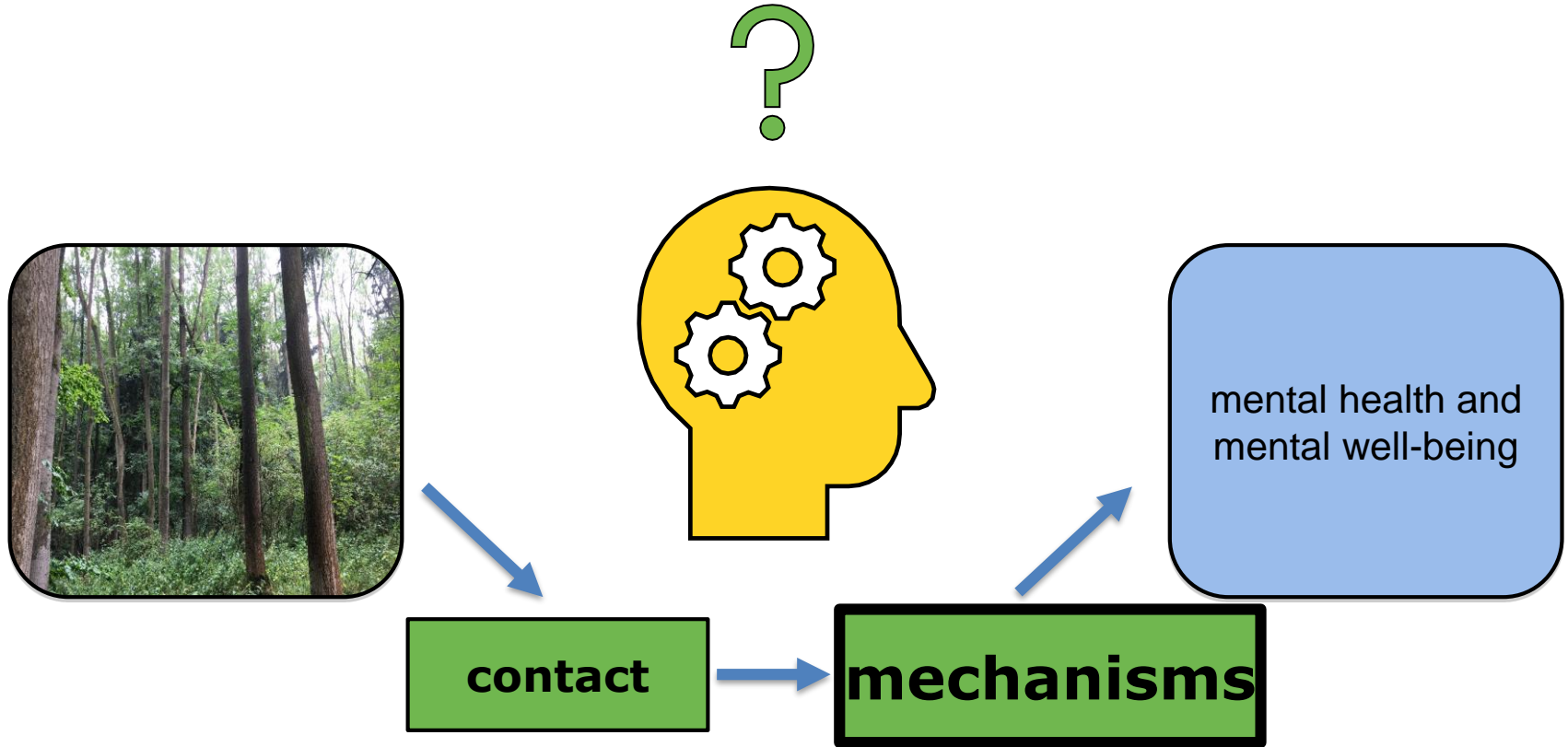
Take **5 minutes**: experience indirect contact with biodiversity intentionally!

