Gender Bias in the Rosenberg Self-Esteem Scale

An Honors Thesis (PSYS 499)

by

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Abstract

There is evidence that supports that global self-esteem scores on the Rosenberg Self-Esteem Scale (RSES) are dependent on whether the verb “think” or “feel” is used in the individual items. This affects males and females differently such that “feel” lowers self-esteem for females but not for males (Holtgraves, 2014). This research study further investigates this effect by examining how these wording effects impact the gender difference in self-esteem scores. This research also investigates the possibility that the RSES is biased against women by comparing self-esteem scores on the original scale to scores on three slightly altered versions (one that uses only “feel,” one that uses only “think,” and one that does not use “feel” or “think”). Additional tasks such as reporting the frequency of emotional experiences and generating a list of emotional words were included and explored in relation to self-esteem scores and as possible causes of the above effect. The experiment was constructed and analyzed as a 4 (RSES Version) × 2 (Participant Gender) factorial design. The present research failed to replicate the results of Holtgraves (2014), but exploratory analyzes revealed interesting trends between self-esteem scores and emotional experiences.
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Gender Bias in the Rosenberg Self-Esteem Scale

Self-esteem is a widely researched and important psychological concept. It has been found to be related to psychological well-being, mental health, affect, and behavior. For many decades, studies have found a relatively consistent, albeit small, gender difference in self-esteem scores with males scoring higher than females. Researchers have explored many different hypotheses in an attempt to explain this gender difference. Possible explanations include the differential treatment of girls and boys in school and athletics, parallels between high self-esteem and stereotypical masculine qualities, the social interactions of mixed-gender groups, the societal emphasis on female appearance, and higher rates of violence against women (Kling, Hyde, Showers, & Buswell, 1999). However, recent research suggests that the wording of the self-esteem measure may contribute to the gender difference in self-esteem. The present study investigates female’s lower self-esteem scores as a consequence of the wording of the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1989).

What is Self-Esteem?

Self-esteem is defined to be the attitudes one holds about one’s importance or worth. Simply, “self-esteem is the extent to which one prizes, values, approves, or likes oneself,” (Blascovich & Tomaka, 1991, p.115). According to Rosenberg (1989), those with high self-esteem respect themselves and consider themselves worthy; they do not consider themselves better than others, but they also do not consider themselves worse. Alternatively, low self-esteem indicates self-rejection and dissatisfaction. Those with low self-esteem lack self-respect and find their self-concept to be disagreeable. Intuitively, one predicts that high self-esteem is more desirable than low self-esteem, and research does associate low self-esteem with potentially detrimental psychological phenomena such as loneliness, depression, social anxiety, and
alienation (Blascovich & Tomaka, 1991). It is easy to see that self-esteem is an influential component of psychological well-being.

The concept of self-esteem and its psychological importance are widely accepted, and it has become a prominent topic for researchers as well as the general public. California has established the “Commission on Self-Esteem.” and agencies such as the National Association for Self-Esteem and the International Council for Self-Esteem have been founded in order to promote healthy self-esteem and awareness of its benefits (Blascovich & Tomaka, 1991; self-esteem-international.org). Although recent research suggests that the claims of the benefits of high self-esteem are without merit (Baumeister, Campbell, Krueger, & Vohs, 2003), self-esteem remains a popular subject matter. In the scientific community, self-esteem is a common research topic, and it has been studied in conjunction with almost every variable imaginable. These variables include personality, cognitive, behavioral, and clinical correlates (Blascovich & Tomaka, 1991). Blascovich and Tomaka (1991) report the frequency of citations for 40 different self-esteem scales. As of 1991, there were over 5,000 references to these various self-esteem measures with the RSES being the most prevalently used measure.

As previously stated, many different measures of self-esteem have been developed and used. Self-esteem is typically measured using self-report assessments which evaluate one’s positive or negative feelings about attributes of one’s self and personality. Measures can pertain to the self as a whole, or global self-esteem, while other measures concern domain-specific self-esteem such as body image or intelligence. The Rosenberg Self-Esteem Scale was developed as a one-dimensional measure of global self-esteem. It was designed to be easy to administer, efficient, and face valid. The scale contains a total of ten items and uses a four-point response format. The RSES is the most frequently used measure of global self-esteem and is a standard by
which other self-esteem measures are evaluated (Blascovich & Tomaka, 1991). Given the prevalence and importance of the RSES, it is vital that the Rosenberg Self-Esteem Scale is accurate and valid.

**Gender Differences in Self-Esteem**

The gender difference in self-esteem has been a popular research topic for decades. For example, Fein, O’Neill, Frank, and Velit found that sixth grade boys reported higher self-esteem than sixth grade girls in 1975, and in 1973, Bohan reported that males in tenth grade had higher self-esteem than females in the tenth grade. However, the self-esteem literature has revealed some contradictory results. Many studies, like those previously mentioned, have found that males have higher self-esteem scores than females while others have found no gender difference (Greene & Wheatley, 1992).

In 1999, Kling et al. determined that there was a need to merge the existing data in a meta-analysis. Kling et al. performed two analyses; Analysis I investigated current research literature primarily from the United States, Australia, Canada, and Norway, and Analysis II utilized three national data sets from the National Center for Education. In both analyses, males consistently scored higher on self-esteem than females, but self-esteem scores were dependent on other variables as well. In Analysis I, the age and ethnicity of the participant, the country that the research was conducted in, and the self-esteem measure used were analyzed as moderator variables. The results showed that gender differences were present no matter what country the research was conducted in or what self-esteem measure was used. Interestingly, when analyzing ethnicity, a gender difference emerged in White samples, but there was no gender difference for Black samples. Also, the largest gender difference occurred in the high school age group.

