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FlashReport

Flies on the wall are less aggressive: Self-distancing “in the heat of the moment” reduces aggressive thoughts, angry feelings and aggressive behavior

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ABSTRACT

People tend to ruminate after being provoked, which is like using gasoline to put out a fire—it feeds the flame by keeping aggressive thoughts and angry feelings active. In contrast, reflecting over past provocations from a self-distanced or “fly on the wall” perspective reduces aggressive thoughts and angry feelings. However, it is unclear whether people can self-distance “in the heat of the moment” (i.e., immediately after being provoked), and if they can, whether doing so reduces actual aggressive behavior. Two experiments addressed these issues. The results indicated that provoked participants who self-distanced had fewer aggressive thoughts and angry feelings (Experiment 1) and displayed less aggressive behavior (Experiment 2) than participants who self-immersed or were in a control group. These findings demonstrate that people can self-distance in the heat of the moment, and that doing so reduces aggressive thoughts, angry feelings, and aggressive behavior.

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“Aggression unopposed becomes a contagious disease.”– Jimmy Carter, former U.S. President

Introduction

Aggression is behavior intended to harm another person who is motivated to avoid that harm. One of the most significant situational causes of aggression is interpersonal provocation (Bushman & Huesmann, 2010). Provocation is especially harmful when people focus on the feelings they experienced after being provoked to understand them, a process called *anger rumination* (e.g., Bushman, Bonacci, Pedersen, Vasquez, & Miller, 2005; Denson, Pedersen, Friese, Hahm, & Roberts, *in press*). People reflect over their feelings because it is widely assumed that working through negative feelings helps resolve them (e.g., Pennebaker & Graybeal, 2001; Wilson & Gilbert, 2008). Instead, rumination increases aggression.

Recently, studies have begun to examine whether people can reflect adaptively over negative experiences without ruminating. According to one program of research, *self-distancing* is critical in this regard (for a review, see Kross & Ayduk, 2011). Several studies indicate that

people tend to spontaneously adopt a *self-immersed* or first-person perspective when they reflect over their feelings to understand them (Ayduk & Kross, 2010; Grossmann & Kross, 2010). When people *self-immersed* while analyzing distressing memories, they re-experience the negative thoughts, feelings, and physiological sensations that accompanied the initial event without resolving them (Ayduk & Kross, 2008; Kross & Ayduk, 2008; Kross, Ayduk, & Mischel, 2005). Consequently, rather than improve the way people feel, this approach often backfires, perpetuating negative thoughts and feelings.

However, people can also analyze their feelings from a *self-distanced* or “fly on the wall” perspective. When people reflect over anger experiences from a self-distanced perspective they see themselves from a far, and perceive the broader situation rather than staying in the victim role. Prior research indicates that self-distancing attenuates many of the negative outcomes associated with rumination (e.g., aggressive thoughts, angry feelings, increased autonomic reactivity), and helps people reconstrue their experiences in ways that facilitate their resolution (e.g., Kross & Ayduk, 2011; also see, Ray, Wilhelm, & Gross, 2008).

Although previous studies suggest that self-distancing facilitates adaptive self-reflection, they are limited in two regards. First, they all rely on recalled rather than *in vivo* provocations. Although recalling provocations arouses intense feelings, few would attribute the same intensity to them as being provoked in the moment, when people are most likely to engage in aggressive behavior (Zillmann, 1979). Therefore, it remains unclear whether people can self-distance immediately after being provoked, and even if they can, whether doing so is helpful. Addressing this issue is important, because people often experience difficulty exerting self-control when emotions are activated intensely, in the heat of the moment (e.g., Baumeister & Heatherton, 1996; Kavanagh, Andrade, &

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May, 2005; Kross & Mischel, 2010; Metcalfe & Mischel, 1999). Second, no research has examined whether reflecting over negative experiences from a self-distanced perspective has causal behavioral implications. That is, does self-distanced reflection decrease actual aggressive behavior? Addressing this issue is critical for identifying whether the effects of this process extend beyond the intrapsychic level of analysis to the interpersonal-behavioral level of analysis, and for identifying novel ways of regulating aggression.