- 1) Experience biodiversity within close proxy (e.g. indoor plants / fish in an aquarium / balcony plants / look outside of your window / do an ecosia (or google) search for forest / marine / aquatic diversity)
- 2) Write down some of your most intriguing thoughts / feelings

Go on www.menti.com and use the code:
6150 3648

- Enter up to **3 thoughts / feelings** that popped up while experiencing biodiversity intentionally

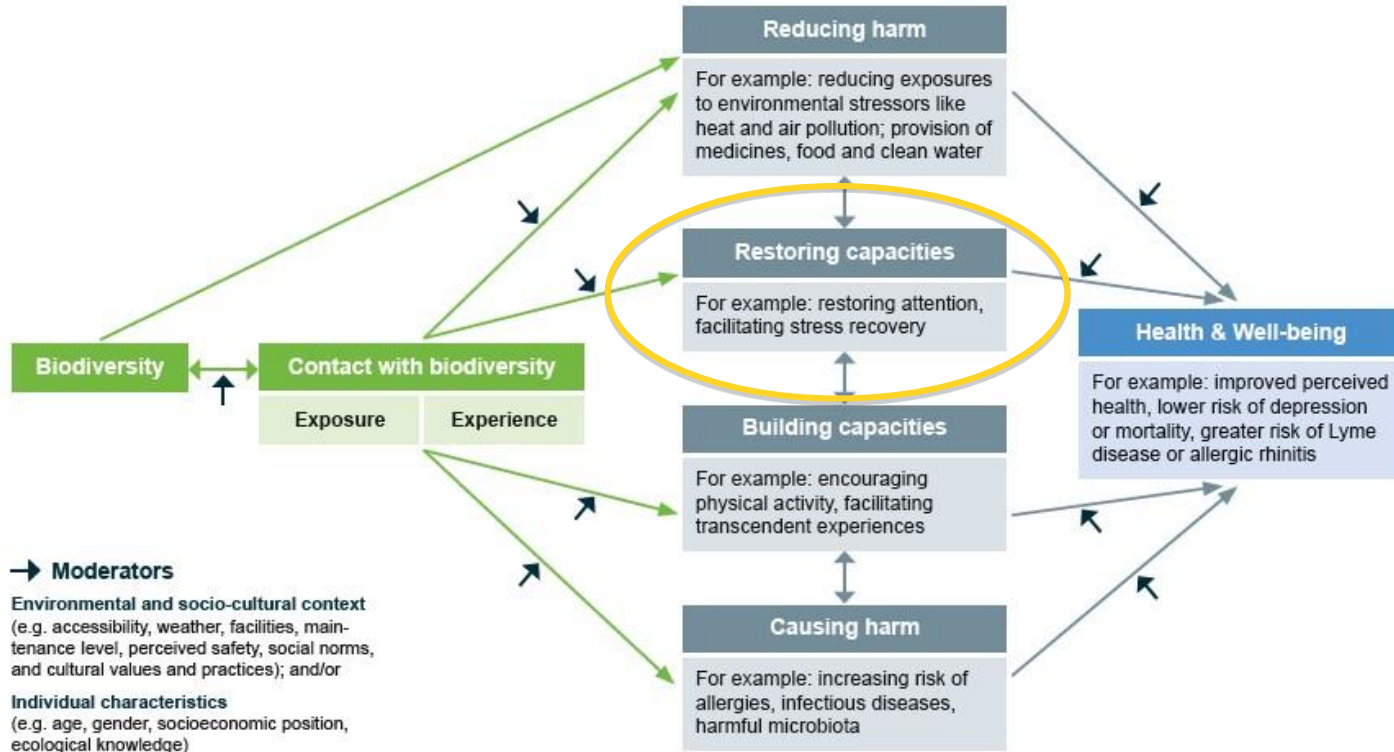




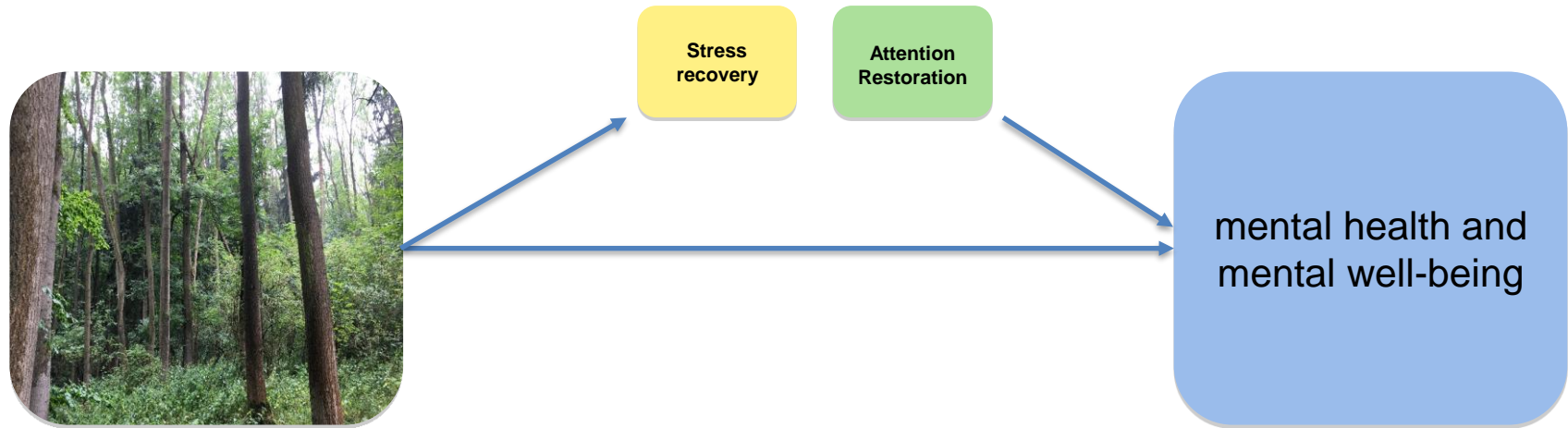
Mechanisms



... Pathways linking biodiversity to human health



Mechanisms linking nature, biodiversity and mental health & well-being



→ **Attention Restoration Theory** (Kaplan & Kaplan, 1989, 1995)

→ **Stress Reduction Theory** (Ulrich 1983, Ulrich et al., 1991)

Attention Restoration Theory (Kaplan & Kaplan, 1989, 1995)

- directed, effortful vs. effortless attention
- nature provides stimuli that require effortless attention through four experiential qualities
