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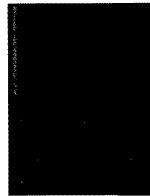
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What is This?

Ostracism and Ego Depletion: The Strains of Silence

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Two studies examined whether ostracizing someone depletes psychological resources in the ostracizer. In Study 1, people who followed instructions to avoid conversation with a confederate for 3 minutes later showed decrements in persistence on unsolvable problems. In Study 2, ostracizers showed subsequent impairments in physical stamina on a handgrip task. Although ostracism affected mood too, mood did not appear to mediate the main findings. Past work has shown that ostracism has negative consequences for the victim, but the present results indicate that ostracism has a harmful impact on the ostracizer too.

Receiving the silent treatment is certainly aversive—but what about administering it? To ostracize someone effectively, it is necessary to spend some time in close proximity while refusing to speak or respond to the person. To do so must seemingly require one to violate conversational norms, personal habits, and possibly one's own positive inclinations. One might think that remaining silent would be relatively easy, but inhibiting one's own speech could well involve a fair amount of inner work and strain, resulting in a depletion of the self's psychological resources. The present investigation was designed to test the hypothesis that ostracizing someone would result in the depletion of the ostracizer's self-resources.

Ostracism

Recent work has begun to explore the phenomenon of ostracism. Williams and Sommer (1997) used a laboratory procedure to assess the painful and debilitating effects that ostracism has on the victim or target. Sommer, Williams, Ciarocco, and Baumeister (in press) compiled personal accounts of ostracism that linked it to

relationship damage and problems, as well as revealing how some effects were moderated by trait self-esteem. Williams, Shore, and Grahe (1998) showed how victims of the silent treatment reported threats to basic psychological needs. Williams, Wheeler, and Harvey (in press) summarized broader evidence about the kinds of ostracism and the range of deleterious consequences that they have on victims.

From these studies, the conclusion is inescapable that being ostracized is highly aversive. The effects of ostracism on the ostracizer have received much less attention, however. Sommer et al. (in press) showed that sources of ostracism report widely different motives for ostracizing, and other studies have consistently found that giving the silent treatment provides sources with an increased sense of control or empowerment over the target (Sommer et al., in press; Williams, Bernieri, Faulkner, Grahe, & Gada-Jain, 2000; Williams et al., 1998). Although researchers have begun to unveil the reasons behind the silent treatment, the consequences of ostracism for the ostracizers remained largely unstudied.

We reasoned that ostracizing someone may be difficult and strenuous. Effective ostracism requires making clear to the target that he or she is being ostracized—otherwise the effort is wasted, because the target may not even realize what is happening (Sommer et al., in press). To be close to someone while refusing to speak to or

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interact with that person, however, runs contrary to the way that most human social life is conducted. People nearly always respond to conversation or questions, even from strangers, and to say nothing in response to a direct, point-blank question must presumably require one to inhibit the impulse to speak. This would involve self-regulation, which the next section will elaborate.

Anecdotal and indirect evidence supports the hypothesized difficulty of ostracizing someone. Confederates in the Williams and Sommer (1997) investigation reportedly found it difficult to administer the manipulation, and the chief investigators found it painful even to watch the sessions. In other research (Williams et al., 1998; Williams, Wheeler, & Harvey, 2001), both targets and sources of ostracism reported a loss in belongingness during the ostracism, suggesting that although ostracizers may have ultimately succeeded in gaining control over the target, they also sacrificed some degree of companionship and relationship security in the process. In another study (Williams, Bernieri, et al., in press), ostracizers reported that ignoring their coworkers for a day was very effortful, especially when they felt close to their coworkers. Meanwhile, research on unrequited love has shown that rejecting someone's offer of affection can be quite stressful and unpleasant (Baumeister, Wotman, & Stillwell, 1993) and, by extension, one can infer that rejecting an offer of friendly interaction would be difficult too. Still, the notion that ostracism has important negative consequences for the ostracizer remains largely unsubstantiated; therefore, the present investigation was designed to ascertain whether ostracizing someone would indeed require a strenuous exertion that would expend the self's limited resources and energy.

