

Breath Training for Chronic Stress and Anxiety

Does a phased, adaptive, slow-paced breathing intervention reduce stress and anxiety in healthy adults?

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20% of 6K adults surveyed feel anxious most or all the time.

13.1% of UK adults are diagnosed with an anxiety disorder.

Chronic stress and anxiety have multiple downstream effects including impaired sleep, reduced metabolic health, and impaired interpersonal relationships.

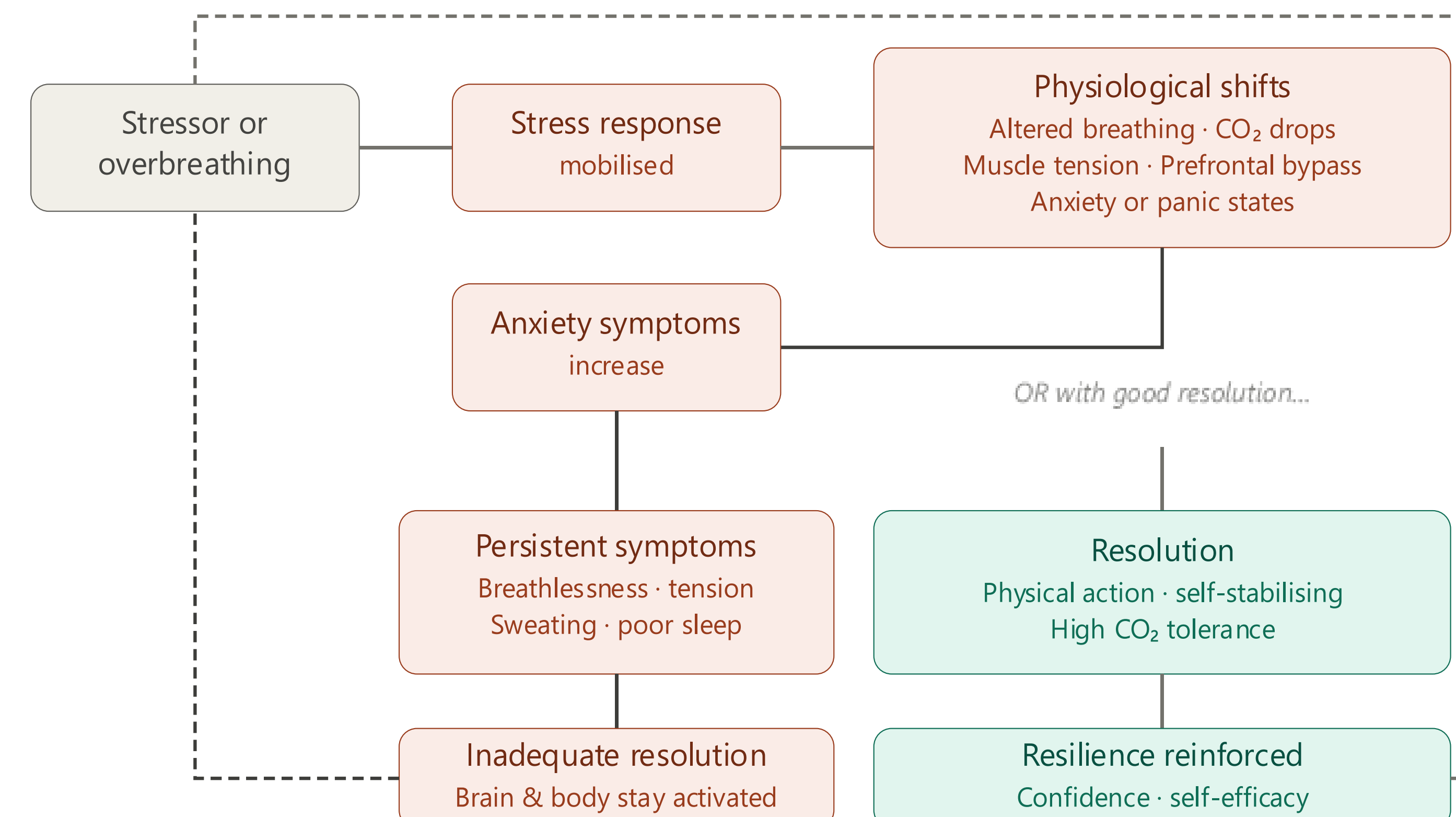


WHY BREATH?

