

THE DEVELOPMENT OF FACE MORPHING TASK TO ASSESS SELF OTHER
DIFFERENTIATION

ABSTRACT

by

Esen Karan, M.Sc., M.Phil.

Advisor: Eric Fertuck, Ph.D

Self-Other Differentiation (SOD) refers to a developmental process of acquiring a consolidated, integrated, and individuated sense of self. SOD develops at a) perceptual (e.g., facial perception) and b) representational (e.g., traits, mental states, and beliefs) levels. Impairments in representational SOD are associated with many forms of psychopathology, particularly Borderline Personality Disorder and Narcissistic Personality Disorder. Few studies to date have examined the perceptual aspects of SOD, which are hypothesized to develop from infancy onwards in tandem and in interaction with R-SOD. Given that the human face is one of the key characteristics that humans use to identify themselves and others, we developed a novel method using facial stimuli of self and other to assess SOD by way of a facial-morphing distinction task. Our study aim was to validate the facial-morphing task by assessing its validity including criterion, convergent and divergent validity; and to examine whether subjects with SOD impairments (e.g., participants with pathological narcissism and borderline personality disorder features) differ in terms of their SOD on their perceptual and cognitive responses (i.e., sensitivity, discriminability, and response range). Undergraduates (N=87, 38% male) appraised a series of facial images, which comprised features of the self and other in varying degrees (from 0%, to 100%, with 0% being “no morphing of self”) on a facial

morphing task. They made self/other appraisals on randomly ordered presentations of these morphs on a Likert scale ranging from 1 (100% other) to 5 (100% self). The task measures sensitivity (a propensity to see the self in the other) and discriminability (the ability to make finer distinctions between self relative to other) and response range. Our results did not provide support for criterion validity of FM-SOD by utilizing the DR-S scale. However, we showed that people with lower developmental quality with respect to self-other differentiation—based on their descriptions of their mothers on ORI—gave a restricted range of responses in the FM-SOD task. This suggests impairments in R-SOD manifest as a lack of cognitive flexibility and black and white response pattern in perceptual tasks. In terms of construct validity, we found that participants who have more impaired personality organization, lower level of defenses, higher level of identity diffusion, assessed by the IPO, showed poorer sensitivity, a greater propensity to “see” themselves on facial morphs. These participants also showed lower use of response range while rating facial morphs. Similarly, there is a higher likelihood that participants whose self-esteem is inordinately affected by others’ opinion, who report poorly differentiated sense self, to see their features more than others in the facial morphs. Our participants do not show any perceptual deficit in discriminating between morphs of self and other. Therefore, our findings give some support to convergent validity of FM-SOD particularly in terms of sensitivity, suggesting a link between R-SOD and P-SOD on self and other facial recognition. Our results demonstrated divergent validity of FM-SOD task showing that discriminability, sensitivity and response range on the FM-SOD task measure different constructs than self-esteem or mood states. However, sensitivity on the FM-SOD task was found to be correlated with depression scores on the CESD. This might be

due to the fact that in a nonclinical population, it is hard to differentiate between depression and specific pathology that would impact sensitivity parameters of the FM-SOD task. Lastly, in terms of psychopathology, BPD features were found to be significantly correlated with constricted range and impaired sensitivity. Specifically, we found that participants with higher BPD features on the ZAN-BPD scale showed a more constricted response range in differentiating themselves and others and further showed a higher likelihood in seeing themselves than others in facial morphs. Our results showed that perceptual sensitivity, but not perceptual discriminability or constricted response range, is associated with greater pathological narcissistic features. Individuals with high scores on narcissism, particularly vulnerable narcissism, assessed by the PNI-52 were more likely to rate the facial morphs similar to themselves. This study allowed us to validate a measure which assesses perceptual (as compared to representational) aspects of SOD in an adult population. With this study, we developed a methodology to investigate R-SOD and P-SOD impairments in a nonclinical population as well as their link.