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GSURC Abstract

Title: The Role of Movement in Emotion Recognition from Facial Point-light Displays

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Introduction: Facial expressions indicate emotion; however, individual accuracy of recognizing emotions can vary. Past studies indicate that facial motion aids in correctly identifying emotional expressions (Bassili, 1978, 1979). Both adults and children can interpret some basic emotions from dynamic point light displays (PLDs), in which moving white points are used to represent particular regions of the face (Bassili, 1979, Doi, Kato, Hashimoto, & Masataka, 2008).

Purpose: In past work, the total motion of points across displays was not measured; therefore, in the present study we examine the relationship between emotion recognition accuracy and total point movement among facial PLDs. This study allows us to better understand non-verbal forms of communication in day-to-day interactions.

Method: Participants viewed 10 to 20 trials of moving facial PLDs. For each trial, two moving PLDs of different facial expressions were presented simultaneously on the screen, and participants were asked to identify which one of the PLDs matched a provided emotion label (e.g. "Which one looks afraid?"). Child participants pointed to the screen to indicate their responses. Adult participants entered their responses via the keyboard.

Hypothesis: We predicted that differences in total motion patterns of facial expressions would correlate with accuracy levels among adults and preschool-aged children.

Results: Certain emotions (joy, surprise) were more accurately recognized than others (fear), which aligns with past research using static displays (e.g., Herba, et al., 2006), suggesting that the development of emotion recognition is not entirely based on interpreting facial features. Total point movement also correlated with response accuracy for four of the emotions tested, suggesting that motion can influence how well participants are able to recognize emotion-based stimuli.

Recommendations: Future work could manipulate the PLDs to artificially increase point motion, which may be useful for preschool-age children (whose emotion recognition abilities are still developing)

Keywords: Developmental Psychology, Emotion Recognition, Face Processing, Facial Motion, Point Light Displays, Preschool-aged children.

Please embargo the work.