

I Think I Am Doing Great but I Feel Pretty Bad About It: Affective Versus Cognitive Verbs and Self-Reports

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Abstract

Four experiments were conducted to examine the effect of responding to self-report items framed with either a cognitive verb (think) or an affective verb (feel). Participants' open-ended self-descriptions were significantly more negative when they responded to a feel prompt than when they responded to a think prompt (Experiments 1 and 2). This effect persisted and influenced scores on a subsequent measure of self-esteem (Experiment 2). Substituting the verb think for feel in the Rosenberg self-esteem scale resulted in significantly higher reported self-esteem for female participants but not for male participants (Experiments 3 and 4). The research contributes to the literature demonstrating the subtle effects of word choice on responses to self-report items.

Keywords

question wording, communication, gender differences, social cognition, self-esteem, emotion

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Internal thoughts about the self (e.g., self-reflection) as well as reports of those thoughts (e.g., self-concept and self-esteem) involve language at some level. That is, language is the scaffolding that people use to explore and report on facets of the self. But how we think about the self, indeed, how we think about anything, can be influenced by the language that we use (Boroditsky, Fuhrman, & McCormick, 2010). In this research, I explore the effect of two different verbs—"think" and "feel"—on thoughts about the self and the reporting of those thoughts, including self-concept and self-esteem. On the face of it, these two verbs, when referencing the self, would seem to be synonymous. So, "I feel I'm a good person" should be roughly synonymous with "I think I'm a good person." However, the research reported in this article suggests otherwise.

There is a relatively long history of research demonstrating the sometimes subtle effects that language can have on how people respond to questions. Classic research by Loftus and colleagues, for example, demonstrated how the use of different adjectives (e.g., blue vs. green) and verbs (e.g., hit vs. smashed) can influence memory for color (Loftus, 1977) and estimates of speed (Loftus & Palmer, 1974). More recently, Hart (2013) examined the effect of the perfective versus imperfective verb form on mood and memory. Participants in this research were asked to describe a past positive or negative emotional experience in response to prompts phrased with either the perfective (e.g., What

happened?) or the imperfective (e.g., What was happening?). The imperfective implicates the experience as continuing. In contrast, the perfective implies that an event has been completed. Participants responding to imperfective prompts reported greater happiness for positive experiences and less happiness for negative experiences, relative to participants responding to perfective prompts. An examination of participants' memory in these experiments suggests that the effect of verb aspect is largely mediated by differential memory for past experiences, specifically, enhanced memory for the experiences (regardless of valence) for those responding to the imperfective relative to those responding to the perfective.

One comprehensive and systematic approach devoted to explaining the subtle social cognitive effects inherent in language is the linguistic category model (LCM; Semin & Fiedler, 1988, 1991). In this view, lexical items can vary in terms of their level of abstractness (as well as other dimensions), with important determinants and consequences. Importantly, some of this research has demonstrated that the verb forms used in questions can systematically influence

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respondents' answers (Semin & De Poot, 1997; Semin, Rubini, & Fiedler, 1995). For example, questions that contain action verbs (e.g., "Why do you eat at Joes?") tend to elicit responses with the subject as the causal origin (e.g., "Because I . . ."); questions with state verbs (e.g., "Why do you like Joes?") tend to elicit responses with the object as the causal origin (e.g., "Because Joes is . . .").

Cognitive Versus Affective Verbs

The present research was designed to examine the effects of two different verbs—one cognitive (think) and the other affective (feel)—on reported thoughts about one's self. There have been no direct tests of this issue. However, Mayer and Tormala (2010) examined the effects of these different verbs on persuasion. In three experiments, participants heard persuasive messages framed either with "think" (e.g., I think that donating blood is one of the most important contributions I can make to society) or with "feel" (e.g., I feel that donating blood is one of the most important contributions I can make to society). Participants with a more affective (cognitive) orientation, either dispositionally or via experimental priming, were more persuaded when the message was framed with feel (think). In other words, participants with a more pronounced affective orientation were more persuaded by a "feel" message than by a "think" message, with the reverse occurring for those with a more pronounced cognitive orientation. In a third experiment, gender differences were examined, and women were more persuaded by "feel" messages than "think" messages, with the reverse occurring for men. Overall, the authors suggest that the matching of verb with affective orientation (via processing fluency) is responsible for this effect.

More recently, Janssen, van Oscha, Lechner, Candel, and de Vriese (2012) examined differences in risk estimates as a function of cognitive versus affective orientation. Affective judgments contained the verb *feel* (e.g., If I keep smoking, I feel vulnerable to getting lung cancer at some point in my life) and cognitive judgments did not (e.g., If I keep smoking, my chances of getting lung cancer at some point in my life are big). Across all domains examined, the correlations between affective-based judgments and worry were significantly larger than were the correlations between cognitive-based judgments and worry. In other words, the extent to which participants were worried about getting cancer was driven more by what they felt their chances of getting cancer were than by what they thought their chances of getting cancer were. This suggests that for negative outcomes, responding to how one feels about that outcome may result in greater negativity than responding to how one thinks about that outcome.

The Present Research

Although previously unexamined, there are several reasons to expect that "think" and "feel" will elicit different responses about the self. First, responding to questions about how one

"feels" about one's self should prompt a search for past affective experiences to a greater extent than responding to prompts about how one "thinks" about one's self. And because the English lexicon is not affectively symmetrical and contains more negative affective words than positive affective words (Averill, 1980; Clore & Ortony, 1988; Schrauf & Sanchez, 2004), responding to a "feel" prompt should result in a slight negative bias; that is, responses to "feel" prompts should be more negative than responses to "think" prompts.

