# The Effect of Recalling Past Positive and Negative Actions on Implicit and Explicit Self-Esteem

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#### Abstract

Self-esteem plays a significant role in a person's overall well being and understanding selfesteem can be instrumental in constructing different therapeutic approaches. The way in which a person relates to their past actions can also be key in understanding a person's selfesteem. This study examined the effect of journaling about past behaviors on both implicit and explicit self esteem. Participants were asked to journal about past positive, negative, or neutral actions and were then tested to determine both their implicit and explicit self-esteem. It was hypothesized that participants who reflected on a past morally positive choice that they have made will have a more positive implicit and explicit self image than those who reflect on a past negative choice that they have made. The results showed that there was no correlation between implicit and explicit self-esteem. Additionally, self-esteem did not vary based on condition, and neither did the emotional content present in the response. However, exploratory analyses showed that participants who gave a reason for the action that they did had a marginally higher self-esteem than those who did not give a reason. Additionally, participants who were asked to recall past negative actions used significantly more words referring to the self than those in the positive and neutral conditions. Understanding the effects of the ways in which a person relates to past events is key in understanding selfesteem as a whole.

Keywords: implicit self-esteem, explicit self-esteem, journaling, past actions

### The Effect of Recalling Past Positive and Negative Actions on Implicit and Explicit Self-Esteem

Self-image, or the way a person views themselves, can play a key role in a person's overall emotional wellbeing. Negative self-image has been found to be at the core of many psychological disorders, such as depression (Montesano, Feixas, Caspar & Winter, 2017). A significant number of patients struggling with depression have demonstrated a cognitive conflict surrounding their self-perceptions (Montesano et al., 2017). Additionally, positive self-image can have an inoculating effect against circumstances which would typically threaten self-image. For example, participants with both positive and negative self-image participated in a game called 'cyber-ball' which was meant to make them feel ostracized. Participants who had a positive self-image were better able to maintain that positive selfimage after being ostracized in comparison to those with a more negative self-image, irrespective of their levels of social anxiety (Hulme et al., 2012). Additionally, participants who were found to have a higher self-esteem baseline reported fewer symptoms of anxiety, depression, and attention disorders up to three years later (Henriksen, Ranøyen, Indredavik, & Stenseng, 2017). More so, high social anxiety was found to be correlated with high explicit negative self-image, and negative self-image was also found to be correlated with higher rates of depression (Hulme, Hirsch, & Stopa, 2012). The specific congruence, or lack thereof, between how moral a person explicitly believes himself to be compared to what his implicit self-image is, can guide clinicians in treating disorders that center around self-image.

However, there are many different factors that can determine how self-image comes about. Many believe that self-image comes about through feedback that one receives about themselves throughout their life, especially during childhood, with parents, teachers, and

caregivers being particularly influential (Fostering a Positive Self-Image, 2016). Thus, identifying implications of specific behaviors on self image can lead to therapeutic behavior-based interventions for those struggling with negative self-image, as well as preventative measures that can be taken.

Self-esteem has also been shown to affect the seemingly mundane actions in a person's life. One study showed that participants with a lower self-esteem were more likely to purchase lower quality products than those with higher self-esteem, which is hypothesized to be because choosing the lower grade products confirmed the pessimistic view they had about themself (Stuppy, Mead, & Osselaer, 2020). This study also found that this tendency went away for those participants after they were trained to view themselves as people who use superior products, but remained the same for those who only received negative feedback.

The way in which that person relates to and processes their past action can also influence their moral self-image, or the degree to which a person views himself as a moral person, as well as self-esteem. The specific way in which one reflects upon past morally positive or morally negative choices may influence how one both implicitly and explicitly views themselves. In addition to their moral self-concept, both priming and having participants reflect on how certain traits relate to themselves can affect a person's behavior.

