

## Self-control in Relation to Feelings of Belonging and Acceptance

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*Three studies examined the impact that feelings of acceptance and belonging have on self-control abilities. Study 1 examined the relationship between self-reported self-control in a broad range of day-to-day activities and perceived acceptance by family and friends; results showed a significant positive correlation between perceived acceptance and self-control. Studies 2 and 3 manipulated feelings of belonging and examined subsequent self-control on two separate tasks. Participants in the increased belonging group ate significantly fewer cookies (Study 2) and were more likely to delay gratification (Study 3) than participants in the decreased belonging group. There was no difference between the decreased belonging and control groups on delay of gratification in Study 3. The results from the present studies suggest that greater feelings of belonging and acceptance may bolster one's ability to exert self-control.*

**Keywords:** Acceptance; Belonging; Self-control; Self-regulation.

The ability to control and regulate impulses, desires, wishes, emotions, and other behaviors is a core feature of the self. In fact, many vital functions of the self involve regulation, such as making decisions, inhibiting and initiating behavior, taking responsibility, and making and carrying out plans (Baumeister, 1998). As a result, exerting self-control can lead to better physical health (e.g., eating healthier, exercising); improved decision making, academic achievement, and job/career performance (e.g., being able to delay gratification); and better overall adjustment. Higher self-control has been associated with higher grade point average, fewer reports of psychopathology, higher self-esteem, and more optimal emotion regulation strategies and emotional responses (Tangney, Baumeister, & Boone, 2004). Self-control has been defined as the overriding or inhibiting of automatic or innate behaviors, urges, emotions, or desires that would otherwise interfere with goal-directed behavior (Kanfer & Karoly, 1972).

Self-regulation is a particularly important aspect of our social relationships as well. Those who regularly exercise self-control are more likely to gain social acceptance, whereas those who do not tend to be rejected and ostracized by their

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peers (e.g., Feldman, Rosenthal, Brown, & Canning, 1995; Ferrer & Krantz, 1987). Furthermore, higher self-control is related to better interpersonal skills, more satisfying relationships, and secure attachment (Tangney et al., 2004). In fact, the human need to belong may be a driving impetus in self-regulatory behavior (Baumeister & Leary, 1995). Baumeister and Leary posited that humans demonstrate an inherent need to belong, evidenced through a pervasive drive to form and maintain meaningful interpersonal relationships. The desire and the ability to exercise self-control across a broad range of activities may stem from the basic and powerful motivation to gain acceptance by others.

Prior research has shown, however, that self-control is a limited resource. When an individual engages in one act of self-control, his or her self-control abilities are significantly diminished on a subsequent task (see Muraven & Baumeister, 2000). Several studies have shown that suppressing one's emotions, overcoming unwanted impulses, making multiple decisions, and fixing one's attention can all cause subsequent deficits in self-control (see Baumeister, Vohs, & Tice, 2007b).

Previous research has also shown that social rejection causes a similar depletion effect. For instance, Baumeister, DeWall, Ciarocco, and Twenge (2005) found that rejected individuals were less likely to drink a healthy yet bad-tasting beverage, more prone to overeat an unhealthy snack food, gave up more quickly on a frustrating puzzle task, and experienced more attention regulation impairments than non-rejected individuals. Oaten, Williams, Jones, and Zadro (2008) showed that participants left out of an online ball-toss game consumed more unhealthy foods, and were less likely to drink a healthy yet bad-tasting beverage, than their non-excluded counterparts. Rejected individuals are also less able to delay gratification (Twenge, Catanese, & Baumeister, 2003), and exhibit more self-destructive behaviors, such as foolish risk taking, unhealthy decision making, and procrastination (Twenge, Catanese, & Baumeister, 2002), than non-rejected individuals. Additionally, rejected participants are more likely to display more anger and to behave more aggressively (Chow, Tiedens, & Govan, 2008; Twenge, Baumeister, Tice, & Stucke, 2001; Warburton, Williams, & Cairns, 2006; Williams & Warburton, 2003) and exhibit less prosocial behavior (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007; van Beest & Williams, 2006) than accepted individuals. Furthermore, Inzlicht, McKay, and Aronson (2006) found that stigmatized individuals displayed impaired self-control in attentional and physical domains.

