CROSS-CULTURAL DIFFERENCES IN SELF-ASSESSED INTELLIGENCE: A COMPARISON OF BRITISH AND CHINESE UNDERGRADUATES

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The present study examined self-assessed intelligence (SAI) in Britain and mainland China. In total, 102 British and 111 Chinese undergraduates estimated their overall intelligence as well as 14 other multiple intelligences. Results showed that men had higher SAI on overall, linguistic, mathematical-logical, creative, and nonverbal-logical intelligences. In addition, Britons had higher SAI than Chinese on overall, linguistic, mathematical-logical, and nonverbal-logical intelligences. These results support a male hubris-female humility bias and a cultural modesty effect in self-assessments of multiple intelligence.

Key words: self-assessed intelligence, cross-cultural, sex differences

In addition to objective measures of various abilities, a growing body of research has examined respondents’ self-assessments of their abilities and perceptions (e.g., Ackerman & Wolman, 2007; Swami, Furnham, Georgiades, & Pang, 2007). The latter includes self-assessed intelligence (SAI), which has now enjoyed over a decade of sustained research (for a review, see Furnham, 2001). Perhaps the most important outcome from this research is the finding that, when asked to estimate their own intelligence, men tend to give themselves higher scores than women (e.g., Byrd & Stacey, 1993; Furnham, 2001; Rammstedt & Rammsayer, 2002). So robust is this effect that Furnham, Fong, and Martin (1999) have discussed a ‘male hubris-female humility’ bias in SAI.

Nor is this effect limited to self-assessments: studies have shown that the sex bias extends to estimates of parental, sibling, child, and partner ratings of intelligence (e.g., Furnham & Rawles, 1995; Furnham et al., 1999; Furnham & Gasson, 1998). Furthermore, cross-cultural studies have uncovered a similar sex difference, regardless of the nationality or ethnic group under examination (e.g., Furnham & Akande, 2004; Furnham & Mottabu, 2004; Furnham, Hosoe, & Tang, 2001; Swami, Furnham, & Kannan, 2006). Interestingly, a number of studies have also reported a ‘modesty bias’ in cross-cultural SAI, with East Asians in particular giving lower self-estimates of intelligence than other cultural groups (e.g., Furnham et al., 1999, 2001; Swami et al., 2006; Yuen & Furnham, 2005).

This ‘modesty bias’ is explicable in terms of a lower tendency to self-enhance among collectivist nations generally and East Asians specifically (e.g., Heine, Lehman, Markus,
individuals in collectivist cultures tend to be more responsive to society, while devaluing the private self (Fiske, Kitayama, Markus, & Nisbett, 1998), and also show greater illusions or ordinariness than respondents from individualist cultures (Markus & Kitayama, 1991). Moreover, East Asians tend to doubt the validity of intelligence tests (Yuen & Furnham, 2005) and are more likely to hold incrementalist beliefs about intelligence (Dweck, 1999; Salili & Hau, 1994), which decreases the tendency to self-enhance (Furnham, 2001).

In the present study, we examined cross-cultural differences in SAI between British and Chinese undergraduates. This is important because, although previous work has examined SAI among East Asian populations (e.g., Japanese: Furnham et al., 2001; Hong Kong Chinese: Yuen & Furnham, 2005) as well as conceptions of intelligence among Chinese respondents (e.g., Biggs & Watkins, 1996; Stevenson & Lee, 1996; Zhang & Wu, 1994), to our knowledge no previous work has examined SAI among mainland Chinese. As such, this study adds to extant studies by focusing on a population that remains relatively under-represented in the SAI literature. Based on previous work (e.g., Furnham, 2001), we predicted that British participants would provide higher self-estimates of multiple intelligence than Chinese participants. Nevertheless, we expected to find a male hubris-female humility bias in both cultural groups.

