Sorry is the Hardest Word to Say: The Role of Self-Control in Apologizing

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Sorry is the Hardest Word to Say: The Role of Self-Control in Apologizing

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ABSTRACT
Apologizing is an effective strategy for reconciling relationships after transgressions. However, transgressors often resist or refuse to apologize. The current research investigated the role of self-control in apologizing. In Study 1, self-control was associated with participants’ proclivity to apologize and apologetic and nonapologetic behavior. In Studies 2 and 3, self-control was manipulated to test the causal relationship. Both studies found participants with high self-control were more apologetic and less nonapologetic and were more likely to use apologetic statements in e-mails to their victims. Overall, these studies suggest that transgressors with high self-control are more apologetic than those with low self-control.

Introduction
We have a fundamental need to belong, which motivates us to maintain stable bonds with others (Baumeister & Leary, 1995). Despite the importance of relationships to our well-being and adjustment (Baumeister & Leary, 1995; Cohen, 2004; House, Landis, & Umberson, 1988), we often commit transgressions that hurt others and increase the chances of relationship dissolution (Cramer, 2000). Fortunately, relationships harmed by transgressions can be mended through relationship repair strategies (Kim, Dirks, & Cooper, 2009; Shnabel & Nadler, 2008). For transgressors, one of the most effective repair strategies is to offer an apology (Eaton & Struthers, 2006; Fehr, Gelfand, & Nag, 2010; Shnabel & Nadler, 2008); however, transgressors often find the process of apologizing difficult (Leunissen, De Cremer, van Dijke, & Reinders Folmer, 2014; Schumann, 2014, 2018; Schumann & Dweck, 2014; Woodyatt & Wenzel, 2013b; Tavuchis, 1991). In this research, we tested whether transgressors’ self-control could explain why they may be more or less apologetic.

Apologies and self-control
Apologies are admissions of wrongdoing and regret (Lazare, 2004), but they also have ancillary components such as accepting responsibility (Schumann, 2014), expressing remorse, saying “sorry” (Darby & Schlenker, 1982), and assuring that the behavior will not be repeated (Kim et al., 2009). They can also include restitution or reparations, acknowledging the harm, providing explanations, and seeking forgiveness (Bassett, Bassett, Lloyd, & Johnson, 2006; Riek, 2010; Sandage, Worthington, Hight, & Berry, 2000; Schumann, 2014; Shnabel & Nadler, 2008). Comprehensive apologies include many of these components (Schumann, 2014) and have the potential to reduce anger and psychological aggression (Eaton & Struthers, 2006), restore broken trust (Kim et al., 2009), validate victims’ perceptions of events (Exline, Deshea, & Holeman, 2007; Kim et al., 2009; Woodyatt & Wenzel, 2014), and promote forgiveness and reconciliation (Davis & Gold, 2011; Eaton & Struthers, 2006; Exline et al., 2007; Fehr et al., 2010; Lewis, Parra, & Cohen, 2015; Santelli, Struthers, & Eaton, 2009; Schlenker & Darby, 1981; Schumann, 2014; Struthers, Eaton, Santelli, Uchiyama, & Shirvani, 2008).

Given the manifold benefits, it seems reasonable that offering an apology should be desirable for transgressors. However, transgressors often resist apologizing (Kim et al., 2009; Lazare, 2004; Leunissen et al., 2014; Schumann, 2014; Schumann, 2018; Schumann & Dweck, 2014; Struthers, Eaton, Shirvani, Georgiou, & Edell, 2008; Woodyatt & Wenzel, 2013b), especially when their perceptions of self and belongingness are threatened (Schumann, 2014, 2018; Shnabel & Nadler, 2008).
Instead, transgressors may engage in self-protection and self-promotion strategies such as refusing to apologize and acting defensively, which we term nonapology. Nonapologies can include responses such as victim blaming and justifying, excusing, minimizing, or denying the transgression (Itoi, Ohbuchi, & Fukuno, 1996; Schumann, 2014, 2018; Schumann & Dweck, 2014; Woodyatt & Wenzel, 2013b) all of which can increase transgressors’ feelings of power, control, and self-esteem (Okimoto, Wenzel, & Hedrick, 2013). Although functional in terms of self-protection and self-promotion, such nonapologetic responses are dysfunctional for long-term relationship maintenance because they impede forgiveness and reconciliation (Kim et al., 2009; Shnabel & Nadler, 2008; Woodyatt & Wenzel, 2013a). To understand how individuals maintain harmonious relationships, it is important to examine the factors that promote and prevent transgressors’ apologies and nonapologies.

Self-control, which refers to the cognitive processes that enable individuals to inhibit dominant responses, is one mechanism that might facilitate transgressors’ apologies (Baumeister, DeWall, Ciarocco, & Twenge, 2005; Tangney, Baumeister & Boone, 2004). We theorize that self-control is vital to the repair of relationships because it enables transgressors to inhibit the desire to act defensively in favor of apologizing. In fact, self-control is associated with a range of positive outcomes. At the intrapersonal level it is associated with increased impulse control, self-esteem, psychological adjustment, emotional stability, conscientiousness (de Ridder, Lensvelt-Mulders, Finkenauer, Stok, & Baumeister, 2012; Hofmann, Luhmann, Fisher, Vohs, & Baumeister, 2014; Mischel, Shoda, & Rodriguez, 1989; Tangney et al., 2004; Vohs, Finkenauer, & Baumeister, 2011), affective regulation (Muraven, Tice, & Baumeister, 1998), and attentional focus (Inzlicht, McKay, & Aronson, 2006; Richeson & Shelton, 2003; Richeson & Trawalter, 2005). Within an interpersonal context, self-control is associated with ethical (Gino, Schweitzer, Mead, & Ariely, 2011) and prosocial (DeWall, Baumeister, Gailliot, & Maner, 2008) behavior such as romantic fidelity (Lewandowski, Ciarocco, Pettenato, & Stephan, 2012; Ritter, Karremans, & van Schie, 2010), accommodating and sacrificing for others in close relationships (Finkenauer & Bartak, 2014; Finkel & Campbell, 2001), decreased aggression (Denson, DeWall, & Finkel, 2012; Denson, Pedersen, Friese, Hahn, & Roberts, 2011; DeWall, Finkel, & Denson, 2011), and heightened perspective taking (Fennis, 2011).

