

and the Counseling Center. (b) The subjects were playing against other subjects rather than against "the house." Thus, when an individual cheated, she was clearly not hurting the experimenter; rather, she was unjustly taking money from a fellow college student.

Perhaps a more compelling explanation involves compensation. The subjects in the LSE situation may, in effect, be saying "Well, I may not have done well on that personality test, but at least I'm going to see to it that I win some money." This explanation is quite different from the one that holds that it is easier to cheat because such behavior is consistent with feelings of LSE. Note, however, that the "compensation" explanation applies only to the subjects in the LSE condition. Thus, this alternative explanation would have been weakened if the subjects in the HSE condition had cheated less than those in the control condition. But as the reader will recall, although these data were in a direction favoring consistency theory, they were not statistically significant. Thus, until further research is performed on this problem, compensation remains a possible explanation.

A final piece of unclarity should be mentioned. We predicted that people in the LSE condition would *cheat* and people in the HSE condition would *not cheat* because we felt that such actions would reflect a consistency between self-esteem and behavior. But *cheating* is merely one of many ways in which a person's behavior could show consistency with LSE or HSE. For example, in the present situation a LSE subject could try to *lose*; being a loser might be considered as consistent with LSE. It should be noted that the experimenters took special pains to assure the subjects that they could not lose money. In this situation it seems reasonable to assume that being a loser simply means having bad luck—not being a bad person or even a poor person (financially). We selected cheating as our dependent variable because we felt that it is an unambiguously unethical piece of behavior. Although losing at cards is not pleasant, it does not seem bad, especially since a loss of money is not involved. The data indicate that our reasoning was correct—that if a sizable number of LSE subjects had sought to lose, our data would have failed to reach significance.

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20

Using Cognitive Dissonance to Encourage Water Conservation

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In a field experiment on water conservation, we aroused dissonance in patrons of the campus recreation facility by making them feel hypocritical about their showering habits. Using a 2×2 factorial design, we manipulated subjects' "mindfulness" that they had sometimes wasted water while showering, and then varied whether they made a "public commitment" urging other people to take shorter showers. The "hypocrisy" condition—in which subjects made the public commitment after being reminded of their past behavior—was expected to be dissonance-arousing, thereby motivating subjects to increase their efforts to conserve water. The results were consistent with this reasoning. Compared with controls, subjects in the hypocrisy condition took significantly shorter showers. Subjects who were merely reminded that they had wasted water, or who only made the public commitment, did not take shorter showers than control subjects. The findings have implications for using cognitive dissonance as means of changing behavior in applied settings, especially those in which people already support the desired goal, but their behavior is not consistent with those beliefs.

Policy makers frequently attempt to modify behavior in a community often by instituting information-based persuasive campaigns. These appear in various forms including broadcast announcements, newspaper advertisements, signs, mailings, and flyers. In recent years, drought has prompted administrators at the University of California at Santa Cruz (UCSC) to launch a major campaign of just this sort. Campus newspapers contained advertisements from the Water Conservation Office; flyers were posted on public bulletin boards and appeared in mailboxes. Specifically, the UCSC program encouraged people to think of water as a valuable resource and to adopt conservation-oriented behaviors, such as flushing toilets less

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often, stopping the flow whenever possible while brushing teeth or washing dishes, and taking shorter, more efficient showers.

The effectiveness of these types of persuasive messages and information campaigns is not certain. One experiment (Aronson and O'Leary, 1983) found that prominent signs asking people to take shorter showers produced mixed results. Indeed, if the message is too heavy-handed, it can even create a backlash. For example, although some subjects in the Aronson and O'Leary study reduced their water use, others showed their annoyance by sabotaging the signs and taking inordinately *long* showers. Moreover, even if people are initially persuaded by signs or flyers that conservation is worthwhile, there is controversy regarding the potency of such straightforward, and sometime "coercive," appeals. They can produce attitude change, but the effects are frequently short-lived (Aronson, 1980).

Similarly, even when messages praising the value of water conservation are successful in changing people's attitudes, there is no guarantee that new attitudes will translate into new behaviors. Social psychologists have long been aware that the link between attitudes and behavior is problematic (e.g., Wicker, 1969). Thus, simply persuading people that conservation is beneficial might not result in reduced consumption. For example, Bickman (1972) interviewed 500 people about their attitudes concerning responsibility for removing litter. Although 94% of the subjects expressed favorable attitudes toward removing litter, only 2% actually picked up litter that had been intentionally left outside of the experimental setting by the experimenter.

We reasoned that a more effective means of promoting water conservation on campus might involve dissonance-generated self-persuasion, rather than informational or coercive appeals to save water. The motivating influence of cognitive dissonance has been shown to promote changes in attitudes as well as behavior (Aronson, 1969, 1980; Brehm and Wicklund, 1976; Freedman, 1965). Dissonance-related techniques have been utilized successfully in a number of applied situations: for example, to improve weight loss (Axson and Cooper, 1981), reduce snake phobia (Cooper, 1980; Cooper and Axson, 1982), and as a component of programs designed to promote energy conservation (e.g., Gonzales, Aronson, and Costanzo, 1988). Moreover, Pallak and his colleagues have demonstrated that dissonance-related interventions can produce enduring behavior change. Longitudinal studies have shown that a public commitment manipulation can cause people to reduce their energy consumption for six months or more (Pallak, Cook, and Sullivan, 1980; Pallak and Cummings, 1976; Pallak, Sullivan, and Cook, 1976).

As formulated by Festinger (1957), dissonance theory proposes that when a person holds two cognitions that are psychologically inconsistent, the person will experience cognitive dissonance, an unpleasant drive state akin to hunger or thirst. Once dissonance is aroused, an individual is motivated to reduce it, primarily through attitudinal or behavioral changes designed to reestablish consistency. Soon after Festinger's initial conceptualization, Aronson (1960, 1968) proposed that dissonance theory makes its clearest predictions when expectancies about the self are involved—that is, when people have done something that violates their

self-concepts. Most of us share certain general beliefs about ourselves: for example, that we are good, moral, competent individuals. Therefore, choosing to engage in a behavior that is at odds with these important beliefs about the self should produce dissonance.

Given the central role of the self-concept in dissonance arousal, Aronson (1980) has argued that dissonance-related persuasion is likely to be much more effective than straightforward persuasive appeals. In a typical persuasion situation, such as those involving informational campaigns, people change their opinions because they have been convinced by an external source to do so. An unfortunate feature of this type of attitude change is that it is often impermanent. For example, if I change my attitude because I hear a persuasive argument supporting one stance, I am likely to change it again if I hear a better argument supporting another position. There is very little of myself invested in the attitude.

In contrast, dissonance-generated persuasion is highly involving because it entails a challenge to a person's self-concept. Dissonance would occur, for example, if I believed I was a moral person, and then found myself in the uncomfortable position of having done something I considered immoral. To reduce this dissonance, I would need to rethink, or "justify," my actions to make them more consistent with my self-concept—typically through changes in relevant attitudes or behaviors. This subtle form of self-persuasion is powerful because the individual's self-concept is directly engaged in the process of attitudinal or behavioral change (Aronson, 1980).

Perhaps the most dramatic demonstration of dissonance-related persuasion is evidenced in the counter-attitudinal advocacy paradigm (e.g., Cohen, 1962; Festinger and Carlsmith, 1959; Nel, Helmreich, and Aronson, 1969). In this procedure, subjects are induced, under conditions of high choice or low incentive, to persuade others to believe something that they themselves do not believe. These subjects subsequently come to believe their own rhetoric; that is, they reduce dissonance by persuading *themselves* that their counter-attitudinal statements were, in fact, a reflection of their true beliefs.

The counter-attitudinal advocacy paradigm, by definition, requires that experimenters induce people to defend a position that they were initially against. This requirement posed a problem for our effort to harness the power of the technique to promote water conservation. Conservation is an example of an "apple pie and motherhood" issue that everybody already believes in, even though not everyone practices. Recently, however, Aronson and his colleagues (see Aronson, 1992) have developed a modified version of the procedure so that it can be used in pro-attitudinal situations. The new technique involves creating feelings of hypocrisy. This is accomplished by inducing subjects to encourage other people to perform certain worthwhile behaviors. Subjects are then reminded that, on occasion, their own behavior has not been consistent with those goals. Essentially, subjects are confronted with the realization that they do not always practice what they preach. This realization is expected to generate dissonance because being a hypocrite would be inconsistent with most people's self-concepts as persons of integrity. As

a result, subjects should be motivated to reduce dissonance by behaving in a manner more consistent with their espoused attitudes.

In an experiment on AIDS prevention, Aronson, Fried, and Stone (1991) explored the dissonance-arousing properties of this new procedure. Using a 2×2 factorial design, they induced feelings of hypocrisy regarding condom use. All subjects wrote pro-attitudinal speeches advocating condom use during all sexual encounters. Then, half the subjects simply rehearsed the arguments of the speech. The rest videotaped their prepared speeches, which they believed were going to be shown to high school students as part of an AIDS prevention program. Before taping their speeches, however, half the subjects were also reminded of the occasions when they had failed to use condoms in the past. Thus, all subjects believed that condom use was important, and all had composed a speech arguing that point. However, only those who both made a videotape and were reminded that they had engaged in unsafe sexual behavior were expected to feel hypocritical. These subjects were expected to reduce dissonance by strengthening their intentions to use condoms in the future. The results from Aronson et al. (1991) were consistent with this reasoning. Compared with subjects in the other conditions, those who received the hypocrisy manipulation expressed significantly greater intentions to increase their use of condoms, relative to their past behavior.

The results of this experiment are provocative in suggesting that a "hypocrisy" manipulation can arouse dissonance. Moreover, a follow-up experiment was conducted (Stone, Aronson, Crain, Winslow, and Fried, 1992), using a behavioral measure rather than self-reported behavioral intentions. Specifically, in each of the above conditions, subjects were subsequently given an opportunity to purchase condoms at a huge discount. Fully 83% of the subjects in the hypocrisy condition purchased condoms; this was a significantly greater percentage than in each of the other three conditions.