Interestingly, Baumeister et al. (2005) found that rejected participants were not unable to exert self-control, but rather were unwilling to exert self-control. When participants were offered a monetary incentive, rejected participants exhibited similar self-control abilities as accepted participants. Baumeister and colleagues concluded that "the immense advantages and rewards that flow from social acceptance may make people normally willing to tolerate the costs and sacrifices that self-regulation requires. But people may lose that willingness when social acceptance and its rewards are not forthcoming" (p. 603).

Feeling accepted by others, and being reminded of people whom one is close to, may therefore increase one's ability to exercise self-control. Shah (2003), for instance, showed that individuals primed with thoughts or representations of significant others showed greater goal commitment and pursuit, both of which are activities requiring self-regulation. Thus, simply thinking about close others increased self-control ability. Additionally, Seeley and Gardner (2003) found that individuals who were more socially oriented showed less regulatory depletion on a self-control task following an initial act of self-control. They concluded that

participants higher in social orientation likely exhibit self-control more regularly in order to maintain acceptance by others. This practice likely increases self-regulatory strength, protecting them somewhat from self-regulatory depletion. Indeed, prior research has shown that regularly practicing self-control can increase self-regulatory abilities, and reduce the depletion effect (Muraven, Baumeister, & Tice, 1999).

### *The Current Research*

The purpose of this research was to gain a better understanding of the impact of variations in belonging and acceptance on self-control. First, we wanted to assess whether feelings of acceptance and exclusion differentially impact self-control ability. Second, although previous studies have examined self-control following more explicit forms of social rejection and exclusion (Baumeister et al., 2005; Chow et al., 2008; Inzlicht et al., 2006; Twenge et al., 2001, 2002, 2003, 2007; Van Beest & Williams, 2006; Warburton et al., 2006), the present research aimed to manipulate participants' sense of belonging without explicitly rejecting participants (i.e., rather than telling people they would be alone in the future, or excluding them from a game, we prompted them to think about people they were not close to). By utilizing a more conservative manipulation of belonging and acceptance (as opposed to explicit social rejection), we hoped to gain a better understanding of the extent to which changes in belonging impact one's ability to self-regulate. The present studies tested the hypothesis that even conservative manipulations of feelings of belonging and acceptance will impact an individual's self-control abilities.

In Study 1, we examined the relationship between perceived acceptance by family and friends and self-reported self-control. In Study 2, we manipulated feelings of belonging and subsequently assessed self-control abilities on a cookie-tasting task. Study 3 was a replication of Study 2, but assessed delay of gratification as the dependent variable, and included a control group. The overarching goal of this research was to further examine the relationship between feelings of belonging and self-control, and to investigate how subtle changes in belonging affect subsequent self-control on an acute self-control task.

## **Study 1**

### *Method*

*Participants.* Two hundred twenty people (169 females, 51 males) participated in Study 1. The mean age of participants was 21.4 ( $SD = 5.21$ ). Participants received course credit for participation.

*Materials and procedure.* Participants completed self-report assessments of self-control and of feelings of belonging and acceptance online. The Self-Control Scale – Brief Version (SCS; Tangney et al., 2004) was used to assess self-control. This scale was designed to assess self-control over a broad spectrum of behaviors in order to predict individual differences in self-control ability. This scale consists of 13 questions assessing general, broad-based self-control, with answers ranging from 1 (*not at all*) to 5 (*very much*). Sample items include: “I have a hard time breaking bad habits,” “I am lazy,” and “I am good at resisting temptation.” Higher scores on the SCS indicate greater trait self-control. The scale has shown good internal consistency ( $\alpha = .84$ ) and test–retest reliability ( $r = .87$ ).