Second, and relatedly, responding to an affective prompt may induce deeper, more self-reflective processing than responding to a "think" prompt. For example, certain types of psychotherapy advocate the use of feel prompts (e.g., How do you feel about that?) as a means of eliciting deep self-reflection (Greenberg, 2006; Rogers, 1951). However, deep self-processing (or awareness) can result in more negative self-views. For example, increased self-awareness is associated with lower self-esteem (Ickes, Wicklund, & Ferris, 1973), in part, because of the increased salience of a real-ideal self-discrepancy (Higgins, 1987). And finally, as the research of Janssen et al. (2012) suggests, affective judgments regarding potential negative self-relevant outcomes can result in a more negative outlook than cognitive judgments regarding those same self-relevant outcomes.

In this research, four experiments were conducted to test the possibility that responding to "feel" prompts would result in a more negative self-evaluation than would responding to "think" prompts. Experiments 1 and 2 examined the effects of "think" versus "feel" on responses to open-ended prompts. Experiments 3 and 4 examined the effects of a "think" versus "feel" manipulation on self-esteem scale scores.

Experiment 1

The first experiment was designed to test the effects of responding to different verbs (think vs. feel) on open-ended reporting of self-relevant information. Hence, participants were simply asked to describe how they either thought or felt about themselves. I expected the valence of self-reports to be significantly more negative for participants responding to a "feel" prompt than for participants responding to a "think" prompt.

Method

Participants. Participants were undergraduate students enrolled either in an upper-division psychology course ($n = 27$; 22 female) or introductory psychology course ($n = 114$; 78 female) at a Midwestern university who participated for partial course credit.

Procedure. Participants were informed that we were collecting students' opinions about themselves and that they would be asked to write about themselves for 5 min. Participants

were randomly assigned to respond either to the think condition, “please take five minutes and write what you think about yourself,” or to the feel condition, “please take five minutes and write what you feel about yourself.”

Results and Discussion

Participants' writings were converted to separate text files that were then analyzed with the Linguistic Inquiry and Word Count program (LIWC; Pennebaker, Chung, Ireland, Gonzales, & Booth, 2007). This program consists of a dictionary of words (approximately 4,500 in the current version) that tap a number of hierarchically ordered dimensions. The LIWC has been shown to have good internal consistency and temporal reliability (Pennebaker et al., 2007). The dimension of interest in this research was the emotional valence of participants' self-descriptions. To analyze this, an emotion composite score was constructed by subtracting the negative emotion word score (percentage of negative emotion words, for example, worried, sad, etc.) from the positive emotion word score (percentage of positive emotion words, for example, nice, sweet, etc.). Initial analyses that included participant sex and class (upper-division vs. introductory psychology) indicated no effects, and these variables were dropped from subsequent analyses.

As expected, responses to the “feel” prompt were significantly more negative ($M = 5.45$, $SE = 0.51$) than responses to the “think” prompt ($M = 7.32$, $SE = 0.59$), $t(139) = 2.39$, $p < .01$ (one-tailed). Correlational analyses were conducted to examine the relationship between self-description valence and the number of times the word *think/feel* was included in the description. There was a significant negative correlation between emotional valence and the number of times the word *feel* appeared in the description ($r = -.26$, $p < .01$), and a significant positive correlation between emotional valence and the number of times the word *think* appeared in the description ($r = .26$, $p < .01$).

Overall, then, this study provided an initial demonstration that reported thoughts about the self are more negative when people are asked what they feel about themselves than when they are asked what they think about themselves. The link between verb type and self-description valence was further supported by the finding of significant correlations between valence and the number of times “think”/“feel” appeared in the descriptions.

Experiment 2

The purpose of Experiment 2 was to replicate the results of Experiment 1 with a different mode of assessing self-descriptions and to examine the downstream effect of this manipulation on reported self-esteem. The former was accomplished by having participants complete 10 sentences that began with either “think” (I think I am . . .) or “feel” (I feel I am . . .) prompts. The latter was accomplished by examining subsequent

scores on a global measure of self-esteem. I predicted that responses to the prompts would replicate the results of Experiment 1 and be more negative in the “feel” condition than in the “think” condition. I also expected this effect to persist and affect self-esteem scores such that participants responding to the “feel” prompt would display lower self-esteem than participants responding to the “think” prompt.

Method

Participants. Participants ($n = 84$; 43 female) were students enrolled in introductory psychology classes who participated for partial course credit.

Procedure. Data were collected in small group sessions (six or fewer participants). Participants were first asked to describe themselves by responding to a set of 10 prompts that began with either “I think I am . . .” or “I feel I am . . .” Participants were randomly assigned to conditions (including within sessions). After responding to the prompts, participants immediately completed the Rosenberg (1965) self-esteem scale.

Results

As in Experiment 1, the LIWC program was used to analyze participants' self-descriptions, and an overall emotional valence variable (percentage of positive emotion words minus percentage of negative emotion words) was created and analyzed as a function of verb and sex. Consistent with Experiment 1, there was a significant verb effect, and responses to the “feel” prompts were significantly more negative ($M = 10.71$, $SE = 1.54$) than were responses to the “think” prompts ($M = 15.66$, $SE = 1.48$), $F(1, 80) = 5.35$, $p < .05$.