Resources and Ego Depletion

Self-regulation appears to operate on the basis of some limited resource akin to energy or strength. Several studies have shown that following acts of self-regulation or indeed of any sort of volition, subsequent self-regulation is impaired, suggesting that the initial act consumed this resource (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Muraven, Tice, & Baumeister, 1998). Impulses, habits, and inner states appear to have a certain strength of their own; therefore, the self requires comparable strength to overcome them (see also Muraven & Baumeister, 2000). The results of these studies suggest further that the seemingly unrelated and widely different acts of self-regulation and volition draw on a common, limited resource; therefore, when that resource is depleted, a broad range of psychological functioning can be impaired. Baumeister et al. (1998) proposed the term "ego depletion" to refer to the psychological condition of having expended a significant

amount of this versatile, limited resource and therefore being vulnerable to a range of impaired functions.

Our reasoning for the present study held that deliberately ostracizing someone would require the active inhibition of normal tendencies to converse and respond. This would involve self-regulation, so ostracism would deplete the self's limited resources. This depletion should therefore be observable even in activities that would seemingly have no relation to the ostracism.

The design of the present studies involved instructing some participants to ostracize a confederate for several minutes by refusing to speak or interact. Afterward, we sought to establish ego depletion by having the participant engage in an ostensibly unrelated act of self-regulation. Study 1 assessed persistence on unsolvable problems, on the assumption that it requires self-regulation to make oneself keep trying in the face of continued, discouraging failure. Study 2 assessed stamina on a physical task, on the assumption that self-regulation is required to resist the urge to rest that would arise during acute muscle fatigue. Both of these tasks have been used in prior work to assess self-regulation (Baumeister et al., 1998; Muraven et al., 1998).

A second hypothesis of the present investigation was that ostracism would be differentially hard as a function of the participant's attitude toward the target. We reasoned that ostracizing a friendly, liked person would be especially difficult because it would require overcoming strong impulses to have a positive, friendly interaction. In contrast, ostracizing a disliked person might be easier, because conversing with that person would be less appealing. Hence, the extent of ego depletion should be greater with the liked than with the disliked target of ostracism.

STUDY 1

Study 1 provided the first test of the hypotheses. Participants had a brief interaction to get acquainted with a confederate. They received feedback that ostensibly conveyed the confederate's impression of them, which was manipulated to be either favorable or unfavorable. Just prior to the second interaction, they were told either to converse freely or to refuse to speak or converse with the confederate. After this, we measured their degree of persistence on unsolvable anagrams.

We predicted that ostracizing someone would deplete the self's resources, leading people to quit relatively early on the anagram task. We predicted further that this early quitting would be most pronounced when people ostracized someone they liked (based on having received a positive, favorable evaluation) than when they ostracized someone they disliked.

Method

Participants were 37 undergraduate students (18 women, 9 men) enrolled in introductory psychology courses.¹

Students received class credit in exchange for their voluntary participation. Each participant was tested along with a confederate, who was thought to be another psychology student. A 2 (silence vs. conversation) \times 2 (positive vs. negative feedback) between-subject design was employed.

Participants were told they would be asked to participate in three independent tasks. After giving informed consent, participants were randomly assigned to one of the four conditions. Participants were asked to engage in an interaction with their fellow participant for 3 minutes, with the ostensible purpose of forming a first impression. The participants and confederate were told that after the interaction they would be asked to fill out a first impression evaluation of the other person and that the completed evaluation would be shared later in the study. The evaluation consisted of nine traits, rated on a scale of 1 (*not at all*) to 5 (*very much*). These traits included friendly, attractive, discourteous, ignorant, enthusiastic, awkward, humorous, open, and sloppy. In addition, space was left for an open-ended, global impression of the person to be reported.

After the 3-minute interaction, the participant and confederate were separated to fill out the evaluations of each other. The participant's evaluation of the confederate was completed and sealed in an envelope. The confederate's evaluation of the confederate was replaced by false negative or positive feedback, as determined by random assignment, and sealed in an envelope. The false positive evaluation was highly favorable. Participants received only the best and next-to-best ratings on every trait, followed by a handwritten comment saying, "The other person seems great" in the space at the end. The false negative evaluation consisted of ratings in the medium range (which are actually quite negative in comparison with how laboratory participants usually rate each other) (see Jones & Wortman, 1973), followed by a handwritten comment that "The other person wasn't particularly impressive" in the blank space. The false evaluation was given to the participant, who was permitted to read it.