Did subjects, in fact, increase their condom use as a result of the hypocrisy manipulation? Obviously, it is impossible to know for sure. After all, one cannot follow people into the bedroom to observe their condom-using behavior. However, one *can* follow people into the shower-room—at least at public physical education facilities. The present experiment explores the utility of the hypocrisy-induction procedure in a field setting, using water conservation as the target behavior. In a conceptual replication of Aronson et al. (1991), public commitment endorsing water conservation was crossed with feedback intended to make subjects aware that they had wasted water in the past. After acknowledging that they supported conservation efforts, half the subjects agreed to help persuade other people to conserve water. Additionally, half the subjects were reminded that they did not live up to their own standards, and had sometimes been wasteful. The condition in which subjects both committed publicly to encourage other people to conserve and were reminded that they had wasted water was designed to make subjects feel hypocritical. These subjects were expected to reduce dissonance by reducing their water use while showering.

METHOD

Overview of the Procedure

Female swimmers were recruited as they exited the pool area, on their way to the locker room. A female experimenter (Experimenter 1), posing as a member of a campus water conservation office, approached each potential subject and asked if she could spare a few moments to help with a water conservation project. Then, depending on the experimental condition, subjects either answered some questions, signed a flyer, or both. Subjects were thanked for their participation, and their interaction with the first experimenter was terminated. However, unbeknown to subjects, a second female experimenter (Experimenter 2) was waiting in the shower room where she unobtrusively timed the length of each subject's shower and noted whether subjects turned the water flow off while soaping up.

Experimental Design

Two factors were manipulated: subjects' "mindfulness" of their sometimes wasteful showering habits, and subjects' "commitment" to pro-conservation behaviors. This 2×2 factorial design yielded the following conditions: (1) mindful-plus-commitment (hypocrisy), (2) mindful-only, (3) commitment only, and (4) unmindful/no commitment (no-treatment control). Our primary dependent variable was actual water use, as reflected in the length of the subjects' showers. As a rougher measure of subjects' intentions to conserve water, we also noted whether subjects turned the shower off while applying soap, shampoo, or conditioner.

Subjects

Participants in the study were 80 female swimmers who used the shower after exercising in the campus pool. Females were selected for this study because we intended to gather data only in the women's locker room. We used swimmers because pretesting indicated that swimmers could most reliably be expected to shower and shampoo before leaving the recreational facilities. Although the majority of swimmers used shampoo and/or soap when showering (to remove chlorine from their hair and skin), those few who simply rinsed off under the shower were excluded from the study to reduce extraneous within-group variance. This exclusion was minimal and did not occur with differential frequency in any of the treatment conditions.

Experimental Setting

The particular configuration of the shower room is crucial to the design of this field study. The swimming pool and women's locker room are part of the same complex, with direct access to the showers available from poolside. The shower room is a large open room, approximately 15' wide by 25' long, without separate shower stalls or curtains. There are 13 showerheads, spaced along the walls of the shower room, and there are usually a number of people showering at any given time during operating hours. Typically, at least two or three other women were using the shower room at the same time as the subject and Experimenter 2. Frequently, there were more than five other women in the shower. These circumstances made it very easy to collect the dependent measures without attracting attention or arousing suspicion. Furthermore, it ensured that the presence of Experimenter 2 was unlikely to have detectable influence on the subject's behavior.

Procedure

While en route from the pool to the shower room, subjects were approached individually by Experimenter 1, who introduced herself as a representative of the campus water conservation office. After asking the subject if she had a few moments to spare, Experimenter 1 asked the subject whether she was on her way to the shower, and whether she was in favor of water conservation. If subjects answered "yes" to these questions, Experimenter 1 consulted a randomization chart and then introduced the experimental manipulations.

In the mindful-only treatment, she asked subjects to respond verbally to a "survey" consisting of a brief set of questions, such as: (1) When showering, do you ALWAYS turn off the water while soaping up or shampooing? (2) When you take showers, do you ALWAYS make them as short as possible, or do you sometimes linger longer than necessary? (3) In your view, about how long does it take an average person to shower and shampoo, without wasting any water? (4) About how long is your average shower at the field house? These questions were designed to remind subjects that they had sometimes wasted water while showering.

In the commitment-only treatment, the subject was simply asked to help out with campus conservation efforts by printing her name with a thick black marking pen on a flyer that read: "Please conserve water. Take shorter showers. Turn showers off while soaping up. IF I CAN DO IT, SO CAN YOU!" Experimenter 1 explained that the flyer would be attached to posters that were being created for distribution around campus, and that they were intended to encourage other members of the campus community to conserve water. While making this request, Experimenter 1 drew subjects' attention to the large, colorful "sample" poster on display nearby, and mentioned that another poster was already in place outside of the women's locker room.

In the hypocrisy condition (mindful-plus-commitment), subjects first responded to the brief "mindfulness" survey, then signed the "commitment" flyer as outlined above.

The fourth condition served as a no-treatment control. In essence, the behavior of the subjects in this condition reflects a baseline response to the interventions instituted by the university in an effort to save water. Because of persisting drought conditions in California, UCSC had been quite actively promoting water conservation. Advertisements in the campus newspapers and flyers posted on public bulletin boards urged members of the campus community to reduce their water use. Most pertinent to this study, the university had posted a very large sign inside the actual shower room. The sign read: "Take Shorter Showers. Turn the Water Off While Soaping Up."

Experimenters

Both experimenters were female students. The actions of the two experimenters were carefully coordinated. Experimenter 1 stood near a large doorway leading from the pool deck into the athletic facilities complex. From this vantage point, she was able to intercept all female swimmers who were leaving the pool to enter the locker room. Experimenter 2 sat sunbathing by the pool, near the back door to the woman's locker room. This was approximately 30 feet from the position of Experimenter 1. As Experimenter 1 began her interaction with the subject, Experimenter 2 watched, and made sure she could identify the subject later to collect the dependent measures.

As Experimenter 1 approached a potential subject, she asked the subject if she was on her way to the showers, and next, whether she could spare a few moments to participate in a water conservation project. If the subject answered yes to both, Experimenter 1 casually scratched her own knee before continuing the interaction. The knee scratch was a signal to Experimenter 2, who quickly entered the back door of the locker room, and began showering while waiting for the subject. This process enabled Experimenter 2 to remain unaware regarding which manipulation Experimenter 1 had delivered to the subject.

Experimenter 2 was already in the shower room, showering, when the subject entered. Several precautions were taken to guarantee that Experimenter 2 would not influence the subject's behavior. First, as noted above, the setting was a large shower room, and there were frequently a number of women showering. This reduced the possibility that the presence of Experimenter 2 had any noticeable effect on subjects. Additionally, since Experimenter 2 was often in the shower room for 10 to 15 minutes, she always brought shampoo, conditioner, a shaving razor, and a comb into the shower. These were used as necessary to make her showering appear as natural as possible. Finally, Experimenter 2 always left the water running during her shower. This was to avoid any possibility of influencing subjects to turn their own faucet on and off.

Dependent Measures

Experimenter 2 wore a waterproof sports watch with stopwatch capacity, which she unobtrusively activated as soon as the subject turned on the shower. She also noted whether the subject turned off the shower while applying soap or shampoo. To assess water use accurately, the watch was stopped when the subject turned off the shower and was reactivated if the subject turned it back on to continue her shower.

RESULTS

Manipulation Checks

All subjects answered "yes" to the first question in the survey "Are you in favor of water conservation?"—thus indicating that their attitudes on this issue were positive. In the two conditions in which mindfulness was manipulated, subjects' answers to the brief set of questions confirmed that they were aware of their sometimes wasteful showering habits. That is, all subjects replied that: (a) they did not always take the shortest possible showers; (b) they sometimes lingered longer than necessary in the shower; and (c) they did not always turn the shower off while soaping up or shampooing.

Shower Times

A two-way ANOVA was performed on subjects' shower times, measured in seconds (Table 20.1). No main effects for commitment or mindfulness were obtained, nor was the interaction of the two factors statistically significant, model $F(1, 76) = 1.48, p < .26$. However, a planned comparison of mean shower times revealed a significant difference between the hypocrisy group ($M = 220.5$ sec) and the control group ($M = 301.8$ sec), $F(1, 39) = 4.23, p < .05$. Means for the commitment-only ($M = 247.7$) and mindfulness-only ($M = 248.3$) groups did not differ from each other, nor did either differ from the control or hypocrisy groups.

TABLE 20.1
Mean shower times (in seconds)

Condition	Mean	SD
Mindful-only	248.3	146.07
Commitment-only	247.7	104.05
Mindful/committed (hypocrisy)	220.5	100.62
Unmindful/uncommitted (control)	301.8	142.32

Turning Off the Shower

We also compared how often subjects in each condition turned off the shower while shampooing or soaping up. An overall chi-square analysis yielded a marginally significant difference among all four groups on this dichotomous measure ($\chi^2 = 7.742, df = 3, p < .052$) (Table 20.2). Next, a comparison of the hypocrisy and control groups revealed a significant difference in the expected direction, with hypocrisy subjects turning off the shower more often than control subjects ($\chi^2 = 4.912, df = 1, p < .027$).

The frequencies in the hypocrisy condition did not, however, differ from those in the mindful-only and commitment-only conditions. Indeed, the data from these three conditions were identical, with 14 of 20 subjects in each group turning off the shower, compared to only 7 of 20 in the control group ($\chi^2 = 7.742, df = 1, p < .005$).

TABLE 20.2
Frequency of turning off the shower

Condition	Yes	No
Mindful-only	14	6
Commitment-only	14	6
Mindful/committed (hypocrisy)	14	6
Unmindful/uncommitted (control)	7	13

DISCUSSION

The data from this experiment are consistent with our reasoning that higher levels of dissonance would be aroused for subjects in the hypocrisy condition, leading them to make greater efforts to conserve water than subjects in other conditions. Specifically, it was only subjects in this condition who took significantly shorter showers than subjects in the control condition. Unexpectedly, however, shower times for hypocrisy subjects were not significantly shorter than times for subjects in either the mindful or commitment conditions, both of which fell midway between times for hypocrisy subjects and controls. In addition, subjects in the mindful and commitment conditions were just as likely as those in the hypocrisy condition to turn the water off while showering. In all three conditions, this behavior occurred significantly more often than in the no-treatment condition.