Overall, after examining 216 different effect sizes, there was a small, but consistent, gender
difference in global self-esteem scores such that male participants scored higher than female participants.

More recent research continues to find this gender difference in self-esteem scores. Bachman, O’Malley, Freedman-Doan, Trzesniewski, and Donnellan (2011) surveyed national samples of 8th-, 10th-, and 12th-graders from 120-160 public and private schools every year from 1991-2008. Bachman et al. (2011) was able to collect data, including self-esteem, from approximately 102,109 eighth graders, 107,849 tenth graders, and 107,421 twelfth graders. The results of this survey are consistent with previous research. African-Americans had the highest self-esteem scores, and Asian Americans had the lowest scores. Whites and Hispanics fell in the middle with Whites scoring slightly higher than Hispanics. There were also small age differences with twelfth graders reporting the highest self-esteem. When considering gender, Bachman et al. (2011) found that males reported higher self-esteem scores than females.

Another recent long-term study conducted by Sprecher, Brooks, and Avogo (2013) attained similar results. Sprecher, Brooks, and Avogo (2013) collected self-esteem scores, gender, and race from 7,552 undergraduates over a period of 23 years (1990-2012). Again, men scored higher on global self-esteem than women; however the gender difference was not present for each race. The gender difference was significant for Whites and Hispanics, and Asian men tended to have higher self-esteem than Asian women, but there was no gender difference among Blacks. Combining both males and females, Blacks reported higher self-esteem than the other races.

It is relevant to note that both Bachman et al. (2011) and Sprecher et al. (2013) measured global self-esteem by modifying a subset of items selected from the Rosenberg Self-Esteem Scale. Bachman et al. (2011) used six modified items, and Sprecher et al. (2013)
measured global self-esteem by using two items from the Rosenberg Self-Esteem Scale.

However, other research has detected gender differences in self-esteem when using all ten items of the original Rosenberg Scale. Moksnes, Moljord, Espnes, and Byrne (2010) as well as Moksnes and Espnes (2012) both found that boys scored higher on the Rosenberg Self-Esteem Scale than girls did. Many researchers have examined the possible causes of this gender difference. However, research is lacking on how the content of the Rosenberg Self-Esteem Scale itself may contribute to this disparity in self-esteem scores.

Pragmatic Effects

It is well-documented that small, seemingly minor changes in survey question wording and design can significantly alter participants’ responses. For example, Harris (1973) demonstrated that marked and unmarked adjectives can alter estimates of the magnitude of properties such as height or weight. Students were asked to fill out questionnaires in which half of the questions contained unmarked adjectives (e.g., “How tall was the basketball player?”) and half of the questions contained marked adjectives (e.g., “How short was the basketball player?”). Both questions are fundamentally equivalent; that is, both are concerned with the height of the basketball player. However, this change in adjective usage resulted in different estimates of the basketball player’s height such that those asked the marked question provided lower estimates than those asked the unmarked question. Moreover, thirty out of thirty-two various adjective pairs showed a statistically significant difference in the resulting estimates.

Loftus and Palmer (1974) achieved this type of result as well when examining the estimates of speed in an automobile accident. Participants were asked to respond to the question “About how fast were the cars going when they hit/ smashed/ collided/ bumped/ contacted each other?” after viewing a video of a traffic accident. Although these various verbs differ in
intensity of impact, they are all reasonable and similar ways to describe the traffic incident.
Nevertheless, speed estimates were dependent on which verb was used. Loftus and Zanni (1975)
determined that this effect is present even with the simple manipulation of the type of article
used in the question. Questions using the definite article resulted in more frequent recollections
of a nonexistent object than questions using an indefinite article. Therefore, two questions which
are identical in every way except for the seemingly trivial use of "the" or "a" can still achieve a
statistically significant difference in response rates.

This sensitivity in responses can be found when examining other features of
questionnaires as well. For example, Schwarz, Knäuper, Hippler, Noelle-Neumann, and Clark
(1991) found significantly different ratings when using differently formatted rating scales.
Participants were asked to assess how successful in life they had been using an 11-point rating
scale. Some participants rated themselves on a scale ranging from -5 to 5 while others answered
the question on a scale ranging from 0 to 10. The numbers chosen for rating scales like these are
quite arbitrary, and theoretically both scales are equivalent. However, when scores were
converted to the same scale, it was evident that participants who had originally given ratings on
the -5 to 5 scale responded with higher ratings than those using the 0 to 10 scale. Similarly,
Schwarz and Hippler (1995) found that politicians were rated more positively on a -5 to 5 scale
than on a 0 to 10 scale. In both of these studies, seemingly synonymous scales resulted in two
different responses.

It is clear that small changes in wording or format can alter the responses to surveys and
questionnaires, so it is natural to speculate whether such effects are present in self-esteem
measures, specifically the Rosenberg Self-Esteem Scale, as well. The RSES has been subjected
to factor analysis and scrutinized for method effects (Corwyn, 2000; DiStefano & Motl, 2009).
Corwyn (2000) determined that the RSES does represent a one-dimensional measure of global self-esteem, but it is subject to method effects. Five items of the RSES are positively worded whereas the other five items are negatively worded, and these negatively worded items are the source of the method effects. DiStefano & Motl (2009) also observed these method effects associated with negatively worded items. They also determined that such method effects exist for both men and women but do not influence the two sexes differently. Given the presence of these method effects, it appears that the Rosenberg Self-Esteem Scale, like other measures and surveys, is sensitive to item wording.