Rosenberg self-esteem scores were analyzed with a 2×2 (Verb \times Sex) ANOVA. Participants who had responded to the “feel” prompts had significantly lower self-esteem ($M = 29.68$, $SE = 0.70$) than participants who responded to the “think” prompts ($M = 32.2$, $SE = 0.67$), $F(1, 80) = 6.73$, $p < .02$. There was also a marginally significant Verb \times Sex interaction, $F(1, 80) = 3.80$, $p < .056$ (see Figure 1). The verb effect was significant for female participants (think = 32.25, feel = 27.84), $F(1, 41) = 10.00$, $p < .01$, but not for male participants (think = 31.52, feel = 32.15), $F(1, 39) < 1$.

Correlational analyses indicated a marginally significant correlation between self-esteem scores and emotional valence, $r = .20$, $p < .07$. However, this relationship was significant only for female participants, $r = .37$, $p < .02$, and not for male participants, $r < .01$.

This experiment replicated the results of Experiment 1. Participants' self-descriptions were again more negative when they responded to prompts containing the verb *feel* than when responding to prompts containing the verb *think*. In addition, this experiment suggests that this effect may persist and affect reported self-esteem; female participants responding to the “feel” prompts scored lower on the

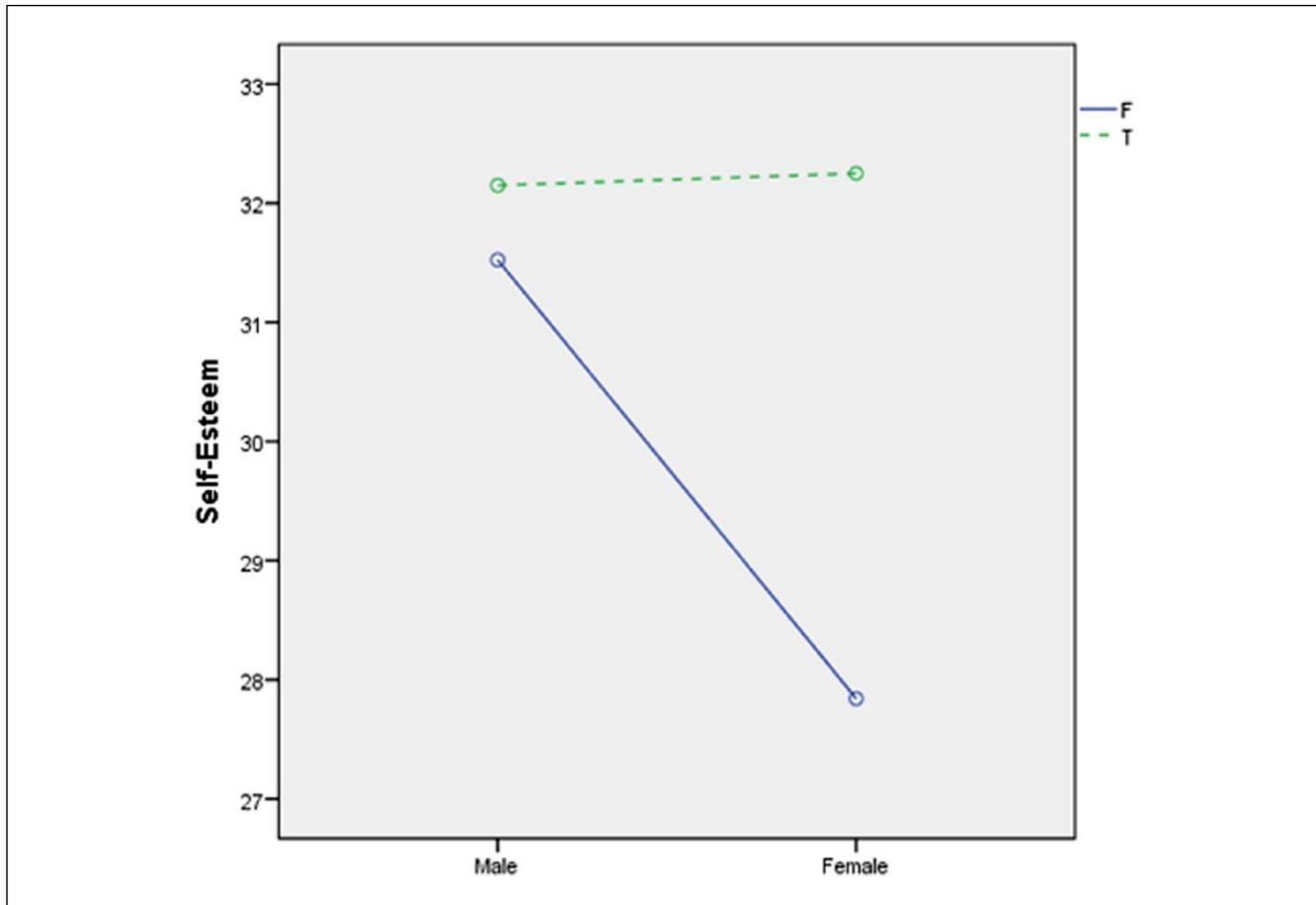


Figure 1. Rosenberg self-esteem scores as a function of self-description verb and sex: Experiment 2.
Note. F = feel; T = think.

Rosenberg (1965) self-esteem scale than female participants responding to “think” prompts. A variation of this effect was examined in Experiments 3 and 4.