Overall, this pattern of data suggests the possibility that subjects in all three groups were motivated to conserve water, although this effect was strongest for those in the hypocrisy condition. That is, rather than experiencing *no* dissonance, subjects in the mindful and commitment conditions might have experienced some feelings of hypocrisy, albeit of a milder sort than their counterparts in the hypocrisy group. Subjects in the former conditions were exposed to manipulations that

could potentially arouse some feelings of hypocrisy. For example, in the commitment condition subjects signed a flyer that stated: "Take shorter showers . . . IF I CAN DO IT, SO CAN YOU!" For subjects who had wasted water in the past, this statement might have been experienced as somewhat hypocritical, even without the mindfulness manipulation to heighten its effect. Similarly, subjects in the mindful condition first affirmed their pro-conservation attitudes in the presence of the experimenter (recall that everyone answered "yes" to the initial question: "Are you in favor of water conservation?") and then were made aware of the discrepancy between their attitudes and behavior—that is, the fact that they did not always take the shortest possible showers. This awareness could have aroused mild feelings of hypocrisy, or dissonance, for these subjects.

Why did subjects in these two conditions reduce dissonance by turning the water off, yet did not take shorter showers than controls? One possible reason is that turning the shower off is a fairly vivid and unambiguous way for subjects to demonstrate their commitment to conserve water. As such, it provides a natural "first step" for subjects who are motivated to conserve water, thus affording the clearest and most available route to dissonance reduction. Unlike hypocrisy subjects, however, subjects in the mindful and commitment groups did not take the additional step of significantly reducing the duration of their showers, relative to controls. This finding is consistent with our interpretation that hypocrisy subjects were experiencing the highest levels of dissonance and, as a result, were more motivated to act in accordance with their principles: both by turning off the shower *and* actually using less water. Finally, it should be noted that our primary dependent variable, length of shower, is a true measure of water conservation—unlike turning off the water, which is simply one method of potentially achieving that goal.

Could the effects found in the present experiment be due to some cause other than dissonance arousal? For example, could subjects have taken steps to conserve water simply because their pro-conservation attitudes were made salient by the experimental manipulations? Although our manipulations may have partly served to "prime" subjects' attitudes, we think it is unlikely that the shower-time results are due to the mere effects of attitude accessibility or salience. To begin with, subjects in all three experimental conditions were, in one way or another, reminded of their favorable attitudes toward water conservation prior to taking a shower. Yet, only subjects in the hypocrisy condition showed a significant reduction in their actual water use. In addition, data from the condom experiments discussed earlier (Aronson et al., 1991; Stone et al., 1992) do not support a "priming" interpretation of the present findings. The results of these studies, which employed similar manipulations and were conducted under more controlled laboratory conditions, reflected significantly greater dissonance arousal among hypocrisy subjects compared with all other experimental conditions.

Still it could be argued that in the present study hypocrisy subjects might have experienced a more potent priming effect, given their exposure to both the mindful and commitment manipulations. Although this alternative explanation cannot be

ruled out, a close look at the details of the procedure makes this interpretation seem less plausible. Specifically, subjects in the hypocrisy condition were treated identically to those in the mindful condition except that the former also signed a leaflet advocating others to conserve water. This leaflet contained no new information above and beyond that already presented in the mindful condition; it simply restated methods of conserving water in the showers. (Indeed, this information is also posted conspicuously in the shower room itself and in other prominent locations within the adjacent locker room.) Thus, it seems doubtful that in the hypocrisy condition this redundant information—presented briefly and only seconds after the more extensive mindfulness manipulation—could have contributed appreciably to any "priming effect" produced by either of the manipulations alone. Rather, we would argue that the impact of signing the leaflet was that it made hypocrisy subjects uncomfortably aware of having preached something they did not always practice, thereby accounting for their greater motivation to conserve water. Future research is necessary, however, to determine conclusively whether these findings are best explained by dissonance arousal or are the effect of increased accessibility of attitudes via priming. In particular, laboratory studies based on the "misattribution of arousal" paradigm in dissonance research (e.g., Zanna and Cooper, 1974) would shed needed light on this issue.

Although a "priming" interpretation cannot be entirely ruled out, taken together with the findings of Aronson et al. (1991) and Stone et al. (1992) our results suggest that feelings of hypocrisy can be dissonance-arousing, thereby motivating people to bring their behavior into closer alignment with their espoused ideals. In addition, in recent years it has been proposed that individuals must produce "foreseeable aversive consequences" to experience dissonance (Cooper and Fazio, 1984; see also Thibodeau and Aronson, 1992). Our findings cast doubt on this new formulation of dissonance theory. Any consequences resulting from complying with the experimenter's requests could only serve to promote water conservation—by encouraging other people to save water, and by helping the "Water Conservation Office" with a survey. Far from being an aversive consequence, saving water was something that all subjects in the present study already supported.

Finally, in the present experiment subjects experienced dissonance in a pro-attitudinal advocacy paradigm. This represents a new twist on the counter-attitudinal advocacy manipulation traditionally employed in dissonance research and opens up new opportunities for applying the theory in real-world settings. In particular, interventions along the lines of our hypocrisy manipulation may prove successful in motivating people to act in accordance with their already favorable attitudes toward a given issue, such as water conservation, condom use, recycling, et cetera. Clearly, using dissonance arousal as a strategy for changing behavior is somewhat more involved than simply hanging signs or posting flyers. As noted earlier, however, research suggests that changes in attitudes and behavior generated by cognitive dissonance tend to be more permanent and may also transfer to new situations, as compared with changes produced by other means of persuasion (Aronson,

1980). In the long run, then, dissonance-related persuasion may prove to be a cost-effective method for policy makers to employ in a variety of settings, especially those in which the goal is to produce higher levels of consistency between attitudes and beliefs.

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The Effects of Observing Violence

Leonard Berkowitz

Experiments suggest that aggression depicted in television and motion picture dramas, or observed in actuality, can arouse certain members of the audience to violent action.

An ancient view of drama is that the action on the stage provides the spectators with an opportunity to release their own strong emotions harmlessly through identification with the people and events depicted in the play. This idea dates back at least as far as Aristotle, who wrote in *The Art of Poetry* that drama is "a representation . . . in the form of actions directly presented, not narrated; with incidents arousing pity and fear in such a way as to accomplish a purgation of such emotions."

Aristotle's concept of catharsis, a term derived from the Greek word for purgation, has survived in modern times. It can be heard on one side of the running debate over whether scenes of violence in motion pictures and television programs can instigate violent deeds, sooner or later, by people who observe such scenes. Eminent authorities contend that filmed violence, far from leading to real violence, can actually have beneficial results in that the viewer may purge himself of hostile impulses by watching other people behave aggressively, even if these people are merely actors appearing on a screen. On the other hand, authorities of equal stature contend that, as one psychiatrist told a Senate subcommittee, filmed violence is a "preparatory school for delinquency." In this view emotionally immature individuals can be seriously affected by fighting or brutality in films, and disturbed young people in particular can be led into the habit of expressing their aggressive energies by socially destructive actions.

Until recently neither of these arguments had the support of data obtained by controlled experimentation; they had to be regarded, therefore, as hypotheses, supported at best by unsystematic observation. Lately, however, several psychologists

have undertaken laboratory tests of the effects of filmed aggression. The greater control obtained in these tests, some of which were done in my laboratory at the University of Wisconsin with the support of the National Science Foundation, provides a basis for some statements that have a fair probability of standing up under continued testing.

First, it is possible to suggest that the observation of aggression is more likely to induce hostile behavior than to drain off aggressive inclinations; that, in fact, motion picture or television violence can stimulate aggressive actions by normal people, as well as by those who are emotionally disturbed. I would add an important qualification: such actions by normal people will occur only under appropriate conditions. The experiments point to some of the conditions that might result in aggressive actions by people in an audience who had observed filmed violence.

Second, these findings have obvious social significance. Third, the laboratory tests provide some important information about aggressive behavior in general. I shall discuss these three statements in turn.

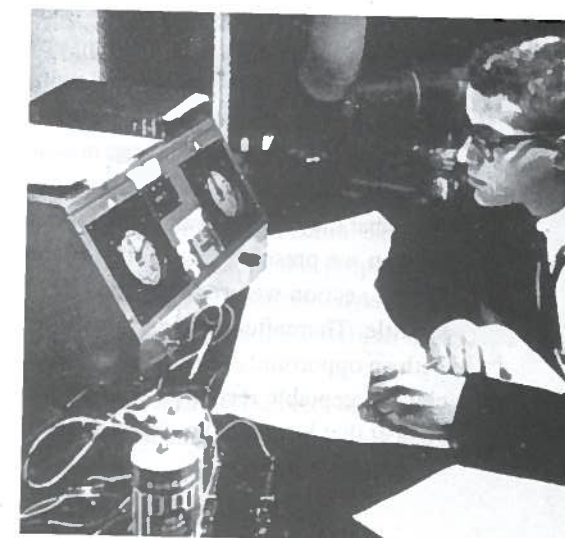
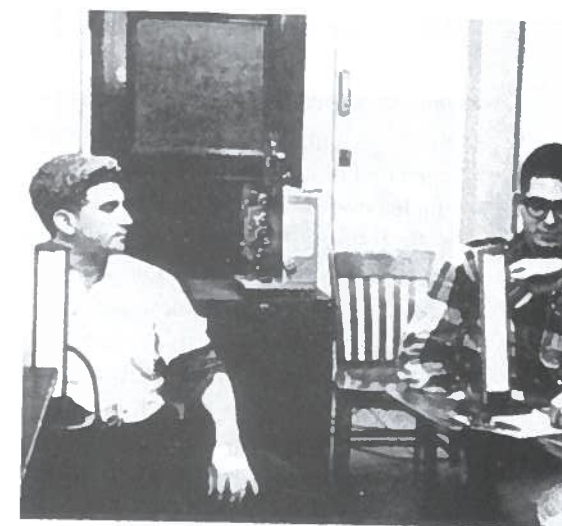
Catharsis appeared to have occurred in one of the first experiments, conducted by Seymour Feshbach of the University of Colorado. Feshbach deliberately angered a group of college men; then he showed part of the group a filmed prizefight and the other students a more neutral film. He found that the students who saw the prizefight exhibited less hostility than the other students on two tests of aggressiveness administered after the film showings. The findings may indicate that the students who had watched the prizefight had vented their anger vicariously.

That, of course, is not the only possible explanation of the results. The men who saw the filmed violence could have become uneasy about their own aggressive tendencies. Watching someone being hurt may have made them think that aggressive behavior was wrong; as a result they may have inhibited their hostile responses. Clearly there was scope for further experimentation, particularly studies varying the attitude of the subjects toward the filmed aggression.

