# Relating Emotional and Social Intelligence to Sex and Age

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## ABSTRACT

The purpose of this study was to examine the relationship between Emotional and Social Intelligence and age, and to determine if this relationship is different for men and women. Emotional and Social Intelligence (ESI) can be broadly defined as the ability to perceive, understand, and manage your own emotions and those of other people. The four O'Sullivan and Guilford Tests (1976) – Expression Grouping, Social Translations, Cartoon Predictions, and Missing Cartoons – can be used to assess at least some aspects of ESI. ESI should have a positive relationship with age, because it is a set of skills that can be learned over time. A total of 416 undergraduate psychology students (133 male, 283 female) completed the four O'Sullivan and Guilford Tests as part of a larger study. Hierarchical multiple regression was used to assess whether there was a relationship between each test and age, and whether this relationship was the same for men and women. Each of the four tests was regressed on age, and the resulting regression equations were examined to determine if there were differences between men and women in either the slopes or the intercepts. The Expression Grouping and Social Translations tests had statistically significant positive relationships with age, as predicted. These relationships were the same for men and women: there was no evidence for differences in either the slopes or intercepts of the regression lines. For the Cartoon Predictions test, however, there was no relationship with age. These results were the same for men and women. The lack of a relationship may be because this test uses outdated clothing in its illustrations.

For the previous three tests, there was no difference between the scores of men and women, once age had been taken into account, but for the Missing Cartoons test, there was a difference: women scored higher than men of the same age. Previous research has shown that on average women have slightly higher scores than men on many measures of ESI and verbal ability (see e.g., Barchard, 2001). The use of primarily non-verbal materials eliminates a possible cause of sex bias. The existence of a sex difference on the Missing Cartoons tests suggests that the differences observed between men and women might be real differences in ESI, and not attributable to sex bias. Future research should continue to explore the validity of non-verbal measures of ESI but should be constructed carefully using illustrations and pictures that are not specific to a particular time or place.

## INTRODUCTION

Emotional and Social Intelligence (ESI) is the ability to perceive, understand, and manage emotions in yourself and others. Intelligence can be categorized into two types: Fluid and Crystallized (Cattell, 1987). Fluid Intelligence is one's problem-solving ability. Crystallized Intelligence is one's accumulated knowledge and tends to increase with age. We hypothesize that it takes time to acquire and develop the skills necessary to become emotionally and socially competent, and that ESI is a type of Crystallized Intelligence. As such, ESI should increase with age, as has been found in previous research (Mayer, Caruso, & Salovey, 1999). In addition, previous research has sometimes found that women obtain higher scores on measures of ESI than men (Beisecker & Barchard, 2003; Mayer, Salovey, Caruso, 2002; Miller, Silverman, & Falk, 1994). The purpose of this research was to combine these two research areas, to replicate the sex difference in ESI and to determine if the relationship between ESI and age is the same for men and women.

## METHOD

### Participants

A total of 416 (283 female) participants completed this study. They were all undergraduate students who received course credit. Participant's ages ranged from 18 to 65 years (mean of 20.5, SD 4.9). Participants identified themselves as follows: 61.3% White, 11.8% Asian, and 10.6% Hispanic.

### Measures

Participants were administered the O'Sullivan and Guilford (1975, 1976) Tests. We decided to use the O'Sullivan and Guilford Tests because, unlike many other ESI tests, they rely mainly on illustrations. On some tests of verbal ability women score slightly higher than men (see e.g., Barchard, 2001) and we did not want to confuse sex differences in verbal ability with sex differences in ESI. There are four separate O'Sullivan and Guilford Tests.

**Expression Grouping:** 30 items where participants are given two sets of illustrations. The first set consists of three different facial expressions, gestures, or body postures that convey a similar emotion. Participants then choose from four other illustrations one which conveys the same emotion as the first three.

**Social Translations:** 24 items where two people who have a defined relationship are given, and participants are told what the first person says to the other. Participants then choose from among three sets of people the one in which the statement will have a different meaning.

**Cartoon Predictions:** 30 items a Cartoon drawing of a scenario is shown. Participants then choose from among three drawings the one that shows the most likely outcome depending on the characters' intensions and feelings.

@ **Missing Cartoons:** 28 items where a comic strip consisting of four illustrations is shown with one of the middle segments missing. Participants select from four separate illustrations the one that best completes the comic strip's story.

## RESULTS

@ **Expression Grouping:** There was a positive relationship between Expression Grouping and age ($r = .10$, $p = .038$). The relationship was the same for men and women: no statistical evidence for differences in either the slopes or intercepts of the regression lines was found.

@ **Social Translations:** The Social Translations test also had a positive relationship with age ($r = .11$, $p = .027$). The relationship was the same for men and women: the data indicated no differences in either the slopes or intercepts of the regression lines.

@ **Cartoon Predictions:** Cartoon Predictions had no relationship with age ($r = -.02$, $p = .735$). There were no differences in the regression lines for men and women.

@ **Missing Cartoons:** Missing Cartoons also had no bivariate relationship with age ($r = .07$, $p = .151$). However, when sex and the interaction of sex with age were added to the regression equation, the regression weight for age was now significant. In addition, there was a significant regression weight for sex, indicating the presence of intercept differences: for people of the same age, women score higher. No difference in slopes was evident, however.

See Table 1 for more specific results.

## CONCLUSION AND DISCUSSION

The purpose of this study was to examine the relationship between Emotional and Social Intelligence (ESI), age, and sex.

Two tests, Expression Grouping and Social Translations, had small positive relationships with age, and this relationship was the same for men and women. This suggests that ESI may develop over time, and increase as one ages. This supports our hypothesis that ESI is a type of Crystallized Intelligence.

For one test, Cartoon Predictions, there was no relationship with age. This outcome could be attributed to the test being somewhat outdated. The last revisions to these tests were made in 1966, and the clothing and stereotypical roles presented in the Cartoons Predictions test are quite outdated. Therefore, this research highlights the importance of updating non-verbal tests regularly, or using materials that are not specific to a particular time or place.

For the previous three tests, there were no significant differences between men and women. However, the last test, Missing Cartoons, had a significant beta-weight for women: for people of the same age, women score higher. This is an important finding because some past studies have indicated that women obtain slightly higher scores than men on measures of ESI (Beisecker & Barchard, 2003; Mayer, Salovey, Caruso, 2002; Miller, Silverman, & Falk, 1994). On some of the tests used, these findings could have occurred because the materials were written: sex differences could have been due to differences in verbal ability rather than differences in ESI itself. The observed intercept difference for the Missing Cartoons test is therefore interesting because this sex difference was found with non-verbal materials. This suggests that the differences between men and women in ESI might be real, and not just the result of test bias. Nevertheless, new non-verbal ESI tests, including illustrations or perhaps social situations and role-playing, should be designed to avoid bias due to verbal ability.

**Table 1**
Unstandardized Regression Coefficients for Predicting ESI from Age and Sex

| Criterion | Constant | Age | Sex | Age x Sex |
|---|---|---|---|---|
| Expression Grouping | 15.59* | .09 | .74 | -.02 |
| Social Translations | 7.97* | .15 | 1.54 | .01 |
| Cartoon Predictions | 19.29* | -.01 | 1.88 | .00 |
| Missing Cartoons | 8.99* | .19* | 4.34* | -.16 |

$p < .05$.

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