**METHOD**

**Participants**

The sample consisted of 102 British (55 women, 46 men) and 111 Chinese (55 women, 56 men) undergraduates from a range of non-psychology courses in Greater London and Shanghai, respectively. The mean age of British participants was 21.50 years (SD = 3.94), whereas that of Chinese participants was 24.68 years (SD = 3.74). The vast majority of British participants were of Caucasian descent (96.0%), while all Chinese participants were ethnic Han.

**Materials**

**Self-Assessed Intelligence.** All participants completed an adaptation of a scale developed by Furnham and Gasson (1998) and that has been shown to be culturally-sensitive (e.g., Furnham et al., 2002). A normal IQ distribution was shown (M = 100, SD = 15), and under each standard deviation, a typical IQ score was given plus a descriptor (e.g., ‘+1, 115 high average’). Participants were first asked to estimate their overall intelligence, followed by Gardner’s (1999) ten multiple intelligences (linguistic, logical-mathematical, spatial, musical, body-kinaesthetic, interpersonal, intrapersonal, existential, spiritual, and naturalistic intelligences), Sternberg’s (1997) successful intelligences (adaptive, practical, and creative intelligences), and two items added specifically for the present study (nonverbal-logical intelligence and emotional intelligence). Nonverbal-logical intelligence was added because previous work has shown that Chinese respondents rate verbal skills as less important than their Western counterparts (Chen & Chen, 1988), whereas emotional

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1 Although the distinction between individualism and collectivism remains one of the most prominent constructs in cross-cultural psychology (e.g., Vandello & Cohen, 1999), at least one recent review concluded that cultural differences these constructs “were neither as large nor as systematic as often perceived” (Oyserman, Coon, & Kemmelmeier, 2002). This appears to be an ongoing debate within cross-cultural psychology (e.g., see Schimmack, Oishi, & Diener, 2005), and our view here is that collectivism is likely to be related to lower SAI, as evidenced in previous work (e.g., Furnham et al., 2001; Yuen & Furnham, 2005).
self-assessed intelligence has not been previously examined in the context of SAI.

Beliefs About Intelligence. Participants were asked to respond on a bimodal scale (Yes or No) whether they had ever taken an intelligence test. They also rated, on a 5-point scale, how well they believed intelligence tests measure intelligence (1 = Not at all well, 5 = Very well), whether they believed intelligence as inherited (1 = Strongly disagree, 5 = Strongly agree), and whether they believed intelligence tests to be useful in educational settings (1 = Not at all useful, 5 = Very useful).

Demographics. All participants were asked to provide their demographic data consisting of sex, age, and ethnicity.

Procedure
The questionnaire was presented in English for the British group, and was translated into Wu (Shanghainese) for the Chinese group. The latter was initially translated into Wu by the second author, before an independent translator developed a back-translation into English. Minor differences in the original and back-translation were corrected at this stage. Participants in both groups were recruited opportunistically by the authors of this study in both locations. Once participants provided informed consent, they were presented with a single-page questionnaire and requested to complete it in view of the experimenter. Participants were not remunerated for their time, participated on a voluntary basis, and were debriefed following completion of the questionnaire.

RESULTS

Descriptive Statistics
There was a significant between-group difference in participants’ mean age, with Chinese participants being older than British participants, $F(1, 213) = 36.68, p < .001, \eta^2_p = .15$. Although age does not appear to have a strong association with SAI (Furnham, 2001), we nevertheless included it as a covariate where appropriate. Ms and SDs for estimated multiple intelligences are reported in Table 1. Slightly more Britons had previously taken an IQ test than Chinese (60.8% versus 50.5%).

