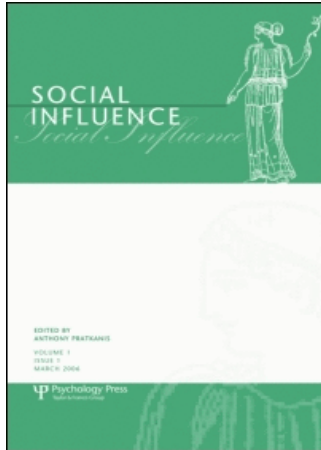


This article was downloaded by:[informa internal users]  
On: 4 January 2008  
Access Details: [subscription number 755239602]  
Publisher: Psychology Press  
Informa Ltd Registered in England and Wales Registered Number: 1072954  
Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## Social Influence

Publication details, including instructions for authors and subscription information:  
<http://www.informaworld.com/smpp/title~content=t716100705>

### How do you teach the power of ostracism? Evaluating the train ride demonstration

Lisa Zadro <sup>a</sup>; Kipling D. Williams <sup>b</sup>

<sup>a</sup> University of Sydney, Australia

<sup>b</sup> Purdue University, IN

Online Publication Date: 01 March 2006

To cite this Article: Zadro, Lisa and Williams, Kipling D. (2006) 'How do you teach the power of ostracism? Evaluating the train ride demonstration', *Social Influence*, 1:1, 81 - 104

To link to this article: DOI: 10.1080/15534510500400669

URL: <http://dx.doi.org/10.1080/15534510500400669>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article maybe used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

## Teaching Notes

### How do you teach the power of ostracism? Evaluating the train ride demonstration

**Lisa Zadro**

*University of Sydney, Australia*

**Kipling D. Williams**

*Purdue University, IN, USA*

Research and current events have illustrated the importance of teaching students about the consequences of being ostracised—excluded and ignored—by others. But how can the importance of ostracism be conveyed in a meaningful and engaging fashion? We designed a role-play train ride demonstration (the “O” train) to teach high-school and university students how it feels to be ostracised and to ostracise others. Students are assigned the roles of sources or targets of ostracism during a simulated train ride. Targets are initially included in spirited discussion, then ostracised by the sources for the remaining 4 minutes. A survey of students and teachers indicated that the train ride provides genuine insights into the power of ostracism above other teaching methods.

On 20 April 1999, two students from Columbine High School (USA) opened fire on their teachers and peers, killing 13, injuring many others, and leaving the world to wonder about the motive for this unspeakable act. Afterwards, it was revealed that the students had planned the shooting as a form of retaliation for years of being ostracised by their peers (see Leary, Kowalski, Smith, & Phillips, 2003).

---

Address correspondence to: Lisa Zadro, School of Psychology, The University of Sydney, NSW 2006, Australia. Email: [lisaz@psych.usyd.edu.au](mailto:lisaz@psych.usyd.edu.au)

To conduct the evaluation of the train ride for purposes of reporting results in a publication, we submitted an application to, and received permission from, Macquarie University's Institutional Review Board.

We would like to thank Tim Bates, Trevor Case, Sue Ferguson, Joe Forgas and Cassie Govan, for their assistance in collecting data and evaluations.

Ostracism—being ignored and excluded—is a ubiquitous phenomenon that has been used throughout history by social species and by humans across age groups and cultures (for review see Gruter & Masters, 1986; Williams, 2001). Acts of ostracism can range from the deliberate (e.g., giving the silent treatment when our partner has done something wrong) and highly consequential (e.g., “Ostracized Forecaster Predicted Tsunami: Forecaster, once ostracized for tsunami warnings, now lionized for his foresight,” ABC News, 13 January 2005), to the subtle or even acceptable (e.g., not speaking to the person sitting next to us in the train). The prevalence of ostracism is such that we will either be a victim (i.e., a target) or a perpetrator (i.e., a source) of some form of ostracism even in our most important relationships (Faulkner, Williams, Sherman, & Williams, 1997).

But what are the consequences of being ostracised? Research conducted by Williams and his colleagues has demonstrated that even 5 minutes of ostracism adversely affects four primary human needs: belonging, control, self-esteem, and meaningful existence (Williams & Zadro, 2001). Being ostracised then compels targets to cognitively, emotionally, and/or behaviourally act to fortify these threatened needs. Research suggests that when targets of ostracism try to fortify belonging or self-esteem, they become more socially responsive (e.g., Pickett, Gardner, & Knowles, 2004) and behave in a more socially acceptable manner (Ouwkerk, Kerr, Gallucci, & van Lange, 2005; Williams & Sommer, 1997). However, other research indicates a pattern eerily similar to the events of Columbine; targets of ostracism may become aggressive towards others (Twenge, Baumeister, Tice, & Stucke, 2001), possibly to fortify a sense of control and meaningful existence (Warburton & Williams, 2004).

The aversive effects of ostracism are not only confined to our thoughts and behaviours—Eisenberger, Lieberman, and Williams (2003) found that ostracism also leads to neurological activity that has traditionally been associated with physical pain. Moreover Williams and Fitness (2004) report that memories of ostracism can be easily relived and re-experienced as being painful; as painful as chronic back pain and childbirth. Being ostracised has also been linked to maladaptive cardiovascular responses, such as elevated blood pressure (Stroud, Tanofsky-Kraff, Wilfley, & Salovey, 2000; Zadro, 2004).

In view of the aversive psychological and physiological effects of ostracism, it is disturbing to note that one area where ostracism is particularly prevalent is the schoolyard. There are documented cases of children and adolescents using sophisticated exclusion tactics on other children (Sheldon, 1996; Cairns, Cairns, Neckerman, & Ferguson, 1989), and on bullying peers as a disciplinary technique (Barner-Barry, 1986).

Yet despite the prevalence of ostracism in the schoolyard, ignoring and excluding others is often regarded as a benign form of behaviour, certainly in comparison to other forms of conflict that are penalised, such as bullying.

Although educational institutions implement strategies to stop physical and verbal abuse among peers, there are few initiatives to teach students about the potential consequences of ostracism—even though these consequences may be just as deleterious as those of other forms of conflict. Additionally, ostracism has been a topic that has recently been added in introductory and social psychology textbooks (e.g., Myers, 2005), so from the standpoint of effective teaching and communication, we ask how best to present this research, so that students will have a deeper appreciation of ostracism's consequences.