Ultimately, the ability to exert self-control to inhibit dominant responses and align behavior with one’s overarching goals has proved beneficial across multiple domains, contexts, and outcomes. Given transgressors’ competing desires to protect themselves and maintain relationships, self-control is likely important to help transgressors inhibit their desire to act defensively (i.e., nonapologetically) in favor of apologizing. For instance, Osgood and Muraven (2015) found that increased self-control helped individuals inhibit selfish behavior in favor of prosocial behavior, particularly when there were costs involved with the behavior. When self-control was compromised, individuals were less likely to incur costs for behaving prosocially. Thus, consistent with our theorizing, apologizing includes intangible costs such as acknowledging and taking responsibility for one’s shortcomings, which threatens one’s self-concept (Schumann, 2014, 2018; Woodyatt & Wenzel, 2013a, 2014) and tangible costs such as compensation, sacrifice, or self-punishment (Ohtsubo et al., 2012; Ohtsubo & Yagi, 2015; Schumann, 2014; Watanabe & Ohtsubo, 2012). In addition, greater self-control is associated with guilt and perspective taking (Fennis, 2011; Tangney et al., 2004; Xu, Bègue, & Bushman, 2012), two predictors of apologizing (Howell, Turowski, & Buro, 2012; Sandage et al., 2000). Based on this theorizing and empirical work, we predicted that high self-control would inhibit transgressors’ desire to act in a selfish nonapologetic way and instead act in a prosocial apologetic way.

Although researchers have examined how victims’ self-control is related to the forgiveness process (Burnette et al., 2014), we are not aware of any research examining whether transgressors’ self-control is related to the apology process. The purpose of this research was to address this gap in the empirical literature.

**Study 1**

To test our hypothesis that trait self-control would be associated with apologizing, we conducted an exploratory, nonexperimental study. We administered a battery of questionnaires to participants to assess individual differences in relation to committing an interpersonal transgression. For the purposes of the current research, we discuss only the measures relevant to this study: trait self-control (Tangney et al., 2004), trait apology (Howell, Dopko, Turowski, & Buro, 2011), apology, and nonapology. We then examined how transgressors’ trait self-control was
associated with their dispositional tendency to apologize and apologetic and nonapologetic behavior in response to a real-life retrospective transgression.

Participants

Study 1 used a snowball sampling technique to recruit a community sample of 315 adults ($M_{\text{age}} = 39.40$, $SD_{\text{age}} = 14.49$, range = 18–72). The participants were part of a larger study assessing a number of demographic and individual difference measures related to interpersonal transgressions. The sample had an approximately equal number of women (51.24%) and men (48.25%) and was culturally diverse: Caucasian (37%), East Asian (13.48%), Middle Eastern (13.48%), South Asian (11.16%), Black (9.30%), other (4.18%), Latin American (3.72%), and Aboriginal (0.93%). We decided a priori to exclude participants who completed the study in less than 30 min ($n = 62$), which was unrealistic given the study materials (i.e., number of measures, transgression stimuli). After exclusions, our total final sample size was 253 participants.

Materials

Trait self-control

We measured trait self-control using the 13-item Brief Self-Control Scale (BSCS; Tangney et al., 2004). Sample items include “I am good at resisting temptation” and “I refuse things that are bad for me.” All items were rated from 1 (not at all) to 7 (very much so) unless otherwise specified.

Trait apology

We measured trait apology using the eight-item Proclivity to Apologize Measure (PAM; Howell et al., 2011). Example items include “I tend to downplay my wrongdoings to the other person, rather than apologize” and “I tend not to apologize because I could get into trouble for confessing.” For the present research, we reversed scored all items such that high scores on the PAM reflect high trait apology.

Transgression stimuli

After completing the prescreen questionnaire, participants were given the following instructions:

Please take a moment to think about a time in the last six months in which a negative event occurred between you and another person in which you committed a transgression by hurting the other person (psychologically, emotionally, physically, etc.). If you cannot recall such an event in the past six months, then please think about the most recent negative event you can. This other person could be a friend, family member, romantic partner, coworker, acquaintance, stranger, or someone else. The negative event could have been due to something you did or failed to do but it must have had a moderate to severe impact on the other person. (van Monsjou et al., 2015)

For example, one participant recalled a transgression committed against a friend, writing, “I made fun of a friend because he wasn’t allowed to join us at an event. Making fun of him made the whole situation even more painful for him.” Another participant recalled a transgression committed against a stranger:

I was annoyed that this individual kept parking in my parking spot at work. I politely asked them to stop. But he responded by getting in my face and yelling. I pushed him back rather hard and he slipped and cut his hand.

Apology

Based on Tavuchis’s (1991), Lazare’s (2004), and Schumann’s (2014) conceptualization of apologies, we measured state apology with 13 items that contained the following components: (a) accept responsibility: “To what extent did you admit to the other person your part in the offence?” (b) acknowledge offense: “To what extent did you acknowledge your offence to the person you transgressed against?” (c) express remorse: “To what extent did you express remorse for what you did to the other person?” (i.e., how sorry you were),” (d) express guilt: “Did you express guilt for what you did to the other person?” (e) express regret: “Did you express regret for what you did to the other person?” (f) apologize: “To what extent did you apologize to the other person?” (g) acknowledge harm: “To what extent did you tell the other person that you were concerned because of your offence?” (h) say sorry: “To what extent did you tell the other person that you were sorry?” (i) volition: “Did you voluntarily apologize for what happened to the other person?” (j) remedy: “Did you try make things better with the other person?” and (k) repentance; “Were you repentant?”

Nonapology

We measured state nonapology using 11 items. Two items evaluated each of the following: (a) justifying actions: “To what extent did you justify your actions?” and “To what extent did you believe you were justified in your behavior?” (b) blaming the victim: “To what extent did you blame the other person for your actions?” and “To what extent did you think that the person you wronged ‘had it coming’ to them?” (c)
diminishing responsibility: “To what extent did you try to downplay your wrongdoing?” and “To what extent did you try to minimize your role in the wrongdoing?” (d) transgression denial: “To what extent did you deny you had done anything wrong?” and “To what extent did you deny your behavior was a transgression?” and (e) lashing out: “To what extent did you lash out when confronted with your wrongdoing?” One item assessed the extent to which they excused their actions “To what extent did you excuse your wrongdoing?”

Procedure
Participants were given a link to the online materials. First, they provided informed consent and filled out demographic information. Next, participants completed measures of trait self-control and trait apology. Participants then completed the transgression stimuli and responded to self-report items about the severity and negativity of the event, their relationship to the victim, and the apology and nonapology items.

Study 1: Results and discussion
Our data analytic strategy began with an analysis of the retrospective transgressions. Participants reported that their recalled transgressions occurred less than 1 month ago (22%), 1–3 months ago (25.5%), 4–6 months ago (23.5%), 7–12 months ago (8.5%), 1–2 years ago (11.5%), 3–5 years ago (4%), and more than 5 years ago (2%). Transgressions were committed against romantic partners (33.33%), family members (27.36%), friends (23.88%), coworkers (6.46%), strangers (2.98%), bosses (2.48%), acquaintances (0.99%), and unspecified (2.48%). They were found to be moderately severe (M = 4.14, SD = 1.60) and negative (M = 4.56, SD = 1.54) when rated from 1 (not at all) to 7 (very much so).