Two research assistants served as confederates. Both were female 4th-year students majoring in psychology. They were blind as to the study's purposes and hypotheses as well as to which of the four conditions was being run. Of course, with regard to the ostracism manipulation, the blindness was only nominal, and it was easy for them to surmise whether the other person was conversing with them.

All participants were informed that the second part of the study was concerned with effects of the silent treatment, and they were asked to engage in a second 3-minute interaction with the confederate. Based on an ostracism procedure developed by Grahe and Williams (1998), participants were randomly asked to either speak freely as they did in the first interaction (conversation condition) or to ignore the confederate completely and avoid all conversation (silence condition).

Participants were given the illusion of choice for both conditions. This was deemed necessary to allow the manipulations to have the desired effect and to improve external validity. Once participants were faced with the uncomfortable act of ignoring the confederate, we wanted them to feel personally responsible for their actions. If we had merely allowed the experimenter to instruct them how to behave, without securing voluntary compliance, it seemed plausible that participants might blame the experimenter for putting them in the awkward position, and they might deflect any sense of responsibility onto the experimenter. By securing voluntary consent to this procedure, we hoped to make participants feel that they had made the choice to ignore the confederate (which more closely resembles the way ostracism occurs in everyday life) and would feel responsible for the situation and for their ostracizing behavior.

For the depletion condition, the experimenter explained that she already had had many people volunteer to talk and that she now needed to run some participants in the silence condition. The experimenter further noted that although the participant's participation was truly needed in this condition, the decision to agree to ignore the other person or converse was completely up to the participant. The reverse explanation was used in the inclusion condition. All participants agreed to perform as requested.

After agreement was reached, the experimenter explained that the confederate would think that this interaction was another get-acquainted session. In the conversation condition, participants were instructed to talk about anything except the experiment itself. In the silence condition, they were told that it was very important for the other person to feel truly ignored so that an accurate assessment of how the person would react could be measured. The participants were told that to achieve this, they needed to remain as silent as possible for the entire 3-minute period.

The experimenter reintroduced the participant and confederate and left the room. During the 3 minutes, the confederate attempted to ask four questions about the participant. Segments from the previous conversation were used as a starting point for these questions. If the participant responded, the confederate added her own comments and then moved on to the next question.

If the participant failed to respond, the confederate said something about herself and then allowed a period of silence to follow before she moved on to the next question, just as would most likely occur if one person were giving another the silent treatment and the other did not understand why.

After 3 minutes, the confederate and participant were separated. As a manipulation check, the confederate was asked how the participant had responded during the interaction period.

Participants were then told that they were moving on to the third part of the study, which was an index of language ability. The index was really an anagram task. Participants were told the task was being tested for difficulty and possible use in another study. They also were told that they could work on the anagrams for as long as they wanted, notifying the experimenter when they had completed the anagrams or were ready to stop. In reality, three of the six anagrams were unsolvable. The participants were secretly timed for persistence on the task. This was accomplished by having the experimenter remain in the room during the anagram procedure. The experimenter read a book and therefore appeared to be paying little or no attention to the participant's activity. By means of a concealed stopwatch, the experimenter recorded how long the participant spent working on the anagram task.

In a follow-up questionnaire, participants were asked whether they had a choice to ignore or converse with the confederate during the second interaction. An additional three items assessed the effectiveness of the feedback manipulation. Participants indicated on 7-point Likert-type scales (1 = *not at all*, 7 = *very much*) the positivity and the accuracy of the evaluations they received and the extent to which they liked the "other participant" (confederate). Finally, participants also rated how difficult it was for them to comply with the experimenter's request to converse or remain silent (1 = *not at all difficult*, 7 = *very difficult*). Participants were fully debriefed.

