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References

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The Pain of Exclusion

Even trivial episodes of ostracism can shatter your sense of self. But you can lessen -- and learn from -- the pain

One afternoon in the mid-1980s I was sitting in a park on a blanket beside my dog when a Frisbee rolled up and hit me in the back. I turned around and spotted two guys standing a short distance away with hopeful looks. After standing to return their Frisbee, I moved to sit back down, when, to my surprise, the two strangers threw the disk back to me -- an invitation. We formed a triangle on the grass, beginning a spontaneous game of three-way toss. But minutes later, for no discernible reason, they stopped throwing the Frisbee to me. At first, it was sort of funny, but when it became clear that they were not going to include me again, I felt foolish, awkward and hurt. I felt ostracized.

I slunk back to my blanket and dog -- and got an idea. As an assistant professor of psychology then at Drake University, I had long wanted to study ostracism, but I never knew how. The scenario in the park had required no conversation, no prior acquaintance and no expectation of future interaction. Yet it was emotionally powerful. I realized I could re-create my experience in the park as a virtual ball toss or Frisbee game in which certain players are excluded -- and thereby take it into the lab.

Cyberball, as I dubbed the computer game, greatly simplifies the Frisbee incident -- stripping away, for example, the precise way the other people look and act -- yet manages to capture the emotional essence of ostracism. Today other researchers and I use various tactics to study this condition. We intentionally exclude participants from face-to-face conversations, chat-room discussions or group texting. We examine how people react when others avert their eyes or how participants respond when we tell them that others do not want to work with them. Sometimes we ask participants to recall incidents in which they have been left out and observe the effects of these memories on mood and behavior.

No matter how people are left out, their response is swift and powerful, inducing a social agony that the brain registers as physical pain. Even brief episodes involving strangers or people we dislike activate pain centers, incite sadness and anger, increase stress, lower self-esteem and rob us of a sense of control. Remarkably, we all feel that initial ache about equally, no matter how tough or sensitive we are. Personality traits do, however, influence how well we cope -- whether we recover quickly or ruminate endlessly, whether we work to reestablish social ties or lash out in anger.

All social animals use this form of group rejection to get rid of burdensome group members. In nonhuman social animals, an unaccepted member usually ends up dead. Detecting ostracism quickly increases the likelihood that an individual can respond in such a way as to stay in a group and literally or figuratively survive the ordeal.

[The Sting of Silence](#)

Athenians coined the word "ostracism"; they wrote the name of the person they wished to banish on ostraca, shards of clay. But the phenomenon appears to have existed for as long as social animals have. Typically the term -- defined simply as being ignored and excluded -- implies a situation in which a group is shunning an individual, but it could also describe "the silent treatment," in which one individual ignores another, or a group excludes another group or even an individual rejects a group.

I first became interested in ostracism 32 years ago as a graduate student after watching a documentary about a West Point Academy cadet, James Pelosi. His superiors asked him to leave the academy because he did not put down his pencil at the required moment during an exam. But Pelosi refused to leave, so the unwritten policy of silencing ensued -- for almost two years. His roommate moved out, no one talked to him or even looked at him, and when he sat in the cafeteria, everyone at the table would rise and move to another. I was so moved by the power of this silent rejection that I vowed to study it someday.

Of course, social psychologists knew even then that the desire to belong influences many behaviors. People obey, conform, cooperate, engage in groupthink and may even become reluctant to help others -- all to remain part of the gang. But despite a few isolated studies that examined the effects of exclusion, no one was seriously invested in studying ostracism as a subject. Then, about 15 years ago, my colleagues and I began our experiments with ball-tossing games -- real ones at first, followed by Cyberball.

In Cyberball, participants toss a virtual ball or disk with what they believe are two other human players represented by animated characters on a computer screen. When the ball is thrown to the participant, represented on screen by an animated hand, he or she throws it back to one of the other players by clicking that player's cartoon icon. Some of the participants are "ostracized": they receive the ball once or twice at the beginning of the game -- but never again. The other participants -- the included ones -- get the ball one third of the time, as you would expect in a perfectly egalitarian game of toss.