While pilot testing various laboratory methods of inducing ostracism, we noticed that we too experienced the aversive effects of being ignored and excluded, even when we were role-playing (see also Williams, Bernieri, Faulkner, Grahe, & Gada-Jain, 2000). Thus, we created a role-play demonstration—the “O” train (where “O” stands for ostracism; Zadro, Williams, & Richardson, 2005)—that could be used as a simple classroom demonstration of the effects of being both a target and a source of ostracism. In this demonstration, students play the role of either a target or source of ostracism during a 5-minute simulated train ride. During the ride, the sources systematically ignore and exclude the target after a one-minute discussion.

We have used this demonstration successfully with high-school and university students, with all students reporting that the demonstration helped them to better understand the consequences of ostracism. Recently, the teaching manual that accompanied the Myers (2001) psychology textbook (Bolt, 2001) recommended the “O” train as a demonstration to teach students about the power of ostracism. Thus, although we had received positive feedback from students and from educators about the train ride, we believed it important (a) to thoroughly explain the materials and procedure to conduct the demonstration; and (b) to provide further evaluation of the “O” train demonstration by comparing student and teacher perceptions of effectiveness of this demonstration in comparison to other teaching methods (i.e., discussions, lectures, and assignments) in teaching students about ostracism.

### BACKGROUND OF THE “O TRAIN” DEMONSTRATION

Although the “O” train was initially conceived as a teaching tool, it has also been used experimentally. Whereas traditional ostracism paradigms typically examined the ostracism experience from the perspective of targets, the “O” train had the distinct advantage of allowing the ostracism experience to be examined simultaneously from the perspective of both targets and sources. In a series of studies, Zadro, Williams, and Richardson (2005) used the “O” train paradigm to examine the psychological and

somatic effects of ostracism on both targets and sources. These studies replicated previous research by demonstrating that ostracism differed substantially from social inclusion. Specifically, targets of ostracism reported that their primary needs were more adversely affected during ostracism compared to those who were included. However, the studies expanded on previous findings by demonstrating the effects of ostracism on sources—specifically, sources of ostracism reported that their primary needs were fortified (i.e., reported higher levels of belonging, control, and self-esteem) than sources of inclusion during the “O” train. Although it seems unusual that performing an act of social conflict would result in greater need fortification than social inclusion, the fortification of needs as a result of ostracising sheds some light on why individuals continue to use exclusionary tactics even at the expense of their personal relationship with the target.

The studies also examined whether ostracism differed from another form of social conflict—verbal dispute. Although Williams (1997, 2001) has often described ostracism as a unique form of interpersonal conflict, there had been no empirical studies that compared the effects of ostracism to other forms of conflict. Overall, the “O” train studies provided evidence that for both targets and sources, ostracism was particularly different from verbal dispute. Specifically, targets of ostracism typically reported that their primary needs were more adversely affected than did targets of argument, particularly their sense of meaningful existence. Sources of ostracism, however, typically reported higher levels of need fortification than sources of argument. Moreover, when targets and sources were compared within each form of social conflict, targets of ostracism reported that all four needs were adversely affected compared to sources of ostracism, whereas targets of argument reported that only *selected needs* were more adversely affected compared to sources of argument. Ultimately, the findings of the “O” train studies suggest that ostracism may be construed as a more effective form of interpersonal conflict (at least from the perspective of sources) than arguing, as it simultaneously fortifies the primary needs of sources while lowering the primary needs of targets.

Overall, the empirical studies confirmed that the “O” train paradigm was an effective ostracism paradigm—that is, targets of ostracism in the “O” train reported similar patterns of threatened primary needs as did targets in other established ostracism paradigms (e.g., the ball-tossing paradigm, Williams & Sommer, 1997; and *Cyberball*, Williams, Cheung, & Choi, 2000; Zadro, Williams, & Richardson, 2004). Moreover, it had the added advantage of also examining sources of ostracism. Thus, the effectiveness of the “O” train to induce ostracism and the fact that it was an engaging paradigm that could be conducted with large groups, led us to use the “O” train as a classroom demonstration.

## CONDUCTING THE “O” TRAIN DEMONSTRATION

### Pre-class instructor preparation activities

*Preparatory readings.* Until the last decade, there was very little systematic research conducted in the areas of ostracism. However, there are now several detailed chapters and papers that pertain to the effects of ostracism—instructors are strongly encouraged to read a selection of these references prior to conducting the “O” train demonstration in order to familiarise themselves with the area and general findings. A selection of relevant ostracism references is presented in Box 1.

#### Box 1: Selected ostracism references

##### *Chapters*

The chapters below provide a thorough overview of ostracism and social exclusion research, including a comprehensive review of the (limited) early research on this phenomenon. It is recommended that instructors read at least one of these chapters to give themselves an overview of the field.

1. Williams, K. D. (1997). Social ostracism. In R. Kowalski (Ed.), *Aversive interpersonal behaviours* (pp. 133–170). New York: Plenum Publishers.
2. Williams, K. D., & Zadro, L. (2001). Ostracism: On being ignored, excluded, and rejected. In M. R. Leary (Ed.), *Interpersonal rejection* (pp. 21–53). New York: Oxford University Press.
3. Williams, K. D., & Zadro, L. (2005). Ostracism: The indiscriminate early detection system. In K. D. Williams, J. P. Forgas, & W. von Hippel (Eds.), *The social outcast: Ostracism, social exclusion, rejection, and bullying* (pp. 19–34). New York: Psychology Press.

##### *Books*

1. Williams, K. D. (2001). *Ostracism: The power of silence*. New York: Guilford Press.

This book provides an in-depth investigation into the nature of ostracism, with reference to many of the qualitative and quantitative studies conducted by Williams and his colleagues.

2. Williams, K. D., Forgas, J. P., & von Hippel, W. (Eds.) (2005). *The social outcast: Ostracism, social exclusion, rejection, and bullying*. New York: Psychology Press.

This book provides a forum for ostracism, social exclusion, and rejection researchers to discuss their latest research.

##### *Articles*

1. Zadro, L., Williams, K. D., & Richardson, R. (2005). Riding the “O” train: Comparing the effects of ostracism and argument on targets and sources. *Group Processes and Interpersonal Relations*, 8, 125–143.

This article presents several studies that use the “O” train as an experimental paradigm to examine the effects of ostracism and verbal dispute on targets and sources.

2. Williams, K. D., Bernieri, F., Faulkner, S., Jain, N., & Grahe, J. (2000). The Scarlet Letter: An examination of social ostracism. *Journal of Personal and Interpersonal Loss*, 5, 19–63.

This paper provides an example of a week-long use of role-play to examine the effects of ostracism on targets and sources.

3. Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science*, 302, 290–292.

This is a highly cited yet short paper documenting the pain of short-term ostracism by examining fMRI scans of individuals being ostracised with Cyberball.