Experiment 3

Experiment 2 demonstrated that reported self-esteem, especially for females, might vary as a function of whether one was “thinking” or “feeling” about one’s self before responding to the self-esteem measure. As it turns out, the Rosenberg self-esteem scale contains items that primarily use the verb *feel* (e.g., I feel that I am a person of worth). If responding to think versus feel prompts prior to taking the Rosenberg scale affected scores on that measure, it seems possible that manipulating the verb within the measure itself might produce a similar effect. This possibility was tested in Experiment 3. To do this, two versions of the Rosenberg scale were created: a “feel” version in which 6 of the 10 items used the verb *feel* (e.g., I feel that I am a failure) and a “think” version in which the verb think was used in those 6 items.¹ Based on the results of Experiment 2, I expected lower self-esteem scores in the “feel” version than in the “think” version.

Method

Participants. Participants ($n = 250$; 180 females) were students enrolled in introductory psychology classes who participated for partial course credit.

Procedure. The study was conducted online using the SurveyMonkey platform. Two versions of the Rosenberg self-esteem scale were used. In one version, six of the items used the “feel” verb (e.g., I feel as if I am a person of worth). The other version was identical except that “feel” was replaced with “think” (e.g., I think I am a person of worth). The wording of the items can be seen in Table 1. Participants were randomly assigned to one of these versions of the self-esteem scale.

Results

Overall analysis. Total scores on the Rosenberg self-esteem scale were analyzed with a 2×2 (Verb \times Sex) ANOVA. The only significant effect was a Verb \times Sex interaction, $F(1, 245) = 3.91, p < .05$. The interaction is depicted in Figure 2.

Table 1. Percentage Providing Positive Self-Esteem Response: Experiment 3.

	Overall		Males		Females	
	T	F	T	F	T	F
1. On the whole I am satisfied with myself.	89.6	83.1	91.2	83.3	89.0	83.0
2. At times I feel/think that I am no good at all.	66.4	61.3	55.9	77.8	70.3	54.5
3. I feel/think that I have a number of good qualities.	97.6	93.5	97.1	91.7	97.8	94.3
4. I am able to do things as well as most other people.	94.4	94.4	97.1	100.0	93.4	92.0
5. I feel/think I do not have much to be proud of.	85.6	81.5	88.2	83.3	84.6	80.7
6. I certainly feel/think I am useless at times.	65.6	58.9	64.7	72.2	65.9	53.4
7. I feel/think that I am a person of worth, at least the equal of others.	94.4	92.7	88.2	97.2	96.7	90.9
8. I wish I could have more respect for myself.	56.8	54.0	47.1	58.3	60.4	52.3
9. All in all, I am inclined to feel/think that I am a failure.	92.0	87.1	91.2	91.7	92.3	85.2
10. I take a positive attitude toward myself.	88.0	84.7	88.2	97.2	87.9	79.5

Note. T = think; F = feel.