Results

Manipulation checks. A manipulation check was obtained by comparing the confederate's description of the participant's behavior with the assigned manipulation. All participants correctly followed instructions, whether to converse or to ostracize.

Perceptions of choice did not differ among participants assigned to the silence and conversation conditions, $\chi^2(1, N = 37) < 1$, *ns*. Only one participant in each condition reported lack of choice.

Positive feedback was perceived as more positive ($M = 6.00$) than negative feedback ($M = 2.11$), $F(1, 33) = 391.84$, $p < .01$. Positive feedback also was believed to be

more accurate ($M = 5.47$) than negative feedback ($M = 3.00$), $F(1, 33) = 37.85$, $p < .01$. Finally, the confederate was liked more by the participant after receiving positive feedback ($M = 5.32$) than after receiving negative feedback ($M = 3.67$), $F(1, 33) = 33.29$, $p < .01$. All other main effects and interactions were nonsignificant, $F_s < 2.69$, $p_s > .10$. Thus, the negative feedback appeared to have been successful in decreasing liking for the confederate.

Task persistence. The main dependent measure was persistence on the unsolvable anagram task. The participants in the silence condition persisted for a significantly shorter period of time ($M = 7.81$ min) than those in the conversation condition ($M = 10.86$), $F(1, 33) = 4.88$, $p < .05$. The main effect for feedback, and the interaction between level of ostracism and feedback, were not significant, $F_s < .68$, $p_s > .10$. These results show that the first hypothesis was strongly confirmed, in that ostracism led to less persistence on a subsequent task. There was, however, no support for the second hypothesis that persistence would be more impaired after ostracizing a liked than a disliked person.

Ratings of task. The task of ostracizing was reported as harder ($M = 5.11$) than the task of conversing ($M = 2.16$), $F(1, 33) = 32.21$, $p < .01$. The main effect on self-reported difficulty was qualified by a significant interaction between conversation/ostracism and type of feedback, $F(1, 33) = 10.95$, $p < .01$. Participants who received a positive evaluation found it much harder to give the silent treatment ($M = 6.00$) than to converse with the confederate ($M = 1.44$), $F(1, 33) = 41.69$, $p < .01$. Conversely, those who received a negative evaluation rated the silent treatment as only slightly (and nonsignificantly) more difficult ($M = 4.00$) than conversing with that person ($M = 2.80$), $F(1, 33) = 6.40$, $p = .10$. These data contradict the view that it is relatively easy to ostracize someone who has given you a bad evaluation; ostracism was more difficult than conversation regardless of whether the evaluation had been good or bad, although the difference was much larger (hence the interaction) when the evaluation was good.

Discussion

The results of Study 1 provide evidence that ostracizing someone can be a difficult task that depletes the self's limited resources. People who willingly complied with a request to ostracize another person later showed deficits in executive function. Specifically, they quit significantly earlier on a set of difficult, frustrating problems than did people who complied willingly with a request to speak with another person. These data suggest that people did experience ego depletion as a result of ostracizing someone. Apparently, the exercise of giving the confederate the silent treatment consumed some resource that was

therefore no longer available to help people persist in the face of failure on the subsequent anagram task.

Our second hypothesis, regarding the role of liking for the confederate, was only partly supported. We had predicted that anger over receiving criticism would make it easier to ostracize someone, as compared to ostracizing someone who had praised the participant. Self-report data showed that it was indeed rated as less difficult to ostracize a critic than a praiser. The persistence data, however, failed to differ between those two conditions; therefore, it was not apparently any more depleting to ostracize one than the other.

STUDY 2

Study 2 was designed as a replication of Study 1 using a different dependent measure. Study 1 assessed possible aftereffects of ostracism on self-regulation by measuring persistence on unsolvable mental puzzles. Study 2 used a physical stamina task borrowed from Muraven et al. (1998); namely, squeezing a handgrip. After squeezing the handgrip for a short period of time, hand muscles become fatigued and the person feels the urge to relax the muscles. Self-regulation requires overcoming this fatigue and pushing oneself to continue, similar to other forms of stamina.

