

# The Arousal Modulation Model Questionnaire (AMMQ)

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## INTRODUCTION

One of the key aspects of traumatization is the “biphasic” response to trauma: alternating hyperarousal and intrusive responses with numbing and constriction (van der Kolk, 1987). Hyperarousal behaviors include “hyperreactivity, explosive aggressive outbursts... and re-enactment of situations reminiscent”. The numbing response consists of “emotional constriction, social isolation, retreat from family obligations, anhedonia, and a sense of estrangement” (van der Kolk, 1987), and involves the disabling of defensive and orienting responses, numbing dissociation and flat affect. To describe these swings in autonomic arousal, Sensorimotor Psychotherapy has developed a diagram called the Modulation Model (Ogden, Minton, Pain, 2006).

## AIMS

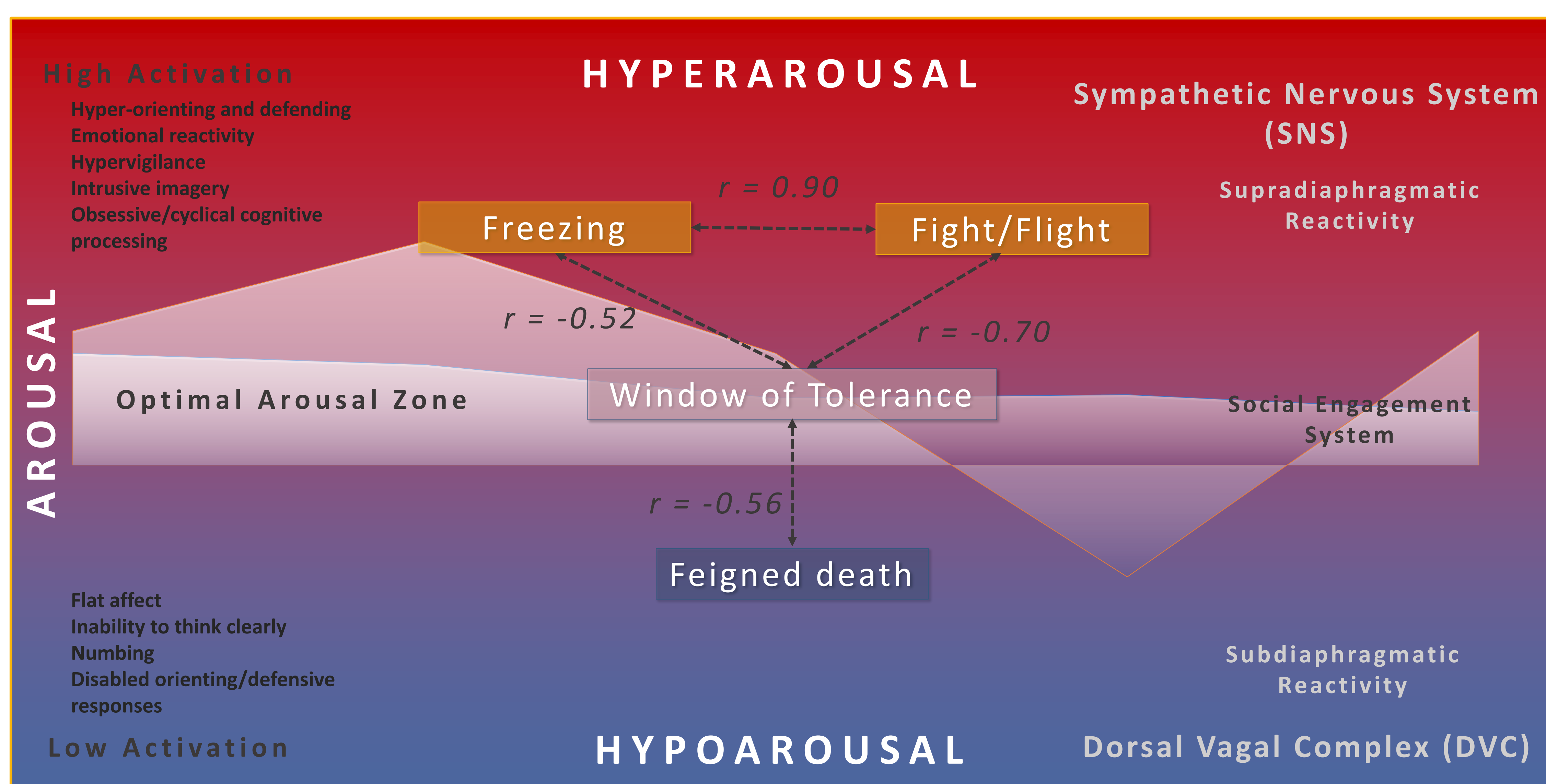
The aim of the present study was to develop a multidimensional self-report measure of the Modulation Model. Therefore, according to this theoretical frame, we developed the Arousal Modulation Model Questionnaire (AMMQ) to assess individuals’ zone of optimal arousal (“Window of Tolerance”), and Hyper- and Hypo-arousal reactivity (“Fight-Flight” Response, “Freezing”, “Feigned Death”).

## METHODS

A sample of healthy adults (N = 245; Male = 55, Female = 189; Age M = 36.69 years, DS = 13.39) completed an online survey distributed through the Institute of Systemic Psychotherapy “Naven” in Udine (Italy). The systematic mixed-methods process involved reviewing the current literature, specifying the multidimensional conceptual framework of Sensorimotor Psychotherapy, evaluating prior instruments, developing items, and analyzing focus group responses to scale items. Items were field-tested in a sample of 245 healthy adults. Final item selection was achieved by submitting the field test data to an iterative process using multiple validation methods, including exploratory cluster and confirmatory factor analyses, correlations with established measures of related constructs.

## RESULTS

The 4-factor model of the resulting 20-item AMMQ showed good fit indices (RMSEA = 0.048 [95% CI 0.036–0.059]; CFI = 0.95; TLI = 0.94). The “Window of Tolerance” factor was negatively correlated to the “Fight/Flight” factor ( $r = -0.70$ ), “Freezing” factor ( $r = -0.52$ ), and “Feigned Death” factor ( $r = -0.56$ ). Internal consistency assessed using the categorical omega coefficient was appropriate for all factors (all  $\omega > 0.75$ ).



Furthermore, the “Fight/Flight” and “Freezing” scales positively correlated with the “Supradiaphragmatic Reactivity” subscale (all  $p < 0.01$ ) of the Body Perception Questionnaire Short Form (BPQ-SF; Porges, 1999, 2015). Likewise, the “Feigned Death” scale positively correlated with the “Subdiaphragmatic Reactivity” subscale ( $p < 0.01$ ).

## CONCLUSIONS

The psychometric properties of these final scales suggest that the Arousal Modulation Model Questionnaire (AMMQ) may serve as a transdiagnostic clinical tool of assessment and a starting point for research and further collaborative refinement.