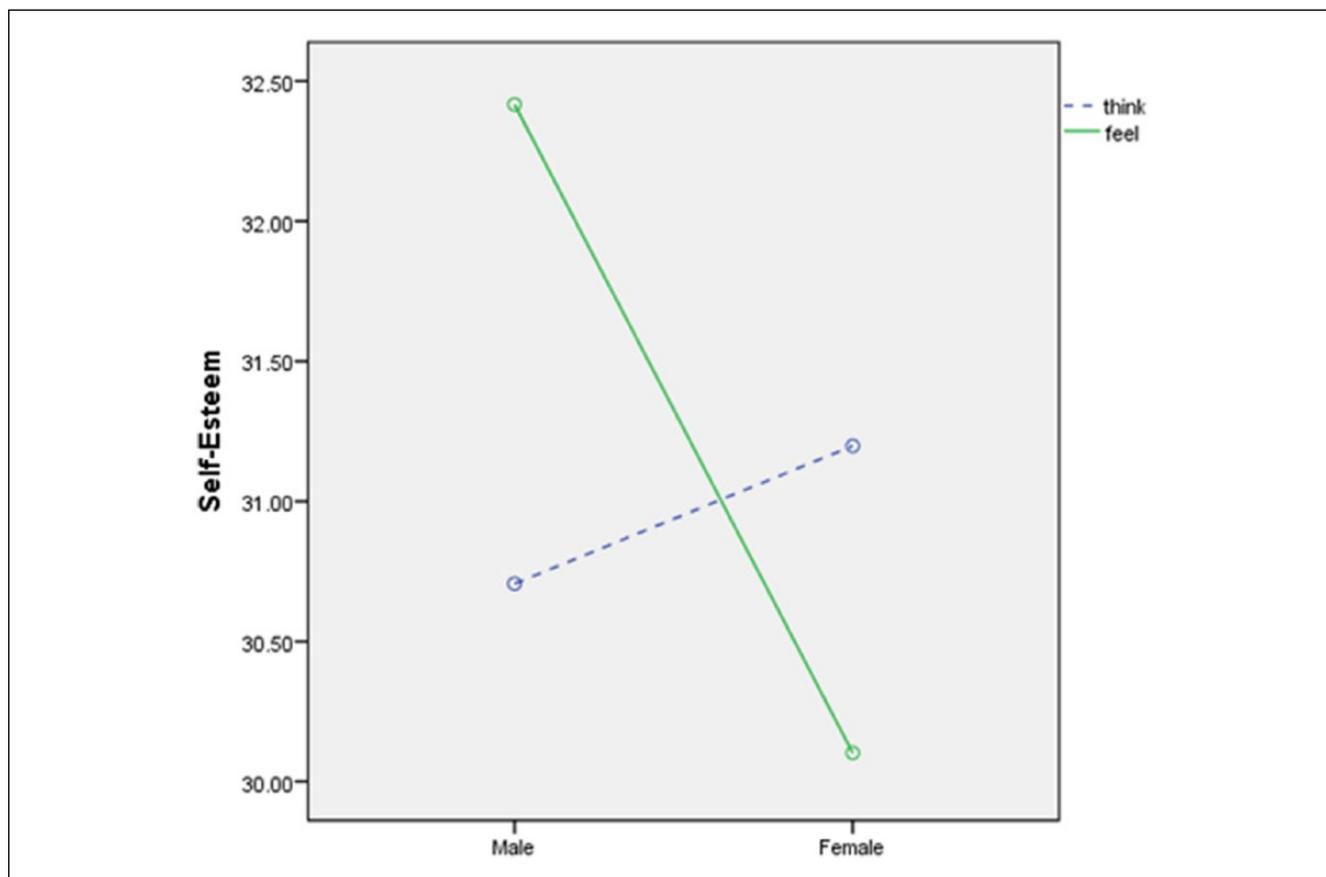


Figure 2. Rosenberg self-esteem scores as a function of verb and sex: Experiment 3.

Follow-up simple effects tests indicated that the verb effect was not significant for either females or males (both $ps > .10$). However, when gender differences in self-esteem were evaluated separately for the two verbs, females scored significantly lower than males (30.1 vs. 32.42), $F(1, 122) = 4.98, p < .05$, in the “feel” version and higher (though not

significantly) than males in the “think” version (31.2 vs. 30.71), $F(1, 123) < 1$ (see Figure 2).

Item analyses. Responses to each item were categorized (after reverse scoring negatively worded items) as representing either a positive self-esteem response or a negative self-esteem

Table 2. Self-Esteem Scores as a Function of Verb and Participant Sex for All Items: Experiment 4.

	Overall		Males		Females	
	T	F	T	F	T	F
Negatively worded items ^a						
At times I feel/think that I am no good at all.	77.06	66.43	76.30	74.96	77.86	58.47
I feel/think I do not have much to be proud of.	72.57	69.36	73.07	74.90	72.05	64.19
All in all, I am inclined to feel/think that I am a failure.	77.30	72.62	77.07	80.01	77.55	65.72
I certainly feel/think I am useless at times.	66.90	62.94	65.64	70.59	68.23	55.81
Sum	293.88	272.33	292.09	300.46	295.68	244.19
Positively worded items						
I feel/think that I have a number of good qualities.	80.82	79.95	81.26	83.03	80.35	77.08
I think/feel I am able to do things as well as most other people.	78.22	75.19	77.13	78.42	79.38	72.18
I feel/think that I am a person of worth, at least the equal of others.	80.07	78.78	80.33	81.12	79.80	76.61
I feel/think I take a positive attitude toward myself.	72.49	71.80	71.71	76.88	73.32	67.07
Sum	311.64	306.19	310.43	319.45	312.85	292.93
Overall sum	605.52	578.52	602.51	619.91	608.53	537.12

Note. T = think; F = feel.

^aNegatively worded items have been reversed scored.

response. Table 1 displays the percentage of positive and negative self-esteem responses for each item in the two versions. As can be seen in the two far right columns of this table, a greater percentage of female respondents responded positively in the “think” version than in the “feel” version for every single item (even those for which there was not a manipulation).

Experiment 4

The purpose of this experiment was to attempt to replicate the findings of Experiment 3 with a primarily non-college sample and to explore the think–feel verb effect in more detail. Gender differences in self-esteem have been documented to be largest in adolescence (Kling, Hyde, Showers, & Buswell, 1999). Hence, an important issue to examine is whether a verb moderation of gender difference in self-esteem would occur in a sample that was primarily non-college age. In addition to using a non-college sample, the following modifications were made. First, the Rosenberg self-esteem scale was modified so that every item (rather than just 6 out of 10 items) contained the verb *think* or *feel*. To accomplish this, two items were eliminated. The resulting scale contained eight items and was balanced such that one half of the items were reverse worded. Second, to increase sensitivity, a 100-point sliding scale was used for responding to the self-esteem items. Finally, an item assessing emotionality was added to assess the possibility that the gender difference in responding to the “think” and “feel” prompts was mediated, in part, by the enhanced emotionality of female participants responding to the “feel” verb. If responding to the items containing the verb *feel* increase emotionality, and if this occurs to a greater extent for females than for males, then females should report higher levels of emotionality after responding to “feel” items than “think”

items, with no corresponding difference for male participants. Moreover, if this is the case, including emotionality as a covariate should reduce any sex by verb interaction.

Method

Participants. Participants ($n = 279$; 140 females) were workers recruited via Mechanical Turk who were paid .25 U.S. for their participation. This study was open to workers whose HIT (Human Intelligence Task) approval rate exceeded 97% and whose number of approved HITs was greater than 5,000. Participants ranged in age between 18 and 73 ($M = 34.37$, $SD = 10.86$).