Suppose the audience were put in a frame of mind to regard the film violence as justified—for instance because a villain got a beating he deserved. The concept of symbolic catharsis would predict in such a case that an angered person might enter vicariously into the scene and work off his anger by thinking of himself as the winning fighter, who was inflicting injury on the man who had provoked him. Instead of accepting this thesis, my associates and I predicted that justified film aggression would lead to stronger rather than weaker manifestations of hostility. We believed

FIGURE 22.1

Typical experiment tests reaction of angered man to filmed violence. Experiment begins with introduction of subject (white shirt) to a man he believes is a coworker but who actually is a confederate of the author's. In keeping with pretense that experiment is to test physiological reactions, student conducting the experiment takes blood-pressure readings. He assigns the men a task and leaves; during the task, the confederate insults the subject. Experimenter returns and shows filmed prizefight. Confederate leaves; experimenter tells subject to judge a floor plan drawn by confederate and to record opinion by giving confederate electric shocks. Shocks actually go to recording apparatus. The fight film appeared to stimulate the aggressiveness of angered men. (Photographs by Gordon Coster.)



that the rather low volume of open hostility in the Feshbach experiment was attributable to film-induced inhibitions. If this were so, an angered person who saw what appeared to be warranted aggression might well think he was justified in expressing his own hostile desires.

To test this hypothesis we conducted three experiments. Since they resulted in essentially similar findings and employed comparable procedures, I shall describe only the latest. In this experiment we brought together two male college students at a time. One of them was the subject; the other was a confederate of the experimenter and had been coached on how to act, although of course none of this was known to the subject. Sometimes we introduced the confederate to the subject as a college boxer and at other times we identified him as a speech major. After the introduction the experimenter announced that the purpose of the experiment was to study physiological reactions to various tasks. In keeping with that motif he took blood-pressure readings from each man. Then he set the pair to work on the first task: a simple intelligence test.

During this task the confederate either deliberately insulted the subject—for example, by remarks to the effect that “You’re certainly taking a long time with that” and references to “cow-college students” at Wisconsin—or, in the conditions where we were not trying to anger the subject, behaved in a neutral way toward him. On the completion of the task the experimenter took more blood-pressure readings (again only to keep up the pretense that the experiment had a physiological purpose) and then informed the men that their next assignment was to watch a brief motion picture scene. He added that he would give them a synopsis of the plot so that they would have a better understanding of the scene. Actually he was equipped with two different synopses.

To half the subjects he portrayed the protagonist of the film, who was to receive a serious beating, as an unprincipled scoundrel. Our idea was that the subjects told this story would regard the beating as retribution for the protagonist’s misdeeds; some tests we administered in connection with the experiment showed that the subjects indeed had little sympathy for the protagonist. We called the situation we had created with this synopsis of the seven-minute fight scene the “justified fantasy aggression.”

The other subjects were given a more favorable description of the protagonist. He had behaved badly, they were told, but this was because he had been victimized when he was young; at any rate, he was now about to turn over a new leaf. Our idea was that the men in this group would feel sympathetic toward the protagonist; again tests indicated that they did. We called this situation the “less justified fantasy aggression.”

Then we presented the film, which was from the movie *Champion*; the seven-minute section we used showed Kirk Douglas, as the champion, apparently losing his title. Thereafter, to measure the effects of the film, we provided the subjects with an opportunity to show aggression in circumstances where that would be a socially acceptable response. We separated each subject and accomplice and told the subject that his coworker (the confederate) was to devise a “creative” floor plan for

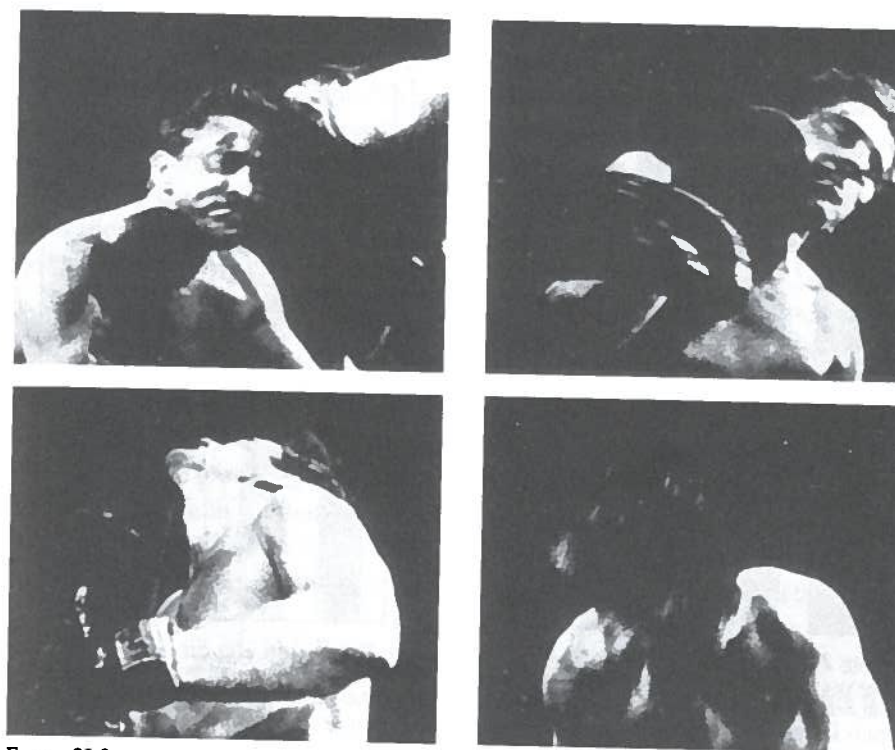


FIGURE 22.2
Filmed aggression shown in author's experiments was from the motion picture *Champion* and included these scenes in which Kirk Douglas receives a bad beating. Watchers had been variously prepared; after showing, they were tested for aggressive tendencies. (Astor Pictures, Inc.)

a dwelling, which the subject would judge. If the subject thought the floor plan was highly creative, he was to give the coworker one electric shock by depressing a telegraph key. If he thought the floor plan was poor, he was to administer more than one shock; the worse the floor plan, the greater the number of shocks. Actually each subject received the same floor plan.

The results consistently showed a greater volume of aggression directed against the anger-arousing confederate by the men who had seen the “bad guy” take a beating than by the men who had been led to feel sympathy for the protagonist in the film (see Figure 22.3). It was clear that the people who saw the justified movie violence had not discharged their anger through vicarious participation in the aggression but instead had felt freer to attack their tormenter in the next room. The motion picture scene had apparently influenced their judgment of the propriety of aggression. If it was all right for the movie villain to be injured aggressively, they seemed to think, then perhaps it was all right for them to attack the villain in their own lives—the person who had insulted them.

Another of our experiments similarly demonstrated that observed aggression has little if any effectiveness in reducing aggressive tendencies on the part of an

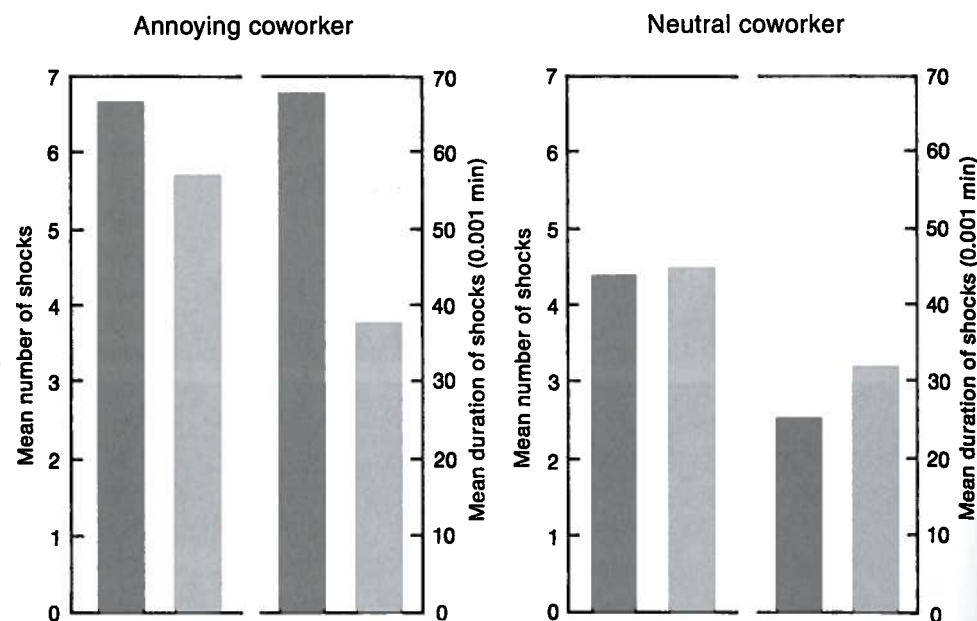


FIGURE 22.3 Responses of subjects invited to commit aggression after seeing prizefighting film varied according to synopsis they heard beforehand. One (dark gray) called Douglas's beating deserved; the other (light gray) said it was undeserved. After the film the subjects were told they could give electric shocks to an annoying or neutral coworker based on his "creativity" in doing a task. Seeing a man receive what had been described as a well-deserved beating apparently lowered restraints against aggressive behavior.

observer. In this experiment some angered men were told by another student how many shocks they should give the person, supposedly in the next room, who had provoked them. Another group of angered men, instead of delivering the shocks themselves, watched the other student do it. Later the members of both groups had an opportunity to deliver the shocks personally. Consistently the men who had watched in the first part of the experiment now displayed stronger aggression than did the people who had been able to administer shocks earlier. Witnessed aggression appeared to have been less satisfying than self-performed aggression.

Our experiments thus cast considerable doubt on the possibility of a cathartic purge of anger through the observation of filmed violence. At the very least, the findings indicated that such a catharsis does not occur as readily as many authorities have thought.

Yet what about the undoubted fact that aggressive motion pictures and violent athletic contests provide relaxation and enjoyment for some people? A person who was tense with anger sometimes comes away from them feeling calmer. It seems to me that what happens here is quite simple: He calms down not because he has discharged his anger vicariously but because he was carried away by the events he witnessed. Not thinking of his troubles, he ceased to stir himself up and his anger

dissipated. In addition, the enjoyable motion picture or game could have cast a pleasant glow over his whole outlook, at least temporarily.