Participants' perceived belonging and acceptance were assessed by the Perceived Acceptance Scale (PAS; Brock, Sarason, Shanghvi, & Gurung, 1998). The PAS was designed to assess perceptions of acceptance within different interpersonal relationships. This scale assesses perceived acceptance by others on a 5-point scale (1 = *strongly disagree*, 5 = *strongly agree*), and provides separate scores that reflect perceived acceptance from one's mother, father, family in general, and friends. Sample items from these scales include: "I often feel left out of things in my relationships with others," "I am a very important part of the lives of my family," and "My friends frequently show me that they care." Scores from these scales have demonstrated internally consistent ( $\alpha = .92$  for family;  $\alpha = .80$  for friends) and test-retest reliability ( $r = .80$  for family;  $r = .91$  for friends). For the present study, we only assessed perceived acceptance from family and friends, as we were interested in the relationships one had with broader groups of people rather than the relationship a participant had with a particular individual (e.g., mother, father, significant other). Assessing perceived familial acceptance, however, was expected to include perceived acceptance from one's mother and father as part of the larger familial unit.

### Results and Discussion

Correlational analyses show a significant relationship between trait self-control and perceived acceptance. There were positive correlations between the SCS and the PAS Family,  $r = .34$ ,  $p < .01$ , and between the SCS and the PAS Friends,  $r = .23$ ,  $p < .01$ . This indicates that greater feelings of perceived acceptance by friends and family members are positively related to greater self-control. See Table 1 for means, standard deviations, and zero-order correlations.

The results from Study 1 indicate that perceived acceptance might significantly affect self-control in a broad range of day-to-day activities. These results, however, do not elucidate whether changes in feelings of belonging subsequently affect acute self-control. Although previous research has shown that rejected individuals exhibit less self-control on an acute self-control task (Baumeister et al., 2005), we wanted to examine whether manipulating feelings of belonging, without explicitly rejecting participants, would have a similar impact on an acute self-control task.

## Study 2

Although Study 1 indicated that there is a significant relationship between feelings of belonging and self-control, we further wanted to examine whether influencing

**TABLE 1** Zero-order Correlations and Descriptive Statistics for the Self-Control Scale – Brief Version (SCS) and the Perceived Acceptance Scale (PAS) Friends and Family Subscales (Study 1)

	SCS	PAS Friends	PAS Family
SCS	—	.23*	.34*
PAS Friends		—	.41*
PAS Family			—
<i>Mean</i>	41.57	44.12	46.22
<i>SD</i>	8.45	6.88	9.2

Note: \* $p < .01$ .

feelings of belonging would subsequently affect acute self-regulatory abilities. Based on the findings of Study 1, and in congruence with past research utilizing more explicit manipulations of rejection (Baumeister et al., 2005; Oaten et al., 2008), it was hypothesized that individuals experiencing decreased feelings of belonging (prompting them to think about those they are not close to) would exhibit less self-control than those experiencing an increased sense of belonging to others.

### Method

*Participants.* Fifty-eight volunteers (35 female, 23 male) participated in Study 2 for course credit in undergraduate psychology courses. The mean age of the participants was 20.89 ( $SD = 4.96$ ).

*Materials and procedure.* Participants were informed that they would be taking part in a taste-perception task as part of the current study. Before participating, participants were instructed not to eat or drink anything (other than water) for three hours prior to their scheduled appointment. Participants were given these instructions: (1) in order to reinforce participants' beliefs that the study was indeed about taste perception; and (2) to attempt to control for hunger. When participants arrived at the laboratory, they were asked to indicate whether they ate or drank anything other than water in the three hours prior to experiment participation. They also completed a demographics form.

Participants then engaged in the belongingness task. Participants were randomly assigned to either an increased belonging ( $n = 29$ ) or decreased belonging ( $n = 29$ ) group. Participants were informed that they would engage in two separate tasks for different studies taking place within the lab. For the first task (the belonging manipulation), participants were told that the lab was studying the commonness of certain names within the region. Participants assigned to the increased belonging group were instructed to create a list of first names of their five closest friends. Individuals in the decreased belonging group were instructed to think about their best friend, and to create a list of five names of people who were friends with their closest friend, but not friends with the individuals.<sup>1</sup>

After participants completed the belonging task, participants were asked to complete the Brief Mood Introspection Scale (BMIS; Mayer & Gaschke, 1988). The BMIS assesses mood by asking participants to rate how they currently feel on 16 adjectives. For each item, the scale ranges from 1 (*definitely do not feel*) to 4 (*definitely feel*).

