

# The Neurophenomenology of Freediving: An Investigation of Brain, Body, and Behavior through Breath

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## Introduction - What is Freediving?

- Freediving = breath-hold diving
  - 20+ minutes on one single breath
- Exceptional psycho-physiological state
  - Physiological extremes
  - Psychological extremes
  - Environmental extremes
- Must maintain extremely fine balance between internal/external conditions

## Methods

### Neurophenomenology

Quantitative

+

Qualitative

Neurophysiology of respiration & breath practices

Semi-structured phenomenological interviews

- 9 freediver participants
- 15 hours of interview material
- Interpretative Phenomenological Analysis

## Results

Unique neurophysiological state

2 necessary conditions

1. Freediving 'relaxation breathe-up'
2. Underwater conditions



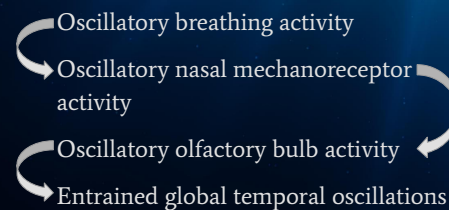
5 phenomenological characteristics

1. Heightened presence
2. Heightened perception
3. Absence of reflective awareness
4. Absence of conscious deliberation in decision-making
5. Restricted emotions

## Discussion

$\Delta$  Respiration  $\rightarrow$   $\Delta$  Perception  
via respiration-entrained neuronal oscillations

Mechanism 1



Mechanism 2

