Association between level of emotional intelligence and severity of anxiety in generalized social phobia

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ABSTRACT

Generalized social phobia (GSP) is characterized by a marked fear of most social situations. It is associated with an anomalous neural response to emotional stimuli, and individuals with the disorder frequently show interpretation bias in social situations. From this it might be suggested that GSP involves difficulty in accurately perceiving, using, understanding and managing emotions. Here we applied the Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT) to medication-free GSP ($n = 28$) and no pathology ($n = 21$) individuals. Patients with GSP performed within the normal range on the measure however severity of social anxiety significantly correlated with emotional intelligence (EI). Specifically, there was a negative correlation between social anxiety severity and Experiential (basic-level emotional processing) EI. In contrast, there was no significant correlation between social anxiety severity and Strategic (higher-level conscious emotional processing) EI. These results suggest that EI may index emotional processing systems that mitigate the impact of systems causally implicated in GSP.

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1. Introduction

Generalized social phobia (GSP) imposes persistent functional impairment and disability on individuals with the disorder, and is associated with a high risk for depression, alcohol, drug abuse and suicide (e.g., Brody, 2004; Kaufman & Charney, 2000; Kessler, 2003). It is characterized by a marked and persistent fear of most social situations or interactions in which embarrassment may occur. This exaggerated fear of social situations may in part reflect a reduced ability to 'read' social situations.

Thus, there are data to suggest that socially anxious or shy individuals may not perceive social situations accurately. So, for example, they typically judge their performance more negatively than non-anxious individuals (Alden & Wallace, 1995; Rapee & Lim, 1992; Taylor & Alden, 2005). In addition, they tend to use a suboptimal interactional style, which includes the excessive use of smiling, head nodding, excuses and apologies (Edelmann, 1987; Leary, Knight, & Johnson, 1987; Pilkonis, 1977), as well as more verbal reinforcers while others are talking (Leary et al., 1987; Natale, Entin, & Jaffe, 1979), but limited use of social cooperation and dominance behaviors (Baker & Edelmann, 2002; Walters & Hope, 1998). Studies have also shown that socially anxious individuals expect that their social ability falls short of what others expect and doubt their ability to created desired impressions on others (Alden & Wallace, 1995; Carleton, Kelsey, & Asmundson, 2007; Wallace & Alden, 1991, 1997). This data might be taken to indicate that GSP is associated with an impaired ability to analyze or strategize about social situations/interactions, an ability that is often linked with EI.

There are also data to indicate that individuals with GSP have an atypical response to other individuals' emotions.

Thus, studies examining the neural response to emotional expressions in patients with GSP have reported increased activity in several regions including the amygdala and anterior cingulate cortex to a variety of facial expressions including harsh (Phan, Fitzgerald, Nathan, & Tancer, 2006), angry (Blair et al., under review; Stein, Goldin, Sareen, Zorrilla, & Brown, 2002; Straube, Kolassa, Glauer, Mentzel, & Miltner, 2004; Straube, Mentzel, & Miltner, 2005), fearful (Blair et al., under review; Stein et al., 2002), disgusted (Amir et al., 2005), happy (Straube et al., 2005) as well as neutral (Birbaumer et al., 1998; Stein et al., 2002) expressions. Moreover, individuals with GSP appear to 'scan' facial expressions atypically, showing decreased scanning of selected facial features (particularly the eyes), and increased scanning of non-features, compared to non-anxious controls (Horley, Williams, Gonsalvez, & Gordon, 2003, 2004). These data suggest that GSP is associated with an impaired perception about social situations/interactions.

The ability to strategize and perceive social situations/stimuli is closely related to the concept of emotional intelligence (EI) as perceived by most emotion researchers. As such, it would appear plausible that individuals with GSP may present with impairments on EI measures. However, as of this writing, no prior study has examined the relationship between EI and any group of mood and anxiety disorders, let alone GSP in particular.