We addressed these questions by provoking participants and then randomly assigning them to a self-distanced reflection, self-immersed reflection, or no-perspective control group. We then examined the effect of these manipulations on angry affect and aggressive cognition (Experiment 1) and aggressive behavior (Experiment 2). Given prior research indicating that people *spontaneously* adopt a self-immersed perspective when reflecting over negative experiences (Ayduk & Kross, 2010; Grossmann & Kross, 2010), we predicted that participants in the self-distanced group would score lower on each of these measures compared to participants in the self-immersed and control groups.

Experiment 1

Method

Participants

Participants were 94 college students (52% female; $M_{\text{age}} = 21.5$, $SD = 3.06$; 54% Caucasians, 30% Asian-American, 9% African-American, 7% other) who received \$8.

Procedure

Cover story. Participants were told we were studying the effects of music on problem solving, creativity, and emotions. They were told that the first task involved solving anagrams while listening to music.

Baseline affect. Participants indicated on the valence subscale of the Self-assessment Manikin (SAM, Bradley & Lang, 1994) how happy they felt “RIGHT NOW” (1 = frowning, manikin to 9 = smiling manikin; $M = 6.33$, $SD = 1.33$).

Provocation task. Participants listened to an intense piece of classical music while attempting to solve 14 difficult anagrams (e.g., PANDEMONIUM). They were told that they would have 7 s to solve each anagram, record their answer, and communicate it to the experimenter via intercom. Once participants communicated their answer, the correct word appeared on the computer screen. They were asked to read this word aloud in a first-person sentence. To provoke participants, the experimenter interrupted them three times via intercom. After the 4th

anagram the experimenter said, “Look, I can barely hear you. I need you to speak louder please.” After the 8th anagram, the experimenter said in an impatient tone, “Hey, I still need you to speak louder please!” After the 12th anagram, the experimenter said in an extremely frustrated tone, “Look, this is the third time I have to say this! Can’t you follow directions? Speak louder!” This is a well-established procedure for provoking individuals (Bushman et al., 2005).

Self-reflection task. Participants were told that the second task examined the effects of music on creativity and feelings. They were instructed via headphones to “go back to the anagram task and see the scene in your mind’s eye” and then randomly assigned to adopt a self-immersed perspective (i.e., “see the situation unfold through your own eyes as if it were happening to you all over again”; $n = 28$) or a self-distanced perspective (i.e., “move away from the situation to a point where you can now watch the event unfold from a distance...watch the situation unfold as if it were happening to the distant you all over again”; $n = 30$), using established procedures (Kross et al., 2005). Participants in the control group ($n = 36$) did not have their perspective manipulated. Next, all participants analyzed their emotions for 45 s, while maintaining their initial perspective.

Self-distancing manipulation check. Participants rated the extent to which they saw the event replay through their own eyes vs. watched the event unfold as an observer (1 = *predominantly immersed participant*, 7 = *predominantly distanced observer*; see Ayduk & Kross, 2010), and how far away from the scene they were (1 = *very close, saw it through my own eyes*, 7 = *very far, saw it as if an observer*). These items correlated strongly, $r(94) = .60$, $p < .001$, and were averaged ($M = 3.34$, $SD = 1.49$).

Implicit aggressive cognition. We measured the accessibility of aggressive cognitions using a 21-item word completion task (Kross et al., 2005). Seven stems could be completed using either neutral or aggression words (e.g., the stem *M_D* can be completed as *MAD* or *MUD*). We counted the number of stems completed with aggression words ($M = 2.47$, $SD = 1.27$).

