Using Hypothetical Situations to Measure Sex Differences in Emotional Awareness

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Abstract

Emotional Awareness is defined as one's ability to perceive emotions in one's self and in other people (Ciarrochi, Hynes, & Crittenden, 2005). Emotional Awareness is often measured by asking people how they would feel in different hypothetical situations. These tests can be administered using either the traditional paper-based format or a new Internet-based test. Previous research using paper-based measures of Emotional Awareness has consistently found that women score higher than men (Barrett, Lane, Sechrest, & Schwartz, 2000; Pasinski et al., 2007). However, there has been no research on sex differences on the Internet-based measure. The focus of the current research is to determine if sex differences exist when Emotional Awareness is measured using the Internet-based form. In this study, 508 university students completed an Internet-based version of the Levels of Emotional Awareness Scale. Responses were scored using four different methods. Regardless of which scoring method was used, women scored significantly higher than men. These results support previous research that showed women have higher Emotional Awareness than men, when using hypothetical situations. These results are consistent across different samples (Barrett et al., 2000), different instructions (Pasinski et al., 2007) and different scoring methods (this study). The question, then, is why do these differences exist? It may be that there are real differences in Emotional Awareness between men and women. On the other hand, it may be that these sex differences are a result of the hypothetical situations being used. Research is needed on emotional responses and cognitions in response to real-life situations. Researchers could elicit emotional responses from participants, and then assess the complexity of their cognitions related to that emotional experience.

Introduction

Emotional Awareness is defined as a person's ability to perceive emotions in one's self and in others (Ciarrochi, Hynes, & Crittenden, 2005). The Levels of Emotional Awareness Scale (LEAS; Lane, Quinlan, Schwartz, Walker, & Zeitlan, 1990) is a test that is used to measure this construct. The LEAS is an open-ended test in which participants describe the emotions of themselves and another person in 20 emotionally evocative situations. The LEAS has repeatedly been shown to be both valid (Ciarrochi, Caputi, & Mayer, 2003; Lane, Pollermann & Branka, 2002) and reliable (Lane & Schwartz, 1987; Lane et al., 1990; Noland, Nearhood, & Barchard, 2005).

Hand scoring the LEAS is time consuming. It takes a long time to train scorers (10-20 hours in our lab) and to score the test (10-15 minutes per participant). Therefore, a computer program was developed to score the LEAS. This program is known as the Program for Open Ended Scoring (POES; Leaf & Barchard, 2006). POES uses four scoring methods. Initial research found that all four methods had internal consistencies and high correlations with hand scoring (Barchard, Lane, Bajgar, & Leaf, in prep; Leaf & Barchard, 2003; Leaf, Barchard, Charoenchote, & D'Errico, 2004; Leaf, Charoenchote, D'Errico, & Barchard, 2004). To facilitate computer scoring of the LEAS, it is helpful to have participants type their own responses. Therefore, an Internet-based form of the LEAS was developed.

Previous research on Emotional Awareness has shown that women consistently score higher than men (Barrett, Lane, Sechrest, & Schwartz, 2000). Pasinski et al. (2007) hypothesized that changes in the instructions on the LEAS might eliminate the sex differences. However, their study showed that women performed better than men for all four types of instructions that they examined.

The purpose of this study is to extend previous research. This study will determine if there are sex differences when Emotional Awareness is measured using the Internet-based form of the LEAS, and will compare men and women for all four types of POES scoring methods.

Method

Participants

Participants consisted of 508 university students (299 female, 209 male) between the ages of 18 and 50 (mean = 19.78, standard deviation = 3.17) who participated for course credit. Participants identified their ethnicities as follows: 290 Caucasian (57.1%); 58 Asian (11.4%); 65 Hispanic (12.8%); 40 African American (7.9%); 32 Pacific Islander (6.3%); 2 Native American (0.4%); and 21 Other (4.1%).

Measures

The LEAS is an open-ended test consisting of 20 emotionally-provocative situations. Each situation involves two persons (self and other). Participants describe how they would feel in the given situation, and how the other person would feel.