One study looked to examine what motivates people to act altruistically (Sachdeva, Iliev, & Medin, 2009). They hypothesized that a decrease in moral self-concept would lead to an increase in prosocial behavior, an increase in moral self-concept would actually lead to a decrease in prosocial behavior. This is because people of the expectation that people engage in moral self-regulation. So when a person's moral self-concept is lowered, they feel

the need to act in a way that would restore it, as opposed to those who already have a high moral self-concept. To test this, participants were asked to copy down a list of nine words and then write a short story about themselves using all the words that they had just copied. They were also advised to visualize how each of the words related to their lives. Participants were randomly assigned to one of three conditions: neutral words (such as book, key, house), positive traits (such as caring, generous, fair), and negative traits (such as disloyal, greedy, mean). After completing the story and a filler task, the participants were asked if they would like to make a small donation to a charity of their choice. Participants in the negative-traits condition donated the most money to the charity, an average of \$5.30, participants in the neutral condition donated an average of \$2.71, while the participants in the positive-traits condition donated the least money, averaging at \$1.07 (Sachdeva et al., 2009). Thus, participants donated significantly less money after describing themselves in positive terms than after describing themselves in negative terms. However, there was no significant difference in donation patterns when participants were instructed to write about someone else using positive or negative terms in a follow-up study (Sachdeva et al., 2009). Priming people with moral traits significantly affected their behavior, especially when those traits were thought about as specifically connected to their personal lives, and not just thought about abstractly.

The degree to which a person views themselves as moral can also largely depend on personal connections to specific in-groups that they identify with. For example, one study looked to examine the association between religiosity and moral self-image (Ward & King, 2019). They first looked at how moral participants viewed their religious ingroup to be, which could lead to people to integrate traits which they associate with their religious

ingroup into their own moral self-concept. Additionally, they examined participant's belief in the necessity of religion for morality, as participants may view their own religious beliefs as something which contributes directly to their being moral. Finally, the study looked at impression management, which is a person's inclination to make a positive impression on other people which may lead them to exaggerate their own positive traits (Ward & King, 2019). They found that whereas college students tended to view themselves as more moral than members of their collegiate in-group, they viewed themselves equally as moral as members of their religious in-group, demonstrating that a person's moral self-image can be aligned more strongly with some groups that he or she associates with more than others. Additionally, the more religious participants were, the more moral they claimed to be. Religious participants were more likely to view an increase in religious behavior, such as praying more often, and an increase in religious belief, such as believing in God more, as having an increase in moral traits as well. On the other hand, a decrease in religious behavior was viewed as decreasing overall morality. Alternatively, non-religious participants were more likely to view an increase in religious behavior and beliefs as decreasing morality, whereas a decrease in religious belief or practice boosted morality (Ward & King, 2019), showing that the non-religious participants associated religiosity with a lack of morality. This further demonstrates that moral associations are subjective and based on a participant's background and other associations.

There are two general types of self image: expressed or explicit self image, and implicit self image. Expressed self image is self-image that a person is cognizant of and can articulate (Harvard Health Publishing, 2007). It can be measured by having a person fill out questionnaires that directly ask about how a person perceives himself. However, implicit self

image is the way a person subconsciously feels about himself, which he will not necessarily be able to articulate, and is often shown through automatic responses (Harvard Health Publishing, 2007). This is often measured using computer tools based on reaction times and other factors such as the Implicit Association Test.

Although explicit self-image can be measured using different self-reporting scales and questionnaires, measuring implicit self-image poses more of a challenge. The Implicit Association test (IAT) is a computerized test which measures implicit beliefs based on reaction time. The self-esteem IAT uses two categories of words: "self" words such as I, me, or mine, and "other" words such as them, his, or hers. There are also two more classifications of descriptive stimuli: positive words (such as secure, likeable, clever, interesting, confident, accepted, loveable, worthy), and negative words (such as boring, stupid, worthless, incompetent, disliked, ridiculous, inferior, useless) (Greenwald & Farnham, 2000). Participants are instructed to press buttons that pair self words with either positive or negative words, and researchers measure how fast participants are able to respond to these pairings. The theory behind the test is that in a person with high self-esteem, it will take less time to pair the positive stimuli with the "self" words and more time to pair the negative stimuli with the "self" than it will to pair those stimuli with the "other". Conversely, in subjects with low self-esteem, it would take longer to pair the positive stimuli with the "self" words than to pair it with the "other" words (Greenwald & Farnham, 2000).

