

Nature and Mental Health Science

Mental Health And Environment · Answer Key · 8 Questions

1. Which specific physiological marker is measured to quantify the stress-reducing effects of 'Shinrin-yoku' (forest bathing)?

A) Cortisol levels in saliva

- B) Adrenaline in cerebrospinal fluid
- C) Thyroid stimulating hormone
- D) Melatonin levels in hair

2. Research into the 'Biophilia Hypothesis' suggests that humans possess an innate tendency to seek connections with nature; which sensory input has been shown in longitudinal studies to most effectively reduce amygdala activity in urban dwellers?

A) The frequency of bird vocalizations

B) The visual geometry of fractal patterns in nature

- C) The specific scent of petrichor
- D) The rhythmic sound of ocean waves

3. In the context of 'Zoopharmacognosy' and animal self-medication, which behavior is frequently cited in behavioral ecology as an animal mechanism to maintain psychological and physical homeostasis?

A) Ingestion of specific clay or soil to neutralize toxins

- B) Displaying aggression toward members of the same species
- C) Hibernation during suboptimal resource availability
- D) Social grooming to establish dominance hierarchies

4. What is the 'Attention Restoration Theory' (ART) primary mechanism for explaining how interaction with nature improves cognitive function and mental fatigue?

A) The reduction of peripheral light interference

B) The engagement of soft fascination which allows directed attention to rest

- C) The increase in dopamine production via ultraviolet exposure
- D) The psychological association with childhood memories

5. The study of 'Entrainment' in animal-assisted therapy refers to which physiological phenomenon observed between human patients and canine companions?

A) The synchronization of heart rate variability

- B) The mirroring of vocal pitch and cadence
- C) The alignment of sleep-wake cycles
- D) The shared release of oxytocin during physical contact

6. Exposure to *Mycobacterium vaccae*, a soil-based bacterium, has been linked to potential mental health benefits in mice; what is the proposed mechanism of action?

A) Activation of neurons that produce serotonin

- B) Increased production of vitamin B12 in the gut
- C) Suppression of inflammatory cytokines in the hippocampus
- D) Enhanced oxygen absorption in the lungs

7. Which environmental factor is identified in the 'Blue Mind' theory as having the most significant impact on inducing a meditative-like state in humans through neurochemical changes?

A) The presence of negative ions near moving water

- B) The sound of wind through riparian vegetation
- C) The visual depth perception of horizontal horizons
- D) The chemical composition of mineral-rich water

8. What is the 'Nature Deficit Disorder' conceptualized impact on children's developmental psychology, as defined in environmental psychology literature?

A) Impaired sensory integration and reduced attention span

- B) A decrease in physical endurance and muscle mass
- C) An inability to distinguish between domestic and wild animals
- D) A loss of innate fear responses to predators