Gender differences in the relationship between emotional intelligence and right hemisphere lateralization for facial processing

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A B S T R A C T
The present study examined relationships between emotional intelligence, measured by the Mayer–Salovey–Caruso Emotional Intelligence Test, and right hemisphere dominance for a free vision chimeric face test. A sample of 122 ethnically diverse college students participated and completed online versions of the forenamed tests. A hierarchical regression was performed to test for the hypothesized interaction between gender and EI on the right hemisphere bias score. No significant main effects were found for gender or total EI score. However, when entered into the model, the interaction term contributed an additional 4.5% of the variance in right hemisphere dominance for the processing of facial emotions. Descriptively, men with greater EI were associated with higher right hemisphere dominance in the free vision test, while no association was observed for women.

1. Introduction

The present study explores a potential link between ability emotional intelligence (EI) and right hemisphere dominance for faces and emotions. According to Mayer, Salovey, Caruso, and Sitarenios (2003) emotional intelligence "involves problem solving with and about emotions" (p.97) including the ability to (a) perceive, (b) use, (c) understand, and (d) manage emotions on the self and others (also see Salovey & Mayer, 1990). This definition of EI differs from “mixed models” of EI in that it does not mix personality attributes with abilities (see Mayer, Salovey, & Caruso, 2000, for an extensive review). On the other hand, neuropsychology research has established that the right cerebral hemisphere has an advantage (compared to the left cerebral hemisphere) in the expression and processing of emotional information (for a review, see Heller, Nitschke & Miller, 1998). While studies have found evidence for a relationship between hemispheric lateralization and traditional intelligence (Njemane, 2005; Razoumnikova, 2003), as well as emotion lateralization and emotion processing (Levy, Heller, Banich, & Burton, 1983; Watling & Bourne, 2007; Workman, Chilvers, Yeomans, & Taylor, 2006; Workman, Peters, & Taylor, 2000), studies have not focused on the lateralization of ability EI. Indeed, Tarasuik, Ciociari, and Stough (2009) recent review of the literature concerning the neurobiology of EI underscores the paucity of studies in this area and points to the importance of evaluating the biological activity underpinnings.

1.1. Emotional intelligence

Salovey and Mayer (1990) integrated existing research on intelligence and emotion to outline a theoretical model for emotional intelligence. In their own words, “…there is a set of conceptually related mental processes involving emotional information.” From this perspective, Salovey and Mayer listed a series of skills that require emotional processing and are beneficial for every-day competency. These skills include “the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth” (Mayer & Salovey, 1997, p. 5). This definition of EI guided the present research and was chosen because it pertains to an ability-based model of EI which, unlike mixed EI models, does not involve personal competencies or motivation (Mayer et al., 2000). In addition, the ability model measures EI with a performance-based test (the Mayer–Salovey–Caruso Emotional Intelligence Test; MSCEIT), rather than self-report tests that lend subjective results (Zeidner, Matthews, Roberts, & McCann, 2003). The MSCEIT is a measure designed to assess the four components or “branches” (i.e., perceive, generate, understand, and manage) described by Salovey and Mayer’s ability model of EI. Of particular interest to this study, is the central role that the ability to read facial expressions plays in the emotional intelligence arena (Elfenbein, Marsh, & Ambady, 2002). According to Elfenbein and colleagues, facial
expressions have an advantage over other nonverbal communication cues because individuals tend to prioritize the facial information conveyed from and to others in regular interactions. In fact, for every component of ability EI one could argue that facial emotion processing is necessary. To perceive accurately an emotion one must be able to "read" faces (Ekman, 1965), and how could one generate, understand, and manage emotions without effectively processing facial emotion information? Thus, this important link between facial processing and ability EI is the focus of our study.

1.2. Right hemisphere lateralization

The lateralization of emotional processing is well documented. A free vision test developed by Levy et al. (1983) has been used successfully to measure cerebral hemisphere dominance during the analysis of human faces. For this test, photos of human faces were constructed, in which half of a happy face is juxtaposed with half of a neutral face. These face chimeras are presented in pairs with their mirror images (one above the other) and participants judge which one looks happier. Chimeras with the half-happy face presented to the left visual field are typically perceived as happier. This hemispheric asymmetry has been observed over a range of participant variables including non-brain-damaged adults (e.g., Chiang, Ballantyne, & Trauner, 2000; Crucian & Berenbaum, 1998; Levy et al., 1983; Luh, Ruckert, & Levy, 1991), children (Levine & Levy, 1986; Workman et al., 2006), younger and older adults (Cherry, Hellige, & McDowd, 1995), monozygotic twins (Kee, Cherry, Neale, McBride, & Segal, 1998), depressed patients (Bruder et al., 2002), and Alzheimer's patients (Koff, Zaithchik, Montepare, & Albert, 1999). Furthermore, studies have suggested that there is a relationship between children's lateralization of emotional processing and their ability to identify emotions (Watling & Bourne, 2007; Workman et al., 2006).