Recent research suggests the existence of subtle wording effects in the RSES revolving around the use of the verbs “think” and “feel” (Holtgraves, 2014). Holtgraves (2014) found that usage of the word “feel” as opposed to “think” in the items of the Rosenberg Self-Esteem Scale lowers self-esteem scores for females. For example, responding to “At times, I feel I am no good at all” results in a lower self-esteem score than responding to “At times, I think I am no good at all” even though the two statements are roughly equivalent. This effect was only present for females; male’s self-esteem scores were comparable for both types of items. This gender \( \times \) verb interaction is consistent with the results of Mayer and Tormala (2010) who found that males were more persuaded by a message framed using the word “think” and that females were more persuaded by a message using “feel.” Reexamining the Rosenberg Self-Esteem Scale, one finds that five of the items contain the verb “feel” and one item uses the verb “think.” Given the overrepresentation of the verb “feel,” it is plausible to question whether or not the Rosenberg Self-Esteem Scale is biased against women.
Gender Differences in Emotion

The logical progression is to then question why this gender difference in self-esteem scores occurs with the manipulation of “think” versus “feel.” One possible explanation is that the word “feel” evokes a different, more negative, state of mind for women than it does for men. If females respond more negatively to the word “feel,” then it is plausible that this impacts their responses on self-esteem measures which use the word “feel,” partially explaining why females report lower self-esteem. This difference in state of mind could stem from a difference in male’s and female’s experiences of emotions. In fact, multiple research studies have found that there are gender differences in the frequency and experience of some emotions.

Brebner (2003) assessed gender differences in self-reported frequencies and intensities of eight emotions for an international sample. These eight emotions were affection, anger, contentment, fear, guilt, joy, pride, and sadness. The results showed that females reported feeling affection, anger, contentment, fear, joy, and sadness more frequently than males. Females also reported feeling all of the emotions except for pride more intensely than males did. Simon and Nath (2004) also investigated possible gender differences in emotions by analyzing data from the 1996 General Social Survey (GSS). About half of the respondents of the 1996 GSS were asked to report the frequency in which they experienced nineteen various emotions including seven positive emotions and twelve negative emotions. First, Simon and Nath (2004) found that women and men report similar frequencies for emotions in general. However, males report experiencing positive emotions more often than females, and females report experiencing negative emotions more often than males.
Given these results, measures of emotional salience and emotional frequencies were included in the present research in order to investigate gender differences in these measures and their potential connection to self-esteem scores.

**The Present Research**

The present research investigates self-esteem scores as a function of item wording of the Rosenberg Self-Esteem Scale. Thus, four versions of the RSES are included: the original version, a version which uses “feel” in all appropriate items, a version that substitutes “think” for “feel” for such items, and a version that does not use either “think” or “feel.” Since the original version of the RSES and the “feel” version only differ by one item, it is expected that self-esteem scores for the two versions will not be significantly different. Also, consistent with previous research, it is expected that males will score higher than females on the original and “feel” versions of the scale. Finally, similar to Holtgraves (2014), it is expected that self-esteem scores will be higher on the “think” version than on the “feel” version and the original. The fourth version of the scale which eliminates the use of “think” and “feel” is exploratory, and analyses will be conducted to investigate its relation to the other versions.

In addition to the different versions of the self-esteem scale, secondary measures are included in order to assess which emotions are most salient for participants as well as how often participants experience various positive and negative emotions. In order to evaluate these, participants provided a list of emotions and self-reports of frequencies of specific emotions. These measures are largely exploratory. However, it is anticipated that self-esteem scores for the original and “feel” versions of the scale will correlate negatively with negative emotions; that is, a negative correlation will be present when analyzing both the number of negative emotions reported in participants’ lists as well as the frequency in which participants report feeling
negative emotions. Finally, females will report experiencing negative emotions more frequently than males, and males will report experiencing positive emotions more frequently than females which would replicate the results obtained by Simon and Nath (2004).

**Method**

**Participants**

Registered Amazon Mechanical Turk workers participated in this study (N = 223; 49.3% male). Participants ranged in age from 18 to 74 with an average age of 33.63 (SD = 12.09). All participants were required to be 18-years-old or older and native English speakers in order to participate. Each participant received $0.50 as payment for his/her participation.

**Materials**

**Demographics.** Participants were asked to provide basic demographic information including age, primary language, gender, and race. See Appendix A for all specific questions.

**Rosenberg Self-Esteem Scale.** Four versions of the Rosenberg Self-Esteem Scale were created. All versions contained ten items, each with a four-point response format (Strongly Agree, Agree, Disagree, and Strongly Disagree). The four versions differed in six critical items, and they varied in the use of the words “think” and “feel.” The first version was the original Rosenberg Self-Esteem Scale which contains five items that use the word “feel” and one item that uses the word “think.” The second version was a slightly modified version of the original and used only the verb “feel” in the six manipulated items. Items in this version were similar to “At times, I feel I am no good at all.” The third version only used the verb “think.” The items in this version were comparable to “At times, I think I am no good at all.” The fourth and final version was a version that eliminated the use of the words “think” and “feel” in the six manipulated items. A sample item from this version is “At times, I am no good at all.”
Each version contained a validity check item that stated “Please indicate your understanding of the instructions by leaving this item blank, and continue on and respond to the next five items” which always appeared as the sixth item of the scale. This item was deemed necessary after a pilot test of 232 participants (49.6% male, mean age= 32.80). This validity check was used to identify participants who were not reading carefully and were responding randomly. A participant’s data was excluded if he/she responded to this validity check. See Appendix B for a complete list of items for each of the four versions. Fleming and Courtney (1984) reported a Cronbach α of 0.88 and a test-retest correlation of 0.82 for the original Rosenberg Scale.

**Emotional Salience.** In an attempt to measure which emotions and moods are most salient for participants, each participant was asked to list as many feelings as they could for one minute. See Appendix C for the exact wording of this item.