The manipulation of liking for the confederate (based on receiving either a positive or a negative evaluation from her) failed to moderate the effects of ostracism on self-regulation in Study 1. Therefore, we dropped it from Study 2. The focus was thus on how ostracism would affect stamina. We predicted that people who had engaged in ostracism would show subsequent decrements in stamina, as would be shown by quitting faster on the handgrip task.

Method

Participants were 25 undergraduate students (11 women, 14 men) enrolled in introductory psychology courses. Students received class credit in exchange for their voluntary participation. One participant's pretest handgrip persistence was more than 3 standard deviations from the mean, which had a strongly distorting effect on means and variances. This participant was recognized as an outlier and removed from analysis, leaving 24 participants for analysis.² Participants were randomly assigned to either the silence or conversation condition.

Each participant was tested along with a confederate, who was presented as another psychology student. The confederate was a female undergraduate psychology major. Participants were told they would be asked to participate in several independent tasks. After giving informed consent, participants were randomly assigned to one of two conditions. The procedure for Study 2 followed that of Study 1, except for several changes. A dif-

ferent dependent measure was used (and it required a premeasure as well as a postmeasure), and no false feedback was given to participants after the first impression interaction.

After the initial interaction, participants were told that while they were waiting for their fellow participant to finish the evaluation they were going to move on to another task. The handgrip task was then introduced. Participants were asked to squeeze the handgrip with enough pressure to hold a sponge between the handles for as long as possible. The experimenter timed the participant until the handgrip was released enough for the sponge to fall. As a cover, it was explained that this task was just in the trial phases and a standard persistence time was trying to be determined before the task could be used in a future study.

By random assignment, participants were asked to talk freely to the confederate (conversation condition) or were asked to ignore (silence condition) their fellow participant completely and refuse all conversation. As in Study 1, participants were given the illusion of choice as to their condition of participation. Again, participants in the conversation condition were instructed to talk about anything with the exception of the experiment. Participants in the silence condition were told it was very important for the other participant to feel truly ignored because the research was concerned with how people would react to that feeling. To accomplish this, participants were told that they needed to remain as silent as possible for the entire 3-minute interaction. As in Study 1, the confederate attempted to ask four questions during this period.

After this second interaction, the confederate and participant were separated. A mood measure consisting of eight items (jittery, nervous, guilty, drowsy, tired, gloomy, sadder, and fed-up) drawn from the negative affect component of the PANAS was administered. Participants were asked to indicate, on scales from 0 (*not at all*) to 6 (*very much*), the extent to which they were currently experiencing each mood. The participants were then asked to attempt the handgrip task a second time using the same hand. They were told that the average of their two trials would be used. Again, the task was timed by the experimenter until the handgrip released the sponge.

A follow-up questionnaire assessed perceptions of choice, the perceived difficulty of the ostracism, and liking toward the confederate on 7-point scales (1 = *not at all*, 7 = *very much*). Participants were fully debriefed.

Results and Discussion

As in Study 1, the ostracism manipulation was checked by comparing the confederate's description of the participant's behavior with the assigned manipula-

tion. All participants followed the correct instructions either to ostracize or to converse with the confederate.

The dependent measure was the difference between posttest handgrip time and pretest handgrip time. Participants in the silence condition gave up significantly sooner on the second handgrip trial compared to their first (pretest $M = 74.27$ sec, posttest $M = 57.67$ sec, change $M = -16.60$ sec) than did participants in the conversation condition (pretest $M = 61.18$ sec, posttest $M = 64.58$ sec, change $M = 3.40$ sec), $t(22) = 2.30$, $p < .05$. The pretest means alone did not differ by condition, $t(22) < 1$, *ns*. (Although Study 2 is a replication, all probabilities reported here are two-tailed.) Indeed, the positive mean change in the conversation condition indicates that participants showed no decrement in performance at all and if anything showed a trend toward improved performance on the second handgrip trial, contrary to any view that muscular fatigue from the premeasure affected performance on the second (main) measure. The significant decrement in the silence condition is thus entirely attributable to the effects of the manipulation. As an alternative analysis, we conducted an ANCOVA on posttest scores, using pretest scores as covariate, and this also yielded a significant difference between the silence and conversation (control) conditions, $F(1, 24) = 4.62$, $p < .05$. These findings replicate the results of Study 1 and suggest that giving someone the silent treatment is a difficult act that consumes some of the self's limited resources, thereby impairing the person's ability to self-regulate afterward on a seemingly unrelated task.