Following completion of the BMIS, participants engaged in the taste-perception task. A glass bowl containing 25 bite-size chocolate chip cookies was placed on a desk in front of the participants. Participants were told to eat as many cookies as necessary in order to adequately assess the taste, smell, texture, and overall quality of the cookies, and to determine how likely they would be to buy a box in the future. Participants were given an evaluation form in order to rate the above qualities of the cookies, and were asked to rate these qualities on a scale ranging from 1 (*extremely unpleasant*) to 7 (*extremely pleasant*). Participants were given 10 minutes to complete this task. The number of cookies participants ate served as the measure of self-control (previously employed by Baumeister et al., 2005).

## Results

Three participants were excluded from data analyses. Two were excluded due to outliers on the dependent variable (one participant, admitting he was quite hungry, ate all 25 cookies during the 10-minute period, and the second participant stated she did not like chocolate chip cookies and only ate one cookie). A third participant was omitted from data analyses because she guessed the hypothesis of the study, noting that the taste perception task most likely dealt with self-control. A total of 55 participants were therefore included in the following analyses.

An independent-samples *t*-test was conducted to analyze the data. Results showed that those in the increased belonging group ate significantly fewer cookies ( $M = 4.89$ ,  $SD = 4.38$ ) than participants in the decreased belonging group ( $M = 7.00$ ,  $SD = 2.43$ ),  $t(53) = 2.22$ ,  $p < .05$ ,  $d = 0.59$ . Participants in the increased belonging condition therefore exhibited more self-control than those assigned to the decreased belonging group, eating fewer cookies during the 10-minute assessment period.

In order to determine whether mood may have influenced self-control, an independent-samples *t*-test was conducted to assess differences in mood valence between the increased belonging and decreased belonging groups. Results showed that there was no difference in self-reported mood between the two groups,  $t(53) = 0.11$ , *ns*. Furthermore, there was no relationship between mood following the belonging manipulation and the number of cookies eaten during the self-control task ( $r = .07$ , *ns*). These results suggest that one's mood following the belonging manipulation did not affect the number of cookies eaten.

## Discussion

As hypothesized, those participants experiencing an increased feeling of belonging and acceptance were able to exert more self-control on the cookie-eating task than those in the decreased belonging group. Baumeister and colleagues (2005) found similar results, reporting that explicitly rejected participants ate nearly twice as many cookies as accepted participants. The present study showed that participants in the decreased belonging condition ate an average of two cookies more than those in the increased belonging condition. Although the effect size from the current study ( $d = 0.59$ ) is smaller than the effect size reported by Baumeister and his colleagues ( $d = 0.98$ ), we expected that explicit rejection (being told that no one wanted to work with the participant, employed by Baumeister et al.) would have a greater impact on subsequent self-control than writing down the names of people whom the individual was not friends with. Nonetheless, subtly manipulating feelings of belonging, without explicitly rejecting participants, had a significant impact on self-control abilities, supporting the proposition that even conservative variations of belonging can have an effect on self-control.

There are several possible limitations to address in Study 2. The first is that although Baumeister and colleagues (2005) used 35 cookies in their study, only 25 cookies were used in the current study. It is possible that this led participants to consume fewer cookies (e.g., participants may have reached the bottom of the bowl sooner, prompting them to stop eating).