The social implications of our experiments have to do primarily with the moral usually taught by films. Supervising agencies in the motion picture and television industries generally insist that films convey the idea that "crime does not pay." If there is any consistent principle used by these agencies to regulate how punishment should be administered to the screen villain, it would seem to be the talion law: an eye for an eye, a tooth for a tooth.

Presumably the audience finds this concept of retaliation emotionally satisfying. Indeed, we based our "justified fantasy aggression" situation on the concept that people seem to approve of hurting a scoundrel who has hurt others. But however satisfying the talion principle may be, screenplays based on it can lead to socially harmful consequences. If the criminal or "bad guy" is punished aggressively, so that others do to him what he has done to them, the violence appears justified. Inherent in the likelihood that the audience will regard it as justified is the danger that some angered person in the audience will attack someone who has frustrated him, or perhaps even some innocent person he happens to associate with the source of his anger.

Several experiments have lent support to this hypothesis. O. Ivar Lövaas of the University of Washington found in an experiment with nursery school children that the youngsters who had been exposed to an aggressive cartoon film displayed more aggressive responses with a toy immediately afterward than a control group shown a less aggressive film did. In another study Albert Bandura and his colleagues at Stanford University noted that preschool children who witnessed the actions of an aggressive adult in a motion picture tended later, after they had been subjected to mild frustrations, to imitate the kind of hostile behavior they had seen.

This tendency of filmed violence to stimulate aggression is not limited to children. Richard H. Walters of the University of Waterloo in Ontario found experimentally that male hospital attendants who had been shown a movie of a knife fight generally administered more severe punishment to another person soon afterward than did other attendants who had seen a more innocuous movie. The men in this experiment were shown one of the two movie scenes and then participated in what was supposedly a study of the effects of punishment. They were to give an electric shock to someone else in the room with them each time the person made a mistake on a learning task. The intensity of the electric shocks could be varied. This other person, who was actually the experimenter's confederate, made a constant number of mistakes, but the people who had seen the knife fight gave him more intense punishment than the men who had witnessed the nonaggressive film. The filmed violence had apparently aroused aggressive tendencies in the men and, since the situation allowed the expression of aggression, their tendencies were readily translated into severe aggressive actions.

These experiments, taken together with our findings, suggest a change in approach to the manner in which screenplays make their moral point. Although it

may be socially desirable for a villain to receive his just deserts at the end of a motion picture, it would seem equally desirable that this retribution should not take the form of physical aggression.

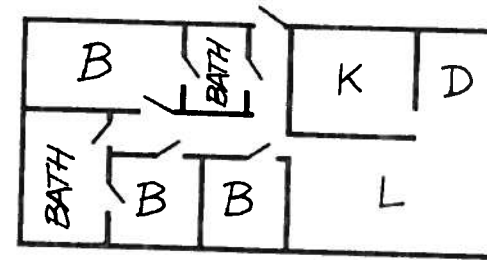
The key point to be made about aggressiveness on the basis of experimentation in this area is that a person's hostile tendencies will persist, in spite of any satisfaction he may derive from filmed violence, to the extent that his frustrations and aggressive habits persist. There is no free-floating aggressive energy that can be released through attempts to master other drives, as Freud proposed, or by observing others as they act aggressively.

In fact, there have been studies suggesting that even if the angered person performs the aggression himself, his hostile inclinations are not satisfied unless he believes he has attacked his tormentor and not someone else. J. E. Hokanson of Florida State University has shown that angered subjects permitted to commit aggression against the person who had annoyed them often display a drop in systolic blood pressure. They seem to have experienced a physiological relaxation, as if they had satisfied their aggressive urges. Systolic pressure declines less, however, when the angered people carry out the identical motor activity involved in the aggression but without believing they have attacked the source of their frustration.

I must now qualify some of the observations I have made. Many aggressive motion pictures and television programs have been presented to the public, but the number of aggressive incidents demonstrably attributable to such shows is quite low. One explanation for this is that most social situations, unlike the conditions in the experiments I have described, impose constraints on aggression. People are usually aware of the social norms prohibiting attacks on others, consequently they inhibit whatever hostile inclinations might have been aroused by the violent films they have just seen.

Another important factor is the attributes of the people encountered by a person after he has viewed filmed violence. A man who is emotionally aroused does not necessarily attack just anyone. Rather, his aggression is directed toward specific objectives. In other words, only certain people are capable of drawing aggressive responses from him. In my theoretical analyses of the sources of aggressive behavior I have suggested that the arousal of anger only creates a readiness for aggression. The theory holds that whether this predisposition is translated into actual aggression depends on the presence of appropriate cues: stimuli associated with the present or previous instigators of anger. Thus if someone has been insulted, the sight or the thought of others who have provoked him, whether then or earlier, may evoke hostile responses from him.

An experiment I conducted in conjunction with a graduate student provides some support for this train of thought. People who had been deliberately provoked by the experimenter were put to work with two other people, one a person who had angered them earlier and the other a neutral person. The subjects showed the greatest hostility, following their frustration by the experimenter, to the coworker they disliked. He, by having thwarted them previously, had acquired the stimulus quality that caused him to draw aggression from them after they had been aroused by the experimenter.



Subject	A	B	C	D	E	F	G	H
Number of shocks	6	3	8	3	6	7	5	4
Duration (0.001 min)	46	38	76	10	120	49	60	28

FIGURE 22.4

Task by annoying coworker supposedly was to draw a floor plan. Actually, each subject saw the floor plan shown here. The subject was asked to judge the creativeness of the plan and to record his opinion by pressing a telegraph key that he thought would give electric shocks to the coworker; one shock for a good job and more for poor work. Responses of eight subjects who saw prizefight film are shown; those in boldface type represent men told that Douglas deserved his beating; those in lightface type, men informed it was undeserved.

My general line of reasoning leads me to some predictions about aggressive behavior. In the absence of any strong inhibitions against aggression, people who have recently been angered and have then seen filmed aggression will be more likely to act aggressively than people who have not had those experiences. Moreover, their strongest attacks will be directed at those who are most directly connected with the provocation or at others who either have close associations with the aggressive motion picture or are disliked for any reason.

One of our experiments showed results consistent with this analysis. In this study male college students, taken separately, were first either angered or not angered by A, one of the two graduate students acting as experimenters. A had been introduced earlier either as a college boxer or as a speech major. After A had had his session with the subject, B, the second experimenter, showed the subject a motion picture: either the prizefight scene mentioned earlier or a neutral film. (One that we used was about canal boats in England; the other, about the travels of Marco Polo.)

We hypothesized that the label "college boxer" applied to A in some of the cases would produce a strong association in the subject's mind between A and the boxing film. In other words, any aggressive tendencies aroused in the subject would be more likely to be directed at A the college boxer than at A the speech major. The experiment bore out this hypothesis. Using questionnaires at the end of the session as the measures of hostility, we found that the deliberately angered subjects directed more hostility at A, the source of their anger, when they had seen the fight film and he had been identified as a boxer. Angered men who had seen the neutral

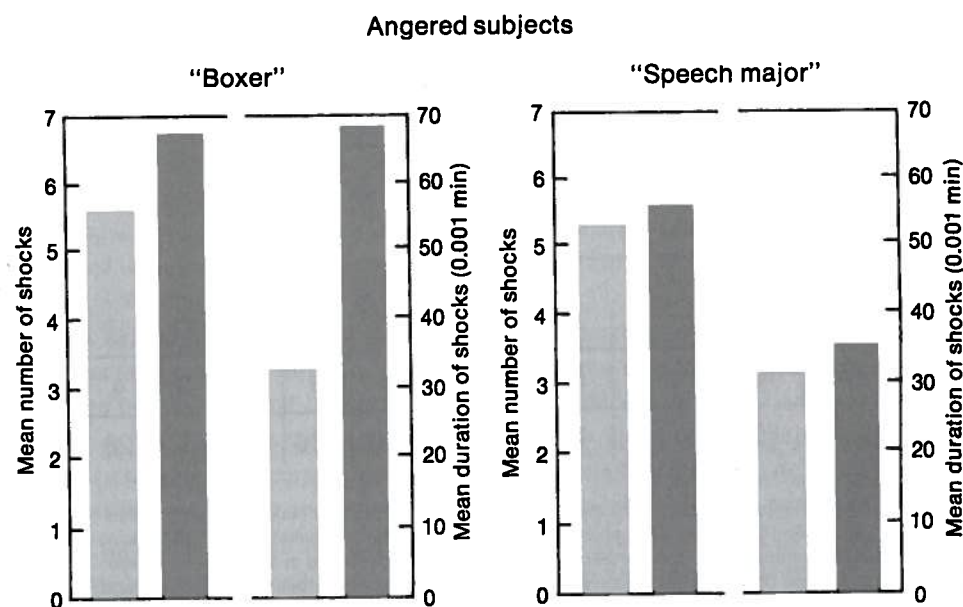


FIGURE 22.5 Coworkers introduction also produced variations in aggressiveness of subjects. Coworker was introduced as boxer or as speech major; reactions shown here are of men who were angered by coworker and then saw either a fight film (dark gray) or neutral film (light gray). Coworker received strongest attacks when subjects presumably associated with fight film.

film showed no particular hostility to A the boxer. In short, the insulting experimenter received the strongest verbal attacks when he was also associated with the aggressive film. It is also noteworthy that in this study the boxing film did not influence the amount of hostility shown toward A when he had not provoked the subjects.

A somewhat inconsistent note was introduced by our experiments. The nonangered groups, regardless of which film they saw, gave the confederate more and longer shocks when they thought he was a boxer than when they understood him to be a speech major (see Figure 22.6). To explain this finding I assume that our subjects had a negative attitude toward boxers in general. This attitude may have given the confederate playing the role of boxer the stimulus quality that caused him to draw aggression from the angered subjects. But it could only have been partially responsible, since the insulted subjects who saw the neutral film gave fewer shocks to the boxer than did the insulted subjects who saw the prizefight film.