Analogous to the above findings, several studies have found support for the lateralization of intelligence. Using electroencephalogram (EEG) procedures with a sample of right-handed males, Razoumnikova (2003) found higher right hemisphere dominance for males with higher IQ, when compared to males with lower IQ. In the same way, employing transcranial Doppler ultrasound, Njemanze (2005) found different patterns of lateralization for males and females in regards to intelligence. In his study, males and females had greater activation of the right and left hemisphere, respectively, while correctly solving problems from the Raven's progressive matrices test.

A link between ability EI and variation in brain activity was also reported by Jaušovec, Jaušovec, and Gerlic (2001). Jaušovec and colleagues compared high versus low ability EI participants using electroencephalogram (EEG) procedures. Their findings suggest participants with high ability EI had lower left hemisphere activity than those with average ability EI scores. Furthermore, Jaušovec and Jaušovec (2005) report that males with high EI have neurons in the frontal brain areas that are not working together (i.e., decoupled), while females high in EI have greater coherence in the frontal and parietal/occipital brain areas. A follow up study (Jaušovec & Jaušovec, 2008) showed that males with high ability EI solved tasks of emotion identification with increased brain activity in the frontal brain regions.

1.3. Gender differences

Gender differences are prominent in the domains of intelligence, emotional, and facial processing. In the intelligence arena, men and women seem to have different patterns of brain activation (Jaušovec & Jaušovec, 2005, 2008; Jung et al., 2005; Njemanze, 2005; Razoumnikova, 2003). The suggestion from these studies appears to be that males and females have greater involvement of the right and left hemisphere, respectively, while working on IQ tasks. Concerning emotional processing, Bourne (2005) found that males and females have a right hemisphere bias while perceiving positive facial emotions; however, males have greater right hemisphere lateralization than females. Similarly, in a lesion study by Tranel, Damasio, Denburg, and Bechara (2005), men's emotional processing was found to be affected when unilateral lesions to the right ventromedial prefrontal cortex (VMPC) were present, and not when the lesions existed on the left VMPC. On the other hand, the exact opposite was true for women; their emotional processing suffered if there was a lesion to the left VMPC, but not the right. In the facial processing arena, several researchers have reported gender differences in cerebral lateralization. Men have been found to be right lateralized for facial perception, while left lateralization was found for women in facial processing tasks (Njemanze, 2004, 2007). Analogous gender differences in face recognition and facial affect have also been reported in pre-pubertal samples (Everhart, Shucard, Quatrin, & Shucard, 2001, suggesting that these differences are present earlier in development. Similar patterns also exist in emotionally influenced memory studies, in which men exhibited a stronger association than women between the right hemisphere amygdala and memory for arousing pictures, and a stronger association for women was found between the left hemisphere amygdala and memory for the same arousing pictures (Cahill, Uncapher, Kilpatrick, Alkire, & Turner, 2004).

In addition, previous findings point to women's advantage in EI. Often, women have been found to score higher than men in ability EI (Brackett & Mayer, 2003; Brackett, Mayer, & Warner, 2004; Brackett, Rivers, Shifman, Lerner, & Salovey, 2006; Day & Carroll, 2004; Mayer, Caruso, & Salovey, 1999). Furthermore, relationships among EI and behavioral outcomes such as drug and alcohol abuse, as well as aggression, have been found for men but not for women (Brackett et al., 2004). Finally, the importance of evaluating gender interactions was recently addressed by Craig et al. (2009) in their study of the neural correlates of emotional intelligence. Their experiment, however, relied on a self-report assessment of EI (i.e., a “mixed” model). As previously discussed, mixed EI models are only weakly related to ability EI (Brackett & Mayer, 2003) measured by the performance-base test used in the present study.