Second, one may argue that the dependent variable utilized in the current study is only a barometer of self-control if the participant is actively engaged in eating restraint due to dieting or some other personal factor. Though this is a valid possibility, research has suggested that even individuals who are not actively engaged

in eating restraint see eating relatively unhealthy and fattening snack foods as undesirable (Tice, Bratslavsky, & Baumeister, 2001). In other words, if an individual decides to eat a large number of chocolate chip cookies, he or she is not exhibiting self-control. Nonetheless, the possibility remains that participants in the decreased belonging group ate more cookies than participants in the increased belonging group because eating a palatable food may have provided comfort to them after thinking about other individuals that they are not friends with or not close to.

Third, although we did not find differences in self-reported mood between participants in the increased belonging and decreased belonging conditions as assessed by the BMIS, pilot testing did find that participants in the decreased belonging group reported feeling more depressed, hurt, anxious, and angry than those in the increased belonging group. As a result, although we were not able to detect differences in mood in Study 2, it remains a possibility that mood may have impacted the outcome of the study as Tice et al. (2001) showed that emotional distress can lead to self-regulation failure.

A final potential limitation to this study is that we were not able to ascertain, based on the current results, whether decreased feelings of belonging may inhibit one's immediate ability to self-regulate, or whether increased feelings of belonging may improve one's ability to self-regulate. Although we cannot ascertain that decreased belonging weakened self-control with results from the current study, Baumeister and colleagues' (2005) results support the idea that decreased belonging inhibits self-control. They found that participants who were explicitly rejected exhibited significantly less self-control than those in the accepted and control groups. There were not, however, significant differences in self-control ability between those in the accepted and control groups. These results (Baumeister et al., 2005) suggest that threats to the need to belong reduce one's ability to self-regulate. However, Study 1 showed a significant positive correlation between perceived acceptance and self-control. These findings lead to the possibility that increases in feelings of acceptance could yield greater self-control ability. Including a control group would be useful in determining whether it is decreased or increased feelings of belonging that affect subsequent self-control abilities on an acute self-control task.

### Study 3

Study 2 indicated that manipulating feelings of belonging by having participants name either close friends or people they were not friends with affected subsequent self-control. Those who experienced an increased sense of belonging ate fewer cookies and exhibited better self-control than those who experienced a decreased sense of belonging. Unfortunately, it remains unclear whether decreased or increased feelings of belonging significantly affect self-control abilities. The purpose of Study 3 was therefore two-fold. First, we wanted to replicate findings from Study 2 using another measurement of self-control. Although the ability to avoid eating junk food requires self-control, we wanted to assess self-control in a non-eating-related task. By utilizing a non-eating task, we lend greater breadth to the current findings, and are able to rule out some of the limitations that are directly related to eating measures (e.g., participants experiencing a decreased sense of belonging may have eaten more cookies as a way to feel comforted). We chose to assess the ability to delay gratification as the measurement of self-control in Study 3. The ability to delay gratification, or to give up short-term gains for long-term benefits or goals, is a prime example of self-control, and is often used as an indicator of an individual's ability to

exhibit self-regulatory control (Ayduk et al., 2000; Mischel & Ayduk, 2002; Sethi, Mischel, Aber, Shoda, & Rodriguez, 2000). Second, Study 3 employed the same belonging manipulation as Study 2, but included a control group that did not engage in the names task. The reason for including a control group was to assess whether increased or decreased feelings of belonging significantly impact self-control abilities.

### Method

*Participants.* Two hundred fifty-four individuals (179 female, 75 male) participated in Study 3. The mean age of participants was 21.72 ( $SD = 5.49$ ). Those who participated in the study earned course credit for their undergraduate psychology courses.

*Materials and procedure.* Participants first completed the same belonging manipulation as participants in Study 2. Participants were assigned to one of three groups: a decreased belonging group, an increased belonging group, or a control group. Those in the control group did not engage in the names task; they simply proceeded to the next task. Participants then completed the BMIS (Mayer & Gaschke, 1988).

After rating their current mood state, participants engaged in the delay of gratification task. This task was similar to the one used by Twenge and her colleagues (Twenge et al., 2003; Twenge et al. originally modified this task from Kuhlen & Monge, 1968). Participants were first presented with the following scenario:

After graduating from college and interviewing for several jobs, you are offered two jobs. One job has a relatively high starting salary, but little promise of advancement or better income. The other job offers a starting salary that is considerably lower but with the possibility of substantial advancement and a much higher later income. Which job would you accept?