The self-image IAT has been used in several studies. One study found that while both depressed and non-depressed patients have shown implicit positivity towards the self through IAT measures, depressed patients have a higher ideal self esteem than actual self esteem (Remue, Hughes, De Houwer, & De Raedt, 2014). Another study used the IAT to

look at self-esteem in people with both vulnerable and grandiose narcissism, finding that while vulnerable narcissism was not associated with high implicit self-esteem, grandiose narcissism was associated with a combination of high implicit and explicit self-esteem (Brown & Brunell, 2017).

While adverse life events such as trauma and stressors can lead to physiological, as well as psychological disturbances, the way in which a person relates to those past events can mitigate the effect of the trauma and affect the person's self-esteem. Research has examined the most effective way of using journaling as a tool to grow from stressful or traumatic life events. In one study, participants were directed to journal about both cognitions, or the way the person thinks about the events, and emotions, or the way the person feels about the events. The prompts instructed them to journal about their "deepest thoughts and feelings on the topic," how they were trying to make sense of the situation, and what they told themselves to help them deal with it. In another condition, participants were instructed to focus their journaling on emotions alone (e.g., "journal about your deepest feelings"). The participants who had been told to focus on both cognition and emotion experienced positive growth from the trauma over time (Ullrich & Lutgendorf, 2002), whereas those who had only focused on emotion experienced more severe illness symptoms and less growth from the trauma. Time lapse alone did not result in growth from the traumatic event (Ullrich & Lutgendorf, 2002). These findings demonstrate that certain directed self-reflective writing tasks can be instrumental in reconstructing the way in which a person relates to past events.

The things that caused the past behaviors and the ramifications of those behaviors mold the lens through which people view themselves. And the way that people view themselves can affect the way they react to future stressors. Therefore, understanding the

effects of different ways that people view their past behaviors on their self-esteem can be instructive in determining the most effective therapies in helping heal from past traumatic events in addition to learning how to boost self-image.

Although there has been research done both on self esteem and on the various cognitive and emotional effects of different journaling prompts, the research has yet to examine how these factors interconnect. In the present work, we test whether guided reflection on past actions can contribute to a person's current moral self-image both implicitly and explicitly. We hypothesize that participants who reflect on a past morally positive choice that they have made will have a more positive implicit and explicit self image than those who reflect on a past negative choice that they have made. The present study seeks to examine the effect of journaling about past behaviors on both implicit and explicit self esteem. We do this by having participants journal about either past morally positive or negative events and seeing how that affected both their implicit and explicit self-esteem. All sampling criteria, hypotheses, and analyses were preregistered on the Open Science Framework at https://osf.io/d8e63.

#### Methods

#### **Participants**

Participants included 224 adults from across the United States. Most of the participants were white with English as their primary language. Of the participants who reported their political affiliation, 76 identified as Democrat, 40 as Republican, 39 as Independent, and 4 as something else. Participants were recruited through Amazon's Mechanical Turk using the CloudResearch platform and were paid \$1.75 for participating.

Participants were randomly assigned to one of three conditions (positive, negative, neutral). 66 participants were excluded because they did not complete the testing session, did not speak English, or did not reside in the United States were excluded.

#### Procedures

Data were collected using a survey on Qualtrics. After giving informed consent, participants were given a journaling prompt, adapted from prior work (Moon, 2004; Young, Chakroff, & Tom, 2012). The text of this prompt varied depending on condition:

- A. Neutral: Please take some time to think about trips to the store that you have taken recently. In the space below, please list AT LEAST 3 of those trips, each on a separate line. For each, describe the context in which you performed them (what you needed, what you did, where you were, etc.). Also for each, describe whether you felt successful, and why.
- B. Positive: Please take some time to think about good deeds that you have done recently. In the space below, please list AT LEAST 3 of those good deeds, each on a separate line. For each, describe the context in which you performed them (who was involved, what you did, where you were, etc.). Also for each, describe whether you felt appreciated, by whom, and why.
- C. Negative: Please take some time to think about bad deeds that you have done recently. In the space below, please list AT LEAST 3 of those bad deeds, each on a separate line. For each, describe the context in which you performed them (who was involved, what you did, where you were, etc.). Also for each, describe whether you felt ashamed, by whom, and why.