Associations between the screen and the real world are important. People seem to be emotionally affected by a screenplay to the extent that they associate the events of the drama with their own life experiences. Probably adults are less strongly influenced than children because they are aware that the film is make-believe and so can dissociate it from their own lives. Still, it seems clear from the experiments I have described that an aggressive film can induce aggressive actions

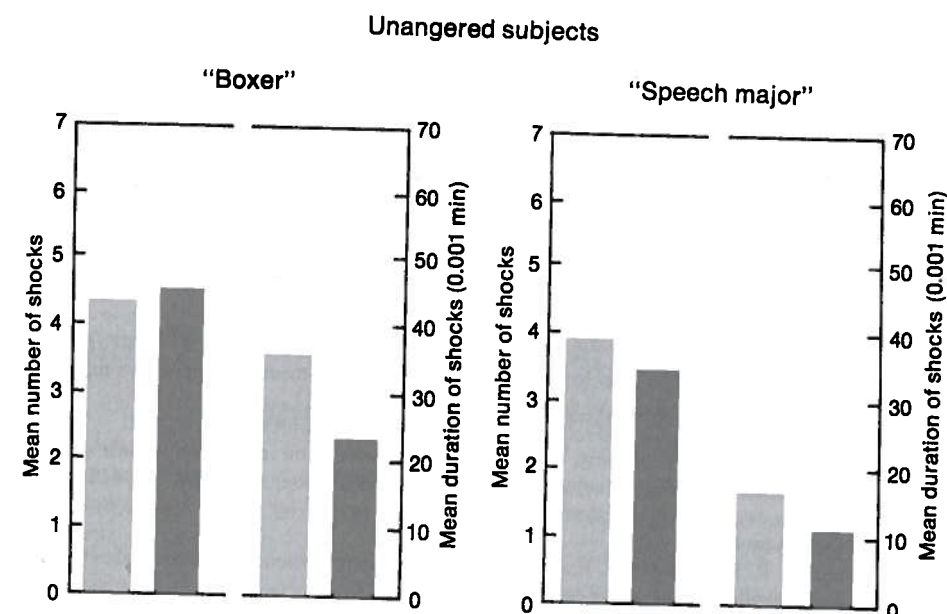


FIGURE 22.6 Similar test, varied by the fact that the coworker behaved neutrally toward the subjects and therefore presumably did not anger them, produced these reactions. The greater number of shocks given to the coworker introduced as a boxer than to the one introduced as a speech major apparently reflected a tendency to take a generally negative attitude toward persons identified as boxers.

by anyone in the audience. In most instances I would expect that effect to be short-lived. The emotional reaction produced by filmed violence probably dies away rather rapidly as the viewer enters new situations and encounters new stimuli. Subjected to different influences, he becomes less and less ready to attack other people.

Television and motion pictures, however, may also have some persistent effects. If a young child sees repeatedly that screen heroes gain their ends through aggressive actions, he may conclude that aggression is desirable behavior. Fortunately screenplays do not consistently convey that message, and in any event the child is exposed to many other cultural norms that discourage aggression.

As I see it, the major social danger inherent in filmed violence has to do with the temporary effects produced in a fairly short period immediately following the film. For that period, at least, a person—whether an adult or a child—who had just seen filmed violence might conclude that he was warranted in attacking those people in his own life who had recently frustrated him. Further, the film might activate his aggressive habits so that for the period of which I speak he would be primed to act aggressively. Should he then encounter people with appropriate stimulus qualities, people he dislikes or connects psychologically with the film, this predisposition could lead to open aggression.

What, then, of catharsis? I would not deny that it exists. Nor would I reject the argument that a frustrated person can enjoy fantasy aggression because he sees

characters doing things he wishes he could do, although in most cases his inhibitions restrain him. I believe, however, that effective catharsis occurs only when an angered person perceives that his frustrater has been aggressively injured. From this I argue that filmed violence is potentially dangerous. The motion picture aggression has increased the chance that an angry person, and possibly other people as well, will attack someone else.

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23

Does Venting Anger Feed or Extinguish the Flame? Catharsis, Rumination, Distraction, Anger, and Aggressive Responding

Brad J. Bushman

Does distraction or rumination work better to diffuse anger? Catharsis theory predicts that rumination works best, but empirical evidence is lacking. In this study, angered participants hit a punching bag and thought about the person who had angered them (rumination group) or thought about becoming physically fit (distraction group). After hitting the punching bag, they reported how angry they felt. Next, they were given the chance to administer loud blasts of noise to the person who had angered them. There also was a no punching bag control group. People in the rumination group felt angrier than did people in the distraction or control groups. People in the rumination group were also most aggressive, followed respectively by people in the distraction and control groups. Rumination increased rather than decreased anger and aggression. Doing nothing at all was more effective than venting anger. These results directly contradict catharsis theory.

The belief in the value of venting anger has become widespread in our culture. In movies, magazine articles, and even on billboards, people are encouraged to vent their anger and "blow off steam." For example, in the movie *Analyze This*, a psychiatrist (played by Billy Crystal) tells his New York gangster client (played by Robert De Niro), "You know what I do when I'm angry? I hit a pillow. Try that." The client promptly pulls out his gun, points it at the couch, and fires several bullets into the pillow. "Feel better?" asks the psychiatrist. "Yeah, I do," says the gunman. In a *Vogue* magazine article, female model Shalom concludes that boxing helps her release pent-up anger. She said,

I found myself looking forward to the chance to pound out the frustrations of the week against Carlos's (her trainer) mitts. Let's face it: A personal boxing trainer has

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Peacetime Casualties: The Effects of War on the Violent Behavior of Noncombatants

Dane Archer and Rosemary Gartner

Violence by the State is strangely absent from most discussions of the problem of violence. Books about aggression, for example, often treat topics ranging from hormones to homicidal criminals without mentioning capital punishment, the shooting of looters, the beating of protesters, or even that most impressive form of "official" violence: war. This last omission is particularly astonishing, since the unrivaled mortality of wars is both well documented (Singer and Small, 1972) and reasonably contemporary—including the killing of at least 46,000 young American men between 1963 and 1973, in addition to the much greater death toll of other nations involved in the Vietnam War.

Why, then, is official violence nearly invisible in discussions of murder and aggression? The most obvious explanation is that wars and other forms of official violence are unique in that they wear the mantle of governmental legitimacy. When aircraft bomb a village, when the United States CIA hires assassins to kill foreign leaders, when a policeman shoots a looter, when a prison firing squad kills a convicted murderer, and when National Guardsmen use lethal weapons to break up a protest, the killings that occur are the result of orders (see Marx, 1970). These orders originate in a hierarchical organization; they are issued by appointed or elected officials and are carried out collectively by uniformed deputies who perform the actual killing. In each case the resulting homicides are described as necessary to

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accomplish some official objective—to stop the spread of an alien ideology, to stem the destruction of private property, to deter potential murderers of the future, or to control opponents of governmental policy. Official violence may also be justified as retaliatory—a response to “illegal” violence or the alleged threat of illegal violence. Official killings, therefore, differ from illegal violence in that they result from governmental orders, are usually performed by several agents acting collectively, and are justified as instrumental to some higher purpose. These differentiating features are the basis of the legitimation of official violence.

This process of legitimation is clearly successful in the sense that large numbers of citizens appear to regard government violence as acceptable and unproblematic. Evidence of a public mandate for official violence is easily found. In a 1968 survey, for example, 57 percent of a national sample agreed with the statement “Any man who insults a policeman has no complaint if he gets roughed up in return” (Gamson and McEvoy, 1972, p. 336). The public mandate for official violence includes even the extreme act of homicide. In another 1968 survey, by the Gallup organization, respondents were asked to react to the fact that the mayor of a large city had ordered police to shoot looters on sight during race riots; 61 percent of the men interviewed said that this was the “best way” to deal with the problem of looting. In 1969 roughly half the American people (48 percent) also thought that shooting was the best way to handle student protests on campus (Kahn, 1972, p. 48). This tolerance of official violence may explain the persistent public perception of riots and rioters as violent—despite the fact that the number of people killed by authorities during civil disorders has consistently exceeded the number of people killed by rioters by approximately ten to one (Couch, 1968).

Public support for official violence is so pervasive that the definition of violence is itself affected. In a 1969 survey, for example, 30 percent of a national sample said that “police beating students” was *not* an act of violence, and an astonishing 57 percent said that “police shooting looters” was *not* an act of violence (Blumenthal et al., 1972, p. 73). The semantics of the label *violence*, therefore, clearly reflect the perceived legitimacy of the actor and not merely the nature of his or her act. The same 1969 survey asked respondents what violent events were of greatest concern to them. Even though the survey occurred during the Vietnam War, only 4 percent of those interviewed mentioned war.

One consequence of the legitimation of official violence, therefore, is the creation of a reservoir of public support. For at least large numbers of Americans, it is clear that even the extreme act of homicide is not regarded as violence—if the homicide carries the stamp of government authority. Widespread deference to government violence may explain the intensity of public reaction to the concept of war crimes, including the trial of Lieutenant William Calley during the Vietnam War (Kelman and Lawrence, 1972). In view of citizen support for official killing, it is perhaps not surprising that public discussions of violence are generally limited to “criminal” violence.

The invisibility of official violence in scientific discussions of aggressions, however, is somewhat more disturbing. Since social scientists are also citizens, it is

possible that they too have been captured by the process of legitimation and that they—like many other citizens—no longer think of governmental homicides as violence. For example, wars are generally discussed in political terms in scholarly circles, and political opponents of a war are the only ones who label wartime killings as “murders.” Since social scientists are trained to try to regard behavior in a value-free manner, however, it is curious that there has not been more critical discussion of those acts of homicide that happen to have government auspices. Perhaps we are all, scientists included, socialized to accept the State’s monopoly on legitimate violence—and perhaps this socialization influences our curiously selective use of the label *violence*.

This tendency to see official violence as legitimate seems limited, however, to the acts of our own government. As an extreme example, wartime practices in Nazi Germany had official government auspices and seem to have enjoyed legitimacy among most contemporary German citizens—including many scientists and intellectuals—but not among citizens of other nations. Even though socialization leads us to defer to governmental violence, therefore, a kind of moral ethnocentrism may restrict this deference to only the acts of our own government. Official acts of violence may enjoy perceived legitimacy inside a government’s borders but not outside them.

There may also be structural explanations for the scientific neglect of official violence, however, and this possibility is particularly worrisome. Since social scientists operate in an institutional context, governments may be exerting a disproportionate influence on research agendas for the study of violence. The structure of scientific research itself may therefore create a lamentable “blind spot” concerning governmental violence. Unhappily, case studies of this scientific blind spot are easy to find. For example, when Governor Ronald Reagan of California announced his controversial proposal to establish a Center for the Study of Violent Behavior at UCLA, Earl Brian, the state’s secretary of health and welfare, held a press briefing to describe the mission of the proposed center. When asked by a reporter whether the forms of violence studied by the violence center would include war, Dr. Brian replied, “I hadn’t thought about war.”