**Emotional Frequency.** Participants estimated the frequency of specific emotions using a questionnaire described by Simon and Nath (2004). Participants were asked to report how many days in the last week they felt happy, excited, fearful, anxious, angry, etc. This assessment includes a total of 19 feelings and one validity check item that simply stated “leave blank.” Again, this item was added following the pilot test. If participants responded to this validity check, their data was excluded. See Appendix C for a complete list of feelings included in this questionnaire. Simon and Nath (2004) report a reliability coefficient of α = 0.65 for this emotional frequency assessment. Categorizing the feelings into positive and negative feelings, Simon and Nath (2004) calculated a reliability coefficient of α = 0.76 for the seven positive emotions and α = 0.84 for the twelve negative emotions.
Procedure

If participants wished to take part in this study they accessed a link posted on the Amazon Turk website that redirected them to a survey on Qualtrics.com. In Qualtrics, participants first saw a consent form. After agreeing to participate, the participants reported their demographic information. Then, participants responded to one of the four versions of the Rosenberg Self-Esteem Scale. The four versions of the RSES were assigned randomly, and the items within the RSES were presented in the standard order as shown in Appendix B. Next, all participants were asked to respond to the emotional salience task. The task was constructed such that the survey automatically advanced after one minute and a timer was included as well to record the amount of time participants spent on this task. Following the emotional salience task, participants reported the frequencies of their emotions where all 19 feelings and the validity check item were randomized. In order to prevent any priming effects, the tasks were always be presented in this order.

Results

Tests of Hypotheses

Although 223 participants completed at least the Rosenberg Self-Esteem Scale, 30 participants were excluded based on the validity checks, leaving data from 193 participants (50.8% male, mean age = 34.60) for analysis. Overall global self-esteem scores on the Rosenberg Self-Esteem Scale ranged from 10 to 40 with a mean score of 31.30 and standard deviation of 6.07. Self-esteem scores were analyzed using a $4 \times 2$ (RSES Version $\times$ Gender) analysis of variance (ANOVA). The results of the ANOVA indicated no main effect for RSES version or participant gender, $F(3, 183) = 0.275, p > 0.10$ and $F(1, 183) = 0.765, p > 0.10$ respectively. There was also no significant Version $\times$ Gender interaction, $F(3, 183) = 1.824, p > 0.10$. 
Differences in self-esteem scores by scale version were also tested using a one-way ANOVA separately for males and females. Both ANOVA's were not significant with $F(3, 96) = 0.722$, $p > 0.10$ for men and $F(3, 93) = 1.458$, $p > 0.10$ for women.

As expected, the self-esteem scores for the original and “feel” versions of the scale were not significantly different; however, contradictory to expectations the self-esteem scores for all of the scale versions were not significantly different. The mean score for the “think” version ($M = 31.30, SD = 5.40$) was slightly higher than the mean self-esteem score for both the original version ($M = 30.92, SD = 7.61$) and the “feel” version ($M = 31.13, SD = 7.61$), and the version that eliminated “think” and “feel” resulted in the highest scores ($M = 31.86, SD = 5.61$).

Nevertheless, these were not substantial differences. When considering gender, there was a non-significant tendency for females to report higher self-esteem ($M = 31.68, SD = 5.50$) than males ($M = 30.94, SD = 6.59$). The original version of the Rosenberg Self-Esteem Scale resulted in a gender difference trending in the predicted direction with males ($M = 32.08, SD = 4.97$) scoring higher than females ($M = 29.65, SD = 6.07$). However, the direction of the gender difference was reversed for the “feel” version with females ($M = 32.56, SD = 5.99$) scoring higher than males ($M = 29.20, SD = 9.17$). Females tended to report higher self-esteem than males for the “think” and no “think” or “feel” versions as well, but none of these differences were significant. See Table 1 for the mean self-esteem scores and standard deviations for each condition.

Support was found for the hypotheses concerning the relationship between global self-esteem and the frequency of experienced negative emotions. The frequency of emotional experiences was measured by having participants report the number of days in the previous week that they experienced 19 different emotions (7 positive emotions and 12 negative emotions). Composite scores summarizing the frequency of all emotions were calculated by summing the
frequency reports for all 19 emotions; these scores ranged from 0 to 101 with a mean of 45.16 and standard deviation of 15.73. Composite scores for the frequency of positive and negative emotions were also calculated by summing the scores for the 7 positive emotions (scores range from 0 to 49; $M = 26.90$, $SD = 9.69$) and 12 negative emotions (scores range from 0 to 74; $M = 18.18$, $SD = 15.68$) respectively. As expected, there was a significant negative correlation between self-esteem scores and the frequency of negative emotions for the original version of the scale ($r = -0.726$, $p < 0.01$, $N = 46$) and the “feel” version ($r = -0.321$, $p = 0.04$, $N = 41$). This negative correlation was also significant for the “think” version of the scale ($r = -0.376$, $p = 0.01$, $N = 43$) and marginally significant for the no “think” or “feel” version ($r = -0.268$, $p = 0.08$, $N = 43$). Not surprisingly, the correlation between self-esteem scores and the frequency of negative emotions was significant when collapsing across all four versions of the RSES, $r = -0.424$, $p < 0.01$, $N = 173$. All of these correlation coefficients can be found in Table 2.