Anger. We focused on angry feelings because it was the target emotion our provocation was designed to elicit. Angry feelings were assessed using two measures. First, participants completed the valence subscale of the SAM a second time. Next, they rated how “angry,” “irritable,” “hostile,” and “annoyed” they felt right now (1 = *Very slightly or not at all*; 5 = *Extremely*), along with several filler items. We selected these items *a priori* and averaged them into an anger index (Cronbach $\alpha = .89$). Scores on the SAM and anger index were significantly negatively correlated, $r(94) = -.54$, $p < .001$, and were influenced similarly

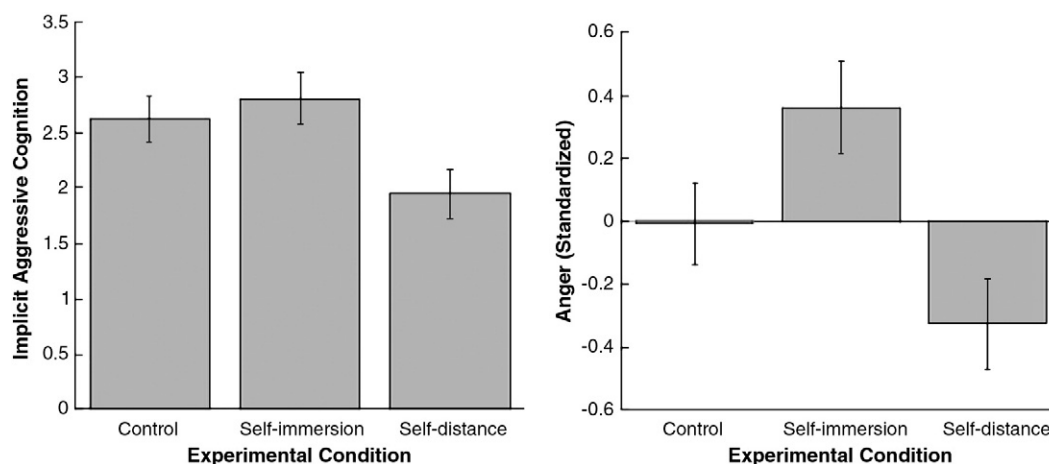


Fig. 1. Adjusted means and standard errors for implicit aggressive cognition and angry feelings in Experiment 1. Capped vertical bars denote 1 SE.

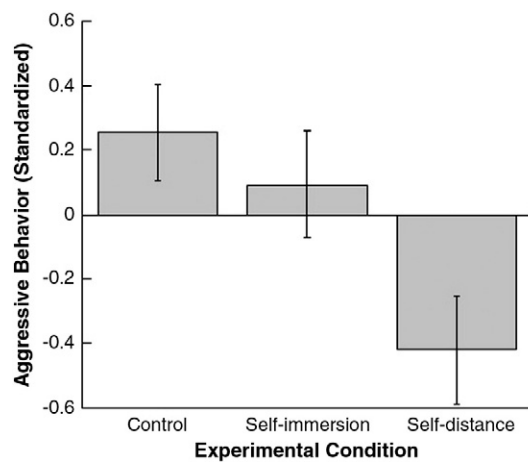


Fig. 2. Adjusted means and standard errors for aggressive behavior in Experiment 2. Higher scores indicate higher levels of aggression. Capped vertical bars denote 1 SE.

by our manipulations. Therefore, we standardized and averaged these scales after reverse scoring and standardizing SAM scores (Cronbach $\alpha = .70$).

Results and discussion

The groups did not differ on baseline affect, gender, and age ($ps > .41$). Thus, random assignment was successful.

The effect of condition on self-distancing was significant, $F(2,91) = 5.88, p < .01, \eta^2 = .11$. Participants in the self-distancing group distanced more ($M = 4.07, SD = 1.17$) than participants in the self-immersed group ($M = 3.05, SD = 1.42$), $F(1,91) = 7.35, p < .01, d = .57$, and control group ($M = 2.94, SD = 1.60$), $F(1,91) = 10.20, p < .01, d = .67$. As expected, the latter groups did not differ, $p > .76$.

We used planned contrasts to test our predictions that self-distanced participants would score lower on each dependent variable than self-immersed and control participants. Baseline affect and gender were included as covariates (we controlled for gender because men often display more aggression than women; Archer, 2004), neither of which interacted with condition to predict any dependent variable ($ps > .45$).¹

As predicted, self-distanced participants had fewer aggressive thoughts, $F(1,90) = 7.92, p < .01, d = .60$, and angry feelings, $F(1,90) = 6.73, p < .05, d = .42$, than self-immersed- and control participants (see Fig. 1), demonstrating that people can self-distance immediately following provocation, and that doing so attenuates both aggressive thoughts and angry feelings.