Based on acceptable levels of internal consistency, we averaged our items to create composite variables (See Table 1 for descriptive statistics and Table 2 for correlations among key variables). Next, we sought to test our initial hypotheses. We found that higher trait self-control was associated with higher levels of trait apology (b = 0.48, SE = 0.08, R² = .12). To examine if trait self-control was associated with both apology and nonapology, we excluded 53 participants who could not recall an instance in which they were the transgressor. Overall, trait self-control was associated with apologetic behavior (b = 0.28, SE = 0.12, R² = .03) and nonapologetic behavior (b = –0.19, SE = 0.09, R² = .02), for the retrospective real-life transgression.

In sum, Study 1 provided preliminary support for our predictions. Individuals with high trait self-control reported a greater tendency to apologize for their transgressions. Trait self-control was also associated with apologetic and nonapologetic responding after a real-life transgression, suggesting that those with high self-control not only have the capacity to apologize but actually follow through with the behavior. Furthermore, those low in self-control engaged in more nonapologetic behavior, such as denying, minimizing, and diminishing responsibility for their transgression. In Study 2, we sought to systematically replicate our findings and examine the causal relation between transgressors’ self-control, apology, and nonapology. To do this we ran a laboratory experiment.

Study 2
Participants
We recruited 172 undergraduate students through our undergraduate research participant pool who earned course credit for their participation. We decided a priori to exclude participants who could not recall a time they committed a transgression (n = 22) and those who incorrectly completed the transgression stimuli (e.g., wrote from the victim’s perspective; n = 18). The final sample was 132 participants. The sample had a mean age of 21.83 (SDage = 5.35, range =18–51) with 93 women (70.45%) and 39 men (29.54%). It was culturally diverse: South Asian (22.72%), White (18.93%), Black (15.15%), Middle Eastern (13.64%), East Asian (9.09%), Aboriginal (6.82%), Mixed (5.30%), Southeast Asian (4.54%), and other (2.27%).

Materials
Transgression stimuli
Following procedures adapted from Schumann (2014), participants were instructed to recall and write about
a time they committed a transgression against another person:

Please think about something you did that offended or hurt somebody. This person could be a friend, a family member, a colleague, or a romantic partner. We would like you to think of an offense that is currently unresolved – something that has not yet been fully reconciled or dealt with. For example, you could write about something that you said to your partner that he or she is still hurt or angry about. Sometimes it takes a few minutes to think of something hurtful that you have done. If an event doesn’t come to mind right away, please take as much time as you need to think about it. (Schumann, 2014)

Transgressions ranged from minor offenses to physically harming others. For example, one participant recalled,

My sister who has two children judged me for my broad shoulders, she is a little overweight. I concluded to tell her she shouldn’t be giving me workout advice because her physique was not as healthy as mine. My sister was very offended and hurt from my outburst.

Another recalled,

I gave a ride to a boy that my boyfriend had asked me not to hang out with. My boyfriend later found out via social media and asked me if I gave him a ride, but I lied and denied it, he knew I was lying and that was worse than giving the boy a ride.

**Self-control stimuli**

We used an ego depletion task to manipulate self-control. Ego depletion suggests that engaging in acts of inhibitory self-control (e.g., concentration, attention, impulse control, emotional regulation, behavioral inhibition) consumes self-control capacity, making subsequent acts of self-control more difficult or prone to failure. Ego depletion is typically manipulated using the “sequential-task” or “dual-task” paradigm. In this paradigm, two self-control tasks are administered to participants. The first task is designed to consume self-control. The second task is used to measure self-control capacity after consumption. Participants whose self-control has been consumed during the first task should perform worse on the second task because they have less remaining self-control capacity. Therefore, the sequential-task paradigm provides a simple and effective way to manipulate self-control and measure its effect on processes requiring self-control capacity. For the current research, we use a sequential-task paradigm to consume participants’ self-control and then measured the effect it had on transgressors’ apology and nonapology. Our self-control manipulation was adapted from Vohs, Baumeister, and Schmeichel (2012). This approach combines four valid and different tandem methods of manipulating self-control, requiring participants to persevere on difficult, cognitively fatiguing, and boring tasks for at least 20 min. Participants were randomly assigned to high or low self-control conditions and completed the four tasks consecutively. Each task has been used in past self-control research (Hagger, Wood, Stiff, & Chatzisarantis, 2010).

**Self-control task 1**

Task 1 was an attentional control task (Gilbert, Krull, & Pelham, 1988) with materials adapted from Schmeichel, Vohs, and Baumeister (2003). Participants watched a 6-min silent video of a woman being interviewed (with the interviewer out of the shot). The video contained a series of words in the bottom-right corner of the screen. Each word was displayed for 30 s and was printed in black ink overlaid on a white square. They were neutral, one-syllable words with no relation to the interviewee or context (e.g., glue, boot, sock, shoe, kite). Participants were informed that this part of the study was interested in people’s ability to perceive and judge personality from nonverbal behavior. They were told to pay close attention as they would be asked to rate the interviewee’s personality characteristics and traits.

Those in the high self-control condition were given no instructions or warning about the irrelevant words in the video. Those in the low self-control condition were given the following instructions:

You will also see words that appear in the video. Do not read or look at any of the words in the video. Concentrate and stay focused on the woman interviewee. If you find yourself reading or looking at the word, re-direct your gaze back to the woman immediately. We are also interested in your ability to concentrate.

Following these instructions requires the use of self-control to override individuals’ dominant response to read words and instead focus attention.

**Self-control task 2**

This was a thought suppression exercise in which individuals had to avoid thinking about a white bear for 5 min. This task was adapted for computer use from Wegner, Schneider, Carter, and White (1987). All participants were given the following instructions:

This part of the study examines how people process information. Specifically, we are interested in the
words you use to think about and express thoughts. We will ask you to type all your thoughts out as they come to your mind for five minutes. Write down whatever thoughts come to you. This technique is known as “free-association.” Without overthinking it, just write whatever comes to mind. It can be about anything. You may type your thoughts in point form.

Participants proceeded to the next page, which contained a text box with an internal timer (i.e., not displayed) for 5 min. An internal timer was used to make the task particularly boring and frustrating, as participants would have to wait the full 5 min before proceeding in the study without knowing how much time had passed. Those in the high self-control condition were given no further instructions. Those in the low self-control condition were presented a second page of instructions that read, “However, there is one exception. Try not to think of a ‘white bear’. Every time a white bear comes to mind, press the [counter] button.” The instruction page contained a drawn picture of a white bear. When ready, participants proceeded to the next screen containing the text box and counter button. For those in the low self-control condition, self-control is consumed to suppress unwanted thoughts by having to avoid thinking about a white bear.