Another fascinating illustration of the way official violence can be defined to preclude scientific consideration is described in James Short’s (1975) excellent account of the history of the National Commission on the Causes and Prevention of Violence. Since Short served as codirector of research (with Marvin E. Wolfgang) for this important presidential commission, his narrative is as well informed as it is interesting. The national commission initially adopted a neutral definition of violence, one that concentrated on the nature of violent acts themselves: “the threat or use of force that results, or is intended to result, in the injury or forcible restraint or intimidation of persons, or the destruction or forcible seizure of property” (Short, 1975, p. 68). Early in the life of the commission, this neutral definition of violence prompted commission researchers to cast a wide net. The commission’s *Progress Report*, for example, outlined the scope of the investigation: “There is no implicit value judgment in this definition. The maintenance of law and order falls within it,

for a policeman may find it necessary in the course of duty to threaten or use force, even to injure or kill an individual. Wars are included within this definition, as is some punishment of children. It also includes police brutality, the violence of the Nazis, and the physical abuse of a child" (Commission *Progress Report*, p. 3; cited in Short, 1975, p. 68). Even though official violence, such as wars and police brutality, was clearly included in the commission's initial agenda, this emphasis all but disappeared in the commission's subsequent research. For example, by the time its *Final Report* was issued, the commission was concentrating on "all illegal violence" (Short, 1975, p. 69). The insertion of the adjective *illegal* is of pivotal importance, since the actions of governments are—by definition—seldom perceived as illegal. This change of emphasis in the work of a prestigious national investigation had the effect of shifting attention to the acts of "deviant" individual criminals, members of rioting mobs, and assassins. At the same time, this rather traditional focus on illegal violence excluded the acts of governments from consideration—even though the commission conducted its investigations at the very height of the Vietnam War. In fact, Short indicates that some commission researchers had suggested creating a task force on war to go along with the seven task forces on other topics. This idea was abandoned, according to Short, because of the "potentially explosive nature of such a direct focus on war in general and on the conflict in Indochina in particular" (p. 71). Even though much of the commission's research was excellent, and even of permanent value, it is still troublesome that the commission was apparently influenced to concentrate on those acts of violence of greatest concern to government—a concern that did not, of course, include the violent acts of government itself.

For all these reasons, discussions of the problem of violence—in both popular and scientific publications—have centered almost exclusively on illegal or "deviant" violence. This prejudice is clearly reflected in language. The term *murder* is almost always reserved for the acts of individual criminals, and even the more neutral word *homicide* is almost never used to describe killings committed by government officials. During wartime, for example, governments use terms like *casualties*, *body counts*, or even just *losses* to refer to actions that are really—despite these pastel euphemisms—violent homicides. When officials take lives in peacetime, words like *execution* again camouflage the fact that a killing takes place. Only the opponents of a government's violence refuse to participate in this banal vocabulary. Opponents of a war, for example, accuse government officials of "murderous" policies and refer to soldiers as "killers."

We believe that the scientific neglect of official violence needs to be remedied. It is clear that "deviant" violence has in the past monopolized the attention of researchers interested in violence. We believe that this monopoly is scientifically shortsighted, for two reasons. First of all, acts of official violence may turn out to be particularly pernicious, since they are the only forms of violence that carry the prestige and authority of the State. Second, many important and exciting questions about official violence await answers: What kinds of citizens support government

violence most strongly? What kinds of government justifications of violence (such as wars or executions) are most effective in legitimating such violence? Do young children regard government violence, such as wartime killing, as "wrong"? At what developmental age are children socialized to accept government violence? Are people at various stages of "moral development" differentially supportive or critical of official violence? Do violent "criminals" support government violence more strongly than a matched group of noncriminals? How do the deputies who carry out official violence justify their behavior to themselves? What kinds of arguments are most effective with juries in death penalty cases? Are Americans more supportive or tolerant of official violence than citizens of relatively nonviolent societies like England? This research agenda is clearly both rich and relatively unexplored.

CONSEQUENCES OF VIOLENCE BY THE STATE

For the past several years, we have been interested in the consequences of violence by the State. Specifically, we wondered whether the most impressive form of official violence, war, tends to increase the level of violence in a society after the war is over. There are rather compelling theoretical reasons to suspect that wars might produce a legacy of postwar violence. For example, there is now incontrovertible evidence that social learning or "modeling" mediates many forms of aggression and violence (Bandura, 1973). Although most research in this area has used either experiments or causal regression techniques to assess the effects of watching media violence, "modeling" theory also appears to provide the best explanation of the apparently contagious patterning of specific murder methods, airplane hijackings, and terrorism (Bandura, 1973, pp. 101–107). The basic tenet of social learning theory is that acts of media violence and real violence can provide a model or script that increases the likelihood of imitative violence. In addition, research indicates that aggressive models appear to be most influential when they are seen as rewarded for their aggression.

If the violent acts of real or fictional individuals can compel imitation, it seems to us very possible that official violence like war could also provide a script for the postwar acts of individuals. Wars, after all, carry the full authority and prestige of the State, and wars also reward killing in the sense that war "heroes" are decorated and lionized in direct proportion to the number of their wartime homicides. Wars also carry, of course, objectives and rationalizations unique to each war—securing the Crimea, humbling the Boers, stopping fascism, deterring communism, and so on. But what all wars have in common—when they are stripped of their idiosyncratic circumstances—is the unmistakable moral lesson that homicide is an acceptable, or even praiseworthy, means to certain ends. It seems likely that this moral lesson will not be lost on at least some of the citizens in a warring nation. Wars, therefore, contain in particularly potent form all the ingredients necessary to

produce imitative or modeled violence: great numbers of violent homicides, official auspices and legitimation, and conspicuous praise and rewards for killing and killers.

Even though there are theoretical reasons to expect wars to provide an imitated model for postwar killing, a rigorous test of this legitimation hypothesis is fraught with complications. At first glance, there are a number of intriguing observations in support of the hypothesis. For example, during the Vietnam War the United States murder and nonnegligent manslaughter rate more than doubled—from 4.5 (per 100,000 persons) in 1963 to 9.3 in 1973 (Archer and Gartner, 1976b). This single case of an astonishing increase cannot be regarded as persuasive evidence of a violent legacy of war, of course, because there were many other social and demographic changes in the United States during this decade. A definitive test of the legitimation hypothesis requires a large number of cases, so that the changes in homicide rates in many warring societies can be assessed. In addition, it is important to disentangle the two very different questions included in the legitimation hypothesis: (1) the empirical question of whether, in general, homicide rates do increase after wars and (2) the more interpretive question of what wartime variables could actually cause such increases.

Although writers and social scientists have long suspected that war leaves a violent legacy, a general test of this suspicion has not been possible in the past. The central obstacle to such a test has been the unavailability of the necessary records on national rates of homicide over time. Without a large archive of annual homicide rates for many nations, it has not been possible to test the legitimation hypothesis. Over a period of three years, we have collected a Comparative Crime Data File (CCDF) containing annual rates of homicide and other offenses for 110 nations and 44 major international cities for the period 1900–1970 (see Archer and Gartner, 1976b; see also Archer et al., 1978; Archer and Gartner, 1977).

The creation of the CCDF makes it possible for the first time to attempt a general answer to the question of whether violence by the State increases subsequent violence by individuals. Our basic research design involves a comparison of homicide rate changes in combatant societies with the changes in a control group of noncombatant nations. This controlled comparison is designed to guard against the possibility that homicide increases might be universal over a given period. Only if wars produce consistent increases in postwar homicide rates, therefore, will the changes in combatant nations differ from those in noncombatant nations during the same years. Since wartime mobilization renders the data uninterpretable for war years themselves, we chose as the two periods of comparison the five years prior to a war and the five years after (Archer and Gartner, 1976b). Records of national participation in wars were obtained from an encyclopedic inventory published by Singer and Small (1972). The rich historical data in the CCDF made it possible to examine homicide rate changes after 14 wars and, since several nations were involved in some wars, after a total of 50 “nation-wars” (one nation in one war). These changes, and the changes in 30 control cases uninvolved in these wars, are shown in Table 24.1.

Our analysis demonstrates that warring nations were more likely to experience homicide rate increases than nations not involved in war. A majority of the combatant nations experienced homicide rate increases of at least 10 percent, while a majority of the uninvolved nations experienced homicide rate *decreases* of greater than 10 percent. Many of the homicide rate increases in warring nations were very large; in several cases the nation's prewar homicide rate more than doubled. The legitimation hypothesis is, therefore, consistent with the results in Table 24.1. Wars do produce a postwar legacy of increased homicide rates.

Even though the difference between combatant and noncombatant nations is striking, this comparison is actually a very conservative test of the legitimation hypothesis. Along with many other changes, wars produce dramatic changes in the age and sex structure of a nation's population. The numbers of young men killed in twentieth-century wars have often been staggering. At the end of World War I, for example, out of every 1000 men who were between 20 and 45 years of age at the war's outbreak, 182 died in France, 166 in Austria, 155 in Germany, 101 in Italy, and 88 in Britain (von Hentig, 1947, p. 349). Since young men are universally overrepresented in homicide offense rates (Wolfgang and Ferracuti, 1967), these wartime losses remove from a nation's population precisely those who are statistically most likely to commit homicide in the postwar years. In addition, the postwar baby booms, particularly after large wars, also tend to reduce postwar homicide rates by inflating the population denominator on which they are calculated.

The implications of these conservative artifacts can be summarized easily: If one corrects for the wartime depletion of young men and the surge of postwar babies, warring nations experienced homicide increases even greater than those shown in Table 24.1. For example, France is shown as having a negligible homicide rate increase of 4 percent after World War I and is classified as an unchanged case in Table 24.1. If one controls for France's appalling wartime losses, however, the observed postwar homicide rate can only be considered as an impressive increase. The fact that combatant nations still showed increases much more frequently than the noncombatant nations in Table 24.1, despite the conservative effect of these demographic changes, is therefore particularly impressive.