Beliefs About Intelligence
Results of a series of ANCOVAs (Bonferroni-corrected at .05/3 = .017), with beliefs about intelligence items as the dependent variables, sex and nationality as independent variables, and age as a covariate, showed no significant main effects of sex (all $F$s < 1.09, all $p$s > .017) or nationality (all $F$s < 1.82, all $p$s > .017), and no sex × nationality interactions (all $F$s < .50, all $p$s > .017). These data were, therefore, not analysed further.\(^2\)

Sex and Nationality Differences
For each of the 15 types of intelligence, we conducted Bonferroni-corrected (.05/15 = .003) ANCOVAs with SAI as the dependent variables, participant sex and nationality as the independent variables, and participant age as a covariate (see Table 1). For overall intelligence, there was a significant effect of sex, with men giving themselves higher scores and may, therefore, not show any biases in their SAI. As a simple test of this possibility, we conducted an independent samples t-test with overall intelligence as the dependent variable and having previously taken an IQ test as the independent variable. Results of the analysis showed no significant between-group differences, $t(211) = 2.48, p > .05$.

\(^2\) A reviewer suggested to us that those who have previously taken an IQ test may know their actual IQ scores and may, therefore, not show any biases in their SAI. As a simple test of this possibility, we conducted an independent samples t-test with overall intelligence as the dependent variable and having previously taken an IQ test as the independent variable. Results of the analysis showed no significant between-group differences, $t(211) = 2.48, p > .05$. 
Table 1. Means and Standard Deviations for British and Chinese Participants, As Well As Significant Between-Group Differences

<table>
<thead>
<tr>
<th>Item</th>
<th>British participants (n = 102)</th>
<th>Chinese participants (n = 111)</th>
<th>ANCOVA results*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men, M (SD)</td>
<td>Women, M (SD)</td>
<td>Sex, F(η₂)</td>
</tr>
<tr>
<td>Overall</td>
<td>120.63 (13.47)</td>
<td>111.57 (9.19)</td>
<td>21.23* (.09)</td>
</tr>
<tr>
<td>Linguistic</td>
<td>116.80 (15.50)</td>
<td>109.32 (10.75)</td>
<td>5.98* (.03)</td>
</tr>
<tr>
<td>Logical-mathematic</td>
<td>117.74 (14.97)</td>
<td>109.52 (9.93)</td>
<td>18.04* (.08)</td>
</tr>
<tr>
<td>Musical</td>
<td>110.22 (14.74)</td>
<td>102.32 (15.42)</td>
<td>3.72 (.01)</td>
</tr>
<tr>
<td>Body-kinaesthetic</td>
<td>106.26 (12.73)</td>
<td>106.54 (11.35)</td>
<td>1.28 (&lt;.01)</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>113.83 (13.85)</td>
<td>113.38 (9.93)</td>
<td>0.01 (&lt;.01)</td>
</tr>
<tr>
<td>Intrapersonal</td>
<td>114.46 (13.79)</td>
<td>111.52 (11.26)</td>
<td>0.06 (&lt;.01)</td>
</tr>
<tr>
<td>Existential</td>
<td>108.63 (14.33)</td>
<td>108.63 (12.45)</td>
<td>0.80 (&lt;.01)</td>
</tr>
<tr>
<td>Spiritual</td>
<td>100.61 (20.60)</td>
<td>104.07 (13.68)</td>
<td>3.43 (.01)</td>
</tr>
<tr>
<td>Naturalistic</td>
<td>105.37 (13.04)</td>
<td>104.34 (13.40)</td>
<td>0.01 (&lt;.01)</td>
</tr>
<tr>
<td>Adaptive</td>
<td>112.74 (14.06)</td>
<td>109.50 (10.37)</td>
<td>0.29 (&lt;.01)</td>
</tr>
<tr>
<td>Practical</td>
<td>110.15 (13.05)</td>
<td>109.09 (10.89)</td>
<td>0.52 (&lt;.01)</td>
</tr>
<tr>
<td>Creative</td>
<td>113.61 (14.99)</td>
<td>106.95 (12.03)</td>
<td>6.00* (.03)</td>
</tr>
<tr>
<td>Nonverbal-logical</td>
<td>118.17 (15.08)</td>
<td>109.48 (11.53)</td>
<td>17.87* (.08)</td>
</tr>
<tr>
<td>Emotional</td>
<td>110.30 (13.00)</td>
<td>110.89 (11.93)</td>
<td>0.01 (&lt;.01)</td>
</tr>
</tbody>
</table>