Self-control task 3

This was a typing task (Arber et al., 2017; vanDellen, Shea, Davisson, Koval, & Fitzsimons, 2014). Participants were told that the study was interested in examining the role of concentration on performance. Next, they were shown a paragraph of text taken from the first paragraph of a Wikipedia page on psychologists. Those in the high self-control condition were instructed to type the text from the paragraph verbatim in the space provided. Those in the low self-control condition were instructed to type out the article without using the spacebar or “e” key. This task requires self-control to override one’s dominant response to use the spacebar and “e” keys when retyping the paragraph. Both groups were instructed, “Please take your time to type out the text—don’t worry about typing errors, we just want to make sure you try your best at this task” and were instructed to proceed when ready.

Self-control task 4

Task 4 used a modified computer Stroop test (Stroop, 1935). The Stroop is a reaction timed test that presents words of colors (e.g., blue, green, red, yellow) in congruent and incongruently colored font relative to their semantic meaning. For example, congruent words present a word (e.g., “blue”) in the font color of its semantic meaning (e.g., blue). Conversely, incongruent words present a word (e.g., “blue”) in a font color different than its semantic meaning (e.g., red). Participants must identify the font color rather than the word’s semantic meaning as quickly as possible. For incongruent trials, one must inhibit the dominant response to read words in favor of correctly identifying the font color. For the current study, participants identified font colors (blue, red, yellow, or green) by pressing the colors first letter on the keyboard (b, r, y, g). If participants pressed the incorrect key, they were presented with a red X on the screen until they pressed the correct key indicating the font color. All participants were instructed to respond as quickly as possible while avoiding errors and were given a block of 10 trial rounds with XXXXX in the four font colors (randomized) to acclimate to the controls. Using procedures adapted from Stanton and Finkel (2012), participants in the high self-control condition were given 20 congruent trials. Those in the low self-control condition were given 200 incongruent trials. For both conditions, color word and font color were randomized.

Measures

Trait self-control

We measured trait self-control using the same scale from Study 1, the BSCS (Tangney et al., 2004). All items were rated from 1 (not at all) to 7 (very much so) unless otherwise specified.

Trait apology

We measured trait apology using the same scale from Study 1, the PAM (Howell et al., 2011). As in Study 1, we reverse scored all items such that high scores on the PAM reflect high trait apology.

Written apology

Participants were instructed to write an e-mail to the victim of the transgression they recalled, with methods adapted from Schumann (2014) and Hornsey et al. (2017). After completing the self-control exercises, both groups saw the following prompt: “Think back to the offense you recalled earlier. We would now like you to imagine that you are going to send the person you hurt an email. Please write an email regarding what you would say to him or her now.” Two independent coders blind to experimental conditions were instructed to code e-mails for the presence (coded 1) or absence (coded 0) of apology statements.
Specifically, apology was coded as present when emails contained language such as “I apologize,” “my apologies,” “I’m sorry,” or “please forgive me.” Interrater reliability was high ($\kappa = .92$), and coders agreed on 97.3% of cases. Discrepancies were resolved through discussion.

**Apology**

We measured apologies using 10 items that focused on the following apology components: (a) admit responsibility: “To what extent would you like to admit your role in the wrongdoing?” (b) acknowledge wrongdoing: “To what extent would you like to acknowledge what you did to the person?” (c) express remorse: “To what extent do you feel remorse for what you did?” (d) express guilt: “To what extent would you like to express guilt?” (e) express regret: “To what extent would you like to express regret to this person for your actions?” (f) apologetic: “To what extent do you feel apologetic?” (g) say sorry: “To what extent would you like to tell the other person you are sorry?” (h) forbearance: “To what extent would you like to assure the person you would not do this again?” and (i) restitution: “To what extent would you like to make things better?” and “How motivated are you to make things better with this person?”

**Nonapology**

Participants’ nonapologetic defensive responding was measured with 12 items that contained six nonapologetic components. Two items were used to measure each component: (a) justification: “To what extent do you believe your actions were justified?” and “To what extent do you feel justified in hurting the other person?” (b) victim blaming: “To what extent do you blame the other person for your actions?” and “To what extent do you think the person you wronged had it coming to them?” (c) diminish responsibility: “To what extent do you think your hurtful actions were overblown?” and “To what extent would you like to downplay what you did?” (d) denial: “To what extent would you like to deny you did anything wrong?” and “To what extent do you see your actions as hurtful?” (reverse scored), (e) lash out: “Given the opportunity, would you hurt this person further?” and “To what extent would you like to lash out against this person?” and (f) excusing the behavior: “To what extent would you like to excuse what you did?” and “To what extent do you think your behavior is excusable?”

**Procedure**

Participants responded to demographic items and measures of trait self-control (Tangney et al., 2004) and trait apology (Howell et al., 2011) and then recalled and wrote about a time they committed a transgression. Following the transgression recall, participants were randomly assigned to the self-control conditions (Vohs et al., 2012). Afterward, we asked participants to write an e-mail to the person they committed the transgression against. We then measured their apology and nonapology using self-report measures. Finally, participants were thanked and debriefed.

**Study 2: Results and discussion**

**Preliminary analysis**

Like Study 1, we first analyzed the characteristics of the retrospective transgressions that participants recalled. Transgressions occurred less than 1 month ago (33.3%), 1–3 months ago (18.18%), 4–6 months ago (6.06%), 7–12 months ago (8.33%), 1–2 years ago (20.45%), 3–5 years ago (9.09%), and more than 5 years ago (4.45%). Transgressions were committed against friends (34.85%), family members (34.09%), romantic partners (25.76%), others (3.03%), and acquaintances (2.27%). In addition, participants were asked “how [severe/negative] was this event?” from 1 (not at all) to 7 (very much so) and were rated as moderately severe ($M = 4.45$, $SD = 1.54$) and negative ($M = 4.75$, $SD = 1.57$).

