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Physiological Response to Negative Emotions in Children with Anxiety Symptoms: Many Steps Still to be Taken

Simona Scaini,[1,2,*] Anna Ogliari,[2,3] and Chiara Brombin[4]

[1]Department of Psychology, Sigmund Freud University, Porta di Ripa Ticinese 77, Milan, Italy
[2]Developmental Psychopathology Unit, Vita-Salute San Raffaele University, via Stamira d'Ancona 20, Milan, Italy
[3]Department of Clinical Neuroscience, San Raffaele Scientic Institute, via Stamira d'Ancona 20, Milan, Italy
[4]University Centre of Statistics in the Biomedical Sciences (CUSSB), Vita-Salute San Raffaele University, Milan, Italy

[*]*Corresponding author*: Simona Scaini, PhD, Tenured Lecturer in Developmental Psychology and Psychopathology, Department of Psychology, Sigmund Freud University, Ripa di Porta Ticinese, 7720143, Milan, Italy. Tel: +39-283241854, E-mail: s.scaini@milano-sfu.it

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Dear Editor,

Anxiety symptoms are very frequent in childhood and are associated with significant impairments in social and academic functioning (1). Thus, understanding the underlying etiological processes represents an important research task in the field (2-4). Evidence show that emotion dysregulation is a fundamental feature of anxiety disorders (5). Despite the large amount of literature available on adults, only few studies focused on the psychophysiological response induced by emotion triggering stimuli in children with anxiety (6). Physiological models hypothesized that anxiety disorders are characterized by hyperarousal in response to threatening stimuli (7). While several studies focused on endocrine response reporting an association between cortisol levels and symptoms of anxiety disorders (8, 9), little work is done to identify differential patterns of physiological response to negative, anger and fear-eliciting, and affective stimuli.

Previous studies found increased heart rate (10), adrenergic activity (11), and increased baseline zygomatic muscle tension (12) in children with anxiety. In addition, significant differences in pulse rate and systolic blood pressure during a social-evaluative task were found by Beidel et al. (13) in a community sample of children with anxiety compared to the children without anxiety. More recently, a study by Weems et al. (14) examined the physiological responses (heart rate and skin conductance) induced by a phobic/fear-eliciting stimulus; i.e., a video of a large dog, in children. Data indicated a high association between psychophysiological parameters, monitored during the task, and youth, but not parents', reports of anxiety symptoms. Thus, based on the data available in the literature, it seems that children affected by anxiety symptoms are characterized by different autonomic activity in response to threatening stimuli compared to controls. However, these conclusions are derived from studies using small sample sizes. In addition, no study accounted for different types of anxiety disorders. This calls for new studies examining psychophysiological responses to negative emotion-provoking stimuli in children with anxiety. Several benefits could be derived from this research area. First of all, by jointly evaluating subjective psychometric data and objective physiological responses, a more reliable clinical tool could be developed to assess patients' symptomatology. Moreover, changes in physiological responses to emotionally charged stimuli could be used as a primary measure to evaluate treatment efficacy.

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Footnote

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