Participants were given two choices. The first choice was: "The job with a relatively high starting salary but with little promise of advancement or better income." The second choice was: "The job with a considerably lower starting salary but with the possibility of substantial advancement and a much higher later income." This task served as the delay of gratification measure. The first choice favors short-term gain (high salary) over long-term gain (future advancement), whereas the second choice favors long-term gain (opportunity for advancement) over short-term gain (salary). The second choice was scored as higher delay of gratification, or greater self-control. Additionally, participants were also asked to indicate how certain they were that this was the job they would choose on a 7-point Likert scale (1 = *not at all certain*, 7 = *very certain*). After completing this task, participants completed a demographics questionnaire, a manipulation check form, and were debriefed.

### Results

Results from Study 3 were marginally significant,  $\chi^2(df = 2, N = 254) = 5.50, p = .06$ . Further analysis revealed that participants in the increased belonging group were significantly more likely to engage in delay of gratification, or to choose choice two over choice one, than those in the decreased belonging,  $\chi^2(df = 1, N = 181) = 4.88, p < .05$ , and control,  $\chi^2(df = 1, N = 155) = 4.03, p < .05$ , groups. Only 12.2% of those in the increased belonging group chose the job option that required less delay



of gratification, whereas 25.3% of participants in the decreased belonging group, and 24.7% of those in the control group, chose this option. There was not a significant difference between those in the decreased belonging and control groups. As a result, it appears that increased belonging, or being reminded of people one is close to, may have bolstered the ability to engage in delay of gratification and to exert greater self-control. There were no differences between the three groups on ratings of mood valence,  $F(2, 251) = 0.43$ , *ns*, or on decision certainty,  $F(2, 251) = 0.06$ , *ns* (for the three groups combined, the mean certainty rating was 4.98,  $SD = 1.38$ ). In other words, though participants in the increased belonging condition chose the more positive long-term goal, they were not more certain about this decision than participants in the decreased belonging or control conditions.

### Discussion

Results from Study 2 were replicated by the results of Study 3, showing that feelings of belonging affected subsequent self-control, in this case the ability to delay gratification. Those in the increased belonging group were more likely to delay gratification than participants in the decreased belonging and control groups. Unlike Study 2, Study 3 included a control group in order to assess whether increased or decreased feelings of belonging affected subsequent self-control. Based on the results from Study 3, it appears that increased feelings of belonging may enhance self-control abilities. There was no difference in the ability to delay gratification between those in the decreased belonging and control groups in the present study. This suggests that the decreased belonging manipulation had little to no impact on subsequent self-control. This contradicts the findings reported by Baumeister and colleagues (2005), who found no significant differences in self-control abilities between accepted and control groups, suggesting that it is rejection, rather than acceptance, that significantly impacts one's ability to exert self-control. An important distinction can be made between the current study and the studies conducted by Baumeister and colleagues, however, in that participants in five of the six Baumeister et al. studies were given indications about future belongingness ("You are the type who will end up alone later in life") whereas the current study cued current feelings of acceptance or exclusion. This methodological difference may partially account for differences in results between the two studies. Additionally, in the one study conducted by Baumeister and colleagues that did examine self-control in reaction to current, explicit rejection or acceptance, participants were rejected or accepted by strangers (other participants), whereas the current study had participants think about those they were either close to or people they knew whom they were not friends with. Perhaps feelings of belonging and acceptance may be stronger when reminded of close friends than when being accepted by strangers.<sup>2</sup> Finally, although Baumeister et al. employed more explicit indications of acceptance and rejection, we used more subtle reminders of belonging and exclusion. Although it is reasonable to expect that being explicitly rejected by others, or being told that one will be alone in the future, would represent a significant threat to one's need to belong, perhaps simply thinking of others one is not friends with or not close to does not present a significant threat to one's belonging needs, and thus does not impair self-control.