*Ostracism links to other domains.* The effects of ostracism are so powerful and intuitive that the fear of being ostracised is enough to alter social behaviour so that ostracism can be avoided. It is this fear that permeates many other domains of social influence. For instance, an important motive for conformity (Asch, 1956) is normative influence, which in essence is choosing to conform to others’ attitudes or perceptions even when it is clear that these attitudes or perceptions are incorrect, fearing that if one does not conform, derision, rejection, and ostracism will follow. Fear of disapproval and ultimate ostracism may also motivate irrational compliance, obedience to authority, bystander apathy, and any number of classic social psychological findings. In other domains, fear of ostracism is strategically used in advertising to promote purchasing of products that will decrease the chances of rejection and ostracism; in organisations people avoid whistleblowing and compromise their principles to avoid ostracism and advance their careers; in interpersonal communication dyadic ostracism (i.e., the silent treatment or cold shoulder) is used to punish and manipulate; and in the area of conflict resolution, threat of ostracism is often used to solve conflicts and to spur negotiations.

*Materials to be constructed prior to the demonstration.* The “O” train demonstration requires minimal materials, specifically: (a) scenarios for targets and sources, and (b) train ride tickets. Additionally, instructors may wish to give participants a post-demonstration questionnaire assessing the psychological and somatic effects of ostracism—this questionnaire is optional.

**(a) Scenarios:** The scenarios provide instructions to students about the nature of their role during the ride. Two scenarios are prepared—one for targets and one for sources. Targets are instructed to engage the two sources in a conversation for the duration of the ride, whereas sources are given instructions to include the target in the conversation for 1 minute (until a

whistle is blown by the instructor) then to ignore the target while speaking only to their fellow source for the rest of the ride. An example of a typical ostracism scenario for targets and sources is presented in Box 2.

Box 2: “O” train scenarios for targets and sources

*Scenario for sources of ostracism (to be used with university students)*

1. Please take a close look at your train ticket—It should have an “S” on it.
2. Now read the role-play instructions below.
3. When the instructor calls out “all aboard”, act out the scenario.

Imagine that you are taking the train home. It’s late in the afternoon and the train is packed, so there aren’t many seats left. Luckily, you have a seat—you’re sitting with a good friend but between you both is a classmate (the one who chose the “T”) whom you both know fairly well from your [psychology class], but you wouldn’t describe yourselves as close friends.

Actually, you are both a bit angry at T. Last week, you and your friend were ill and missed the [psychology class]. When you asked T if you and your friend could borrow T’s notes from the class, T said no, even though you promised to return them later that day.

As the train pulls away from the platform, T starts to talk to you and your friend about his/her day. But you and your friend begin to tell T off for not letting you and your friend borrow their notes. You argue strongly with T, and tell him/her how much you needed the notes, and how selfish they are for not letting you borrow them. Although the T person may come up with a reason for their behaviour, you are in no mood to accept it—there is no acceptable excuse for what they have done. Keep the argument going.

After the train pulls into the first station (when the whistle blows), you and your friend begin to talk over the top of T, talking about anything and everything (who so-and-so was going out with, any new movies you have seen, your favourite song on the radio ...). But whenever T tries to join in, you just ignore him/her and keep talking to each other. You don’t look at T, listen to T, or talk to T.

Okay, now you’re actually going to role-play this situation, just as it’s written above. When the instructor calls out “all aboard”, begin the conversation. A whistle will be blown to signal the train’s first stop (i.e., when you will begin to ignore the “T” person). Please remain in the train. Make sure you keep the conversation lively! And remember, after the first stop, do not speak to T at all!!!

*Scenario for targets of ostracism (to be used with high-school students)*

1. Please take a close look at your train ticket—It should have a “T” on it.  
You should be sitting in the middle seat.
2. Now read the role-play instructions below.
3. When the instructor calls out “all aboard”, act out the scenario.



Now, imagine that you are taking the train home. It's late in the afternoon and the train is packed, so there aren't many seats left. Luckily, you have a seat—you're sitting in between two classmates. You know each of them fairly well, but you also know that they are close friends.

Actually, you are a little bit anxious about sitting with them. You know that they are probably angry that you didn't invite them to your birthday party last weekend. You wanted to invite them, it's just that you were only allowed to invite 10 friends to your party and they were the 10<sup>th</sup> and 11<sup>th</sup> people on the list.

As the train pulls away from the platform, you start to talk to the classmates about your day. When the instructor blows the whistle, begin acting out your role.

*Scenario for sources of ostracism (to be used with high-school students)*

1. Please take a close look at your train ticket—It should have an “S” on it.
2. Now read the role-play instructions below.
3. When the instructor calls out “all aboard”, act out the scenario.

Now, imagine that you are taking the train home. It's late in the afternoon and the train is packed, so there aren't many seats left. Luckily, you have a seat—you're sitting with a good friend but between you both is a classmate (the one who chose the “T”) whom you both know fairly well, but you wouldn't describe yourselves as close friends. Actually, you are both angry at “T” because you found out today that you and your friend were not invited to T's birthday party last weekend.

As the train pulls away from the platform, the classmate sitting between (the one who chose the “T”) starts to talk to you and your friend about his/her day. But you and your friend begin to talk over the top of “T”, talking about anything and everything (who so-and-so is hanging out with, the latest movie you have seen, your favourite song on the radio at the moment ...). But whenever “T” tries to join in, you just ignore him/her and keep talking to each other. When the instructor blows the whistle, begin acting out your role.

*Scenario for sources of verbal dispute (to be used with university students)*

1. Please take a close look at your train ticket—it should have an “S” on it.
2. Now read the role-play instructions below.
3. When the instructor calls out “all aboard”, act out the scenario.

Imagine that you are taking the train home. It's late in the afternoon and the train is packed, so there aren't many seats left. Luckily, you have a seat—you're sitting with a good friend but between you both is a classmate (the one who has the “T” ticket) whom you both know fairly well from your [insert class], but you wouldn't describe yourselves as close friends.

Actually, you are both a bit angry at T. Last week, you and your friend were ill and missed the [psychology class]. When you asked T if you and your friend could borrow T's notes from the class, T said no, even though you promised to return them later that day.

As the train pulls away from the platform, T starts to talk to you and your friend about his/her day. But you and your friend begin to tell T off for not letting you and your friend borrow their notes. You argue strongly with T, and tell him/her how much you needed the notes, and how selfish they are for not letting you borrow them. Although the T person may come up with a reason for their behaviour, you are in no mood to accept it—there is no acceptable excuse for what they have done. Keep the argument going.

After the train pulls into the first station (when the whistle blows), continue your argument with T. Don't let up.