Scoring

The LEAS was scored using POES (Leaf & Barchard, 2006), which is a computer program designed to score open-ended measures. For each participant, POES scores one item at a time. To score an item, POES first scans the response for words and phrases that match the Wordlist. The POES Wordlist (Barchard, 2006) is a list of words and phrases and their associated scores. The Wordlist was originally derived from the LEAS scoring manual (Lane, 1991), but has since been expanded to include more emotion words and phrases. When POES finds a word or phrase in the response that matches the Wordlist, it records it (and its score) in the Valuables List for that item. Next, POES scores the Valuables List using four scoring methods (described below). After POES has scored all items for a participant, it calculates the total score for that participant by adding the scores for each item.

POES then uses four scoring methods to calculate the scores for each item (Leaf & Barchard, 2007a; 2007b). The All-Sum method calculates the item score as the sum of all the Values in the Valuable List. It is the most straight-forward of the POES scoring methods. The Highest 4 method is a variation of the All-Sum method. It calculates the sum of the four highest Values in the Valuables List. This reduces the influence of very long responses on scores. The 334 method calculates the score for an item as the highest Value in the Valuables List. However if there are multiple Values of 3, a score of 4 is given. Finally, the 3345 method calculates the item score in two steps. The 3345 method is designed for tests with two subparts per item. In the case of the LEAS, these two subparts are the two questions that are asked for each item: How would you feel? and How would the other person feel? First, each of the two subparts is scored separately using the 334 method. For the LEAS, these are referred to as the scores for Self and Other. Second, the item score is calculated based upon the Self and Other scores. A score of 5 is given if the Self and Other scores are both 4. If the Self and Other scores do not both equal 4, then the item score equals the highest score between the two.

Statistical Analyses

An independent sample t-test was used to compare women and men for each POES scoring method.

Results

Women scored significantly higher than men on all four scoring methods. See Table 1.

Table 1
Means and Standard Deviations for Men and Women for each POES Scoring Method

Scoring Method	Mean		Standard Deviation		t-test
	Men	Women	Men	Women	
All-Sum	167.13	191.45	74.81	65.56	$t(471) = -3.75$, $p < .001$
Highest 4	147.46	163.81	36.14	35.04	$t(471) = -4.94$, $p < .001$
334	66.51	69.03	6.96	6.87	$t(471) = -3.91$, $p < .001$
3345	64.51	68.24	8.53	8.97	$t(471) = -4.56$, $p < .001$

Conclusions

The purpose of this study was to determine to if there are any gender differences in Emotional Awareness when using the Internet-based form of the LEAS. Women obtained higher scores than men for all four scoring methods examined. These results extend previous studies that have shown that women score higher than men across a variety of different samples (Barrett et al., 2000), and across different instructions (Pasinski et al., 2007). These sex differences are thus consistent. The question is whether these differences in test scores are due to true differences in the Emotional Awareness of men and women or the way we have been measuring Emotional Awareness.

This study and the other studies we have reviewed used hypothetical situations. Participants who complete the LEAS are guessing how they would feel in each situation, and are conveying that information in written responses. If we use the definition given by Ciarrochi et al. (2005), then Emotional Awareness is one's ability to perceive emotions in one's self and in other people. When researchers attempt to measure Emotional Awareness using written descriptions of emotional responses in hypothetical situations, scores could be inaccurate for two reasons: the participant may not know how they would feel in that hypothetical situation (i.e., perception of real emotions as they occur is different from predictions of emotions in hypothetical situations) and the participant may not be able to accurately convey that perception in written form. If our measure of Emotional Awareness is inaccurate, then it may inaccurately characterize differences between men and women. Further research should examine emotional responses and cognitions in response to real-life situations. Researchers could elicit emotional responses from participants (for example, by using happy or sad films), and then assess the complexity of participants cognitions related to that emotional experience. The similarities and differences between men and women may be different when Emotional Awareness is assessed using real emotions.

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