The greater difficulty of ostracism was confirmed by task ratings: Silence was rated as more difficult ($M = 4.41$) than conversation ($M = 1.83$), $t(22) = -6.17$, $p < .01$. Perceived choice did not differ between the silence ($M = 5.42$) and the conversation ($M = 4.67$) conditions, $t(22) < 1$, *ns*.

Scores on the mood scale were summed to create an overall index of negative affect ($\alpha = .75$). Analyses revealed that participants in the silence condition experienced greater negative affect ($M = 23.75$) than those who conversed with the confederate ($M = 14.42$), $t(22) = 3.44$, $p < .01$. These findings suggest the unsurprising conclusion that ostracizing someone was aversive and left some residual unpleasant feeling.

Additional analyses were conducted to determine whether the relationship between ostracism and loss of stamina could be partly or completely attributed to changes in mood. To test for mediation, a significant relationship between the proposed mediator and the dependent variable must first be established (Baron & Kenny, 1986). However, analyses indicated that the correlation between negative affect and change in handgrip performance was not significant ($r = -.31$, *ns*). Within cells, the link was even smaller ($r = -.10$ and $r = -.02$, both

ns). Controlling for negative affect made only a slight difference in the correlation between the condition and the dependent variable of performance change, reducing it from $r = .44$ to $r = .34$. Similar results were obtained using the "guilt" item alone. Thus, the impairment in executive function suffered by ostracizers cannot be attributed to changes in mood.

Finally, the confederate was liked more following conversation ($M = 6.25$) than silence ($M = 5.00$), $t(22) = 3.10$, $p < .01$. The liking data represented the only notable difference in findings between the two studies. In Study 1, ostracism did not affect liking, whereas in Study 2, ostracizing someone led to liking that person less. Probably the difference in procedures accounted for the discrepancy. In Study 1, liking was strongly affected (not surprisingly) by the feedback manipulation: People liked the confederate who gave them a flattering evaluation and disliked the confederate who gave them an unflattering one. This strong manipulation probably swamped any effect of ostracizing the person. In Study 2, there was no feedback manipulation, which enabled liking to be determined by the ostracism manipulation.

We explored the possibility that decreased liking for the confederate may reflect efforts at dissonance reduction. Participants who felt particularly guilty or distressed about ignoring an otherwise likable confederate may have changed their perceptions to reduce aversive dissonance arousal. Guilt feelings were examined as a possible mediator of the relationship between ostracism and liking. Silence (compared to conversation) produced significant increases in guilt ($r = .71$, $p < .01$), and guilt was associated with significant decreases in liking ($r = -.45$, $p < .01$). As the final test of mediation, the relationship between ostracism and liking was computed before and after partialing for guilt (Baron & Kenny, 1986). The correlation was only slightly attenuated, dropping from $-.66$ to $-.54$, both p s $< .01$. Thus, the tendency for ostracizing participants to lower their impressions of the confederate did not appear to reflect efforts to reduce aversive dissonance arousal stemming from guilt feelings.

GENERAL DISCUSSION

The results of this pair of studies support the view that ostracizing someone can be a difficult, strenuous task that depletes the self's limited resources. In two studies, we found that people showed decrements following ostracism, and these decrements point toward impaired self-control. Study 1 showed that ostracizers gave up more rapidly on unsolvable puzzles than other participants who had not ostracized anyone. Study 2 found that ostracizers showed subsequent decrements on a physical stamina task, as compared to people who had not ostracized. Both the persistence and the stamina measures

have been used to measure self-control (Baumeister et al., 1998; Muraven et al., 1998), because they require the self to override its impulses to quit due to frustration, discouragement, and acute muscular fatigue. After having ostracized someone, participants in these studies were less able to override those impulses to make themselves keep performing.