Participants then completed implicit and explicit measures of self-esteem, in a fixed order. As an implicit measure, the Implicit Association Test (IAT) for self-esteem was administered using Inquisit. The IAT measures implicit self esteem based on reaction time to tasks. As part of the IAT, participants were asked to sort a group of words into categories of pleasant and unpleasant, and a group of words into categories of self and other. Then, they were asked to sort the words into categories where there were pairings of self and pleasant, self and unpleasant, other and pleasant, and other and unpleasant (see Figure 1 for details). As an explicit measure, participants completed the Rosenberg Self Esteem Scale (Rosenberg, 1965). This scale made several statements such as "on the whole I am satisfied with myself" and "at times I think I am no good at all". For each statement the participants were asked to indicate how strongly they agree or disagree with each statement with the options of "strongly agree", "agree", "disagree", and "strongly disagree". The author of the study then scored the answers based on the attached guide with "strongly agree" being given 4 points, "agree" 3 points, "disagree" 2 points, and "strongly disagree" 1 point, and specific questions being reverse scored. Higher final numbers indicated higher explicit self esteem (Rosenberg, 1965).

Other		Self	Pleasant	Unpleasant	
Му					
Musu aska as asso					
if you make an error, a	red X will appear. Press the other key to contin	iue.	If you make an effor, a red X	( will appear. Press the other key to continue.	
Pleasant	Unpl	leasant	Pleasant	Unpleasant	
or Other		or Self	or Other	or Self	
		001			
Press the left 'E' key for 'Pleasant' and 'Other'. Press the right 'I' key for 'Unpleasant' and 'Self'.					
Each item belongs to only one category.				Them	
If you make an error, a red X will appear - to continue, press the other response key.					
Go as fast as you can while making as few errors as possible.					
Press the SPACE BAR to begin.			If you make an error, a red $\boldsymbol{X}$ will appear. Press the other key to continue.		
			ir you make an error, a red 2	will appear. Press the other key to continue.	
				Unpleasant	
Implicit Association Test			or	or	
In this task you will press th to categorize words into gro words that belong to them:	E' key (left response key) or the 'I' key (right respons ups as fast as you can. Here are the four groups and the tag and the set of the set	ie key) he	Self	Other	
Category Item Pleasant Joy, War	mth, Gold, Happy, Smile, Pleasure		Press the left 'E' key for 'Pleasant' and 'Self. Press the right I' key for 'Unpleasant' and 'Other'.		
	Self I, Me, My, Mine, Self If you make an error, a red X will appear - to continue, press the				
Other They, Th	Other They, Their, Theirs, Others other response key.				
The task has 7 parts and the instructions change for each one. Pay attention! Go as fast as you can while making as few errors as possible.					
	Penclandh		Press the	SPACE BAR to begin.	

Figure 1. Screenshots from the Implicit Association Test

We first tested for a relationship between participants' implicit and explicit selfesteem scores. We found that the two did not correlate with one another, p = 0.8831.

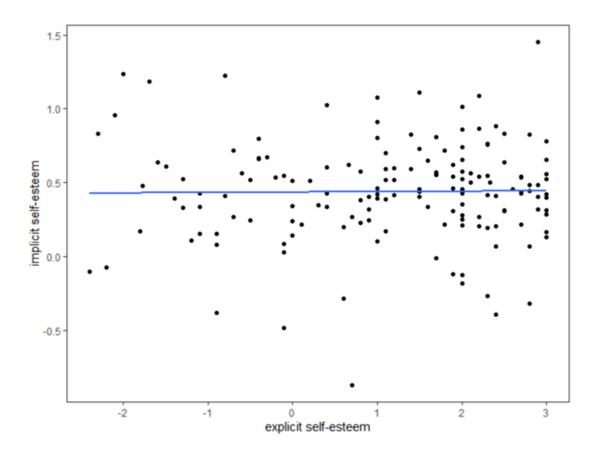


Figure 2. Correlation between implicit and explicit self-esteem scores

Next, we tested whether participants' self-esteem scores varied depending on which journaling prompt they had received. A one-way between-subjects ANOVA revealed that participants' IAT scores did not differ across the three conditions, F(2, 153) = 0.366, p = .694, nor did their accuracy on the IAT, F(2, 153) = .539, p = .584. Participants' explicit self esteem scores also did not vary by condition, F(2, 155) = .244, p = .784.