In one of our early studies, published in 2000, I, along with students Christopher Cheung and Wilma Choi, asked 1,486 participants from 62 countries to play Cyberball online and then surveyed their psychological state using a standard questionnaire. We found that those who had been cyberostracized for just a few minutes reported unusually low levels of belonging to groups or society, diminished self-esteem, and a lack of meaning in, and control over, their lives. They were also sad and angry. In a separate study, when we asked people to recount real-life incidents in a diary for two weeks, people reported experiencing an average of one such event per day, suggesting that many, presumably insignificant daily occurrences trigger this type of reaction. Moreover, these everyday episodes also increased self-reported measures of sadness and anger and lowered self-esteem and feelings of belonging.

These studies revealed that even subtle, artificial or ostensibly unimportant exclusion can lead to strong emotional reactions. A strong reaction makes sense when your spouse's family or close circle of friends

rejects or shuns you, because these people are important to you. It is more surprising that important instances of being barred are not necessary for intense feelings of rejection to emerge. We can feel awful even after people we have never met simply look the other way.

This reaction serves a function: it warns us that something is wrong, that there exists a serious threat to our social and psychological well-being. Psychologists Roy Baumeister of Florida State University and Mark Leary of Duke University had argued in a 1995 article that belonging to a group was a need -- not a desire or preference -- and, when thwarted, leads to psychological and physical illness. Meanwhile other researchers have hypothesized that belonging, self-esteem, a sense of control over your life and a belief that existence is meaningful constitute four fundamental psychological needs that we must meet to function as social individuals.

I quickly realized that ostracism uniquely threatens all these needs. Even in a verbal or physical altercation, individuals are still connected. Total exclusion, however, severs all bonds. Social rejection also deals a uniquely harsh blow to self-esteem, because it implies wrongdoing. Worse, the imposed silence forces us to ruminate, generating self-deprecating thoughts in our search for an explanation. The forced isolation also makes us feel helpless: you can fight back, but no one will respond. Finally, ostracism makes our very existence feel less meaningful because this type of rejection makes us feel invisible and unimportant.

The magnitude of the emotional impact of ostracism even makes evolutionary sense. After all, social exclusion interferes not only with reproductive success but also with survival. People who do not belong are not included in collaborations necessary to obtain and share food and also lack protection against enemies.

[Warning Sign](#)

In fact, the emotional fallout is so poignant that the brain registers it as physical pain. In a 2003 study we asked 13 undergraduates to play Cyberball while lying inside a MRI machine. The students thought they were playing with other participants inside other scanners, but in reality their playmates were automated computer characters. As soon as students began to feel ostracized, the scanners registered a flurry of activity in the dorsal anterior cingulate cortex -- a brain region associated with the emotional aspects of physical pain [see "When Pain Lingers," by Frank Porreca and Theodore Price; *Scientific American Mind*, September/October 2009]. Participants who were included in their games of Cyberball showed no such increased activity in this pain region.

Accordingly, painkillers can reduce the sting of social separation just as they do physical pain. In a 2010 study University of Kentucky psychologist C. Nathan DeWall and his colleagues asked 25 college students to take two extra-strength acetaminophen (Tylenol) or an identical-looking placebo pill twice a day for three weeks. Then the students came to the lab to play Cyberball inside a MRI machine. The ostracized players who had taken acetaminophen showed significantly less activity in the dorsal anterior cingulate cortex (as well as other brain regions associated with emotional responses) than did ostracized players who took placebo pills. In a parallel experiment, the researchers also found that twice-daily doses of acetaminophen over three weeks reduced daily reports of distress and hurt feelings from social rejection in 62 students, compared with the effects of a placebo. Together the findings suggest that social rejection and physical injury are not such different experiences and share underlying neural pathways.

This pain equally affects people of all personality types, no matter how "tough" they seem to be. You might expect, for example, that people who have a lot of social anxiety, who lack self-esteem, or who are introverted, lonely or at risk for depression would suffer greater pain from ostracism. But when we ask Cyberball participants to fill out personality inventories measuring such traits, we find that individual differences have little influence on the intensity of the pain from ostracism. For instance, in a 2006 study University of Sydney psychologist Lisa Zadro and her colleagues found that socially anxious individuals

endured no more initial distress from Cyberball ostracism than did those who scored low on social anxiety.