Next, based on positive correlations and acceptable levels of internal consistency among respective variables, we averaged our items to create composite variables (see Table 3 for descriptive statistics). We then sought to determine if our experimental manipulation was effective. Immediately after the self-control tasks, participants responded to the following items to measure self-control capacity: “How much did you like the brain exercises?” (reverse scored), “How difficult were the brain exercises?” “How much did you have to concentrate during the brain exercises?” “How boring did you find the brain exercises?” and “How exhausting were the brain exercises (cf. Alberts, Martijn, & De Vries, 2011; Banker, Ainsworth, Baumeister, Ariely, & Vohs, 2017; Webb & Sheeran, 2003). As a

<table>
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<th>Variable</th>
<th>$M$</th>
<th>$SD$</th>
<th>$x$</th>
<th>Interitem $r$ range</th>
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<td>Trait self-control</td>
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<td>0.82</td>
<td>0.42–0.70</td>
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<td>0.61–0.88</td>
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<td>Nonapology</td>
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<td>0.77</td>
<td>0.25–0.71</td>
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</table>
result of the experimental manipulation, participants in the low self-control group ($M = 4.19$, $SD = 1.03$) reported less self-control capacity than those in the high self-control group ($M = 2.99$, $SD = 0.66$), $d = 1.39$.

**Main analysis**

We predicted the self-control manipulation would diminish participants’ self-control and subsequent apologies. First, to test our prediction that self-control would affect participants’ apologetic behavior, we examined participants’ coded e-mails for the presence or absence of apology statements (e.g., “I’m sorry,” “my apologies”). On average, participants used 83.40 words ($SD = 60.47$) in e-mails. There was a small effect where those in the low self-control group ($M = 80.15$, $SD = 68.41$) used fewer words in their emails than those in the high self-control group ($M = 86.55$, $SD = 51.97$), $d = -0.11$. As predicted, participants in the high self-control condition were almost 3 times as likely to use apology statements in their e-mails (44.70%) than those in the low self-control condition (35.61%), odds ratio =2.80.

Consistent with the coded emails, those in the high self-control group reported greater apology ($M = 5.08$, $SD = 1.45$) than those in the low self-control group ($M = 4.76$, $SD = 1.50$), $d = 0.22$ (Figure 1). We also found that those in the low self-control condition reported greater nonapology ($M = 3.12$, $SD = 0.79$) than those in the high self-control group ($M = 2.95$, $SD = 1.00$), $d = 0.19$ (Figure 2). Using our manipulation check items as a proxy for self-control capacity, we explored the relationship between self-control capacity and our dependent variables; there was no discernible association of self-control capacity with apology or non-apology ($R^2 < .001$).

In sum, Study 2 used an experimental design to test the hypothesis that self-control would differentially affect transgressors’ apologetic behavior and their capacity to apologize or act defensively. Following the self-control manipulation, participants wrote an email to the victim of the transgression that was coded for apology statements. Similarly, participants completed self-report items assessing how apologetic or nonapologetic they felt. The results generally confirmed our prediction that self-control is important to the process of apologizing. Specifically, those induced to have low self-control offered fewer apology statements in their written emails and reported greater nonapology. Conversely, those induced to have high self-control were more likely to feel apologetic and to behave apologetically by including apology statements in their written emails.

**Study 3**

The goal of Study 3 was to preregister (https://aspredicted.org/ig3me.pdf) and conceptually replicate Study 2. To demonstrate the robustness of the effect we used a different self-control manipulation.
Participants

We recruited 223 community members from Canada and the United States through the crowdsourcing platform Amazon’s Mechanical Turk. We preregistered all our data exclusions: those who did not complete the experimental manipulations correctly (i.e., didn’t recall a transgression, didn’t complete the self-control tasks as instructed; \( n = 61 \)), those who were random responders identified using the Conscientious Responders Scale (Marjanovic, Struthers, Cribbie, & Greenglass, 2014; \( n = 5 \)), those who did not complete the study from a desktop or laptop computer (\( n = 3 \)), those who self-selected that we should not include their data in the study (\( n = 4 \)), and those whose average apology and nonapology scores exceeded 2.5 standard deviations from the group mean in their respective conditions (\( n = 3 \)). We preregistered data exclusions for those whose written essays for the self-control tasks were less than 2.5 standard deviations away from the group mean in their respective conditions, but no participants were beyond this threshold (\( n = 0 \)). The final sample for Study 3 was 147. The mean age of our sample was 35.64 (SD\(_{\text{age}} = 11.30\)), range = 21–71) and approximated gender parity (50.34% female). The sample was White (68.71%), Black (12.24%), Latin American (5.44%), Middle Eastern (3.40%), South Asian (3.40%), East Asian (2.72%), South East Asian (2.04%), Polynesian (1.36%), and Mixed (0.68%).

Materials

Transgression stimuli

We used the same retrospective transgression stimuli from Study 2. Participants were instructed to recall and write about a time they committed a transgression against another person that is currently unresolved, with procedures adapted from Schumann (2014). For example, one participant recalled, “I said very harmful things to a close friend during moments of anger. What was said could not be taken back and I honestly did not try to apologize. The friend and I have not spoken since.” Another reported, “When my brother died I found 2,500 dollars in his credit union savings account and kept it without telling my sister about it.”

Self-control stimuli

Like Study 2, we used multiple self-control tasks in tandem to manipulate participants’ self-control with procedures adapted from Sjästad and Baumeister (2018). Sjästad and Baumeister suggest the use of strong manipulations to test the effects of self-control. They also suggest using different self-
control manipulations to demonstrate the robustness of the effect independent of the tasks used. Similar to Study 2, the self-control tasks used in this study required participants in the low self-control condition to persevere on difficult, cognitively fatiguing, and boring tasks for at least 24 min. All participants were asked to write three essays with a corresponding rule for each essay that forbid the use of specific letters (and words that contain them). Those randomly assigned to the low self-control group were asked to write three essays for 8 min each (24 min total) in which the forbidden letters would change with every essay. The letters chosen for each essay are those frequently used in the English language (i.e., A, N, R, O, S, I). This task requires participants to exert self-control to inhibit their tendency to use letters and words they naturally would in favor of avoiding them or deliberately selecting alternative words. In addition, a new rule for each essay round ensured that participants would have to inhibit any mental habit that formed in the previous round and instead use the novel rule. This manipulation comes from the perspective that self-control is used to inhibit a dominant response that consumes self-control capacity. Those randomly assigned to the high self-control condition were asked to write three essays for 4 min each (12 min total). The three essays used the same forbidden letter rule for each essay. The letter rule were letters that are infrequently used in the English language (i.e., X and Z). Therefore, participants in the high self-control group would not have to inhibit their natural writing tendencies to a large degree or inhibit any mental habits that formed during previous essays, requiring very little self-control consumption.

Essay 1. In this essay, participants wrote about the neighborhood they grew up in as a child. Specifically, they were asked, “Please describe the neighborhood you grew up in as a child. Try to be as specific as you can about what it was like to live in that particular neighborhood.” Those assigned to the low self-control group were told to write continuously for 8 min and to not use the letters R and O. Those assigned to the high self-control condition were told to write continuously for 4 min and not use the letters X and Z. For all three essays, those in the high self-control condition received the same instructions.

