

Abstract

The association between personality dispositions and nonverbal behaviour has been an area of interest for more than six decades. Though there exist many personality measurement questionnaires, analysing nonverbal behaviour associated with personality traits is useful in many contexts such as interviews, negotiations, or other formal situations. In spite of an abundance of research in the area, most attention has been devoted to big-five personality traits. Other traits have received minimal attention, dominance and assertiveness being two of them that are relevant in many formal contexts. This study aims to bridge this gap by attempting to find out if any correlation exists between these two traits and nonverbal behaviour. To address this goal, a robust methodology was used, and a multi-modal multi-level analysis was carried out. The modals used in this study were face, voice, and gaze; and the two-level analysis included analysis using machine learning algorithms and manual analysis. From a video database, videos of 102 participants with high and low personality scores for the two traits were collected and analysed. It was found that for participants high in dominance, mobility in the lower left region of the face was higher compared to the lower right, upper left, and upper right regions of the face during interactions. For high assertiveness, mobility in the lower right region of the face was found to be higher compared to the lower left region of the face. Both instances indicated facial asymmetry. For voice, participants low in dominance used longer pauses compared to participants high in dominance. Moreover, participants with high assertiveness moved their heads more than assertive low individuals. Findings are expected to throw light on the role that these channels play in dominance and assertiveness, and may have relevance for professional contexts like interviews and negotiations.

Keywords: Assertiveness, Automated analysis, Dominance, Nonverbal behaviour, Trait