Okay, now you're actually going to role-play this situation, just as it's written above. When the instructor calls out "all aboard", begin the conversation. A whistle will be blown to signal the train's first stop. Please remain in the train. Make sure you keep the argument lively

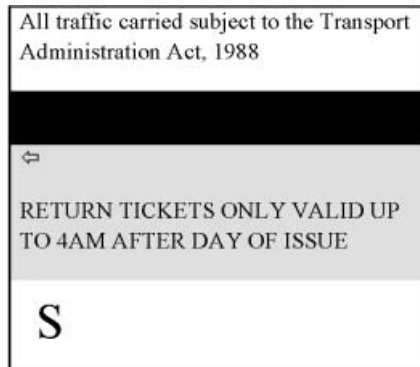
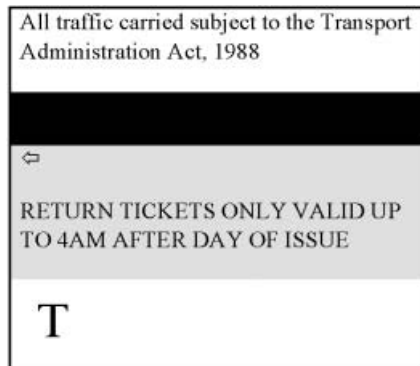
It is very important to provide sources with a good rationale for ostracising the target, otherwise we have found that sources do not feel justified in behaving in this manner. The rationale for targets' exclusion should be appropriate for the student population. Box 2 contains sample scenarios for both university students (where sources are told that they are angry at the target for not lending the sources their notes) and high-school students (where sources are told that they are angry at the target because the target did not invite the sources to their birthday party).

In addition to changing the rationale for ostracism, the scenarios may also be modified to demonstrate other aspects of ostracism. For instance, the "O" train has been used to compare ostracism to other forms of interpersonal conflict (i.e., verbal dispute; see Zadro et al., 2005). In the verbal dispute condition, the scenario for sources differs from that of sources of ostracism only in terms of the way that sources respond to the target after the first minute of the ride: sources in the ostracism condition ignore the target, whereas sources of verbal dispute argue with the target for the duration of the ride (see Box 2 for an example of a verbal dispute scenario for sources). All targets (regardless of the condition) receive the same scenario. To run the "O" train with a verbal dispute condition, allocate sources in alternate rows of the carriage with the ostracism or verbal dispute scenarios.

**(b) Train tickets:** To ensure that students sit in the correct seat, they are issued train tickets (see Box 3). These tickets are marked with a "T" or an "S" denoting each student's role in the train as a target or source respectively. The design of the tickets may be as simple as a piece of paper marked with a "T" or an "S". However we have typically entered into the spirit of the train ride scenario by creating a "university rail" ticket designed to resemble those used by the state rail system (in this instance, State Rail, Australia).

## Box 3: "O" train tickets for targets and sources

The "O" train ticket design may be as simple or ornate as you wish. The essential feature of the tickets is that they clearly denote the student's role during the ride (i.e., a "T" for target or an "S" for sources). The tickets below are modelled on those used by the State Rail Authority (Sydney). If several classes are to use the materials, it is recommended that the tickets be made of cardboard or else laminated in order to minimise wear and tear. Although we typically print the tickets in colour they are just as effective in black and white.



**(c) Optional post-demonstration questionnaire:** Instructors may wish to further illustrate the outcomes of ostracism to students by distributing a post-demonstration questionnaire. This questionnaire typically assesses the

effects of ostracism on various psychological (i.e., the four primary human needs, mood) and somatic (e.g., stress, arousal, anxiety) factors (see Zadro et al., 2005). An example of a typical post-experimental questionnaire is provided in Box 4. The data collected from this questionnaire can be used to promote class discussion about the effects of ostracism, or it can form the basis of an assignment (e.g., students can write about the findings in a lab report). It is not essential to give students a post-demonstration questionnaire—it merely provides another element in the post-demonstration class discussion.

Box 4: Example of an optional post-demonstration questionnaire.

<i>Question: During the train ride...</i>	<i>Not at all</i>			<i>Very much</i>	
I felt disconnected. (B-)	1	2	3	4	5
I felt rejected. (B-)	1	2	3	4	5
I felt like an outsider. (B-)	1	2	3	4	5
I felt good about myself. (SE)	1	2	3	4	5
My self-esteem was high. (SE)	1	2	3	4	5
I felt liked. (SE)	1	2	3	4	5
I felt invisible. (ME-)	1	2	3	4	5
I felt meaningless. (ME-)	1	2	3	4	5
I felt non-existent. (ME-)	1	2	3	4	5
I felt powerful. (C)	1	2	3	4	5
I felt I had control over the course of the interaction. (C)	1	2	3	4	5
I felt superior. (C)	1	2	3	4	5
<i>My mood was....</i>					
...good	1	2	3	4	5
...bad	1	2	3	4	5
...happy	1	2	3	4	5
...sad	1	2	3	4	5
...tense	1	2	3	4	5
...stressed	1	2	3	4	5
...aroused	1	2	3	4	5
...relaxed	1	2	3	4	5

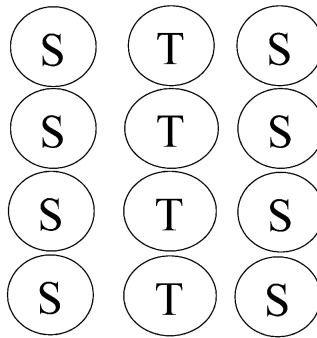
This questionnaire examines the effect of the “O” train demonstration on the four primary needs, mood, and somatic symptoms such as stress and arousal. There are three items for each primary need (belonging = B; self-esteem = SE; meaningful existence = ME; and control = C). The “-” sign denotes items that need to be reverse scored. Each need can be assessed separately (e.g., targets’ levels of belonging can be compared to those of sources) or a total need score can be calculated.

## In-class instructions

*Creating the “O” train.* In order to conduct the demonstration, the instructor is required to assemble a makeshift train carriage in the classroom (preferably prior to the class). The carriage consists of several rows of chairs with three seats per row (the number of rows depends on the number of students; see Box 5). Creating the carriage typically takes about 5 minutes (depending on the number of rows). During the demonstration, targets are seated in the second centre seat of each row with sources on either side.

### Box 5: “O” train seating configuration

Below is a schematic diagram of the seating arrangements for the “O” train demonstration (T = target, S = source). Note that there are three seats per row with the target seated in the centre seat. The number of rows will depend on the number of students in the class.



Below is a simulation of the “O” train carriage configuration:



[Photo appears in Zadro et al., 2005. Reprinted with permission.]