Note: * Covariate age did not have a significant effect on any of these analyses (all Fs < 2.29, all ps > .003). * p < .003 following Bonferroni correction.
scores than women, $t(211) = 4.33, p < .001, d = .59$. There was also a significant effect of nationality, with British participants having higher SAI than Chinese participants, $t(211) = 2.21, p < .05, d = .28$. Men also had higher SAI than women on linguistic, $t(211) = 2.28, p < .05, d = .31$, and logical-mathematical intelligences, $t(211) = 4.11, p < .001, d = .49$. Men also had higher SAI on nonverbal-logical intelligence, $t(211) = 3.99, p < .001, d = .54$, as did Britons in comparison with Chinese, $t(211) = 2.63, p < .05, d = .36$. Finally, men had higher SAI on creative intelligence than women, $t(211) = 2.32, p < .05, d = .32$.

**DISCUSSION**

The results of this study are consistent with previous work indicating the existing of a male hubris-female humility effect in SAI (Furnham, 2001; Furnham et al., 1999). In the present study, men had significantly higher SAI than women on overall, linguistic, mathematical-logical, creative, and nonverbal-logical intelligences. These findings are in line with previous studies showing sex differences in SAI, particularly on overall, linguistic, and mathematical-logical intelligence (e.g., Furnham et al., 1999; Swami et al., 2006). As has been discussed elsewhere (e.g., Beloff, 1992), these sex difference is most likely a result of gender differences in the socialisation process: in most cultures, there is an emphasis on humility and modesty in women’s upbringing, resulting in poor intellectual self-image relative to men, even though there are no objective differences in IQ between women and men (e.g., Mackintosh, 1998).

As predicted, the present study also revealed cross-cultural differences in SAI, although these were limited to higher SAI among Britons compared with Chinese participants on overall and nonverbal-logical intelligences. The suggestion of a ‘modesty bias’ among Chinese participants relative to Britons is consistent with previous work among similar populations (e.g., Furnham et al., 1999, 2001; Swami et al., 2006; Yuen & Furnham, 2005) and can be explained as a function of the lower likelihood of self-enhancing among members of collectivist cultures. In addition to cultural differences in individualism-collectivism, Chinese respondents in particular may also hold specific beliefs about intelligence that enhance self-effacing biases.

Specifically, a number of authors have discussed Chinese conceptions of intelligence as being malleable and flexible (e.g., Yang & Sternberg, 1997), and that intelligence can be increased through effort and self-improvement (Dweck, 1999; Li, 2002; Salili & Hau, 1994). As such, Chinese participants may be less willing to demonstrate superior cognitive confidence, especially if they believe that intelligence can be increased through instrumental behaviour (or decreased through a lack of such behaviour). In sum, the results of various cross-cultural studies suggest that SAI is subject to the influence of culture-specific biases in cognition and attitudes towards intelligence (Furnham, 2001).

The main limitation of the present study is the reliance on undergraduate samples of Britons and Chinese, which necessarily limits the generalisability of the present findings (even if the range of SAI scores in the present study is consistent with previous studies
using undergraduates as participants and with average IQ scores among such samples; Furnham, 2001). In addition, we did not investigate assessments of others’ intelligence (e.g., parental or partner intelligence), which limits our examination of the male hubris-female humility bias in the present instance. Future work should, therefore, aim to include representative samples and extended measures of SAI. It may also be useful to examine SAI among the same ethnic group in different national contexts, as this would help differentiate ethno-centric from nation- or culture-specific biases in SAI. These limitations notwithstanding, the present study adds to the literature by documenting both a sex and culture bias in SAI among British and Chinese undergraduates.

REFERENCES


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