- these experiential qualities seem to be associated with rather biodiverse environments (Marselle et al., 2016, Foo, 2016, Scopelliti et al., 2012)

1) fascination

2) *a sense of being away*

3) *coherence*

4) *compatibility*

Stress Reduction Theory (Ulrich 1983, Ulrich et al., 1991)

- nature reduces 1) *physiological stress* 2) *psychological stress* and 3) *negative mood* and 4) *increases positive affect*
- assumption: **complexity** of environments facilitate restorative responses (Ulrich, 1983)

Attention Restoration Theory (Kaplan & Kaplan, 1989, 1995)

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1) *fascination*

2) *a sense of being away*

3) *coherence*

4) *compatibility*

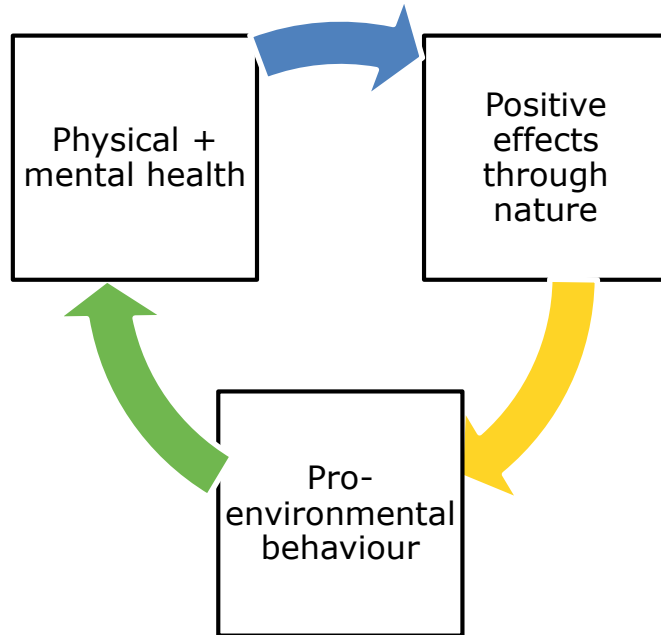
"There is much to explore and discover here."

"My attention is drawn to many interesting things"

0 = not at all

6 = completely

But how does this help biodiversity conservation?



Rosa & Collado (2020)



<https://pxhere.com/de/photo/796351>



<https://pixabay.com/illustrations/donation-charity-box-donate-hand-4019135/>

Thank You!