Although constructing the carriage is sufficient for the demonstration, instructors are encouraged to add to the authenticity of the train ride scenario by using appropriate props. For instance, we usually hang up signs that are typically found in train carriages (e.g., “Don’t put your feet on the seats”, “No littering”, or a map of the train routes and stations). We have also played a tape recording of “train sounds” (recorded during an actual train ride) during the demonstration, and often flick the light switch on and off periodically to simulate the experience of going through a tunnel. These additions are not essential to conduct the “O” train, but do add to the students’ role-play experience.

*Procedure for conducting the “O” train.* It is best that students are not informed of the purpose or probable outcomes of the demonstration so that the events during the ride are as spontaneous as possible. Thus instructors should use a cover story to introduce the “O” train demonstration. In the past, we have typically informed university students that they would be participating in a role-play demonstration but kept them naïve as to the aim of the role-play. After giving a brief introduction, the instructor hands out the train tickets and has the students take a seat in the carriage (i.e., the targets seated in the centre of the row, the sources on either side). Once seated, the instructor hands out the scenarios, allowing time for the students to read and understand the instructions. After answering any questions, the instructor blows a whistle to begin the ride. After 1 minute, the instructor blows the whistle again, signalling sources to begin the ostracism. At the end of 5 minutes, the instructor again blows the whistle, signalling the end of the ride. The students can remain in the train carriage during the debrief and subsequent discussion about the nature of ostracism. A procedural script for the demonstration is presented in Box 6.

Box 6: Procedural script for the “O” train demonstration.

*Instructor:* Social psychologists use a variety of methods to investigate social behaviour. Some researchers use quantitative methods, such as experimental paradigms [*provide an example from the lectures*]. Others use more qualitative methods such as questionnaires [*provide an example from lectures*]. Another method that may be used is role-play. Unlike acting, role-play involves experiencing a problem or situation that is governed by its own constraints in order to further understand the situation. One of the most influential social psychology studies ever conducted—the Stanford Prison experiment—is an example of how role-play can be used to study a complex social problem.

Today, you will all be taking part in a role-play game—you will all be playing the role of train commuters going home from university/school. This [*pointing to the arranged seats*] is a train carriage. To board the train, you will need a

ticket [*the instructor then hands out the tickets to the students*]. Take a look at your ticket. If your ticket has a “T” on it, then take a seat in the middle of each row. If your ticket has an “S” on it, take a seat on either side of the “T” person. Now, let’s board the train!”

*The students should then board the train, the instructor ensuring that everyone is seated in the correct positions.*

Now, to help you play the role of a train commuter, I will be giving you a scenario. This scenario will give you instructions on how you are to behave during the ride. Make sure that you read the scenario carefully, and do not show it to the other people in your row.

*The instructor should then give out the scenarios and allow the students 3 minutes to read the instructions. Ensure that they do not speak during this time. At the end of the 3 minutes, ask the students if they have read and understood the instructions. If there are no questions, the demonstration is ready to begin.*

If there are no questions, we’re ready to begin. I’ll blow the whistle after 1 minute. Remember, to get the very most out of this demonstration, it is necessary to throw yourself into the role. Make sure you keep the conversation lively. Are we already? All aboard [*the instructor blows the whistle*].

*After 1 minute, the instructor blows the whistle again, signalling to sources that they are to begin ostracising the target. After another 4 minutes, the instructor blows the whistle for the final time, signalling that the ride is at an end.*

Having used many classroom demonstration activities over the years, we are struck by how highly engaging the train ride typically is for students. After the first minute, there is marked contrast in students’ nonverbal behaviours. Whereas sources eagerly and energetically play their role for the duration of the ride, targets of ostracism remain animated only for the first minute or so of ostracism as they try to assert their presence verbally (by raising their voice, or trying to join in the conversation), or nonverbally (leaning forward, trying to regain eye contact). However, after a few minutes have elapsed, targets of ostracism tend to retreat into the recesses of their chairs, slumped and defeated, their general demeanour lethargic.<sup>1</sup> In contrast to the negative consequences of being a target of ostracism, we typically observe that sources of ostracism energetically maintain their conversation with their co-source for the duration of the ride, talking and laughing over the target slumped between them.

Overall, this demonstration takes approximately 20 minutes, including preparation of the classroom (5 minutes), introductory comments (5 minutes),

<sup>1</sup> Although ostracism does result in immediate aversive effects of ostracism on targets, these tend to dissipate very quickly (Zadro, Boland, & Richardson, in press).

time allocated for instructors to hand out the tickets (2 minutes), and for students to read the scenarios (3 minutes), and the actual running of the ride (5 minutes). The remaining teaching time is used to stimulate class discussion about students' experiences during the "O" train and current research on ostracism.

*Post-demonstration discussion.* Being excluded, even during a role-play exercise, is not a particularly pleasant experience. Hence, it is necessary to reassure students that their actions, and those of the people in their row, were prompted solely by their predetermined roles. The instructor should acknowledge that some people in the train probably experienced a rougher ride than others—we often get students to "group hug" the people in their row (or at least pat each other on the back) to ensure that there are no hard feelings.

Instructors are encouraged to begin the post-demonstration discussion by asking students about their experiences during the "O" train, and how their thoughts, feelings, and actions during the demonstration were similar to/different from their real-world experiences of ostracism. There is usually a marked contrast between the experiences of targets and sources. Targets of ostracism typically report that their experience was unpleasant (e.g., "It made me feel invisible", Zadro, 2004, p. 183), whereas many sources of ostracism report that they enjoyed their "ride" (e.g., "I felt pretty darn good", Zadro, 2004, p. 183). During the debrief, students should be encouraged to discuss how it felt to be a target or source, and how it felt to observe the target or sources in their row. The "O" train allows sources to get a close-up glimpse of the effects of ostracism by witnessing the targets' lethargic nonverbal behaviour, and the subsequent discussion allows sources to note the effects of the ostracism on targets' primary needs. Similarly, targets are able to hear the different reactions of sources to ostracism (i.e., that some sources found it simple and fun whereas others found it difficult and aversive), to understand why people choose to ignore and exclude others.

After students have discussed their own experiences, the instructor may then wish to present students with information about the nature of ostracism and the research that has been conducted in this field (sample discussion questions and overheads about the nature of ostracism are included in Box 7).

Box 7: Post-demonstration materials: Discussion questions and ostracism overheads

*Possible discussion questions*

- How did the "T" passengers feel during the ride? What were they thinking?
- How did "S" passengers feel during the ride? What were they thinking?



- Was it difficult to play the “T” role? If so, what specifically was difficult?
- Was it difficult to play the “S” role? If so, what specifically was difficult?
- Did your experiences during the train ride remind you of any specific real-world experiences? (i.e., have you ever been excluded at school? At work? By friends? Loved ones? Or conversely, have you ever excluded others at school or work? Do you typically exclude friends or loved ones?)