Procedure. Participants were randomly assigned to respond to either the “think” or “feel” version of the self-esteem scale. The self-esteem scale consisted of eight items from the Rosenberg self-esteem scale, with each item containing either the verb *think* or the verb *feel* (see Table 2). Participants responded to each item on a 100-point (0–100) sliding scale with the following labels: *strongly disagree*, *disagree*, *somewhat disagree*, *neither agree nor disagree*, *somewhat agree*, *agree*, and *strongly agree*. Following the eight self-esteem items, participants responded to a single item from the need for affect scale (Maio & Esses, 2001) assessing emotional orientation “I am an emotional person” on the same 100-point scale.

Results

Overall analysis. Total self-esteem scores varied between 39 and 800 ($M = 590.90$, $SD = 173.54$) and were first analyzed with a 2×2 (Verb \times Sex) ANOVA. As in Experiment 3, there was a significant Verb \times Sex interaction, $F(1, 275) =$

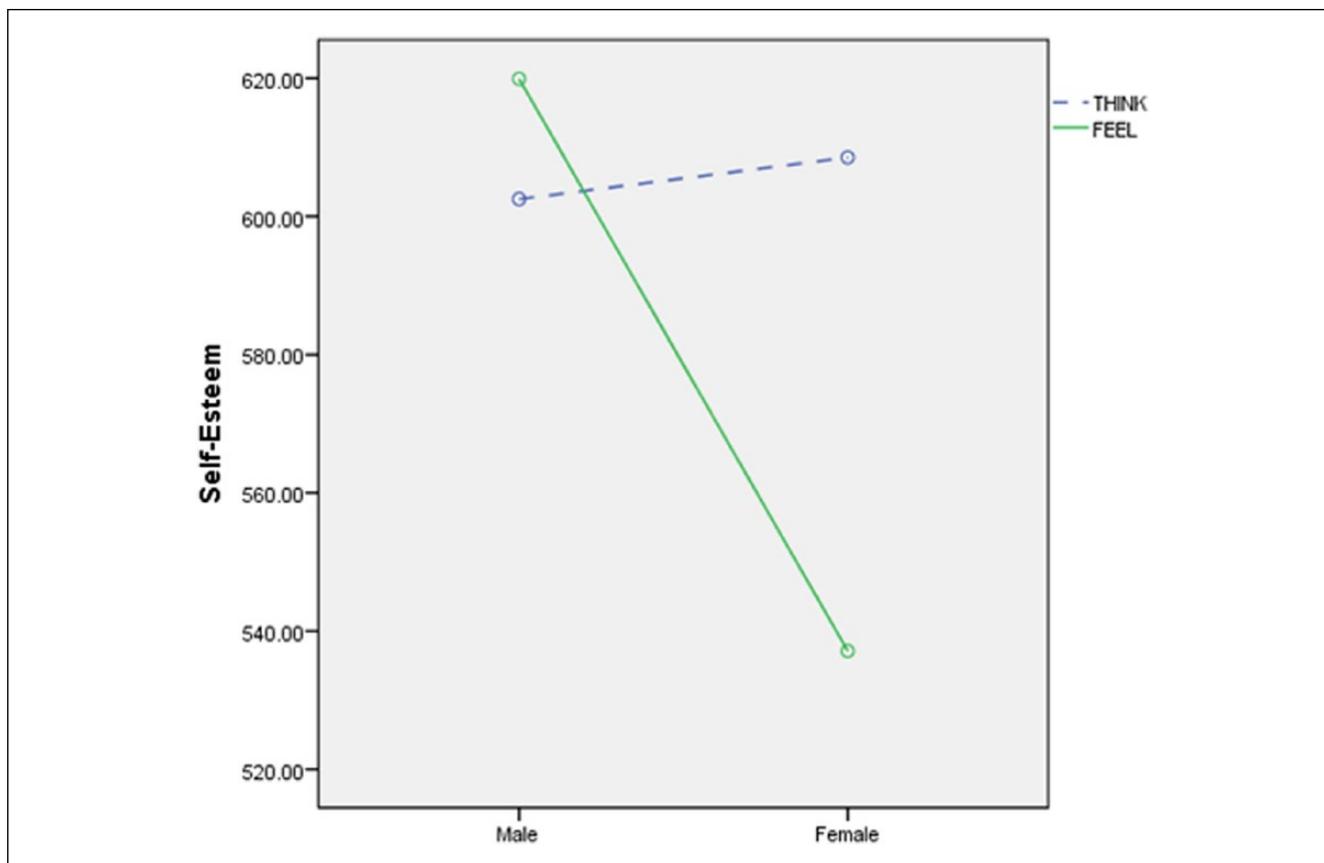


Figure 3. Self-esteem scores as a function of verb and sex: Experiment 4.

4.68, $p < .05$ (see Figure 3). Follow-up simple effects tests indicated that females scored significantly lower in the “feel” version ($M = 537.12$, $SE = 19.91$) than in the “think” version ($M = 608.53$, $SE = 21.09$), $F(1, 138) = 4.77$, $p < .05$. In contrast, for males, the difference between the “feel” ($M = 619.91$, $SE = 20.62$) and “think” ($M = 602.51$, $SE = 20.48$) versions was not significant, $F(1, 137) < 1$. In addition, the pattern observed in Experiment 3 was replicated here as well. That is, females scored significantly lower in self-esteem than males in the “feel” version, $F(1, 141) = 7.57$, $p < .01$, but not in the “think” version, $F(1, 134) < 1$.