The current data does not support the hypotheses concerning the relationship between self-esteem and salient emotions (the lists of emotion words participants generated). The lists of emotion words were analyzed using Linguistic Inquiry and Word Count Program (LIWC). The program counted the total number of words in the lists and then reported the percentage of words that were affective words, the percentage that were positive emotions, and the percentage that were negative emotions. Using these values, the total number of affective words, positive emotion words, and negative emotion words were also computed. The correlation between the number of generated negative emotion words and self-esteem scores was not significant for any of the RSES versions or when collapsing over all four versions. However, the correlation between self-esteem scores and the percentage of words that were negative was marginally significant for the “feel” version, $r = -0.264$, $p = 0.09$, $N = 43$. This correlation was not
significant for any of the other versions, but collapsing over all RSES versions resulted in a significant negative correlation between global self-esteem and the percentage of generated words that were negative emotion words, $r = -0.159, p = 0.04, N = 169$. See Table 3 for a summary of these correlational values.

Finally, contrary to the results of Simon and Nath (2004), males and females did not report a significant difference in the frequencies of positive and negative emotions. For positive emotions, the direction of the results was opposite the prediction with males experiencing slightly fewer positive emotions ($M = 26.59, SD = 9.32$) than females ($M = 27.24, SD = 10.09$) but the difference was small, $t (174) = -0.458, p > 0.10$. The difference between men and women in the frequency of negative emotions was larger than that for positive emotions with men scoring an average of 16.84 ($SD = 15.42$) and women scoring an average of 19.61 ($SD = 15.92$), but this difference was not significant, $t (172) = -1.162, p > 0.10$. However, there was a marginally significant difference in the frequency of all emotions, $t (172) = -1.615, p = 0.108$. Females reported experiencing a higher frequency of emotions in general ($M = 47.16, SD = 15.37$) than males ($M = 43.26, SD = 15.93$).

**Exploratory Analyses**

As previously stated, there were several significant negative correlations between self-esteem and the frequency of negative emotions. Interestingly, there were also many significant or marginally significant positive correlations between self-esteem scores and the frequency of positive emotions. This correlation was significant with $r = 0.423, p < 0.01, N = 47$ for the original scale, $r = 0.344, p = 0.03, N = 42$ for the “think” version, and $r = 0.320, p = 0.03, N = 44$ for the version without “think” or “feel.” The same correlation was marginally significant for the “feel” version of the RSES, $r = 0.270, p = 0.09, N = 41$. Finally, collapsing over all versions, the
correlation between global self-esteem and the frequency of experienced positive emotions was
significant. $r = 0.323, p < 0.01, N = 174$.

The relationship between self-esteem and the sum of frequency ratings for all emotions
was also analyzed. There was an overall significant negative correlation between self-esteem and
the frequency of all emotions regardless of RSES version. $r = -0.217, p < 0.01, N = 167$. This
correlation was also significant specifically for the original scale, $r = -0.492, p < 0.01, N = 45$. It
was unclear if these correlations reflect the true relationship between self-esteem and the
frequency of emotional experiences or if they occurred simply because the composite emotional
frequency score is weighted in favor of negative emotions. In order to address this issue, positive
and negative emotion scores were equated by averaging the frequency scores for positive
emotions and negative emotions separately. A measure of overall emotionality was computed by
adding these two averages. The correlation between this new emotionality measure and self-
esteeem score was not significant for any RSES version or when collapsing across versions. It
appears that there was no relationship between self-esteem and the frequency of emotional
experiences in general, but there were significant relationships between self-esteem scores and
the frequency of positive and negative emotional experiences when considered separately.

A measure of overall emotional valence was also calculated using the previously
mentioned equated scores for positive and negative emotions. To compute the overall valence
score, the average frequency of negative emotions was subtracted from the average frequency of
positive emotions. A positive score on this measure would indicate that, overall, experienced
emotions were positive, and a negative score would indicate an overall experience of negative
emotions. There was a significant positive correlation between this valence measure and self-
esteeem scores for each version of the scale. Regardless of scale version, the correlation between
overall emotional valence and global self-esteem was $r = 0.480, p < 0.01, N = 167$. The valence/self-esteem correlation was $r = 0.695, p < 0.01, N = 45$ and $r = 0.361, p < 0.05, N = 39$ for the original and "feel" scales respectively. The correlations for the "think" version and the version without "think" and "feel" were similar with the "think" version resulting in a correlation coefficient of $r = 0.464, p < 0.01, N = 41$ and the no "think" or "feel" version resulting in $r = 0.418, p < 0.01, N = 42$. All of the correlation coefficients discussed concerning the relationship between self-esteem and the frequency of emotional experiences are summarized in Table 2.

Self-esteem was also further explored in relation to participant-generated emotion words. When examining the correlation between the number of positive emotion words and self-esteem, one marginally significant positive correlation was found for the no "think" or "feel" version, $r = 0.279, p = 0.052, N = 49$. No other significant or marginally significant correlations were found when analyzing the relationship between self-esteem and the number of generated positive emotion words, self-esteem and the percentage of words that were positive emotion words, or self-esteem and the total number of affective words. Participant-generated lists of emotion words were also analyzed for gender differences. Independent samples t-tests revealed that there was no significant differences between males and females in the number of affective words generated ($t (191) = 0.377, p > 0.10$), the number of positive emotion words generated ($t (191) = 1.409, p > 0.10$), or the number of negative emotion words generated ($t (191) = -0.642, p > 0.10$).

Exploratory analyses were also conducted concerning the relationship between the experience of emotions (sum of emotional frequency scores) and the salience of those emotions (number of emotional words). As one might expect, as the frequency of experiencing positive emotions increased, participants generated a higher number of positive emotion words, $r = 0.266, p < 0.01, N = 176$. Also, as the frequency of experienced positive emotions increased,
participants generated fewer negative emotion words, $r = -0.308, p < 0.01, N = 174$. A similar pattern was found when examining the frequency of negative emotional experiences. There was a marginally significant positive correlation between the frequency of negative emotions and the number of generated negative emotion words, $r = 0.123, p = 0.106, N = 174$. There was also a significant correlation such that as the frequency of negative emotional experiences increased, the number of generated positive emotion words decreased, $r = -0.150, p = 0.047, N = 176$. It appears that the most salient emotions were the emotions that one experienced and/or emotions of the same valence as the most frequently experienced emotions.