*The nature of ostracism*

(see Williams, 1997, 2001; Williams & Zadro, 2001)

*Ostracism*: any behaviour where you are excluded or ignored by another individual or group (Williams, 1997)

T=Targets (those who are excluded and ignored)

S=Sources (those who exclude and ignore)

- *Ostracism goes by many names:*  
To shun, exile, send to Coventry, freeze out, silent treatment, cold shoulder, “Meidung”, wie Luft behandein (to look at as air), doodzwijgen (silence someone to death)
- *It is used by:*
  - Animals: birds, bees, primates
  - People across the lifespan
  - Across cultures
  - Institutions: e.g., educational (time-out), prisons (solitary confinement), church (excommunication)
- *It is widespread*  
In the US, 67% admitted using the silent treatment on a loved one, and 75% indicated that they had been a target of the silent treatment by a loved one (Faulkner, Williams, Sherman, & Williams, 1997).
- *Surprisingly, until the last decade, there was very little psychological investigation into the nature, causes, and consequences of ostracism*  
One reason for this is that many people believed that being ignored or excluded was fairly benign or even preferable to other forms of interpersonal conflict. This is evident in proverbs and sayings. For instance, “silence is golden”, “if you have nothing nice to say, say nothing at all”.
- *According to Williams (1997, 2001), ostracism is unique from other forms of interpersonal conflict because it adversely affects four primary/fundamental human needs:*
  1. Belongingness
  2. Control
  3. Self-esteem
  4. Meaningful existence

*Discussion questions about the “O” train experience*

(see Zadro, Williams, &amp; Richardson, 2005)

- *How did targets’ behaviour differ between the 1-minute inclusion phase and the remaining 4-minute ostracism phase?*

During the inclusion phase:

— targets typically play their role energetically

During the ostracism phase:

— in the first minute, they try assert themselves verbally and nonverbally;  
 — then they become defeated, slumping into their chairs;  
 — they often become lethargic, and are generally the last to leave the train

- *How did sources’ behaviour differ between the 1-minute inclusion phase and the remaining 4-minute ostracism phase?*

During the inclusion phase:

— sources typically play their role energetically

During the ostracism phase:

— in the first minute, they feel anxious and initially uncomfortable;  
 — then they become more accustomed to the role and begin to enjoy their level of control, and the sense of belonging they share with the other source

- *How do sources and targets of ostracism differ in relation to the fundamental needs and somatic responses?*

Fundamental needs

— Targets typically report that their sense of belonging, control, self-esteem, and meaningful existence is adversely affected  
 — Why? Because they are given little opportunity to participate in the conflict and thus have little opportunity to regain their primary needs  
 — Sources typically report that their sense of belonging and control is enhanced  
 — Why? Because they ARE in control of the ostracism episode (it will only stop when they say so and there is almost nothing the target can do to change the situation). Also, engaging in an act of exclusion enhances the bond between the two sources

Somatic responses

— Targets of ostracism tend to report lower levels of arousal and higher levels of stress than sources of ostracism

- *The train ride demonstration has shown that even when one is playing a role over a 5-minute period, ostracism is aversive. What are the long-term effects of being the target of ostracism?*

For targets, the effects of long-term ostracism are devastating

- Their primary needs are internalised (i.e., feelings of alienation, learned helplessness, low self-worth, suicidal ideation, and depression)
- They also experience aversive health-related effects indicative of suppressed immune functioning (e.g., high blood pressure, heart palpitations, recurring illnesses, chronic fatigue)

Here are some excerpts from letters and interviews with real-world targets (and sources) of long-term ostracism (see Williams & Zadro, 2001).

*"In high school, the other students thought me weird and never spoke to me. I tell you in all honesty that at one stage they refused to speak to me for 153 days, not one word at all ... That was a very low point for me in my life and on the 153rd day, I swallowed 29 Valium pills ..."*

*"I think one of the worst things in life would be to be deaf. I cannot bear silence ... I have to sleep with the radio on at night ..."*

*"... My second husband, who was an alcoholic used to physically abuse me, but the bruises and scars healed very quickly and I believe that mental cruelty is far more damaging than a black eye..."*

For sources, the effects of long-term ostracism are not as clear

- Some sources are sorry that they ostracise others (these are known as "penitent" sources)

*"I am not proud of giving this treatment, and often feel I have let myself down by doing it ..."*

- Other sources are proud that they ostracise others (these are known as "proud" sources)

*"I'm going to use the silent treatment till the day I die"*

- There are aversive consequences of being a source. For instance, they may experience loss of belongingness as they are no longer close to the target
- But they often experience a heightened sense of control

*"it made me more powerful ... I think to myself 'you've annoyed me and now you're going to pay because now I'm not going to speak to you for the whole week and you can suffer in silence'."*

- But they also lose control of the ostracism act itself

*"ostracism can be like a whirlpool, or quicksand if you, the user, don't extract yourself from it as soon as possible, it is likely to become impossible to terminate regardless of the emergence of any subsequent will to do so."*

## Follow-up activities outside class

There are a number of potential follow-up exercises/assignments that may be used to reinforce the demonstration. Some examples include:

- (a) Students could be asked to collect real-world examples of ostracism (e.g., in the media) during a 1-week period to present either in class or as a written assignment.
- (b) Students could be asked to complete a personal ostracism diary that details their own experiences as a target or source (see Williams, Wheeler, & Harvey, 2001 for an ostracism diary template).
- (c) Students could be instructed to write a report on the “O” train demonstration, making specific reference to the results of the post-demonstration questionnaire.

## EVALUATION OF THE “O” TRAIN DEMONSTRATION

Although we have received positive feedback about the “O” train from students and instructors, we decided to assess whether students preferred the “O” train as a teaching method to learn about the power of ostracism in comparison to other teaching tools (i.e., a lecture, an assignment, and a class discussion). We were also interested to see whether instructors (i.e., teaching assistants) perceived the “O” train to be the most effective means of teaching students about ostracism.

### Participants

As one part of an introductory psychology class tutorial, 304 first-year psychology students from Macquarie University participated in and evaluated the train ride demonstration. In addition, 10 first-year psychology teaching assistants who conducted the “O” train also evaluated the demonstration as a teaching tool.