The difficulty of ostracizing someone was quite apparent to our participants. People in both studies rated ostracizing as a more difficult task than conversing. Part of the difficulty appears to have been emotional: People reported more negative affect following ostracism than following conversation (Study 2). This difference is certainly to be expected, insofar as ostracism is unpleasant. It raises the question, however, of whether the performance impairments simply reflected the changes in mood. The correlation between mood and performance (i.e., depletion) failed to reach significance, however, suggesting that mood alone cannot explain the effects. Hence, it seems reasonable to conclude that the findings about impaired performance support the main hypothesis; namely, that ostracizing someone constitutes a draining task that depletes the self's resources.

We found only mixed support for the second hypothesis; namely, that it would be easier (and less depleting) to ostracize a disliked person than a liked person. On the positive side, people rated it more difficult to ostracize the confederate who had praised them, as opposed to ostracizing the one who had criticized and derogated them. On the other hand, the measure of ego depletion showed no difference: People performed just as well after ostracizing a critic as a praiser. The implication appears to be that ostracizing someone is about equally draining regardless of whether the target person is liked or disliked, even though people do perceive it to be easier to ignore someone they dislike.

There is, to be sure, a seeming discrepancy between the self-report of the difficulty of ostracism and the behavioral measure of ego depletion. This might reflect the fact that people cannot accurately report on some inner processes, and ego depletion may be one of them. Nisbett and Wilson (1977) discussed the general shortfalls of introspection and said that people's seeming self-reports often reflect their *a priori* theories rather than true monitoring of inner states. That explanation would fit our results well, because on an *a priori* basis one would assume (as in fact we predicted) that it would be more difficult to ostracize a liked than a disliked person. It is also possible that people's reports on the difficulty of ostracizing the liked person included retroactive feelings of guilt or other factors that would not be relevant to ego depletion.

It is possible that ostracizing the disliked person was depleting because people wanted to confront the per-

son, perhaps to argue about the bad evaluation, or at least to inquire about the reason the confederate criticized them. A related motivation may have been to behave in a very pleasant manner so as to change the bad impression they had made—and of course having to ostracize the person would have thwarted their efforts to be pleasant. In all these cases, the instructions to ostracize would have conflicted with that desire to converse. Further work is needed to investigate whether any variation in target's behavior or ostracizer's attitudes can make ostracizing easier.

The two studies yielded different results with respect to liking for the confederate. Study 2 found that people ended up disliking the person they ostracized, but no such effect was found in Study 1. We suggested that the evaluative feedback in Study 1 overrode any effects of ostracizing; Study 2 had no such feedback manipulation. We failed to find evidence that reduced liking in Study 2 could be attributed to negative dissonance arousal associated with guilt feelings. The effects may be more appropriately understood in terms of Bem's (1965, 1972) self-perception theory, which held that self-perception operates mainly in the absence of other strong influences. A self-perception analysis would suggest that people observed that they were ostracizing the confederate and inferred that they must therefore dislike the confederate. In Study 1, liking was strongly affected by whether the confederate had communicated a strongly positive or negative evaluation to the participant, and so there was no need to infer one's attitudes from one's own behavior. Self-perception processes were therefore irrelevant. In Study 2, however, there was no feedback manipulation to shape liking, and thus, people may have relied more heavily on inferring their attitudes from their own behaviors, causing ostracism to lead to dislike.

These results extend the study of ego depletion into the interpersonal realm. Previous work on depletion of self-regulatory resources has focused mainly on intrapsychic processes and consequences (Baumeister et al., 1998; Muraven et al., 1998), but it is important to recognize that interpersonal processes also can have comparable effects. In fact, the present results suggest that managing a difficult interpersonal situation can lead to subsequent impairment of self-control, involving loss of physical stamina and persistence on a mental task. The study of how occupational work and home life can affect each other might benefit by exploring the depletion of inner resources as one mechanism by which family conflict could impair work performance.