1.4. The present study

Drawing from previous findings on the lateralization of intelligence, emotional and facial processing, and gender differences in both fields, the current investigation aims to examine the lateralization of ability EI across genders. The body of existing literature in these domains points to a right hemisphere bias for men and not for women. Thus, the present study anticipates uncovering gender dimorphic patterns in the relationships between ability EI and right hemisphere dominance for the free vision chimeric face task.

Particularly, we expect to find greater right hemisphere advantage for males with high levels of ability EI when compared to females.

2. Method

2.1. Participants

A convenience sample of 122 ethnically diverse (45 White, 34 Latino, 23 Asian, 6 Black, and 14 Other) college students; 68 females (mean age = 18.71, SD = 1.31) and 54 males (mean age = 19.15, SD = 1.70) volunteered from the Introductory Psychology participant pool. Participants were native English speakers and received course credit for their involvement. Informed consent was completed before the beginning of the session. Our sample included both left and right handed participants (females: left = 7...
and right = 61; males: left = 6 and right = 48) as measured by the Edinburgh Handedness Inventory (participants with a resulting coefficient > 0.40 were considered right handed). Analyses presented are based on the complete sample because excluding left-handers did not alter the relationships observed.

2.2. Procedures and measures

Participants were tested in small groups in a computer classroom using Windows XP PCs with 15 inch monitors. Internet Explorer v7.0 was the browser used to access our experimental website. Measures completed on our webpage included the Edinburgh Handedness Inventory (Oldfield, 1971) and the Levy chimeric face task (Levy et al., 1983). After participants completed the first two measures they accessed the Multi-Health Systems website for completion of the MSCEIT. Test sessions lasted 1 hour on average.

2.2.1. Edinburgh Handedness Inventory

The Edinburgh Inventory (Oldfield, 1971) was used to measure self-reported hand preference. Participants indicated their hand preference for 10 different activities (i.e., writing, drawing, throwing, use of scissors, toothbrush, knife (hand that holds knife to cut food), spoon, broom (upper hand), striking match (match hand), opening a box (lid)). An online version was developed using HTML and a Polyform script. Participants were asked to choose one of five options for each activity: Very Left, Left, Both, Right, or Very Right.

2.2.2. Chimeric face task

For this test, copies of the original 36 face chimeras used and provided by Levy et al. (1983) were scanned into a digital format. These chimeras were originally constructed from photographs taken of nine males. Each male was photographed with a smiling face and a neutral face. Half of the smiling photograph was juxtaposed with half of the neutral photograph, and then a mirror image was created. This resulted in two chimeras: one with the smiling face on the right and the neutral face in the left, and the other with the neutral face on the right and the smiling face on the left. The chimeras are presented in pairs with their mirror images (one above the other) and participants are instructed to judge which looks happier.

A webpage was constructed showing the chimeras exactly as Levy and colleagues formatted them in the paper version. The black and white images were presented over a white background. Using radio buttons, participants were instructed to choose which face looked happier (i.e., the top face, the bottom face, or undecided) and to make their selection as quickly as possible, based on their first hunch. Each pair of faces was shown until the participant indicated a response. Our webpage was based on HTML and a Polyform script that sent the participants' responses to a secure server; the data file was subsequently downloaded through FTP.

2.2.3. Mayer–Salovey–Caruso Emotional Intelligence Test v2.0

The MSCEIT is an ability-based test designed to measure skills across the four identified EI branches: perception, use, understanding, and management of emotions on the self and others (Mayer et al., 2003). The test provides a total EI score which is reported in the current study. In addition, a score for each branch of EI and two sub-scores for each branch of EI (i.e., faces task, pictures task, facilitation task, sensations task, changes task, blends task, emotion management task, and social management task) are also available. The Perception Branch is measured with a face task and a pictures task by presenting a series of faces, landscapes, and abstract designs in which participants have to identify the emotions present on those faces, landscapes, and designs. The using component is measured with the facilitation and the sensations tasks, in which test-takers identify the emotions that facilitate a cognitive task and/or behavior, and by asking participants to generate an emotion and identifying a sensation that matches it. The understanding skill is measured with a changes and a blends task. In the blends task participants name emotions that together can result in a different emotion, and in the changes task they select an emotion that could be experienced as a result of the intensification of a different emotion. Finally, the management branch is assessed with the emotion management and the emotional relationships tasks, by asking test-takers to identify the most effective actions for a fictional character to experience a specific emotion, and by having respondents choose the best actions to manage another person's emotions (Mayer et al., 2003).