The nation-wars in Table 24.1 varied considerably in length of wartime involvement and number of men killed. The warring nations in our study, therefore, received different “doses” of war. In terms of the legitimation hypothesis, nations with the greatest wartime mortality are exposed to a larger scale of legitimate killing than other nations. Using the information provided by Singer and Small (1972), we were able to classify nation-wars according to the amount of war experienced by each. The classification we used was whether a nation had fewer or more than 500 battle deaths per million prewar population. This control procedure produces even more dramatic results and again runs counter to what one would expect from population changes alone. The nations that were heavily influenced by war-time killing suffered postwar homicide increases with particular consistency; 79 percent of these nations experienced homicide rate increases, and only 21 percent had decreases. We interpret this result as an internal validation of the overall

TABLE 24.1
Homicide Rate Changes in Combatant and Control Nations After World War I, World War II, the Vietnam War, and 11 Other Wars

	Decrease	%	Unchanged (<10%)	%	Increase	%
Combatant nations						
Australia (I)	-23		England (I)	-5	Belgium (I)	24
Canada (I)	-25		France (I)	4	Bulgaria (I)	22
Hungary (I)	-57		S. Africa (I)	-1	Germany (I)	98
Finland (II)	-15		Canada (II)	6	Italy (I)	52
N. Ireland (II)	-83		Australia (VN)	7	Japan (I)	12
U.S. (II)	-12		Korea (VN)	6	Portugal (I)	47
India (1962 Sino-Ind)	-14		Philippines (VN)	9	Scotland (I)	50
Israel (1956 Sinai)	-58		Egypt (1956 Sinai)	-2	U.S. (I)	13
Italy (1896 It-Eth)	-15		Egypt (1967 6-Day)	-4	Australia (II)	32
Italy (1935 It-Eth)	-44		France (1884 Sino-Fr)	0	Denmark (II)	169
			India (1965 2nd Kash)	6	England (II)	13
			Japan (1904 Russo-Jap)	-9	France (II)	51
			Japan (1932 Manch)	-8	Italy (II)	133
					Japan (II)	20
					Netherlands (II)	13
					New Zealand (II)	313
					Norway (II)	65
					Scotland (II)	11
					S. Africa (II)	104
					New Zealand (VN)	50
					Thailand (VN)	14
					U.S. (VN)	42
					Hungary (1956 Russo-H)	13
					Israel (1967 6-Day)	14
					Japan (1894 Sino-Jap)	15
					Jordan (1967 6-Day)	35
					Pakistan (1965 2nd Kash)	13

Control nations

Norway (I)	-37		Ceylon (I)	8	Finland (I)	124 ^a
Ceylon (II)	-19		Chile (I)	-3	Thailand (I)	112 ^a
Chile (II)	-67		Netherlands (I)	-2	Colombia (II)	34
El Salvador (II)	-20		Thailand (1932 Manch)	7	Sweden (II)	14
Ireland (II)	-22		Ceylon (1962 Sino-Ind)	-4	Turkey (II)	12
Switzerland (II)	-42				Canada (VN)	11
Thailand (II)	-17				England (VN)	23
Burma (VN)	-17				Taiwan (VN)	37
Indonesia (VN)	-23				Ceylon (1965 2nd Kash)	11
Japan (VN)	-23					
Austria (1956 Russo-H)	-13					
Burma (1965 2nd Kash)	-13					
France (1896 Italo-Eth)	-13					
Switzerland (1935 It-Eth)	-22					
Turkey (1956 Sinai)	-33					
Turkey (1967 6-Day)	-19					

^aFinland and Thailand are both included as control cases for World War I because these two nations were not identified as combatants by Singer and Small (1972). However, the wisdom of classifying these nations as noncombatants during this period is far from clear. Finland underwent something of an "internal" or civil war in 1918, and Thailand actually sent troops to the Allied cause during World War I.

Source: Archer and Gartner (1976b).

finding in Table 24.1, since the nations most likely to show homicide increases are precisely those nations that experienced the largest "amounts" of war.

The answer to the first of the two questions prompted by the legitimization hypothesis is therefore unambiguous. Warring nations are more likely than nonwarring nations to experience postwar surges in individual acts of homicide. The increases occur despite massive wartime losses of young men and are particularly common among nations whose wartime involvement is unusually deadly. It is still a separate matter, of course, to test the second half of the legitimization hypothesis: What is it about wars that actually produces these increases in postwar violence? For example, there has been a long history of speculation about whether veterans of wars are more likely than other citizens to commit acts of violence (Archer and Gartner, 1976a). This fear appears to surface after each war. For example, attorney Clarence Darrow (1922, p. 218) attributed post-World War I crime increases to the returned veterans, whom he described as "inoculated with the universal madness," and Lifton (1973, p. 32) made this more recent prediction about Vietnam veterans: "Some are likely to seek continuing outlets to a pattern of violence to which they have become habituated, whether by indulging in antisocial or criminal behavior or by offering their services to the highest bidder." The basic idea behind this speculation is that the military socializes men to be both more accepting of and more proficient at killing and that this experience may increase the likelihood that veterans will use violence even after the war is over.

A number of spectacular case studies appear to lend substance to the image of the violent veteran. For example, some soldiers who rode with Quantrill's guerrillas during the American Civil War became well known for their postwar lawlessness; they were Jesse and Frank James and the Younger brothers. There are also many other examples. In 1949 a combat veteran named Howard Unruh went on a rampage in Camden, New Jersey, and killed 12 people with a souvenir pistol—Unruh had won marksman and sharpshooter ratings during World War II. During the Vietnam War, a soldier named Dwight Johnson killed about 20 enemy soldiers and was awarded the Congressional Medal of Honor; several months after his return home to Detroit, he was shot and killed while trying to rob a grocery store. Case studies prove very little by themselves, of course, and the more general question is whether the acts of violent veterans can explain the homicide increases we have observed in postwar societies. Since most nations, including the United States, do not maintain records on the military experience of persons arrested for homicide, it is difficult to determine whether veterans are overrepresented in homicide statistics. Even if the number of homicides committed by veterans were known, it is not clear what rate we would compare this with, since veterans and nonveterans differ in many ways in addition to military experience. An indirect approach to this question involves comparisons between two types of veterans, combat and noncombat; and recent research has not found unusually high rates of offenses or violence among combat veterans (Borus, 1975). In the absence of firm evidence, the image of the violent veteran may be more myth than reality. The persistence of the myth is probably due, in part, to the nature of the training that sol-

diers receive. Civilians may have deep-seated misgivings about teaching soldiers to kill, and they may fear that it is easier to unleash violence than to rein it in again.

We have found evidence that the hypothesis of the violent veteran, despite its popularity, cannot explain the postwar homicide increases observed in warring nations. The key answer to this question is our finding that postwar increases in violence have occurred among groups who could not have been combat veterans. During the Vietnam War, for example, violence increased precipitously for men and women in the United States; between 1963 and 1973 homicide arrests increased 101 percent for men and 59 percent for women. We have also obtained data from other nations on postwar offense rates for men and women, and it is clear that postwar rates of violence increase for both sexes. As a final bit of evidence, postwar homicide rates also increase among all age groups, and not just among the young veteran age cohort.

In summary, postwar increases in homicide rates are both common and pervasive. They occur after large and small wars, in victorious as well as defeated nations, in nations with improved postwar economies and nations with worsened economies, among veterans and nonveterans, among men and women, and among offenders in several age groups. We believe that these homicide rate increases cannot be explained by artifacts or by other social changes that happen to coincide with wars. Instead, we think that this finding reveals a potential linkage between the violence of governments and the violence of individuals. This linkage is mediated, we believe, by a process of legitimization in which wartime homicide becomes a high-status, rewarded model for subsequent homicides by individuals. Wars provide concrete evidence that homicide, under some conditions, is acceptable in the eyes of a nation's leaders. This wartime reversal of the customary peacetime prohibition against killing may somehow influence the threshold for using homicidal force as a means of settling conflict in everyday life. There is even some independent evidence of the mechanisms by which governmental violence can permeate the private lives of citizens in warring societies; for example, Huggins and Straus (1975) have shown that fictional violence in children's literature reaches a dramatic maximum in war years.

Even though social scientists have in the past amassed impressive experimental evidence that violence can be produced through imitation or modeling, they have in general neglected the possibility that government—with its vast authority and resources—might turn out to be the most potent model of all. This powerful influence of governments on private behavior seems to be what Justice Louis Brandeis had in mind when he wrote in 1928: "Our government is the potent, the omnipresent teacher. For good or ill, it teaches the whole people by its example. Crime is contagious. If the government becomes a lawbreaker, it breeds contempt for the law."

The astonishing neglect of official violence in the social sciences has almost certainly resulted from the curious tendency of both citizens and scientists to avoid labeling the acts of governments—including even the extreme act of homicide—as violence. This deference to the legitimacy of governments has resulted in the near

omission of wars and other forms of official homicide from discussions of violence. The new finding that wars cause surges in postwar homicide rates suggests that this omission is lamentable and that the violent acts of individuals may in part be catalyzed by the violent times in which governments cause them to live.

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25

Deindividuation and Anger-Mediated Interracial Aggression: Unmasking Regressive Racism

Ronald W. Rogers and Steven Prentice-Dunn

A factorial experiment investigated the effects of deindividuation, anger, and race-of-victim on aggression displayed by groups of whites. Deindividuating situational cues produced an internal state of deindividuation that mediated aggressive behavior. Deindividuation theories were extended by the finding that the internal state of deindividuation was composed not only of the factors Self-Awareness and Altered Experience, but also Group Cohesiveness, Responsibility, and Time Distortion. As predicted, nonangered whites were *less* aggressive toward black than white victims, but angered whites were *more* aggressive toward blacks than whites. Interracial behavior was consistent with new, egalitarian norms if anger was not aroused, but regressed to the old, historical pattern of racial discrimination if anger was aroused. This pattern of interracial behavior was interpreted in terms of a new form of racism: regressive racism.

Mob violence that has occurred since the time of the Roman republic has been attributed typically to short-term economic motives and political issues (cf. Rude, 1964). Economic and political motives, however, were inadequate to explain the torture, mutilation, and burning that frequently occurred in outbursts of interracial violence. Lynch mobs convinced social scientists that "the fundamental need was for a better understanding of the causes underlying the resort to mob violence" (Southern Commission on the Study of Lynching, 1931, p. 5). The major purpose of the present experiment was to examine interracial aggression within a group context, especially a context conducive to deindividuation.

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