As in Study 2, we again failed to find differences in current mood between participants in the three conditions. We employed the BMIS as a measure of mood in Study 3 to provide consistency between Studies 2 and 3 in how we assessed current

mood state following the belonging manipulation. Future research, however, may want to employ another measure of mood, such as the PANAS, in order to ensure that mood is not impacting acute self-control ability.

A potential limitation to Study 3 was the fact that the control group did not complete a task that resembled the names task participants in the increased belonging and decreased belonging conditions engaged in. Because there was no way to ensure that participants would not name friends or close others when thinking of names during a non-social names task, we decided not to have control participants engage in a non-social names task. Future studies employing this manipulation, however, may want to have control participants engage in a similar task, such as naming five cities within the state of California, or five countries within South America.

Another limitation was that the overall results were only marginally significant, despite the fact that the sample size was rather large. This may be due to the fact there was no difference between those in the decreased belonging and control conditions; however, perhaps the delay of gratification measure used in this study (a forced-choice task based on a hypothetical situation) was not the best method of assessing acute self-control ability. For instance, Baumeister, Vohs, and Funder (2007a) suggested that actual behavior (i.e., direct observation of behavior) be assessed rather than hypothetical scenarios. Future research would benefit from exploring this further by directly observing actual behavior on a delay of gratification task rather than asking participants to indicate their choice in a hypothetical scenario.

## General Discussion

The present investigation implies that an individual's ability to self-regulate may be strengthened by feelings of acceptance and belonging. Study 1 found a positive relationship between one's feelings of acceptance by family members and friends and self-control. This suggests that those who perceive greater acceptance by close others demonstrate greater self-control on a broad range of activities in everyday life. Studies 2 and 3 found that those in the increased belonging groups demonstrated greater self-control than those in the decreased belonging groups. Participants in the increased belonging groups ate fewer cookies, and were more likely to delay gratification, than participants experiencing decreased belonging. There was, however, no difference in delay of gratification between participants in the decreased belonging and control groups in Study 3. This suggests that perhaps an increase in feelings of belonging, or being reminded of those one is close to, bolsters self-control abilities.

Research by Baumeister et al. (2005) and by Oaten et al. (2008) also found that rejected and excluded individuals displayed lower self-control than accepted individuals. Baumeister et al., however, did not find a difference between those in the acceptance and control conditions on various measures of self-control, suggesting that deficits in one's perceived acceptance may weaken self-regulatory resources. We therefore conjecture that both acceptance and rejection significantly impact self-control abilities. It is believed that the fundamental human need to belong motivates people to effectively self-regulate their behavior in order to gain acceptance from others and to have the need to belong met (e.g., Baumeister & Leary, 1995). It is suggested that when one experiences *significant* deficits in belonging, or when an individual's need to belong is acutely thwarted (e.g., through rejection or ostracism), self-control resources are depleted. Effective self-regulation

requires one to focus one's attention on the self, and actively monitor one's behavior, which requires adequate self-awareness. Perhaps experiencing a significant threat to the need to belong draws attention away from the self, reduces self-awareness, and subsequently renders the individual unable or unwilling to exercise self-control. In support of this, Twenge and colleagues (2003) found that excluded participants were much more likely to escape self-awareness than accepted participants. Without the ability or desire to maintain self-awareness, it is unlikely that one will be able to monitor one's behavior effectively and maintain self-control. Baumeister and colleagues (2005) found, however, that when self-awareness was increased (by placing participants in front of a mirror), rejected participants were able to exert self-control.

Within the present study, those who perceived greater belonging and acceptance by others reported greater self-control. Furthermore, those socially primed to think about individuals they were close to exhibited greater self-control on a cookie-eating task and on a delay of gratification task. These results, as well as those from prior research (Seeley & Gardner, 2003; Shah, 2003), do suggest that feeling accepted by others, and being reminded of those whom one is close to and feels a strong sense of belonging toward, may increase self-regulatory strength and resources.