One of the most widely used measures for EI is the Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT) (Mayer, Salovey, & Caruso, 2002). The MSCEIT assesses two main areas of EI, strategic and experiential intelligence. Strategic EI involves the abilities to understand emotional information, to understand how emotions combine and progress through relationship transitions, and to appreciate such emotional meanings and to manage emotions, to be able to modulate them in oneself and others so as to promote personal understanding and growth. In contrast, the Experiential EI involves the abilities to perceive emotions in oneself and others and the ability to generate, use and feel emotion as necessary to communicate feelings or employ them in other cognitive processes (Mayer et al., 2002). It should be noted (see also Table 2), that Strategic EI can be considered to index an individual's semantic knowledge about other's emotional states; i.e., it indexes what they think someone else should feel in a particular situation and their understanding of the relationship between another's actions and their likely mood states. Experiential EI can be considered to index an individual's ability to read their own and others mood states and their knowledge about the efficacy of emotional states.

The concept of EI, and the scales assessing EI, has been the subject of some criticism, including its relation to other types of intelligence, and established personality dimensions (Brody, 2004; Roberts et al., 2006; Roberts, Zeidner, & Matthews, 2001). In addition, the MSCEIT's scoring method, which is based on consensus ratings with higher scores indicating a higher overlap between the rater and a large sample of world wide respondents, has been criticized for requiring conformity to norms or not recognizing exceptional EI (e.g., Brody, 2004). However,

there is a body of work suggesting that it is congruent with the theory on which it is based, and that it a separate construct from established personality measures (Brackett & Mayer, 2003; Brackett & Salovey, 2006; Mayer, Roberts, & Barsade, 2008). In addition, reliability and validity data are generally reasonable, with total scale split halves of $r > 0.90$ and test–retest reliability of $r = 0.86$ (see Mayer et al., 2008). The MSCEIT is also widely used and has been found to predict the perceived quality of social interactions and the extent to which people feel wanted and important in their interactions as well as to the perceived quality of opposite-sex interactions with romantic partners (Lopes et al., 2004), self-reports and peer nominations of interpersonal sensitivity and prosocial tendencies (Lopes, Salovey, Cote, & Beers, 2005), and the use of optimistic thinking to regulate negative thinking (Lopes, Salovey, & Straus, 2003). In addition, scores are negatively correlated with negative outcomes including illegal drug and alcohol use, deviant behavior, and poor relations with friends (Brackett & Mayer, 2003), as well as self-reports of socioemotional competence and dominance (Lopes et al., 2005). Finally, recently, at the neural level, EI as indicated by the MSCEIT has been found to correlate positively with neural activity in frontal polar region, a region that has been linked to mood and anxiety disorders (Reis et al., 2007).

There are three relationships that EI may have with GSP: (1) reduced EI may be causally related to the development of GSP. This position predicts that patients with GSP will show reduced levels of EI; (2) EI may have no role in the development of GSP per se. However, it may index emotional processing systems that mitigate the impact of systems that are causally implicated in the development of GSP. This position predicts that patients with GSP will not show reduced levels of EI but that their level of EI will relate to the level of symptoms shown; and (3) EI may be unrelated to GSP. This position predicts no relationship between EI and GSP. In this study we test these hypotheses by applying the MSCEIT to medication-free individuals with GSP and examining its relationship to severity of social anxiety symptoms as indexed by scores on the Liebowitz Social Anxiety Scale (LSAS).

2. Methods and materials

2.1. Participants

Patients with GSP ($n = 28$) and healthy comparison individuals ($n = 21$) participated in the study. Samples were group-matched on age, gender, and IQ (see Table 1). Patients were required to meet criteria for current generalized social phobia according to the DSM-IV (2000) criteria based on the Structural Clinical Interview for DSM-IV Axis I disorders (SCID) (First, Spitzer, Williams, & Gibbon, 1995) and a confirmatory clinical interview by a board-certified psychiatrist (DSP). None of the GSP patients had a current/recent depressive episode, autism/pervasive developmental disorders, mental retardation, or significant medical or neurological illness. In addition, all patients were currently medication-free (no regular use of psychotropic medication within 2 weeks of