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Performance on a face perception task is associated with empathy quotient scores, but not systemizing scores or participant sex

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Abstract

This preliminary study investigated whether individual differences in performance on a difficult social perception task (determining the sex of shape normalized, line drawn dynamic faces) are related to sex of observer, scores on an empathy quotient and scores on a systemizing quotient. Performance in the face perception task (N=60) was above chance, indicating that participants could judge the sex of the degraded facial stimuli from dynamic information alone. There was a trend for women to be more accurate in their judgments of target sex than men, but regression analyses indicated that EQ scores alone predicted performance on the task. This study suggests that empathy may mediate sex differences in face perception abilities, and potentially other tasks in social perception. © 2007 Elsevier Ltd. All rights reserved.

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1. Introduction

The factors underlying individual differences in performance on tasks of social perception have been the subject of much study. Some factors that predict these individual differences in social perception have been revealed, particularly in studies of emotional expression. For example, Fraley, Niedenthal, Marks, Brumbaugh, and Vicary (2006), demonstrate that attachment style is related to sensitivity to emotional expression. Other studies have concentrated on deficits in perception of social cues as the result of lesion (Karafin, Tranel, & Adolphs, 2004), illness (such as alcoholism, Frigerio, Burt, Montagne, Murray, & Perrett, 2002), psychopharmacologic manipulations (e.g. Harmer, Mackay, Reid, Cowen, & Goodwin, 2006) or genetic disorders (e.g. Frigerio et al., 2006). Despite this research interest, traits associated with being a 'good observer' in the general population remain somewhat elusive.

One easily observable 'individual difference' that has attracted serious research attention in social perception is the biological sex of the observer. Stereotypes concerning women's aptitude for interpreting social situations invariably suggest that women have some kind of 'feminine intuition' that results in an improved ability to negotiate the social world. To some extent, academic research supports this stereotype: where sex differences in performance on social perception tasks are found, they generally favour women over men. For example, women are superior to men in accuracy of interpreting expressive behaviour (e.g. Costanzo & Archer, 1989), and in sensitivity to cues of emotion (Biele & Grabowska, 2006). At zero acquaintance in some experimental designs, women seem to be more accurate than men at assessing personality (Ambady, Hallahan, & Rosenthal, 1995) and intelligence (Murphy, Hall, & Colvin, 2003). Reviews of nonverbal sensitivity demonstrate, overall, a bias favouring females (e.g. Hall, 1978).

The potential mediators of these apparent psychological sex differences, however, remain poorly understood. An influential hypothesis proposed that interpreting the state of mind or predicting likely future behaviour of conspecifics may be more important for subordinate than dominant members of a given dyad, and that increases in sensitivity to nonverbal cues in subordinate individuals was an adaptive response to such a relative lack of power (Henley, 1977). As women often have less social power than men in many societies, this difference may lead to apparent sex differences in social cognition. This hypothesis, however, has received mixed empirical support at best (e.g. Hall, Halberstadt, & O'Brien, 1997).

A recent study by Mast and Hall (2006) systematically investigated variables that may underlie women's advantage over men in remembering the appearance of others. Despite an exhaustive search for variables mediating this sex difference across a series of studies (including differential motivation, memory ability, attentional differences and several others), these authors were unable to find mediators that could explain women's advantage over men in this task. In conclusion then, it seems likely that women often perform better than men when performing tasks that involve some interpretation of, or memory for, social signals, yet the factors that mediate these sex differences are poorly understood, despite some research effort.

Furthermore, even in quite closely related tasks reliable sex-differences do not always emerge. For example, females do not always perform more accurately than males in studies of personality perception at zero acquaintance (e.g. Watson, 1989; see Zebrowitz & Collins, 1997; for review). Similarly, (Graham & Ickes, 1997) performed a qualitative review of 10 studies of empathetic accuracy (defined as success in 'everyday mind reading', and measured by assessing participants'

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