The power of this pain also transcends circumstance and reason. Convincing Cyberball players that a computer rather than a person is excluding them fails to relieve their pain. Being ostracized by people you despise -- University of Sydney psychologist Karen Gonsalkorale and I tested reactions to rejection by the Ku Klux Klan -- causes as much hurt as being excluded by like-minded people. Even when we, as researchers, provide incentives for being excluded, people still

feel upset when they are left out: as psychologist Ilja van Beest, then at Leiden University in the Netherlands, and I reported in 2006, people feel bad about not getting the ball even when we tell them they will lose money when they do. And if we tweak the game so participants throw a bomb instead of a ball and tell players that the bomb may explode at any time, "killing" everyone, people still feel excluded and experience pain when the bomb is not thrown to them. This reaction is like feeling bad when you are not invited to play Russian roulette.

[Coping with Exclusion](#)

Yet the pain is functional. It leads to learning that enhances survival by prompting us to reflect on the situation, determine its meaning and benefit from any mistakes we might have made. Sometimes we are ostracized for a good reason, and the sooner we realize we are behaving inappropriately, the sooner we can correct our behavior. If an individual is left out for slacking off by colleagues at work, for instance, the experience can motivate him or her to be more productive. And the mere fear of being shunned may motivate us to behave, on a daily basis, in a socially appropriate manner.

Most of us respond to ostracism in real life by slinking away or escaping from the oppressive clique. But an individual may fight back if he or she is, or feels, stuck in a social situation or is given the opportunity to do so. In a 2010 study my graduate student Eric Wesselmann and I asked each of 48 undergraduates to meet with a small group of people whom we collected, and later asked each of them whom they would like to work with on a shared project. We told some of the students that everyone in their group had picked him or her as a partner and others that no one had selected him or her. Then we told all the participants that because of extenuating circumstances they would be paired with a new student who showed up late for a different experiment.

We then told each pair to complete a food preparation task in which the true participant cooked for the tardy student. Although participants knew that their partner strongly disliked spicy food, those who were told no one wanted to work with them doused the food with a lot (14.35 grams, on average) of hot sauce, compared with just a little (1.75 grams) in the food from those who thought they were popular. In other studies, ostracized subjects have lashed out by giving perpetrators a negative evaluation for a job or blasting them with noise at the end of a computer game.

Ostracized people may react with hostility because they feel a need to regain a sense of control or, in cases of overt aggression, because they want to be noticed after being made to feel invisible. They act in this manner even though their verbal or physical abuse

may diminish the chances of being included, at least in that particular group. In real life, overt aggression may come more easily to some people than others, depending on personality factors such as narcissism and extroversion. But almost all people may feel compelled to act out against those who excluded them when there is a good opportunity to do so. In extreme cases, ostracized humans may resort to aggressive or violent acts when they have lost hope of being included in any socially acceptable group. Thus, feelings of ostracism may motivate perpetrators of school shootings and members of extremist organizations such as cults or terrorist cells.

But for most people, ostracism usually engenders a concerted effort to be included again, though not necessarily by the group that shunned us. We do this by agreeing with, mimicking, obeying or cooperating with others. In our 2000 study, for example, Cheung and Choi asked participants to perform a perceptual task in which they had to memorize a simple shape such as a triangle and correctly identify the shape within a more complex figure. Before they made their decision, we flashed the supposed answers of other participants on the screen. Those who had been previously ostracized in Cyberball were more likely than included players to give the same answers as the majority of participants, even though the majority was always wrong. Those who had been excluded wanted to fit in, even if that meant ignoring their own better judgment.

Although personality seems to have no influence on our immediate reactions to ostracism, character traits do affect how quickly we recover from it and how we cope with the experience. Psychologist Jim Wirth of the University of North Florida, along with Katie Poznanski, a Student in my laboratory, and I have found that people who are socially anxious, tend to ruminate or are prone to depression take longer to recover from ostracism than other people do. In their 2006 study Zadro and her colleagues found that socially anxious participants still had not fully recovered from Cyberball ostracism 45 minutes after the game, whereas the less anxious participants had already dealt effectively with their distress.