**Discussion**

Overall, this research failed to replicate the results found by Holtgraves (2014), specifically the gender (male/female) $\times$ verb (think/feel) interaction for global self-esteem scores on the Rosenberg Self-Esteem Scale. Also, no evidence was found to support the claim that the Rosenberg Self-Esteem Scale is biased against women. However, the obtained results were often in the predicted direction, but the differences were too small and the variability too large for any differences to be significant. There are several possible explanations as to why the obtained results failed to be significant.

**Limitations of Current Research**

First, there was a significant age difference between men and women, $t (191) = -2.503, p = 0.013$, such that females were significantly older ($M = 36.85, SD = 13.78$) than males ($M = 32.41, SD = 10.76$). There is evidence suggesting that self-esteem increases with age and then stabilizes around the age of 30 (Huang, 2010), and that the gender difference in self-esteem scores decreases with age (Kling et al., 1999). Additionally, there was a marginally significant positive correlation between age and self-esteem for the current sample, $r = 0.137, p = 0.059$,
$N = 191$. It is reasonable to suspect that female’s self-esteem scores were systematically higher than male’s scores simply because they were older. Also, it is possible that significant gender differences in self-esteem scores were not found because of the age of the sample. Including age as a covariate in analysis did not alter results, but there is the possibility of sampling bias in the current research.

Second, during data collection there was sampling bias such that males were overrepresented. To counteract this, the survey was restricted to females toward the end of data collection. It is possible that something about the research attracted males or deterred females causing some selection bias, but it is more likely that the overrepresentation of males was simply a product of the Amazon Turk worker population.

Finally, there are possible concerns surrounding the Amazon Turk participant population. For example, Ipeirotis, Provost, and Wang (2010) warn against possible malicious workers from any crowdsourcing service, including Amazon Mechanical Turk. Such workers take advantage of the difficulties involved in verifying the quality of data and provide low quality responses. The validity checks where participants were asked to leave the item blank were included in order to identify some of these malicious workers, but it is possible that not all low quality data was identified. Also, Paolacci, Chandler, and Ipeirotis (2010) report that only 47% of the Amazon Turk population is from the United States, and a significant number of workers are from India (34%). The present research was not constructed to be restricted to U.S. participants only because it was believed that this was an automatic Amazon Turk requirement. However, given the results of Paolacci, Chandler, and Ipeirotis (2010) there is a potential cultural confound with less than half of the participants being from the United States.
Self-Esteem and Emotions

Given the significant correlations between emotionality and self-esteem scores, it is necessary to further explore the relationship between self-esteem and affect, and this is a well-documented relationship. For example, there is strong evidence to support that low self-esteem contributes to depression (Orth & Robins, 2013). Additionally, this relationship appears to be driven predominantly by global self-esteem instead of domain-specific self-esteem. Similarly, Watson and Clark (1984) identified two affective dimensions: positive affectivity and negative affectivity. According to Watson and Clark (1984), those with low self-esteem typically score low in positive affectivity and high in negative affectivity, and those with high self-esteem typically score high in positive affectivity and low in negative affectivity. This is consistent the current findings that lower self-esteem scores are associated with more frequent negative emotional experiences and higher scores are associated with more frequent positive emotional experiences.

Brown and Marshall (2001) further investigated this relationship by exploring which emotions in particular correlate with global self-esteem scores. They concluded that self-relevant emotions (e.g. proud and ashamed) were the most strongly correlated with self-esteem scores. It is clear that a relationship between self-esteem and emotions exists, but what is the nature of this relationship? Does low self-esteem contribute to negative affect, or does negative affect contribute to low self-esteem? The present research was concerned only with recent emotional experiences (those within the last week). The strong correlations between self-esteem scores and the valence of recent emotions suggest that these recent emotional experiences may partially drive self-esteem, implying that self-esteem may be more similar to a mood and state-based than trait-like.
Future Research

Although the primary hypotheses of this research were not supported with significant effects, possible biases of the Rosenberg Self-Esteem Scale should not be abandoned as a research topic. Considering the limitations of the present research, it may be worth replicating the experiment using a different venue for participant recruitment or more restrictive age requirements. Furthermore, no matter what the results of similar research may be, it would still be informative. If future research finds evidence of biases within the RSES, that would be important information to learn. However, if future research would replicate the results of the present study and find no evidence of biases within the RSES, then this would only support the validity of the Rosenberg Self-Esteem Scale and justify its continued use. Given the contradictory findings of this research and Holtgraves (2014), it is clear that more research in this area is necessary.
Works Cited


Holtgraves, T. (2014). I think I'm doing great but I feel pretty bad about it. Manuscript submitted for publication, Department of Psychological Science, Ball State University, Muncie, Indiana.


Appendix A

Demographic Questions

Please indicate your age:

Is English your first language?

Yes
No

Please indicate your gender:

Male
Female

Please indicate your race:

White / Caucasian
Black / African American
Hispanic
Asian / Pacific Islander
Arabic / Middle Eastern
Native American Indian
Other
Appendix B
Rosenberg Self-Esteem Scales

Original Scale
Please indicate how much you agree or disagree with each statement below.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

I feel that I'm a person of worth, at least on an equal plane with others.
I feel that I have a number of good qualities.
All in all, I am inclined to feel that I am a failure.
I am able to do things as well as most other people.
I feel I do not have much to be proud of.