Reversed versus non-reversed items. To examine whether the verb manipulation varied as a function of item direction, a $2 \times 2 \times 2$ (Item Direction \times Verb \times Sex) ANOVA with repeated measures on the first factor was conducted. Scores on the reversed item subscale were significantly lower ($M = 283.1$, $SE = 6.23$) than scores on the non-reversed subscale ($M = 308.92$, $SE = 4.54$), $F(1, 275) = 48.10$, $p < .01$. In addition, there was a significant Direction \times Verb interaction, $F(1, 275) = 4.68$, $p < .05$, as well as a significant Direction \times Verb \times Sex interaction, $F(1, 275) = 4.32$, $p < .05$. To decompose these interactions, separate analyses were conducted for the set of reversed and non-reversed items. The verb effect was

marginally significant for the reversed items (Feel $M = 272.33$ [$SE = 8.72$] vs. Think $M = 293.88$ [$SE = 8.94$]), $F(1, 275) = 2.97$, $p < .10$, but not for the non-reversed items (Feel $M = 306.19$ [$SE = 6.34$] vs. Think $M = 311.64$ [$SE = 6.5$]), $F(1, 275) < 1$. In addition, the Sex \times Verb interaction was significant for the reversed items, $F(1, 275) = 5.75$, $p < .05$ but not the non-reversed items, $F(1, 275) < 1$. The pattern of means is displayed in Table 2. It appears, then, that the effect of the verb manipulation (i.e., lower scores when responding to items with the verb “feel,” especially for females) occurs primarily for the items that are worded in a negative direction. As can be seen in Table 2, females scored higher in the “think” version than the “feel” version for each of the eight items. Moreover, regardless of gender, scores in the “think” version were higher than in the “feel” version for each of the eight items.

Emotional orientation. Scores on emotional orientation were analyzed with a 2×2 (Verb \times Sex) ANOVA. Consistent with past research, females scored significantly higher ($M = 60.61$, $SE = 2.11$) on this measure than did males ($M = 43.88$, $SE = 2.12$), $F(1, 275) = 31.27$, $p < .001$. More importantly, and as predicted, there was a significant Verb \times Sex interaction, $F(1, 275) = 3.85$, $p = .05$. Female participants scored higher on

Table 3. Standardized Self-Esteem Scores as a Function of Verb and Sex: Combined Experiments 2-4.

	Think	Feel	M
Males	0.087	0.188	0.137
Females	0.138	-0.385	-0.124
M	0.112	-0.098	

emotional orientation when responding to “feel” prompts ($M = 64.6$, $SE = 2.9$) than when responding to “think” prompts ($M = 56.62$, $SE = 3.07$), $F(1, 138) = 3.34$, $p = .07$. In contrast, for males, there was no difference in emotional orientation between responding to the “think” ($M = 45.76$, $SE = 2.98$) and “feel” prompts ($M = 42.0$, $SE = 3.0$), $F(1, 137) < 1$.

An ANCOVA was then conducted for overall self-esteem in which emotional orientation and its interaction with sex and verb were included as covariates. In this analysis, the only significant effect was for the emotionality covariate, $F(1, 271) = 33.31$, $p < .001$; higher levels of emotionality were associated with lower levels of self-esteem ($r = -.36$). More importantly, the Verb \times Sex interaction was no longer significant, $F(1, 271) = 1.39$, $p > .22$. This finding, in conjunction with the significant Verb \times Sex interaction for emotionality, suggests that the Sex \times Verb effect for self-esteem is partially a function of the feeling verb eliciting a higher level of emotionality than the thinking verb for women but not for men; the higher level of emotionality elicited in women responding to the “feel” verb appears to be responsible for their lower reported self-esteem.

General Discussion

The results of this research suggest that the process and outcome of self-reflection can be influenced by a relatively subtle lexical manipulation. First, in Experiments 1 and 2, open-ended self-descriptions were more negative for participants who responded to how they felt about themselves than for participants who responded to how they thought about themselves. This effect was clearly related to verb type; there were significant correlations between the emotional valence of the self-description and the number of times that “think”/“feel” appeared in the self-description.

Second, the effects of thinking versus feeling about oneself persist, at least momentarily, and in this research, had an impact on subsequent scores on the Rosenberg (1965) self-esteem scale (Experiment 2). That is, those who were asked how they felt about themselves scored significantly lower on this self-esteem scale than those who were asked how they thought about themselves, an effect that was particularly pronounced for females.

Third, substituting the cognitive verb *think* for the affective verb *feel* in the Rosenberg self-esteem measure resulted in higher self-esteem scores for female participants but not for male participants (Experiments 3 and 4). Because there

was some inconsistency in this effect over experiments, an overall data set was created to examine this effect, when all relevant experiments are combined. This data set consisted of the standardized self-esteem scores from Experiments 2 to 4. An analysis of this overall data set yielded significant (all $ps < .05$) main effects for gender, $F(1, 600) = 7.69$, verb type, $F(1, 600) = 5.0$, and a Sex \times Verb interaction, $F(1, 600) = 10.99$. The means are presented in Table 3. Simple effects tests indicated that the verb effect was significant for females, $F(1, 356) = 15.65$, $p < .001$, but not for males, $F(1, 244) < 1$. Overall, then, the results demonstrate a significant difference in self-esteem scores as a function of affective versus cognitive verbs for females but not for males.

Fourth, a relatively robust finding in the self-esteem literature, especially in the United States, is that women typically score lower on self-esteem (most often assessed with the Rosenberg self-esteem scale) than do men (Kling et al., 1999). In the present research, however, an alternative analysis of the Verb \times Sex interaction for the overall data set indicated that higher levels of self-esteem for males occurred only when the verb *feel* was used, $F(1, 301) = 17.14$, $p < .001$, and not when the verb *think* was used $F(1, 299) < 1$. It is possible, given the present findings, that the reported gender difference in self-esteem may be due, in part, to the downward effects that affective verbs have for female—but not for male—respondents.