### Procedure

Students took part in the “O” train exercise during a first-year psychology tutorial class. Afterwards, they also received three other ostracism teaching methods (in the same order): a class discussion about ostracism (i.e., the nature of ostracism, background research, and personal experiences), an ostracism lecture (discussing empirical research), and an assignment on the nature of ostracism, (asking students to write about a personal ostracism

experience).<sup>2</sup> After they had received all of the teaching tools, they were then asked to rate the effectiveness of each method in teaching them about: (a) how it felt to be a target of ostracism, (b) how it felt to be a source of ostracism, and (c) whether the methods gave them an insight into their own ostracism experiences (with loved ones or peers). Students were also asked to rate how much they liked participating in each of these methods as a way of learning about ostracism. We also asked 10 teachers who used this demonstration to rate the effectiveness of the four methods to provide students with (a) an understanding of how it felt to be a target, (b) an understanding of how it felt to be a source, and (c) an insight into their own experiences of ostracism. Teachers were also asked to rate the extent to which they liked using each of the methods as a means of teaching students about ostracism. The exact wording of the stimulus questions is presented in Tables 1 and 2.

### Results of the student evaluations

To assess the results of the student evaluations, paired-sample *t*-tests were conducted to compare each of the teaching methods on each of the dimensions.

Overall, the results indicated that students perceived the “O” train to be the most successful way of learning about the nature of ostracism. Students reported that “O” train provided them with better insights into being a target of ostracism than the other teaching methods, i.e., compared to a class discussion,  $t(302) = 15.9, p < .0005$ ; lecture,  $t(302) = 22.4, p < .0005$ ; or assignment,  $t(301) = 18.0, p < .0005$ . They also reported that the “O” train provided them with better insights into being a source of ostracism than the other teaching methods, i.e., compared to a class discussion,  $t(299) = 17.3, p < .0005$ ; lecture,  $t(300) = 23.4, p < .0005$ , or assignment,  $t(298) = 19.9, p < .0005$ .

Students also reported that the “O” train gave them more insight into their own everyday experiences of ostracism than the other teaching methods, i.e., compared to a class discussion,  $t(299) = 8.6, p < .0005$ ; lecture,  $t(298) = 15.1, p < .0005$ ; or assignment,  $t(299) = 11.7, p < .0005$ , and that they preferred the “O” train as a way of learning about ostracism, i.e., compared to a class discussion,  $t(299) = 8.0, p < .0005$ ; lecture,  $t(298) = 13.3, p < .0005$ ; or assignment,  $t(298) = 16.2, p < .0005$ . When the responses of

---

<sup>2</sup> Ideally, we would have assigned one teaching method per class (i.e., one class would have received only the “O” train, another class would have received only the ostracism lecture, etc.) and then compared the effectiveness of each method on an independent measure (e.g., an exam). However, because ostracism was an assessable component of the course, it would not have been ethical to allocate students to a less effective teaching method; hence students received all four methods.

targets and sources were compared, they differed on only one of the measures, specifically, targets reported that the train ride gave them a significantly greater understanding of how it felt to be a target of ostracism than did sources,  $F(1, 81) = 5.4, p = .023$ . The means for these results can be seen in Table 1.

## Results of the teacher evaluations

To assess the results of the teacher evaluations, paired-sample  $t$ -tests were conducted to compare each of the teaching methods on each of the dimensions.

Teachers also rated the “O” train as the best method for teaching students about ostracism. They reported that the “O” train provided students with a better insight into being a target of ostracism, i.e., compared to a class discussion,  $t(9) = 4.3, p = .002$ ; lecture,  $t(9) = 6.7, p < .0005$ ; or assignment,  $t(9) = 5.7, p < .0005$ , and a source of ostracism, i.e., compared to a class discussion,  $t(9) = 6.2, p < .0005$ ; lecture,  $t(9) = 6.7, p < .0005$ ; or assignment,  $t(9) = 5.5, p < .0005$ . Teachers also perceived that the “O” train provided students with more of an insight into their own experiences than the other teaching methods, i.e., compared to a class discussion,  $t(9) = 4.7, p = .001$ ; lecture,  $t(9) = 7.7, p < .0005$ ; or assignment,  $t(9) = 6.0, p < .0005$ . Finally,

**TABLE 1**

Means and standard deviations (in parentheses) of students' ( $n = 304$ ) evaluations of the four teaching methods (1 = not at all; 5 = very much so)

	<i>Teaching method</i>			
	<i>“O” train</i>	<i>Discussion</i>	<i>Lecture</i>	<i>Assignment</i>
Extent to which the teaching method gives you an understanding of how it feels to ignored and excluded (i.e., how it feels to be a target of ostracism)	4.2 <sub>d</sub> (.89)	3.0 <sub>c</sub> (.96)	2.4 <sub>a</sub> (.98)	2.7 <sub>b</sub> (1.1)
Extent to which the teaching method gives you an understanding of how it feels to ignore and exclude others (i.e., how it feels to be a source of ostracism)	4.2 <sub>d</sub> (.93)	2.9 <sub>c</sub> (.95)	2.3 <sub>a</sub> (.93)	2.5 <sub>b</sub> (1.1)
Extent to which the teaching method gives you an insight into your own experiences as a target or source of ostracism (e.g., with a loved one or peer).	3.8 <sub>d</sub> (1.1)	3.1 <sub>c</sub> (.97)	2.5 <sub>a</sub> (.98)	2.7 <sub>b</sub> (1.1)
How much would you like to participate in these activities as a way of learning about ostracism?	3.9 <sub>d</sub> (1.0)	3.3 <sub>c</sub> (.99)	2.6 <sub>b</sub> (1.1)	2.3 <sub>a</sub> (1.2)

Means across rows that do not share a common subscript are different from each other at  $p < .05$ .

TABLE 2

Means and standard deviations (in parentheses) of teachers' ( $n = 10$ ) evaluations of the four teaching methods (1 = not at all; 5 = very much so)

	<i>Teaching method</i>			
	<i>"O" train</i>	<i>Discussion</i>	<i>Lecture</i>	<i>Assignment</i>
Extent to which the teaching method gives students an understanding of how it feels to be ignored and excluded (i.e., how it feels to be a target of ostracism)	4.6 <sub>c</sub> (.52)	2.9 <sub>b</sub> (.88)	2.5 <sub>a</sub> (.71)	2.9 <sub>a,b</sub> (.74)
Extent to which the teaching method gives students an understanding of how it feels to ignore and exclude others (i.e., be a source of ostracism)	4.6 <sub>b</sub> (.52)	2.8 <sub>a</sub> (.79)	2.5 <sub>a</sub> (.85)	2.8 <sub>a</sub> (.63)
Extent to which the teaching method gives students an insight into their own experiences as a target or source of ostracism (e.g., with a loved one or a peer)	4.5 <sub>c</sub> (.53)	2.9 <sub>b</sub> (.88)	2.2 <sub>a</sub> (.79)	2.6 <sub>b</sub> (.97)
Rate how much you would like to use each of these activities to teach students about ostracism	4.5 <sub>c</sub> (.53)	3.4 <sub>b</sub> (1.2)	2.4 <sub>a</sub> (.70)	2.7 <sub>a,b</sub> (.48)

Means across rows that do not share a common subscript are different from each other at  $p < .05$ .

teachers also reported that they would rather use the "O" train as a means to teach students about ostracism than the other teaching methods, i.e., compared to a class discussion,  $t(9) = 2.9$ ,  $p = .017$ ; lecture,  $t(9) = 7.6$ ,  $p < .0005$ ; or assignment,  $t(9) = 9.0$ ,  $p < .0005$ . The means for these results can be seen in Table 2.