Essay 2. In this task, participants wrote about their typical weekday. Specifically, “Please describe what you do during a typical weekday. Try to be as specific as you can. Begin with the moment you wake up and end with the moment you go to sleep.” Those assigned to the low self-control group were told to write for 8 min continuously and to not use the letters S or I.

Essay 3. This task asked participants wrote about a recent trip they took. Specifically, “Please describe a recent trip you have taken. It may be a trip to the store, to another city or a distant country—wherever. Try to be as specific as you can.” Those assigned to the low self-control group were told to write continuously for 8 min and not to use the letters A or N.

Measures

Trait self-control
We measured trait self-control using the same scale from Studies 1 and 2, the BSCS (Tangney et al., 2004). All items were rated from 1 (not at all) to 7 (very much so) unless otherwise specified.

Trait apology
We measured trait apology using the same scale from Studies 1 and 2, the PAM (Howell et al., 2011). As in Studies 1 and 2, we reversed scored all items such that high scores reflect high trait apology.

Self-control depletion
To measure participants self-control depletion, we gave participants six items: “Right now, I feel mentally exhausted,” “Right now, I feel drained,” “Right now, I have lots of energy” (reversed scored), “Right now, I feel worn out,” “Right now, I feel like my willpower is gone,” and “Right now, I feel tired.”

General motivation
To measure participants’ general level of motivation, we gave them six items: “Right now, I feel motivated,” “Right now, I feel lethargic” (reverse scored), “Right now, I feel driven,” “Right now, I feel like being productive,” “Right now, I feel like I don’t care anymore” (reverse scored), and “Right now, I feel focused.”

Written apology
Like Study 2, participants were instructed to write an email to the victim of the transgression they recalled, with methods adapted from Schumann (2014) and Hornsey et al. (2017). Two independent coders blind to experimental conditions coded emails for the presence (coded 1) or absence (coded 0) of apology
statements (e.g., “I’m sorry,” “my apologies”) using the same instructions from Study 2. Interrater reliability was high ($\kappa = .87$) and coders agreed on 93.7% of cases. Discrepancies were resolved by a third coder.

**Apology**

We measured participants’ apology using the same 10 items from Study 2 that focused on the following apology components: admit responsibility, acknowledge wrongdoing, express remorse, express guilt, express regret, apologetic, say sorry, forbearance, and restitution.

**Nonapology**

Participants’ defensive responding (i.e., nonapology) was measured using the same 12 items from Study 2 that contained six nonapologetic components. Two items were used to measure each component: justification, victim blaming, diminished responsibility, denial, lashing out, and excusing the behavior.

**Procedure**

A Human Intelligence Task was created on Mechanical Turk for this study. Interested participants clicked on the Human Intelligence Task, which brought them to a survey link. All participants were compensated $2.00 USD. Participants completed the informed consent, demographic questions, and prescreen questionnaire. Next, participants were prompted to recall a time they committed a transgression against another person that is currently unresolved. After writing about the recalled transgression and answering self-report items about the event, participants proceeded to the self-control tasks. The tasks were framed as brain exercises designed to assess participants’ language cognition and verbal flexibility. Participants received instructions that included the forbidden letter rules for each essay. Those in the low self-control condition would have to inhibit their natural tendency to use frequently used letters, whereas those in the high self-control condition would not have to exert much self-control. The instructions informed participants of the total time duration that the task would take. They were also told that the relevant writing rule would be visible at all times during the exercises and were provided an example of how to avoid using the forbidden letters. Participants were also instructed, “Please do not stop writing until the program advances automatically. For us to assess your language cognition and verbal flexibility, there needs to be enough text to analyze.” Following the self-control tasks, participants answered manipulation checks and items that assessed self-control depletion and general motivation. Next, participants were asked to write an email to the victim of the transgression they recalled earlier. Participants then answered the apology and nonapology items. Finally, participants were thanked, debriefed, and provided instructions on how to redeem their compensation.

**Results and discussion**

**Preliminary analysis**

We first explored the retrospective transgressions that participants recalled. Overall, transgressions occurred less than 1 month ago (14.97%), 1–3 months ago (23.13%), 4–6 months ago (10.20%), 7–12 months ago (15.65%), 1–2 years ago (13.61%), 3–5 years ago (8.84%), and more than 5 years ago (12.93%) and were committed against a variety of relationship partners: friends (35.37%), family members (29.25%), romantic partners (14.97%), coworkers (6.80%), spouses (6.12%), acquaintances (2.72%), others (2.04%), bosses (1.36%), and strangers (0.68%). Participants rated their transgressions as moderately severe ($M = 4.54$, $SD = 1.42$) and negative ($M = 5.22$, $SD = 1.37$).

Next, we averaged our items to create composite variables (see Table 4 for descriptive statistics). Participants responded to the following manipulation check items after completing the self-control manipulation to measure self-control capacity: “The brain exercises were difficult,” “I had to concentrate during the brain exercises,” “The brain exercises were boring,” and “The brain exercises were exhausting” from 1 (strongly disagree) to 7 (strongly agree). The manipulation produced a desirable between-group difference in those randomly assigned to the low self-control group ($M = 5.54$, $SD = 0.99$) compared to the high self-control group ($M = 4.14$, $SD = 1.05$), $d = 1.36$.

**Main analyses**

We manipulated participants’ self-control to test its effect on apology and nonapology. To do this, we first

<table>
<thead>
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<th>Variable</th>
<th>$M$</th>
<th>$SD$</th>
<th>$z$</th>
<th>Interitem $r$ range</th>
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<tbody>
<tr>
<td>Trait self-control</td>
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<td>1.01</td>
<td>0.86</td>
<td>0.31–0.78</td>
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<td>Trait apology</td>
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<td>0.91</td>
<td>0.68–0.84</td>
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<td>1.75</td>
<td>0.96</td>
<td>0.77–0.93</td>
</tr>
<tr>
<td>Nonapology</td>
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<td>1.32</td>
<td>0.89</td>
<td>0.52–0.83</td>
</tr>
<tr>
<td>Self-control depletion</td>
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<td>0.74</td>
<td>0.50–0.89</td>
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<tr>
<td>General motivation</td>
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<td>0.86</td>
<td>0.25</td>
<td>0.14–0.83</td>
</tr>
</tbody>
</table>
examined participants’ coded emails to their victims for apology statements. Participants’ emails contained, on average, 72.09 ($SD = 56.18$) words. Those with high self-control ($M = 74.23$, $SD = 61.62$) used more words than those with low self-control ($M = 68.90$, $SD = 47.26$), although the effect was small, $d = 0.09$. Consistent with Study 2, participants in the high self-control condition were more likely to include apology statements (48.30%) in their emails than those in the low self-control condition (27.21%), odds ratio = 1.98.
Similarly, those in the high self-control group reported greater apology ($M = 5.41, SD = 1.52$) than those in the low self-control group ($M = 4.93, SD = 1.82$), $d = 0.29$ (Figure 3). We also found that those in the low self-control condition reported greater nonapology ($M = 3.24, SD = 1.40$) than those in the high self-control group ($M = 2.60, SD = 1.19$), $d = 0.50$ (Figure 4). Like Study 2, we examined the effect of self-control capacity after the experimental task and our dependent variables by using our manipulation check as a proxy for self-control capacity. Self-control capacity was associated with both self-reported apology ($b = -0.23, R^2 = 0.03$) and nonapology ($b = 0.26, R^2 = 0.06$).