Stress psychophysiology can either perpetuate or disrupt patterns of stress and anxiety.

Accessible tools to support psychophysiological disruption of this negative feedback loop are urgently needed.

The uniquely human act of deliberate, slow-paced breathing (SPB) supports a reduction in autonomic stress that is easy and free. The author's umbrella review shows a growing evidence base that SPB raises heart rate variability (HRV), improves mood stability, and improves blood flow to the prefrontal cortex, all of which supports emotion regulation, cognitive function, and interpersonal function (Banushi 2023, Bentley 2023, Fincham 2023).



METHODS

Randomised controlled trial to test a three-phased, adaptive SPB intervention over eight weeks.

Population: Adults with Depression Anxiety & Stress Scale 21 scores of 'Moderate' or greater.

An active waitlist control group will receive psychoeducation on stress and the autonomic nervous system while waiting.

Outcome measures:

- Respiratory rate
- HRV
- Resting heart rate
- Exhale control test
- DASS21 scores
- Multimodal Interoceptive Awareness Inventory (MAIA-2) scores
- Brief, semi-structured interviews with a subset of participants.

THE INTERVENTION

Participants will attend weekly in-person breath training sessions to learn and practice a phased breathing protocol. They will practice this independently for five minutes daily. The three-phase protocol will incorporate participant felt-sense feedback to support adaptation and progression through the phases, aiming for the practices to feel gently challenging (versus stressful or easy).

The three phases will include:

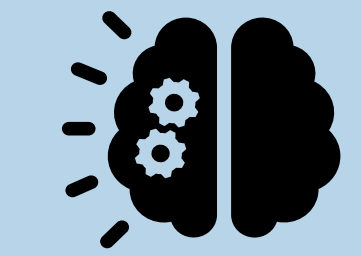
Weeks 1 and 2: Functional breathing established, slow and soft nasal inhale and exhale into lower lungs.

Weeks 3 and 4: Extended exhale supports slowing of heart rate, gentle raising of CO2 in bloodstream creating a relaxation response in brain and body.

Weeks 5 to 8: Breath pause training utilising pauses at top of inhale, duration of which is based on participant comfort level.

PRINCIPLES

Due to the evocative nature of breathing interventions, the trial will take a trauma-informed approach to breath training. The following unique principles for breathwork will guide the intervention and be taught to participants:



Noticing

Awareness of internal signaling (interoception) is necessary for developing an effective breath practice. Participants will be invited to begin understanding the state of their autonomic nervous system.



Neutrality

Accepting the current state of the brain and body without judgement. A non-pathologising view is taken with stress seen as a natural human reaction rather than an illness or personal failing.



Participation

Working with the current state of the autonomic nervous system to encourage gradual stress reduction as opposed to forcing state shifts which often result in resistance or increased stress.

CLINICAL IMPACT

This trial aims to develop pragmatic, effective interventions for the pervasive problem of stress and anxiety, bridging the gap between physiology and psychotherapeutic clinical practice.

REFERENCES

- Banushi, B., Brendle, M., Ragnhildstveit, A., Murphy, T., Moore, C., Ejberts, J. and Robison, R., 2023. Breathwork Interventions for Adults with Clinically Diagnosed Anxiety Disorders: A Scoping Review. [Online]. MDPI AG. Available from: <https://doi.org/10.3390/brainsci13020256> [Accessed 8 April 2025].
- Bentley, T.G.K., D'Andrea-Penna, G., Rakic, M., Arce, N., LaFaille, M., Berman, R., Cooley, K. and Sprimont, P., 2023. Breathing practices for stress and anxiety reduction: conceptual framework of implementation guidelines based on a systematic review of the published literature. Brain Sciences [Online], 13(12), p.1612. Available from: <https://doi.org/10.3390/brainsci13121612> [Accessed 24 October 2024].
- Fincham, G.W., Strauss, C., Montero-Marin, J. and Cavanagh, K., 2023. Effect of breathwork on stress and mental health: A meta-analysis of randomised-controlled trials. SCIENTIFIC REPORTS [Online], 13(1), p.432. Available from: <https://doi.org/10.1038/s41598-022-27247-y> [Accessed 13 April 2025].