This item blank, and continue on and respond to the next five items.

I take a positive attitude toward myself.
On the whole, I am satisfied with myself.
I wish I could have more respect for myself.
I certainly feel useless at times.
At times I think I am no good at all.

"Feel" Version
Please indicate how much you agree or disagree with each statement below.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

I feel that I'm a person of worth, at least on an equal plane with others.
I feel that I have a number of good qualities.
All in all, I am inclined to feel that I am a failure.
I am able to do things as well as most other people.
I feel I do not have much to be proud of.

Please indicate your understanding of the instructions by leaving this item blank, and continue on and respond to the next five items.

I take a positive attitude toward myself.
On the whole, I am satisfied with myself.
I wish I could have more respect for myself.
I certainly feel useless at times.
At times I think I am no good at all.
“Think” Version
Please indicate how much you agree or disagree with each statement below.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think that I'm a person of worth, at least on an equal plane with others.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I think that I have a number of good qualities.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>All in all, I am inclined to think that I am a failure.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I am able to do things as well as most other people.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I think I do not have much to be proud of.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Please indicate your understanding of the instructions by leaving this item blank, and continue on and respond to the next five items.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I take a positive attitude toward myself.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>On the whole, I am satisfied with myself.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I wish I could have more respect for myself.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I certainly think I am useless at times.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>At times I think I am no good at all.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

No “Think” or “Feel” Version
Please indicate how much you agree or disagree with each statement below.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I'm a person of worth, at least on an equal plane with others.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I have a number of good qualities.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>All in all, I am a failure.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I am able to do things as well as most other people.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I do not have much to be proud of.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Please indicate your understanding of the instructions by leaving this item blank, and continue on and respond to the next five items.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I take a positive attitude toward myself.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>On the whole, I am satisfied with myself.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I wish I could have more respect for myself.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I certainly am useless at times.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>At times I am no good at all.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Appendix C

Emotional Experiences

Please list as many feelings as you can for the next minute. Note that these do not have to be feelings that you are currently experiencing. We are simply interested in your emotional vocabulary.

Please indicate how many days in the previous week you have experienced the following feelings.

<table>
<thead>
<tr>
<th>Feeling</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contented</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At Ease</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excited</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overjoyed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proud</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fearful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxious</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restless</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worried</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sad</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lonely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outraged</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mad</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ashamed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Embarrassed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leave Blank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 1

**Mean self-esteem scores by RSES version and participant gender**

<table>
<thead>
<tr>
<th>RSES version</th>
<th>Male participants</th>
<th>Female participants</th>
<th>Marginal means for version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original</td>
<td>32.08 (4.97)</td>
<td>29.65 (6.07)</td>
<td>30.92 (5.60)</td>
</tr>
<tr>
<td>Feel</td>
<td>29.20 (9.17)</td>
<td>32.56 (5.99)</td>
<td>31.13 (7.61)</td>
</tr>
<tr>
<td>Think</td>
<td>30.93 (5.65)</td>
<td>31.89 (5.06)</td>
<td>31.30 (5.40)</td>
</tr>
<tr>
<td>Neither</td>
<td>31.22 (6.69)</td>
<td>32.42 (4.49)</td>
<td>31.86 (5.61)</td>
</tr>
<tr>
<td>Marginal means for gender</td>
<td>30.94 (6.59)</td>
<td>31.68 (5.50)</td>
<td>31.30 (6.07)</td>
</tr>
</tbody>
</table>

*Standard deviations are in parentheses*
Summary of correlations between self-esteem scores and emotional frequencies

<table>
<thead>
<tr>
<th>RSES version</th>
<th>All emotions</th>
<th>Overall emotionality</th>
<th>Positive emotions</th>
<th>Negative emotions</th>
<th>Overall valence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>-0.217**</td>
<td>-0.051</td>
<td>0.323**</td>
<td>-0.424**</td>
<td>0.480**</td>
</tr>
<tr>
<td>Original</td>
<td>-0.492**</td>
<td>-0.231</td>
<td>0.423**</td>
<td>-0.726**</td>
<td>0.695**</td>
</tr>
<tr>
<td>Feel</td>
<td>-0.101</td>
<td>0.046</td>
<td>0.270*</td>
<td>-0.321*</td>
<td>0.361*</td>
</tr>
<tr>
<td>Think</td>
<td>-0.228</td>
<td>-0.102</td>
<td>0.344*</td>
<td>-0.376*</td>
<td>0.464**</td>
</tr>
<tr>
<td>Neither</td>
<td>0.007</td>
<td>0.149</td>
<td>0.320*</td>
<td>-0.268+</td>
<td>0.418**</td>
</tr>
</tbody>
</table>

*Correlation is marginally significant at a 0.10 level
**Correlation is significant at a 0.05 level
***Correlation is significant at a 0.01 level

Notes:

1. The all emotions, positive emotions, and negative emotions measures are based on the composite sums of frequency ratings
2. The overall emotionality measure is based on the sum of the average frequency of positive emotions and the average frequency of negative emotions
3. The overall valence measure is based on the difference between the average frequency of positive emotions and the average frequency of negative emotions
### Table 3