## DISCUSSION

The "O" train demonstration allows students to learn about the effects of ostracism in an engaging atmosphere. The students are actively involved as suggested by their nonverbal behaviours, self-reports, and (high!) noise levels during the ride. They are also extremely vocal in the subsequent discussion and are genuinely surprised that the 5-minute role-play game could yield such powerful experiences for targets and sources.

In view of the events of Columbine, the importance of showing students the potentially debilitating effects of ostracism on peers should not be underestimated. The "O" train experience allows high-school and university instructors to demonstrate the negative repercussions of ostracism firsthand in a classroom setting.

## REFERENCES

- ABC News (13 January 2005). *Ostracized forecaster predicted Tsunami: Forecaster, once ostracized for tsunami warnings, now lionized for his foresight.* (<http://abcnews.go.com/Technology/Tsunami/wireStory?id=408673>).
- Asch, S. E. (1956). Studies of independence and conformity: I. A minority of one against a unanimous majority. *Psychological Monographs: General and Applied*, 70(9, Whole No. 416).
- Barner-Barry, C. (1986). Rob: Children's tacit use of peer ostracism to control aggressive behaviour. *Ethology and Sociobiology*, 7, 281–293.
- Bolt, M. (2001). *Instructor's resources to accompany Myers' Psychology*. New York: Worth Publishers, Inc.
- Cairns, R. B., Cairns, B. D., Neckerman, H. J., & Ferguson, L. L. (1989). Growth and aggression: I. Childhood to early adolescence. *Developmental Psychology*, 25, 320–330.
- Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science*, 302, 290–292.
- Faulkner, S., Williams, K., Sherman, B., & Williams, E. (1997, May). *The "silent treatment:" Its incidence and impact.* Presented at the 69th Annual Midwestern Psychological Association, Chicago, IL.
- Gruter, M., & Masters, R. D. (1986). Ostracism as a social and biological phenomenon: An introduction. *Ethology and Sociobiology*, 7, 149–158.
- Myers, D. G. (2005). *Social psychology – 8th edition* (pp. 424–426). New York: McGraw-Hill.
- Leary, M. R., Kowalski, R. M., Smith, L., & Phillips, S. (2003). Teasing, rejection, and violence: Case studies of the school shootings. *Aggressive Behaviour*, 29, 202–214.
- Ouwerkerk, J. W., Kerr, N. L., Gallucci, M., & van Lange, P. A. M. (2005). Avoiding the social death penalty: Ostracism and cooperation in social dilemmas. In K. D. Williams, J. P. Forgas & W. von Hippel (Eds.), *The social outcast: Ostracism, social exclusion, rejection, and bullying*. New York: Psychology Press.
- Pickett, C. L., Gardner, W. L., & Knowles, M. (2004). Getting a cue: The need to belong and enhanced sensitivity to social cues. *Personality and Social Psychology Bulletin*, 30, 1095–1107.
- Sheldon, A. (1996). You can be the baby brother but you aren't born yet: Preschool girls' negotiation for power and access in pretend play. *Research on Language and Social Interaction*, 29, 57–80.
- Stroud, L. R., Tanofsky-Kraff, M., Wilfley, D. E., & Salovey, P. (2000). The Yale Interpersonal Stressor (YIPS): Affective, physiological, and behavioural responses to a novel interpersonal rejection paradigm. *Annals of Behavioural Medicine*, 22, 204–213.
- Twenge, J. M., Baumeister, R. F., Tice, D. M., & Stucke, T. S. (2001). If you can't join them, beat them: Effects of social exclusion on aggressive behaviour. *Journal of Personality and Social Psychology*, 81, 1058–1069.
- Warburton, W. A., & Williams, K. D. (2004). Ostracism: When competing motivations collide. In J. P. Forgas, K. D. Williams & S. M. Laham (Eds.), *Social motivation: Conscious and unconscious processes* (pp. 294–313). New York: Cambridge University Press.
- Williams, K. D. (1997). Social ostracism. In R. M. Kowalski (Ed.), *Aversive interpersonal behaviours* (pp. 133–170). New York: Plenum Press.
- Williams, K. D. (2001). *Ostracism: The power of silence*. New York: Guilford Press.
- 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., Cheung, C., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology*, 79, 748–762.



- Williams, K. D., & Fitness, J. (2004, October). *Social and physical pain: Similarities and differences*. Presented at the Society for Experimental Social Psychology, Ft. Worth, TX.
- Williams, K. D., & Sommer, K. L. (1997). Social ostracism by one's coworkers: Does rejection lead to loafing or compensation? *Personality and Social Psychology Bulletin*, *23*, 693–706.
- Williams, K. D., Wheeler, L., & Harvey, J. A. R. (2001). Inside the social mind of the ostraciser. In J. P. Forgas, K. Williams & L. Wheeler (Eds.), *The social mind: Cognitive and motivational aspects of interpersonal behaviour* (pp.294–320). New York: Cambridge University Press.
- Williams, K. D., & Zadro, L. (2001). Ostracism: On being ignored, excluded and rejected. In M. Leary (Ed.), *Interpersonal rejection* (pp.21–53). New York: Oxford Press.
- Zadro, L. (2004). *Ostracism: Empirical studies inspired by real-world experiences of silence and exclusion*. Unpublished doctoral manuscript, University of New South Wales.
- Zadro, L., Boland, C., & Richardson, R. (in press). How long does it last? The persistence of the effects of ostracism in the socially anxious. *Journal of Experimental Social Psychology*.
- Zadro, L., Williams, K. D., & Richardson, R. (2004). How low can you go? Ostracism by a computer is sufficient to lower self-reported levels of belonging, control, self-esteem, and meaningful existence. *Journal of Experimental Social Psychology*, *40*, 560–567.
- Zadro, L., Williams, K. D., & Richardson, R. (2005). Riding the “O” train: Comparing the effects of ostracism and argument on targets and sources. *Group Processes and Intergroup Relations*, *8*, 125–143.