The test consists of 141 items and usually takes 35–45 min to complete. The test scores follow a normal curve with a mean of 100 and a standard deviation of 15 (for a more detailed description see Mayer, Salovey, & Caruso, 2002). The User's Manual reports a full scale reliability of .91 and good face, content, structural, and predictive validity (Mayer et al., 2002). The MSCEIT v2.0 was administered online through the Multi-Health Systems website.

2.3. Scoring

2.3.1. Edinburgh Handedness Inventory

A handedness coefficient was computed with the following formula: \( (R - L) / (R + L) \), in which \( L \) is twice the number of times a participant endorsed the Very Left answer choice, plus the number of times the Left and Both choices were selected. Similarly, \( R \) is twice the number of times a participant endorsed the Very Right answer choice, plus the number of times the Right and Both choices were selected. The resulting coefficient ranges from \(-1.0\), indicative of strong left handedness, to \(1.0\), denoting strong right handedness. Participants ranging from \(-0.40\) to \(0.40\) are known to be ambidextrous. Thus, the present study considered anyone above \(0.40\) a right handed person.

2.3.2. Chimeric face task

The dependent variable for the Levy chimeric face task was a bias score calculated by the following formula: \( (R - L) / (R + L) \), where \( R \) is the number of faces judged as happier to the participant’s right visual-field and \( L \) is the number of faces judged as happier to the participant’s left visual-field. A positive score indicates a right visual-field (left hemisphere) bias, while a negative score indicates a left visual-field (right hemisphere) bias.

2.3.3. Mayer–Salovey–Caruso Emotional Intelligence Test v2.0

Two scoring methods have been developed for the MSCEIT: a general versus an expert consensus score. The general consensus method gives credit on each item based on the standardization sample whereas the expert score is based on the answers from a group of 21 members of the International Society for Research on Emotions. According to Mayer et al. (2002), the scoring methods correlate near unity, thus the general consensus scoring for the MSCEIT was adopted for the present analysis (also see Brackett et al., 2004).

3. Results

Table 1 presents the descriptive statistics for total EI Score and the chimeric face bias score. The calculated mean bias score for the chimeric face task was \(-0.29\); a value significantly less than 0, \( t(121) = 6.24, p < .001 \). Similarly, the bias scores for males (\(-0.23\))
and females (−.34) are significantly less than 0, \( t(53) = 3.31, p < .005 \) and \( t(67) = 5.40, p < .001 \), respectively. This finding is consistent with past research showing a leftward bias for face processing; thereby, implicating greater right hemisphere dominance for processing facial emotion expressions. The chimeric face task score was more strongly lateralized for females (\( M = −.34 \)) than males (\( M = −.23 \)); however, the 95% confidence interval for the mean (−.20 to −.39) indicated that the difference was not significant. Finally, while the mean on the total EI score was also higher for females (\( M = 96.72 \)) than for men (\( M = 94.11 \)), this difference was not statistically significant (\( t(120) = 1.174, p = .243 \)), unlike some previously reported findings (Brackett & Mayer, 2003; Brackett et al., 2004, 2006; Day & Carroll, 2004; Mayer et al., 1999).

A hierarchical regression was performed to test for the hypothesized interaction between gender and ability EI on the right hemisphere bias score. This analysis will show whether a particular predictor contributes significantly to explaining the variance of Y (or in this case of right hemisphere dominance). For this analysis, three variables were entered and entered into the regression in three separate steps. The sequence in which the independent variables were entered was determined by our theoretical framework and recommendations set forth by Cohen, Cohen, West, and Aiken (2003). First, a dummy coded Male variable in which every male in the sample was assigned a 1 and females were assigned 0. This variable was entered in the first step because if any difference should be observed in RH dominance, it should be expected to be due to sex rather than to EI. Second, the total EI score provided by the MSCEIT was centered (i.e., the average EI score for the sample was subtracted from each individual score) to give meaning to the regression coefficients and avoid multicollinearity (Aiken & West, 1991). Third, an interaction variable (\( M \times E \)) was computed as the product of the dummy coded male variable and the centered total EI variable. The male variable entered in the first step is indicative of whether or not there is a main effect of gender. The EI variable entered in the second step shows if there is a main effect of EI. Additionally, the multiplicative variable entered in the third step points to the existence of an interaction between gender and EI. Furthermore, this analysis computes the \( \Delta R^2 \) from step one to step two, and from step two to step three, which denotes whether there is a significant increase in the explained variability of right hemisphere dominance in the face task from model to model (Cohen et al., 2003). Table 2 presents the Pearson product-moment correlations for the variables. This table illustrates that multicollinearity is not an issue in the analysis (highest \( r = .69 \)).

