The implications of the diving response in reducing panic symptoms and cognitions

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Background: The existence of a false suffocation alarm (FSA) monitor, which is sensitive to detecting CO₂ changes, such as those that occur with panic attacks, have been postulated by Klein in 1993. It has been speculated that panic disorder (PD) patients have enhanced CO₂ sensitivity which prompts the brain's suffocation monitor to erroneously signal a lack of oxygen and trigger an FSA. The 35% CO₂ challenge has been widely used to study panic and CO₂ sensitivity. The diving response (DR) is an oxygen conserving adaptation that is activated by apnea and cold facial immersion (CFI). During the DR, individuals experience physiological changes including a significant decrease in heart rate. In many ways, the physiological changes that are experienced during the DR, a feeling of calmness and relaxation are the opposite of those experienced during a panic attack.

Aim: Two studies were conducted with an aim to investigate the immediate and short-term effects of breath holding and CFI on panic symptoms between panic participants and normal controls.

Methods: In the first study, participants undertook a number of challenges, including a CO₂ challenge, breath hold challenge and CFI task to establish group differences in anxiety measures and physiological responses between panics and controls. In the second preliminary study the CFI task was used to determine whether it has any effect on reducing panic symptoms and one's response to the CO₂ challenge.

Results: Findings revealed that anxiety and panic symptoms reduced in response to the CFI.

Conclusions: Implications of the study point to the CFI reducing anxiety symptoms which warrants further investigation to determine the implications of the DR in treating panic disorder.

Biography
Peter Kyriakoulis is the Founder and Director of the Positive Psychology Centre. He is a Clinical Psychologist who specializes in the treatment of Depression, Anxiety Disorders and Complex Trauma. He completed his undergraduate studies with Honors at the University of Athens in 2000, and in 2003 he completed Masters in Clinical Psychology in Melbourne. In 2018, he also completed a Diploma in Clinical Hypnotherapy. Since 2003, he has been working in private practice as a Psychologist, and over the ensuing years has worked in community health and various psychiatric settings, becoming a Member of the Clinical College of the Australian Psychological Society in 2007. He has a wide interest in applying positive psychology and neuropsychotherapy principles in clinical practice whilst maintaining a cognitive behavioral framework. He also specializes in psychological assessment, including the Minnesota Multiphasic Personality Inventory (MMPI-2). He specializes in medico-legal assessments and has appeared in court as an expert witness. He is currently completing his PhD on Panic Disorder, particularly the implications of the diving response in reducing panic symptoms.

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