Following these confirmatory analyses, we conducted a number of exploratory analyses. We noticed that some responses spoke a lot about what the participant felt during

the experience they journaled about, while others simply described it in a matter-of-fact manner. Additionally, while some participants gave justification for their behavior, others did not. Therefore, emotional content, use of self words in reponses, and giving a reason for the behavior were coded for. There was no significant difference in the effect of emotional content on IAT scores, F(1,79)=.324, p=.571. There was no effect of emotional content on explicit self-esteem scores, F(1.79)=.664, p=.418. Additionally, there was no difference in the effect of emotional content on the percentage of correct IAT scores, F(1,79)=.215, p=.664.

We ran a two-way between-subjects ANOVA to test whether participants' explicit self-esteem scores varied depending on condition and whether people gave a reason for their behavior. We found a marginally significant main effect of reason (F(1, 150) = 2.825, p = .0933), suggesting that participants who had given a reason for their behavior had higher self-esteem than people who had not given a reason, regardless of condition.

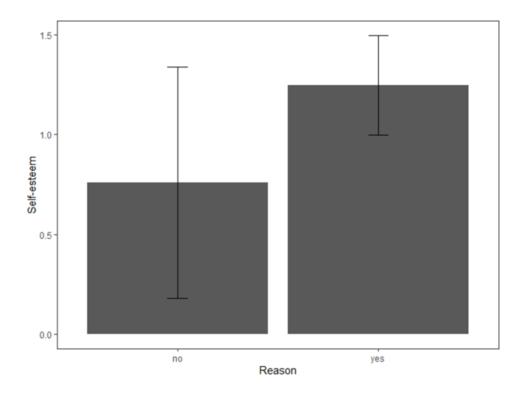
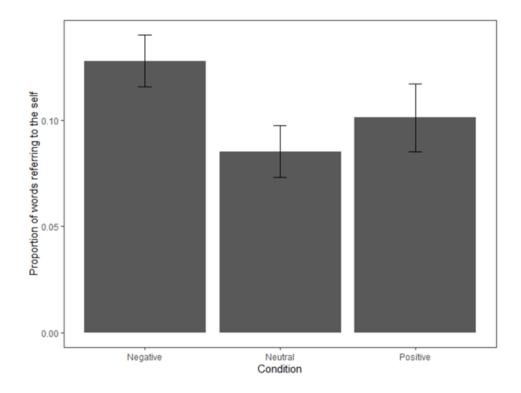
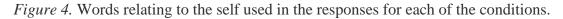


Figure 3. Self-esteem for participants who did and did not give a reason for the behavior

Furthermore, a one-way between-subjects ANOVA revealed that the proportion of words participants used referring to themselves varied by condition (F(2, 153) = 11.2, p < .001). Pairwise comparisons showed that people in the positive condition gave marginally more words referring to the self than people in the neutral condition (p = .0928), and people in the negative condition gave significantly more words referring to the self than people in the neutral (p < .001) and positive conditions (p = .0073).





#### Discussion

This study found that there was no correlation between implicit and explicit self esteem, indicating that each is its own separate entity. Additionally, we found that the condition did not have an effect on the participants' self esteem, nor did the emotional content of the response. However, participants who gave a reason for the action that they did had a marginally higher self-esteem than those who did not give a reason, which was present amongst all of the conditions. More so, participants who were asked to recall past negative actions used significantly more words referring to the self than those in the positive and neutral conditions.