The unstandardized and standardized regression coefficients are presented in Table 3, along with the \( R^2 \), \( \Delta R^2 \) and their respective \( F \) values. These results show that the models for step one and two do not explain a statistically significant amount of variance (\( R^2 = .15 \)). That is, no significant main effects were found for gender or total EI score. However, when entered into the model, the interaction term contributed an additional 4.5% of the variance for right hemisphere dominance for the processing of facial emotions (\( b = .018, \beta = .008 \), \( t(118) = 5.655, p = .019 \)). Fig. 1 shows the regression lines for the relations between total EI and right hemisphere dominance in the free vision task as moderated by gender. As depicted on this figure, the slope for the men was statistically significant (\( b = .012, \beta = .006 \)), \( t(67) = −1.184, p = .239 \). Thus, greater or lower levels of EI in women are not predictive of higher or lower right hemisphere lateralization for the face perception task.

4. Discussion

The present study examined the relationship between EI, as measured by an ability-based test (MSCEIT v2.0; Mayer et al., 2002), and right hemisphere dominance for facial emotions, as measured by a popular behavioral task (chimeric face task; Levy et al., 1983). It was expected that the relationship between ability EI and right hemisphere advantage would be moderated by gender. Indeed, different patterns of associations were found for males versus females. Higher scores on men’s total ability EI were predictive of stronger bias scores on the chimeric face task, that is, greater right hemisphere dominance for facial emotion processing. However, it did not make a difference whether women’s ability EI was high or low in regards to their right hemisphere bias score. Although a specific pattern of ability EI lateralization for women

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Table 1
Means (SD) for the chimeric face task bias score and total EI score.

<table>
<thead>
<tr>
<th></th>
<th>Overall (N = 122)</th>
<th>Males (N = 54)</th>
<th>Females (N = 68)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total EI Score</td>
<td>95.56 (12.22)</td>
<td>94.11 (12.57)</td>
<td>96.72 (11.90)</td>
</tr>
<tr>
<td>Chimeric face score</td>
<td>−.29 (.52)</td>
<td>−.23 (.51)</td>
<td>−.34 (.53)</td>
</tr>
</tbody>
</table>

Table 2
Correlations among the chimeric face task score and independent variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Chimeric face score</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Male (M)</td>
<td>−.11</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>3 Total EI (E)</td>
<td>.07</td>
<td>−.11</td>
<td>1.00</td>
</tr>
<tr>
<td>4 M X E</td>
<td>.20</td>
<td>−.09</td>
<td>.69**</td>
</tr>
</tbody>
</table>

* \( p = .013 \),  ** \( p < .001 \).

Table 3
Hierarchical regression analysis predicting right hemisphere dominance based on gender and total emotional intelligence.

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>( b )</th>
<th>SE</th>
<th>( \beta )</th>
<th>( R^2 )</th>
<th>( \Delta R^2 )</th>
<th>( F )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Intercept</td>
<td>0.351</td>
<td>0.062</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Male (M)</td>
<td>−.105</td>
<td>0.093</td>
<td>−.101</td>
<td>.012</td>
<td>.012</td>
<td>1.487</td>
</tr>
<tr>
<td>3</td>
<td>Total EI (E)</td>
<td>−.006</td>
<td>0.005</td>
<td>−.146</td>
<td>.015</td>
<td>.003</td>
<td>.357</td>
</tr>
<tr>
<td>3</td>
<td>M X E</td>
<td>0.018</td>
<td>0.008</td>
<td>.292*</td>
<td>.060</td>
<td>.045</td>
<td>5.655</td>
</tr>
</tbody>
</table>

The intercept refers to the average right hemisphere dominance score for the females in the chimeric face task.

\( p = .019 \).

Fig. 1. Regression lines for the relationship between total EI and right hemisphere dominance from the chimeric face task as moderated by gender.
was not observed, our results are in general agreement with recent studies of intelligence (Jaušovec & Jaušovec, 2005, 2008; Jung et al., 2005; Njemanze, 2005), emotional processing (Bourne, 2005; Tranell et al., 2005), facial processing (Everhart et al., 2001; Njemanze, 2004, 2007), and emotional memories (Cahill et al., 2004) which report different gender patterns in brain activation and cognitive style. Thus, further exploration of gender issues and differences in brain function will be essential for an up to date understanding of cognitive functioning in men and women.