We then tested the indirect effects of self-control depletion and general motivation on our dependent variables. One question debated in the ego depletion literature is whether the ego depletion paradigm depletes self-control resources or creates a shift in motivation away from “have-to” toward “want-to” goals (Inzlicht & Schmeichel, 2012; Inzlicht, Schmeichel, & Macrae, 2014). In other words, after our self-control manipulation, do participants have less self-control capacity to devote to apology? Or does the manipulation merely manipulate people’s general motivation away from “have-to” goals (i.e., apologizing) to “want-to” goals (i.e., nonapology)? To probe this question, we examined the effect of our self-control manipulation on self-control depletion and general motivation, and then the effect of depletion and general motivation on apology and nonapology. We specifically did not use mediation analyses to probe this question as mediation analyses are often overused and misused (Tate, 2015), where simple causal models relative to complex models are more appropriate and likely to be true given the nature of probability (Trafimow, 2017). Therefore, we opted to examine effect sizes to interpret causality. First, we examined the effect of the self-control manipulation on self-control depletion. We found our self-control manipulation produced a between-group effect on depletion, such that those in the low self-control group reported greater depletion ($M = 4.54, SD = 1.19$) than those in the high self-control group ($M = 3.26, SD = 1.10$), $d = 1.25$. Conversely, our self-control manipulation produced only a small effect on general motivation for those in the low self-control ($M = 4.01, SD = 0.89$) compared to the high self-control ($M = 4.10, SD = 0.84$) group, $d = 0.10$. Next, we examined the association between depletion and general motivation with our dependent variables. We found that depletion was negatively associated with apology ($b = -0.17, R^2 = 0.02$) and positively associated with nonapology ($b = 0.19, R^2 = 0.04$). General motivation had little association with apology ($b = 0.07, R^2 < 0.01$) but was positively associated with non-apology ($b = 0.37, R^2 = 0.06$). In addition, depletion and general motivation were negatively associated ($b = -0.16, R^2 = 0.06$). Taken together, this suggests our self-control manipulation had an effect on depletion, which in turn was associated with both apology and nonapology. Conversely, our self-control manipulation had little discernible effect on general motivation, which in turn produced a minute association with apology. However, irrespective of the experimental manipulation, general motivation was positively associated with nonapology.

In sum, Study 3 was a preregistered experiment that conceptually replicated the results from Study 2. The results were generally consistent with Study 2, confirming our prediction that self-control plays a role in the apology process. Specifically, experimentally inducing low self-control led transgressors to offer fewer apology statements and report greater defensive nonapology. Conversely, inducing high self-control led transgressors to behave more apologetically and report feeling more apologetic. The data also suggest that self-control depletion, compared to general motivation, is the primary driver of the effect. Rather than being generally unmotivated after exerting self-control, it’s likely that those in the low self-control condition lacked the self-control capacity to inhibit their nonapology and instead offer an apology.

**General discussion**

Relationships are fundamental to individuals’ survival and well-being; however, they can become strained following transgressions. Managed unsuccessfully, transgressions can lead to relationship damage or dissolution. Both exercising self-control and apologizing are components of successfully maintaining and repairing relationships. Despite this, the act of apologizing can be risky and threatening for transgressors (Exline et al., 2007; Schumann, 2014, 2018). We tested whether transgressors’ self-control affects the apology process. In Study 1, trait self-control was positively associated with individuals’ tendency to apologize as well as their apologetic and nonapologetic behavior in response to a real-life transgression. In Studies 2 and 3, we manipulated self-control and randomly assigned participants to high and low self-control conditions to test its causal effect on apology and nonapology.
Consistent with Study 1, transgressors’ self-control affected their apology and nonapology. Participants who were randomly assigned to the high self-control conditions were at least twice as likely to include an apology statement in emails written to their victim. Similarly, they reported being more apologetic and less nonapologic. Study 3 replicated the effect and suggests participants’ depleted self-control capacity partially explains why they do not inhibit their defensive, nonapologetic response in favor of apologizing. Taken together, this research has demonstrated that transgressors’ self-control plays a role in apology and nonapology.

Previous apology research has primarily focused on how apologies affect victims, such as how successful they are in eliciting forgiveness (e.g., Fehr et al., 2010). This success, however, hinges on transgressors actually offering an apology, which they often struggle with or refuse to do (Schumann, 2014, 2018; Schumann & Dweck, 2014; Struthers et al., 2017, Woodyatt & Wenzel, 2013b). Given that transgressions are by nature dyadic, it is important to examine both victims’ and the transgressors’ perspectives in the apology and reconciliation process. The current research builds on the growing literature that explores factors that affect apologies from the transgressor’s perspective, such as self-affirmations (Schumann, 2014; Woodyatt & Wenzel, 2014) and how victims respond (Leunissen et al., 2012; Struthers et al., 2008, 2017). Our research demonstrates that transgressors’ self-control is an important interpersonal factor linked to apology and nonapology. Overall, having self-control is important for overcoming resistance to apologize.

This research also contributes to the literature on self-control. Tangney et al. (2004) concluded that those with high self-control seem “inclined to take responsibility for their transgressions (rather than externalizing blame, or minimizing the importance of the transgression)” (p. 311). The current research is the first empirical support of this conclusion that we are aware of. Furthermore, we demonstrated that self-control affects apologies at both the trait and state level. Although individuals’ dispositional self-control affects apologies, so do state fluctuations in self-control. Within a broader context, our research supports the importance of self-control in relationship repair and relationship maintenance strategies for both victims and transgressors. For victims of a transgression, greater self-control helps inhibit the desire to seek revenge in favor of forgiving (Burnette et al., 2014). Our research suggests that for perpetrators of transgressions, self-control helps inhibit the desire to self-protect and self-promote (i.e., nonapology) in favor of apologizing. Greater self-control is important for effective conflict resolution and appears to be associated with prosocial responses from both victims and transgressors.