The lack of correlation between implicit and explicit measures of self esteem is consistent with previous literature, demonstrating that each is an independent entity (Pietschnig, Gittler, Stieger, Forster, Gadek, Gartus, et al., 2018) (Greenwald & Farnham, 2000). However, both are integral components for a person's overall emotional wellbeing. Future research can first examine implicit and explicit self-esteem as separate entities. Then, it can examine if there are variables that cause the two to overlap, isolating the factors that lead to a person having their implicit and explicit self esteem be consistent with one another.

Interestingly, there has been some research indicating that implicit and explicit selfesteem can work in opposing ways. One study posited that depressed individuals, who have a lower explicit self-esteem would compensate for that by having higher implicit self-esteem (Wegener, Geiser, Alfter, Mierke, Imbierowicz, Kleiman, Koch, & Conrad, 2015). Their research on 45 patients with major depressive disorder confirmed this theory, showing that as their explicit self-esteem rose during their eight weeks of treatment, their implicit self-esteem went down. Another study found that while other measures of self-esteem predicted selfconfident behaviors in a social setting, implicit self esteem that was measured by the IAT did not (Krause, Back, Egloff, & Schmukle, 2016).

In this current study, it is difficult to state what the cause for the higher self-esteem seen in the group that gave a justification for their actions is. One study found that participants who had low self-esteem were more likely to engage in self-justification than those with high self-esteem (Holland, Meertens, & Van Vugt, 2002). This is hypothesized to be because those with low self-esteem feel more of a discomfort after self-threat than others so they are more likely to try to justify the behavior to alleviate that feeling. This implies that the very act of coming up with justifications for a behavior can catalyze an increase in selfesteem.

Nevertheless, the finding that participants who were asked to recall past negative actions were more likely to use self words may be consistent with other studies where participants who were asked to recall negative behavior were more likely to compensate for it in some way. One study found that participants who were asked to recall harming someone in the past cheated on fewer tasks than participants who were asked to recall helping someone suggesting that recalling a morally negative behavior makes a person more likely to engage in compensatory behavior afterwards such as not cheating (Jordan, Leliveld, & Tenbrunsel, 2015). However, the moral self-esteem itself did not change. This demonstrates that while recalling past behaviors have the capacity to change future behavior. Yet the link towards how that affects the internal self-evaluations has yet to be fully understood.

For all the future studies involving measuring self-esteem, an important key is making sure that self-esteem is measured both before and after the experiment is done. This allows the researchers to establish a baseline for self-esteem and see the change within each participant as the experiment progresses. Having the experiments maintain the characteristics of being both within-subject and between-subject designs will help increase the accuracy of what they are measuring.

Future studies may focus on different scenarios where a person would be likely to engage in justification for action. They could then evaluate their self-esteem before, during, and after the experiment to see at which points the changes in self-esteem occur. Additionally, future studies can focus on the relationship between those changes in self-

esteem on specific behaviors. Two parallel versions of the study can be run with one measuring implicit self-esteem and the other measuring explicit self-esteem. It would be interesting to evaluate the similarities and differences between the things that trigger a change in implicit self-esteem versus the things that trigger a change in explicit self-esteem. More so, it would be important to note the characteristics that are unique to implicit and explicit self-esteem.

Another future study may focus on how the usage of specific words, or lack thereof, affects subsequent self-esteem. One condition can measure the effect of asking the participants to use self words such as "I", "me", and "my" in their responses while the other condition can be asked to describe the past even in more objective terms without using those words. Both implicit and explicit self-esteem can be measured to see if using self words affects self-esteem in different ways.

Understanding the factors that contribute to self-esteem is instrumental both in the development of therapeutic techniques to treat different disorders as well as to maintaining emotional wellbeing. With low self-esteem being associated with various mental health disorders such as depression, suicidal tendencies, eating disorders, anxiety, violence, and substance abuse, it is imperative to be able to identify its cause (Mann, Hosman, Schaalma, & de Vries, 2004). Additionally, gaining insight into the way in which people relate to their previous actions, both positive and negative, can be key in helping them cope with past traumas and in maintaining a positive self-image.

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