The absence of an association for women may be due to various factors. For example, neutral faces evoke more bilateral responding in women, while more complex facial stimuli evoke left lateralization of facial processing (Njemanze, 2007). Thus, chimeric faces with more pronounced affect than the ones used in this study may result in a pattern of left lateralization for women. Additionally, it is likely that the sensitivity of the chimeric faces task is such that only very pronounced asymmetries are detected, as opposed to the sensitivity of neuroimaging tools such as functional magnetic resonance imaging, functional transcranial Doppler, or functional transcranial Doppler spectroscopy. Finally, differences in women’s lateralization have been reported as a function of the menstrual cycle (Bibawi, Cherry, & Hellige, 1995). Thus, it might also be informative to assess the relationship between ability EI and hemispheric asymmetries for women across stages of the menstrual cycle. Even though this suggestion is not backed up by our data and should be considered speculative.

Recall, an association between ability EI and right hemisphere dominance was observed for men and not women. This suggests that men and women may use different strategies for ability EI tasks. Research suggests different processing specializations for each hemisphere: global processing in the right hemisphere and local processing in the left hemisphere (e.g., Heinzé, Hinrichs, Scholz, Burchert, & Mangun, 1998; Fink et al., 1997). Thus, a global strategy may be more characteristic of men’s approach to ability EI tasks in comparison to women. Insight into this question may be offered by asking participants to report their thoughts, a speak aloud protocol, while taking the MSCEIT to evaluate the kinds of strategies used during the completion of ability EI problems and assess sex differences.

There has been some concern in the past as to whether some techniques used to study hemispheric asymmetries actually measure what they intend to measure (Segalowitz, 1983). A common solution to this problem has been to include multiple measures to detect asymmetries and finding dissociations. For this study, it is important to clarify that the bias from the chimeric face task is reflective of facial emotion processing rather than a general bias that can be reflective of other type of processing. While we did not include any additional measures in our study, other researchers have successfully found dissociations using the chimeric face task. For example, Kee and colleagues (1998) administered three tasks aimed to detect hemispheric specialization of verbal processing (i.e., a dichotic-listening test, a dual-task finger tapping with anagram load task, and a visual half-field test with consonants, vowels, and consonants), as well as two free vision tasks; one being the same chimeric face test used in the present study, and another using chairs instead of faces. Kee and colleagues report left hemisphere dominance for all the verbal processing tasks, right hemisphere dominance for the chimeric face task, and no bias for the visual half-field chair task, in a sample of right-handers. These findings suggest that the asymmetric bias found in this study is not reflective of verbal processing or habitual brain asymmetries.

An advantage of the MSCEIT is that it is an ability-based measure which solves the problem for social desirability, faking, and lack of self-knowledge. Test takers’ answers are evaluated for correctness against a pre-specified criterion. However, a drawback of the MSCEIT is that it is scored based on general consensus and expert agreement. Authors of tests that ask judges to answer the items and define their correct answers by looking at what the majority responded, may have answers that are stereotypically correct, but not the most accurate ones (Rivers, Brackett, Salovey, & Mayer, 2007). The use of an ability EI test designed to have unique real answers would eliminate this disadvantage. However, such test does not currently exist. Other limitations of the current study involve the type of stimuli used. The chimeric faces used in the present study were based on photographs of males. Because sex differences have been reported for female facial recognition (e.g., Lewin & Herlitz, 2002), provision for chimeric faces based on female faces should be considered in future research. Additionally, the present study relied on an introductory psychology participant pool; thus, broader sampling in subsequent research will address questions of generalization. Finally, in future studies, a larger sample could allow for additional analyses using the various subscales of the MSCEIT.

The present study offers an initial examination of a link between ability EI in men and right hemisphere dominance for facial emotion processing. The relationship between ability EI and right hemisphere bias varied by gender. Males showing greater right hemisphere advantage in the free vision task tend to have greater ability to identify emotions within themselves and others, to generate feelings that facilitate goal attainment, to understand emotional phenomena, and to manage their own and others’ emotions. On the other hand, the level of ability EI for women was not related to degree of right hemisphere dominance in the chimeric face task. These results enrich our understanding of EI and its neurological substrates.

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