It is important to be cautious about generalizing from these results, particularly into the realm of close relationships. Although an effort was made to allow the participant and confederate to become acquainted (and in Study 1 to develop some liking or dislike for the confed-

erate), this clearly falls far short of what may be involved in a long-term close relationship. Motivations to ostracize outside the laboratory may differ from those in the laboratory, and these different motivational bases may conceivably produce different demands on the self, thereby altering the pattern of depletion. Still, we did make some effort to alter the motivational basis for ostracism by inducing liking versus dislike, and although the feelings toward the confederate were effectively altered, the depleting effects of ostracism on the self did not change. Moreover, we also made an effort in both studies to secure the participant's voluntary consent to the ostracism procedure so that people would feel personally responsible for the actions of ostracism, and this was done to increase the resemblance to everyday life.

The results also have implications for the study of ostracism. Thus far, most research on ostracism has focused on the aversive and possibly harmful effects on the targets or victims (e.g., Sommer et al., in press; Williams & Sommer, 1997). That ostracism is hard on the victims is important and not to be doubted, but the present results suggest the toll that ostracism may take on the ostracizer. True, the present results may well have indicated a merely temporary effect. But when ostracism occurs as an ongoing method of dealing with conflict in a personal relationship, the costs we identified here may increase in both severity and longevity. If a mere 3 minutes of avoiding conversation can produce significant impairments on subsequent performance, one can scarcely imagine the toll that hours or weeks of ostracism might take.

We began this research by noting that saying nothing might seem to be an easy course to take. Sometimes it probably is. The present results suggest, however, that saying nothing can sometimes be a difficult and costly strategy.

NOTES

1. The original sample consisted of 38 participants. However, 1 participant expressed extreme discomfort at the thought of ostracizing and elected to converse with the confederate instead. This participant was subsequently dropped from analyses.

2. Including that individual in the main analyses resulted in inflating the error terms substantially, hence lowering the significance levels of the main findings.

REFERENCES

- Baron, R. M., & Kenny, D. A. (1986). The moderator/mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.
- Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology, 74*, 1252-1265.
- Baumeister, R. F., Wotman, S. R., & Stillwell, A. M. (1993). Unrequited love: On heartbreak, anger, guilt, scriptlessness, and humiliation. *Journal of Personality and Social Psychology, 64*, 377-394.
- Bem, D. J. (1965). An experimental analysis of self-persuasion. *Journal of Experimental Social Psychology, 1*, 199-218.
- Bem, D. J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 6, pp. 1-62). New York: Academic Press.
- Grahe, J., & Williams, K. D. (1998, April). A conversation paradigm to study sources and targets. Paper presented at the Midwestern Psychological Association, Chicago.
- Jones, E. E., & Wortman, C. (1973). *Ingratiation: An attributional approach*. Morristown, NJ: General Learning Press.
- Muraven, M., Tice, D. M., & Baumeister, R. F. (1998). Self-control as a limited resource: Regulatory depletion patterns. *Journal of Personality and Social Psychology, 74*, 774-789.
- Muraven, M. R., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin, 126*, 247-259.
- Nisbett, R., & Wilson, T. D. (1977). Telling more than we can know: Verbal reports on mental processes. *Psychological Review, 84*, 231-259.
- Sommer, K. L., Williams, K. D., Ciarocco, N. J., & Baumeister, R. F. (in press). When silence speaks louder than words: Explorations into the intrapsychic and interpersonal consequences of social ostracism. *Basic and Applied Social Psychology*.
- Williams, K. D., Bernieri, F., Faulkner, S., Grahe, J., & Gada-Jain, N. (2000). The Scarlet Letter Study: Five days of social ostracism. *Journal of Personal and Interpersonal Loss, 5*, 19-63.
- Williams, K. D., Shore, W. J., & Grahe, J. E. (1998). The silent treatment: Perceptions of its behaviors and associated feelings. *Group Processes and Intergroup Relations, 1*, 117-141.
- Williams, K. D., & Sommer, K. L. (1997). Social ostracism by co-workers: Does rejection lead to loafing or compensation? *Personality and Social Psychology Bulletin, 23*, 693-706.
- Williams, K. D., Wheeler, L., & Harvey, J. (2001). Inside the social mind of the ostracizer. In J. Forgas, K. Williams, & L. Wheeler (Eds.), *The social mind: Cognitive and motivational aspects of interpersonal behavior* (294-320). New York: Cambridge University Press.

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