Limitations and future directions

This research is not without its limitations. Although we explored indirect effects in Study 3, namely, self-control depletion and general motivation, additional indirect effects should be explored and tested. For instance, we argued that the process of apologizing requires self-control because transgressors must resolve competing desires for self-protection and self-promotion versus relationship maintenance. In making our predictions, we also drew on research associating self-control with guilt and perspective taking (Howell et al., 2012; Sandage et al., 2000). However, we did not test these indirect effects, and researchers should do so to better understand why transgressors’ self-control affects their willingness to apologize. In addition, the self-control manipulation had little discernible effect on general motivation, but general motivation was positively associated with nonapology (Study 3). Although exploratory, we would have predicted that increased general motivation would lead to less, not more, nonapology. Therefore, the relationships between general motivation, apology, and nonapology may be bounded. It is reasonable that transgressors would need motivation to engage in defensive nonapologetic responses such as victim blaming, lashing out, justifying, excusing, or minimizing their transgressions. Future research should explore if and when general motivation will lead to apology or nonapology responses.

Researchers have also conceptualized self-control as being defined by two distinct components: inhibition and initiation. Inhibition refers to overriding impulsive behavior (e.g., eating cake), whereas initiation is related to the engagement of goal-directed behavior (e.g., eating vegetables; de Ridder, de Boer, Lugtig, Bakker, & van Hooft, 2011). We reasoned that apologies require the inhibition of impulsive defensive responding (i.e., self-protection and self-promotion) in favor of offering an apology (i.e., relationship maintenance), and we employed an experimental methodology that manipulated self-control from this perspective. However, our data do not take into account how processes underlying self-control affect apologizing from this conceptual framework. For
instance, it is possible that transgressors must both inhibit their desire to act defensively and engage in initiatory apologetic behavior. Future research should explore inhibition and initiation for a more nuanced understanding of the theoretical and conceptual processes of self-control that underlie apology and nonapology.

Concerns over the effect size of the sequential-task paradigm in manipulating self-control have grown over the last few years (Arber et al., 2017; Lee, Carter & McCullough, 2014; Lee, Chatzisarantis, & Hagger, 2016; Hagger et al., 2016) as the literature has produced a wide range of effect sizes (Carter & McCullough, 2014; Hagger et al., 2010). As a result, these data need to be interpreted with caution. Although the data suggest that self-control plays a role in the apology process and the behavioral data in Studies 2 and 3 demonstrate moderate effect sizes, the effect sizes in Studies 2 and 3 account for a small portion of the variance in transgressors’ self-reported apology (d range = 0.22–0.29). This is consistent with research demonstrating that individuals’ self-control is important for inhibiting selfish behavior in favor of behaving prosocial but has a small effect on prosocial affect and cognition (Osgood & Muraven, 2015). Specifically, the self-report items used in Studies 2 and 3 that measure transgressors’ apology likely tap into the affective and cognitive components of apologizing (e.g., express guilt, remorse, regret), where the current data found smaller effect sizes relative to apologetic behavior. However, this is inconsistent with many behavioral change models that argue behavioral attitudes are more susceptible to change and predict action (e.g., theory of planned behavior; Ajzen, 1985). Therefore, future research should continue to explore the effect of self-control on the affective, behavioral, and cognitive components of apology and nonapology. However, we note that our self-report results are consistent with the meta-analytic effect size of two sufficiently powered preregistered studies that manipulated self-control using the sequential-task paradigm (d = 0.20; Garrison, Finley, & Schmeichel, in press). We agree with Garrison et al. (in press) that the sequential-task paradigm produces a true but small effect on self-control that warrants continued research of the effect and its underlying mechanisms. Additional research, meta-analyses, registered reports, and preregistered studies are necessary to better establish an accurate estimate of effect size.

We also share Howell et al.’s (2011, 2012) sentiment that, like forgiveness, apologizing should be conceptualized as an important prosocial, self-regulatory process involving emotional, physiological, and behavioral systems. Future research could explore transgressors’ capacity for apologizing through this lens, including the use of affective, physiological, and behavioral measurement.

This research also contributes methodologically by manipulating self-control using multiple instances of the sequential-task paradigm. This is in line with previous research showing that prolonged, cognitively fatiguing tasks have downstream consequences (e.g., Davies & Parasuraman, 1982; Wang, Trongnetrpunya, Samuel, Ding, & Kluger, 2016). It suggests that self-control can be manipulated using stronger manipulations of self-control. This may be a more effective approach to manipulating self-control than using a single self-control task, which is how this paradigm has typically been implemented (Sjåstad & Baumeister, 2018). More research is needed to determine which sequential tasks produce self-control deficits most effectively (e.g., Arber et al., 2017; Dang, Liu, Liu, & Mao, 2017) and if using stronger manipulations produce more valid and reliable effects (Sjåstad & Baumeister, 2018).

Future research could also explore and design interventions to increase transgressors’ self-control within a conflict resolution context. The current research suggests that self-control deficits decrease transgressors’ apologies. Given that performing and practicing acts of self-control have been associated with increased self-control (Friese, Frankenbach, Job, & Loschelder, 2017; Inzlicht et al., 2014; Muraven, 2010; Muraven, Baumeister, & Tice, 1999; Oaten & Cheng, 2006a, 2006b), designing interventions to practice and perform self-control acts within the context of conflict disputes may help promote successful conflict resolution. This may be particularly powerful because self-control promotes victims’ forgiveness (Burnette et al., 2014) and accommodating others (Finkel & Campbell, 2001), with the current research suggesting self-control affects transgressors’ apologies. Therefore, self-control interventions may be particularly effective for resolving conflict for all parties involved, such that they promote both apologizing and forgiving, which are essential to the reconciliation process. To that end, future research should also use a dyadic approach to explore how victims’ and transgressors’ self-control interrelate when it comes to relationship repair and maintenance.

Finally, in an era of big data, we believe exploring these effects using large data sets would be novel and informative. For example, Findley and Brown (2017) demonstrated that regional differences in trait self-
control throughout the United States were related to self-control outcomes such as homicide, suicide, home foreclosures, academic cheating, divorce, and infidelity. Creating and using big data indices of apologies (e.g., legal settlements; statements following guilty verdicts; voluntary reparations; governmental, organizational, and public apologies, or lack thereof) to analyze how it relates to regional differences in trait self-control may be a novel and low-cost avenue for future research.

In sum, the current research is the first empirical demonstration that the apology process is a self-regulatory process in which self-control is an important factor in relationship repair and maintenance. We believe that this work can inform and has applications in applied social fields where self-control has been identified as a contributing factor and where apologies can be used importantly, such as criminal justice (Gottfredson & Hirschi, 1990), couples’ conflict and therapy (Findley et al., 2014; Finkel & Campbell, 2001), and organizational psychology (Lian et al., 2014).

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