Experiment 2 extends these findings by testing the effect of self-distancing on aggressive behavior.

Experiment 2

Method

Participants

Participants were 86 college students (35% male; $M_{age} = 21.0, SD = 2.4$; 47% Caucasians, 37% Asian-American, 11% African-American, 5% other) who received \$15.

Procedure

Participants were told the researchers were studying the effects of music on team processes and creativity. They were tested

individually, although they were told that they would be competing with another college student of the same sex.

Baseline affect. As in Experiment 1, participants completed the valence subscale of the SAM ($M = 6.30, SD = 1.36$).

Provocation task. The provocation was identical to Experiment 1 with three exceptions. First, participants were told that they would complete the anagram task with a partner of the same sex (rather than the experimenter). They were told that this part of the study tested the effects of music on cooperation as a team process. Second, to create the illusion of random assignment to roles, the experimenter conducted a rigged “lottery” by letting the participant draw one of two pieces of paper out of a box (both papers contained the role of solving anagrams). Third, participants received provoking comments over the intercom from their partner rather than the experimenter.

Self-reflection task. Participants completed the same self-reflection task administered in Experiment 1. They were again randomly assigned to a self-distanced ($n = 26$), a self-immersed ($n = 27$), or a control ($n = 33$) group. As in Experiment 1, participants were told that the self-reflection task examined the effects of music on imagery creativity.

Self-distancing. Self-distancing was measured using the same two items, $r(86) = .60, p < .001$ ($M = 3.28, SD = 1.45$) used in Experiment 1.

Aggressive behavior. The next part of the study ostensibly examined the effect of music on competition in teams. In reality, the task was used to measure aggressive behavior. Participants were told that they would compete with their partner on a 25-trial reaction time task that required them to respond to a visual cue faster than their partner, with the loser receiving noise blasts through headphones. The intensity and duration of each noise blast were selected prior to each trial. Intensity levels ranged from 60 dB (Level 1) to 105 dB (Level 10). A nonaggressive no-noise level was also offered (Level 0). Duration levels ranged from 0 to 5 s, in .5-s noise increments. The construct validity of this task for assessing aggression is well established (Anderson & Bushman, 1997; Bernstein, Richardson, & Hammock, 1987; Giancola & Zeichner, 1995). A funnel debriefing followed, which all participants passed.

Results and discussion

The groups did not differ on baseline affect, gender, and age ($ps > .56$) indicating that random assignment was successful.

The conditions differed on self-distancing, $F(2,83) = 15.64, p < .001, \eta^2 = .27$. Self-distanced participants reported higher self-distancing ($M = 4.33, SD = 1.38$) than self-immersed ($M = 2.41, SD = 1.15$), $F(1,83) = 30.85, p < .01, d = 1.51$ and control ($M = 3.17, SD = 1.24$) participants, $F(1,83) = 12.28, p < .01, d = .88$. In contrast to Experiment 1, the latter two groups also differed, $F(1,83) = 5.41, p < .05, d = .63$. Critically, the self-distancing scores for participants in both the control group and the self-immersed group fell within the “self-immersed” range of scores for the scales and were significantly lower than participants in the self-distanced group.

We analyzed the noise intensity and duration on the first trial only to exclude any trials that could be contaminated by the participant’s motivation to reciprocate how their partner treated them (Bushman et al., 2005). Noise intensity and duration on the first trial correlated highly, $r(86) = .65, p < .001$. Consequently, we standardized both variables, and then averaged them to create a more reliable aggression measure. As in Experiment 1, a planned contrast that controlled for gender and baseline affect was used to test our hypothesis (neither covariate interacted with condition, $ps > .50$).

As expected, self-distanced participants displayed lower levels of aggression compared to the other groups, $F(1,82) = 9.17, p < .001, d = .67$

¹ The omnibus F -tests were significant for angry affect, $F(2,89) = 4.93, p < .01, \eta^2 = 0.10$, and implicit aggressive cognition, $F(2,89) = 4.10, p < .05, \eta^2 = 0.08$.