[Pain Relief](#)

To avoid acting aggressively in response to ostracism and further degrading your social status, try to escape the scene and thus remove yourself from the chance to be belligerent. Then, distract yourself to cope with the sting. Instead of wallowing in involuntary memories, relentless hypotheticals and self-blame, derail that dark train of reasoning and replace it with thoughts of sports, sex or even the weather. You can also speed healing by inflating your sense of self. Remind yourself of your strengths by telling yourself, for instance, "I am a good father, a good tennis player and a good friend." Such an internal dialogue helps to counter ostracism's threat to your self-esteem.

And instead of becoming belligerent, gain that sense of control by being decisive. If you need to choose a restaurant or movie for an outing with a friend, make a suggestion rather than letting the friend decide. You can even create illusions of control when you have none: if you are flipping a coin, call heads or tails before the other person does. That way, you get what you want, even if it does not matter for the chances of winning the bet. Creating such illusions is actually more empowering than lashing out is. On the other hand, attributing ostracism to factors such as prejudice that are beyond your control works against you, prolonging recovery from the experience, as psychologists Stephanie Goodwin of Purdue University, Adrienne Carter-Sowell, now at Texas A&M University, and I found in a recent study of people playing Cyberball with avatars of different races.

And although being accepted into the group that ostracized you is often difficult, other groups will embrace you if you are especially cooperative, hard-working and agreeable. Rekindling ties to family members or old friends also helps you regain a sense of belonging. When the Frisbee players shunned me in the park that day, I retreated, thereby, avoiding a confrontation. Then I tried, perhaps subconsciously, to bolster my social and emotional ties -- to my dog. More than usual, I petted and played with her. I had a strong urge to be affectionate toward her so she would show, her happiness to be with me.

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Even brief episodes of ostracism involving strangers or people we dislike can lead to strong emotional reactions.

Even in a verbal or physical altercation, individuals are still connected. Total exclusion, however, severs all bonds.

Feelings of ostracism may motivate perpetrators of school shootings and members of extremist organizations.

FAST FACTS The Agony of Ostracism

1. >> Even brief episodes of ostracism involving strangers or people we dislike activate the brain's pain centers, incite sadness and anger, increase stress, lower self-esteem and rob us of a sense of control.
2. >> We all feel the pain of ostracism about equally, no matter how tough or sensitive we are. Personality traits do, however, influence how well we cope.
3. >> Detecting ostracism quickly increases the likelihood that an individual can respond in such a way as to stay in a group and, literally or figuratively, survive the ordeal.

(Further Reading)

- The Social Outcast: Ostracism, Social Exclusion, Rejection, and Bullying. Edited by K. D. Williams, J. P. Forgas and W. von Hippel. Psychology Press, 2005.
- The KKK Won't Let Me Play: Ostracism Even by a Despised Outgroup Hurts. Karen Gonsalkorale and Kipling D. Williams in Journal of Social Psychology, Vol. 37, pages 1176-1185; 2007.
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- Acetaminophen Reduces Social Pain: Behavioral and Neural Evidence. C. N. DeWall et al. in Psychological Science, Vol. 21, No. 7, pages 931-937, 2010.

Like all social animals, ring-tailed lemurs will ostracize a member of their group if the animal becomes a burden. A lonesome lemur usually does not fare well.

Social exclusion crushes self-esteem, because it suggests that you did something wrong. You feel powerless: whatever you do, you will be met with silence. You are invisible, irrelevant and, studies show, in pain.

Being ignored and left out activates the dorsal anterior cingulate cortex, a region linked with the emotional aspects of physical agony, and the insula, an area instrumental in judging pain severity. Taking acetaminophen squelches both these neural responses to ostracism.

People who feel totally ostracized from society may resort to violence if they have lost hope of rejoining any socially acceptable group.

People who are socially anxious do not feel more initial pain from being ostracized than anyone else does. But they take longer to recover from the experience.

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By Kipling D. Williams, Professor of psychological sciences, Purdue University

### **Just a Game?**

Seemingly trivial instances of ostracism provoke outsized emotional reactions. My Purdue University colleagues and I asked people to play a game of computer catch with two avatars, who would, in some cases, refuse to throw them the ball. While they played the game, the participants rated their mood on a dial, moment by moment. Most people who were excluded tried to laugh off the rejection at first but soon grew angry and, finally, despondent. One young man (right) first smirked when he failed to receive the ball, but after realizing that he was unlikely to get it again, he flipped off the computer screen. Ultimately he looked resigned to being left out. -- K. D. W.