What are the mechanisms that account for this divergence in responses to prompts regarding how one thinks and feels about oneself? There are several possibilities, and future research will be required to nail them down. One possibility is that “think” and “feel” activate different frames that direct people to retrieve different self-relevant information. And because the English affective lexicon is biased in a negative direction, participants responding to a “feel” prompt tend to produce more negative self-descriptions. Note how this demonstrates the malleability of self-descriptions. That these different verbs have the effects that they do suggests that self-descriptions are constructed on the spot rather than directly retrieved.

This lexical asymmetry explanation, however, does not explain why the effect occurs for females and not for males. Note in this regard that there were no gender differences when a free response format was used (Experiments 1 and 2). It is only when participants responded to self-esteem items that this gender difference emerged (Experiments 3 and 4). Experiment 4 was designed to explore this gender difference in more detail, and consistent with past research (Mayer & Tormala, 2010), females in this experiment did score significantly higher than males on an item designed to assess emotional orientation. More importantly, females scored higher on emotional orientation after responding to “feel” items than after responding to “think” items, suggesting that the “feel” prompt may induce affective processing in females to a greater extent than it does in males. And in fact, the Sex \times Verb interaction was no longer significant when emotional orientation was included as a covariate. Note that this pattern is consistent with the gender differences (female participants

were more persuaded by feel appeals than males) reported by Mayer and Tormala (2010).

Another possibility is that responding to a “feel” prompt will elicit deeper self-processing. And deeper self-processing should make any real-ideal self-discrepancy more salient, thereby resulting in more negative self-assessments. If this mechanism operates, then participants should respond more slowly to “feel” prompts relative to “think” prompts. And there is some evidence that this is the case. In Experiment 4 (the only study for which response times were recorded), there was a marginally significant difference in response times, with responses to the “feel” prompt taking longer (92.16 s) than responses to the “think” prompt (83.17 s), $F(1, 275) = 3.09, p < .10$. Note also that in Experiment 4, the difference between “think” and “feel” was significantly larger for negatively worded items than for positively worded items (a similar but non-significant pattern occurred in Experiment 3). Given that negative information will tend to be processed more deeply than positive information (for a review, see Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001), it makes sense that the verb effect would be enhanced in the former relative to the latter.

There are, of course, other mechanisms that may play a role in the verb effect observed in these experiments. For example, it is possible that “think” and “feel” may vary in terms of their level of assumed confidence, with “think” presuming greater confidence than “feel.” When recalling self-relevant information, then, any positivity bias would be enhanced when responding to a “think” prompt relative to a “feel” prompt. Note also that it is possible that there may be different mechanisms involved when responding to open-ended prompts than when responding to self-esteem items.

The importance of the “think”/“feel” distinction has also been recognized in the marketing literature (Claeys, Swinnen, & Vanden Abeele, 1995). In this view, products can be classified as either “think” products and purchased primarily for objective utilitarian reasons, or “feel” products and purchased to satisfy emotional wants. This distinction dovetails nicely with Mayer and Tormala’s (2010) demonstration of the differing effects of “think” versus “feel” frames in persuasion. In those studies, participants with a more affective orientation were more influenced by persuasive messages framed with “I feel”; those with a more cognitive orientation were more influenced by messages framed with “I think.” In a sense, the present research extends these findings inward, that is, how think versus feel frames influence the evaluation of one’s self. An important direction for subsequent research would be to turn this back outward and examine the effects of these different frames on responses to questions about external attitudinal objects rather than the self. For example, would open-ended responses to “How do you feel about the Affordable Care Act?” be more negative than responses to “What do you think about the Affordable Care Act?”

It is interesting to speculate about the implications of the present results for strategies designed to enhance subjective

well-being (i.e., self-help/therapy strategies). Specifically, is it adaptive to engage in self-reflection using a feeling frame? No doubt it is useful to sometimes activate an affective frame to explore one’s emotional responses. But paradoxically, such an approach may lessen one’s overall level of subjective well-being, especially for females. And it may be that the excessive rumination associated with negative affect and depression is partly mediated by a tendency to activate a “feel” frame rather than a “think” frame. In fact, the present results are consistent with a recent study demonstrating the effects of language during self-talk prior to performing a stressful task (Kross et al., 2014). In that research, participants who engaged in self-talk using first-person pronouns, and hence were less self-distancing, displayed more stress and performed less well than participants who used non-first-person pronouns.

The present results are consistent with research demonstrating the sometimes powerful role played by subtle question wording changes in subsequent judgments and responses (Hart, 2013; Loftus, 1977). Many times respondents will interpret, and hence respond to, questions in ways that were not intended by the researcher. Sometimes this is a function of the failure to consider the potential role played by conversation rules in question interpretation (Conrad, Schober, & Schwarz, 2014). Other times, as in the present results, it is the effect of lexical attributes that activate different cognitive pathways. In many ways, researchers have just begun to explore the different cognitive processes that are elicited by subtle variations in the wording of questions.

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Note

1. The original Rosenberg scale contains six items that included the verb *think* or *feel*, five of them contained feel and one contained think.

Supplemental Material

The online supplemental material is available at <http://pspb.sagepub.com/supplemental>.

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