(see Fig. 2).² This confirms our hypothesis that self-distancing reduces aggressive behavior.

Meta-analytic results for self-distancing manipulation

Although participants in the self-immersed and control groups scored in the self-immersed range of the self-distancing scale (scores < 3.5) in both experiments, in Experiment 1 the self-immersed and control groups did not differ in their self-distancing ratings, whereas in Experiment 2 they differed. To obtain a more reliable view of how the self-immersed and control groups differ on self-distancing, we collapsed the self-distancing scores for each group across both studies. This analysis revealed no significant differences between the two groups, $F(1,177) = 1.66$, $p > .20$, $d = .22$, confirming our prediction that people tend to spontaneously adopt a self-immersed perspective when provoked.

General discussion

Whether people can self-distance immediately following provocation, “in the heat of the moment,” and whether doing so reduces aggressive behavior has not been examined. The current findings address these questions, demonstrating that the answer to both of them is “yes.” In so doing, the present research extends research and theory on self-distancing as well as the Hot/Cool model (Metcalf & Mischel, 1999), the broader theory of self-control that research on self-distancing emerged from (Kross et al., 2005).

These findings also have theoretical implications for research on aggression. Previous research has focused almost exclusively on whether distraction reduces aggression (Bushman, 2002; Rusting & Nolen-Hoeksema, 1998). The current findings highlight how people can neutralize aggression while focusing on their emotions and the situation at hand—by adopting a self-distanced perspective. This is noteworthy because distraction is often not feasible in the heat of the moment. In daily life people often must continue to interact with people who provoke them and cannot easily divert their attention away. Thus, understanding how people can reflect deliberately during such situations is an important issue, which the current findings directly address.

At a broad level, the current findings are consistent with research on Construal Level Theory, which suggests that psychological distance enhances self-control (Fujita, Trope, Liberman, & Levin-Sagi, 2006; Trope & Liberman, 2003, 2010). However, one asymmetry between the current findings and Construal Level Theory concerns the role that abstract processing plays in self-regulation. Construal Level Theory predicts that cueing people to think abstractly facilitates self-control (Fujita et al., 2006; Trope & Liberman, 2003, 2010). However, we instructed participants in both the self-immersed and self-distanced conditions to think abstractly (i.e., they analyzed their emotions). Yet, only participants in the self-distanced group regulated effectively. This suggests that people can think abstractly from different types of self-perspectives that, in some circumstances, influence the outcomes of abstract processing for self-control. They also highlight the need for future research to examine how different types of psychological distancing manipulations (e.g., focusing on “what” vs. “why,” adopting a self-distanced vs. self-immersed perspective) interact.

Although these findings raise multiple questions, three stand out in our view. First, how do self-distancing and distraction compare in their aggression regulation effects? Second, are there long-term protective benefits associated with self-distancing in response to provocations? Prior research indicates that people who self-distance while reflecting over negative experiences ruminate less over time and become less distressed when they think again about their experiences

in the future (Kross & Ayduk, 2011). Do these findings generalize to reflecting over intense provocations in the heat of the moment? Finally, do the benefits of self-distancing generalize to people who have severe problems regulating anger and aggression? Prior research indicates that the benefits of self-distancing for regulating depression become more pronounced the more severe the depression symptoms are (Kross & Ayduk, 2009). Is this true for populations characterized by dysregulated aggression?

Former U.S. President Jimmy Carter was correct in observing, “Aggression unopposed becomes a contagious disease”—aggression quickly escalates to promote further acts of aggression (Anderson, Buckley, & Carnagey, 2008). The present research suggests that self-distancing is one way of combating aggression. Reflecting over provocations from a self-distanced perspective reduces aggressive thoughts, angry feelings, and aggressive behaviors, even in the “heat of the moment.”

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² The omnibus F -test was significant, $F(2,79) = 4.82$, $p < .05$, $\eta^2 = .11$.

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