**Summary of correlations between self-esteem scores and salient emotions**

<table>
<thead>
<tr>
<th>RSES version</th>
<th># Affective words</th>
<th># Positive emotions</th>
<th>% Positive emotions</th>
<th># Negative emotions</th>
<th>% Negative emotions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>-0.014</td>
<td>0.095</td>
<td>0.074</td>
<td>-0.091</td>
<td>-0.159</td>
</tr>
<tr>
<td>Original</td>
<td>0.035</td>
<td>0.073</td>
<td>0.069</td>
<td>0.004</td>
<td>-0.021</td>
</tr>
<tr>
<td>Feel</td>
<td>-0.238</td>
<td>-0.147</td>
<td>-0.175</td>
<td>-0.187</td>
<td>-0.264</td>
</tr>
<tr>
<td>Think</td>
<td>0.004</td>
<td>0.189</td>
<td>0.220</td>
<td>-0.142</td>
<td>-0.142</td>
</tr>
<tr>
<td>Neither</td>
<td>0.192</td>
<td>0.279</td>
<td>0.205</td>
<td>-0.027</td>
<td>-0.194</td>
</tr>
</tbody>
</table>

*Correlation is marginally significant at a 0.10 level
+Correlation is significant at a 0.05 level

**Notes:**

1. The # affective words, # positive emotions, and # negative emotions are simply the total number of affective words, positive emotion words, and negative emotion words generated.

2. The % positive emotions and % negative emotions are the percentages of all words that were positive emotion words and negative emotion words respectively.
The Institutional Review Board reviewed your protocol on December 18, 2013 and has determined the procedures you have proposed are appropriate for exemption under the federal regulations. As such, there will be no further review of your protocol, and you are cleared to proceed with the procedures outlined in your protocol. As an exempt study, there is no requirement for continuing review. Your protocol will remain on file with the IRB as a matter of record.

**Exempt Categories:**

| Category 1: | Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods. |
| Category 2: | Research involving the use of educational test (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior |
| Category 3: | Research involving the use of educational test (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under category 2, if: (i) the human subjects are elected or appointed officials or candidates for public office; or (ii) Federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter. |
| Category 4: | Research involving the collection of study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. |
**Category 5:** Research and demonstration projects which are conducted by or subject to the approval of Department or agency heads, and which are designed to study, evaluate or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in methods or levels of payment for benefits or services under these programs.

**Category 6:** Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed which contains a food ingredient at or below the level and for a use found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

**Editorial Notes:**

1. Approved- Exempt

While your project does not require continuing review, it is the responsibility of the P.I. (and, if applicable, faculty supervisor) to inform the IRB if the procedures presented in this protocol are to be modified or if problems related to human research participants arise in connection with this project. **Any procedural modifications must be evaluated by the IRB before being implemented, as some modifications may change the review status of this project.** Please contact (ORI Staff) if you are unsure whether your proposed modification requires review or have any questions. Proposed modifications should be addressed in writing and submitted electronically to the IRB (http://www.bsu.edu/irb) for review. Please reference the above IRB protocol number in any communication to the IRB regarding this project.

**Reminder:** Even though your study is exempt from the relevant federal regulations of the Common Rule (45 CFR 46, subpart A), you and your research team are not exempt from ethical research practices and should therefore employ all protections for your participants and their data which are appropriate to your project.

Bryan Byers, PhD/Chair  
Institutional Review Board

Christopher Mangelli, JD, MS, MEd, CIP/Director  
Office of Research Integrity
Office of Research Integrity
Institutional Review Board (IRB)
2000 University Avenue
Muncie, IN 47306-0155
Phone: 765-285-5070

DATE: February 18, 2014
TO: Audrey Perdew
FROM: Ball State University IRB
RE: IRB protocol # 549016-2
TITLE: Self-Esteem and Experiences of Emotions
SUBMISSION TYPE: Amendment/Modification
ACTION: APPROVED
DECISION DATE: February 18, 2014
REVIEW TYPE: EXEMPT

The Institutional Review Board reviewed your protocol on February 18, 2014 and has determined the procedures you have proposed are appropriate for exemption under the federal regulations. As such, there will be no further review of your protocol, and you are cleared to proceed with the procedures outlined in your protocol. As an exempt study, there is no requirement for continuing review. Your protocol will remain on file with the IRB as a matter of record.

Exempt Categories:

<table>
<thead>
<tr>
<th>Category 1: Research conducted in established or commonly accepted educational settings, involving normal educations practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.</th>
</tr>
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<tr>
<td>Category 2: Research involving the use of educational test (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior</td>
</tr>
<tr>
<td>Category 3: Research involving the use of educational test (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under category 2, if: (i) the human subjects are elected or appointed officials or candidates for public office; or (ii) Federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.</td>
</tr>
<tr>
<td>Category 4: Research involving the collection of study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.</td>
</tr>
</tbody>
</table>
Category 5: Research and demonstration projects which are conducted by or subject to the approval of Department or agency heads, and which are designed to study, evaluate or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in methods or levels of payment for benefits or services under these programs.

Category 6: Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed or (ii) if a food is consumed which contains a food ingredient at or below the level and for a use found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

Editorial Notes:

1. Modification Approved

While your project does not require continuing review, it is the responsibility of the P.I. (and, if applicable, faculty supervisor) to inform the IRB if the procedures presented in this protocol are to be modified or if problems related to human research participants arise in connection with this project. **Any procedural modifications must be evaluated by the IRB before being implemented, as some modifications may change the review status of this project.** Please contact (ORI Staff) if you are unsure whether your proposed modification requires review or have any questions. Proposed modifications should be addressed in writing and submitted electronically to the IRB (http://www.bsu.edu/irb) for review. Please reference the above IRB protocol number in any communication to the IRB regarding this project.

Reminder: Even though your study is exempt from the relevant federal regulations of the Common Rule (45 CFR 46, subpart A), you and your research team are not exempt from ethical research practices and should therefore employ all protections for your participants and their data which are appropriate to your project.

Bryan Byers, PhD/Chair
Institutional Review Board

Christopher Mangelli, JD, MS, MEd, CIP/Director
Office of Research Integrity