Why might feelings of belonging and acceptance be important to self-control? Baumeister and colleagues (2005) suggested that the rewards of acceptance make one willing to tolerate the sacrifices required to engage in self-control. We speculate that feeling accepted by others may also increase awareness of the self, as well as one's sense of accountability to important others. These greater feelings of accountability, as well as increased self-awareness, would render a person better able to engage in effective self-regulatory control. For example, many people who have the goal of losing weight often join groups such as Weight Watchers<sup>®</sup>. Losing weight requires extensive self-control; the person must override the impulse to overeat or to eat unhealthy foods, and must also engage in regular strenuous physical activity. Joining a group of similar others (and of others who have similar goal pursuits) likely increases a person's sense of acceptance and belonging. This might further increase a person's sense of accountability to others to accomplish his or her goal of losing weight, and also increase the person's self-awareness, which in turn leads to better self-control and an increased ability to successfully lose weight.

A limitation to the present research is the fact that we did not directly assess underlying processes connected to our findings or potential mediators of the results. Future research should therefore examine this proposition, exploring potential processes underlying the relationship between belonging and acceptance and self-control, as well as possible mediators of the relationship (e.g., mood, self-esteem), in order to determine precisely why increased belonging and acceptance increases one's ability to engage in self-control.

Despite this limitation, the results from the current research highlight the importance of feeling accepted and included by others in the ability to maintain appropriate self-control. The results from all three studies imply that having a greater sense of belonging and acceptance may bolster self-control, whereas lower feelings of belonging may impair self-control.

### *Conclusion*

According to Baumeister and colleagues (2007b), self-control has recently drawn attention from psychologists for two important reasons. One is that assimilating the

concepts of self-control can lead to understanding the nature and functions of the self. Another reason is the practical applications of addressing behavioral and impulse-control problems linked with inadequate self-control. Because of the importance of possessing self-control, and the benefits exhibiting self-control affords people, it is important to further examine the factors that may reduce, and strengthen, self-regulatory abilities.

As stated previously, it has been hypothesized that the human need to belong may be a driving impetus in self-regulatory behavior. The current results suggest that a sense of belonging and acceptance may be a key component in an individual's ability to self-regulate. Participants who reported greater perceived acceptance reported greater self-control. Additionally, participants experiencing an increased feeling of belonging and acceptance were able to exert more self-control on two separate self-control tasks than those experiencing a decreased sense of belonging. Real-world applications for the present research include that individuals not experiencing feelings of belonging and acceptance would be more prone to poor affect regulation, aggressive actions, rash decision making, and impulsive behavior through a decreased ability or willingness for self-control regulation. It therefore seems to be in people's best interest to maintain a maximal amount of socially inclusive behaviors.

## Notes

1. Pilot testing of this manipulation revealed that those who engaged in the decreased belonging task reported feeling significantly more depressed, hurt, anxious, and angry ( $ps < .05$ ), and marginally more excluded ( $p < .10$ ) than those who engaged in the increased belonging task. There was no difference, however, between participants engaging in the increased belonging and decreased belonging tasks in state self-esteem, as assessed by the State Self-Esteem Scale (Heatherton & Polivy, 1991).
2. Previous research has shown that being close to one's rejecter intensifies negative outcomes associated with rejection (Tesser, Millar, & Moore, 1988). Furthermore, Murray, Holmes, and Collins (2006) suggested that as interdependence and closeness with another increase, the greater the psychological costs of rejection by close others. However, other research has shown that people have their fundamental needs (belonging, self-esteem, control, and meaningful existence) threatened equally when they are ostracized by in-group members or despised groups (i.e., KKK members; Gonsalkorale & Williams, 2007), suggesting that perhaps acceptance by close others may not differ from acceptance by strangers. Furthermore, Blackhart, Knowles, Nelson, and Baumeister (2009) suggest that acceptance is not the opposite or mirror image of rejection, and that acceptance and rejection may be separate constructs. As research has not been conducted examining whether people are affected differentially by acceptance by strangers or by close others, it is suggested that future research explore this question.

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