

Hostility as a function of the opportunity to counteraggress¹

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After several years of research there remains considerable ambiguity about how hostility and aggressive tendencies, once aroused, can be reduced. Attempts to demonstrate a reduction in hostility or aggression by catharsis through fantasy, verbal or nonverbal aggressive behavior have had only mixed success (Bramel, 1969). Indeed, many studies have shown that the expression of hostility or aggressive behavior can enhance rather than reduce further hostility and aggression (Berkowitz, 1964). In an attempt to help clarify what conditions enhance or reduce hostility, the present paper analyzes the instigation of aggression in terms of reactance theory (Brehm, 1966). This reactance theory analysis suggests that hostility can be reduced by increasing the possibility for aggression to occur, an implication that was tested by the experiment to be reported below.

To understand the present application of reactance theory, we must first assume that an individual normally does not feel free to act aggressively toward other people. This assumption is no doubt limited by cultural and subcultural practices, but as will be seen, this limitation does not have serious consequences for the general argument to be made. Though not normally so, aggression can become a free behavior due to role requirements or situational constraints. To cite a trivial example, it is appropriate for boxers to be aggressive toward each other in the ring. Similarly, a prison guard may be permitted to use physical force against a prisoner. However, what we wish to suggest here is that in addition to role requirements or situational constraints, an ag-

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gressive act itself can create the freedom to be aggressive. The conditions under which this would occur are those in which the instigator injures or insults an individual in the absence of justifying role requirements or situational constraints. In other words, gratuitous acts of aggression tend to create a freedom for the victim to counteraggress.

According to reactance theory (Brehm, 1966), whenever a person believes himself to have a freedom and that freedom is threatened or eliminated, psychological reactance is aroused in the individual. Psychological reactance is defined as a motivational state that is directed toward the restoration of whatever freedom is threatened or eliminated. Reactance aroused by the elimination of a freedom adds to the motivation to engage in the behavior that is no longer possible. Thus, where the freedom to aggress has been eliminated, reactance should add to whatever hostility would lead to the thwarted aggressive act.

Viewed in terms of reactance theory, then, a gratuitous act of aggression tends to create a freedom to counteraggress. To the extent that counteraggression is made impossible, reactance will be aroused and will add to hostility toward the initial aggressor. Looked at another way, the sheer possibility of counteraggression following a gratuitous aggressive act will tend to minimize the arousal of reactance and will thereby minimize, though not necessarily eliminate, hostility toward the perpetrator of the act.

The above line of reasoning can be tested by an experiment in which people are gratuitously insulted or not, and within each of these conditions, people are or are not given an opportunity to hurt the insulter. A measure of hostility is taken before there is any actual counteraggression in order to rule out the possibility of cathartic effects.

METHOD

Subjects and Design

Sixty-two female students from introductory psychology courses at Duke University served as subjects. Students in the introductory courses are required to participate in research projects but are allowed to choose from among several possibilities. Subjects in the present project volunteered to take part in a project called, "Physiological reactions to intellectual tasks." Six subjects were rejected at the end of the postexperimental interview and without reference to

their dependent measure responses. One had prior knowledge of the deception employed in the design, one expressed suspicion concerning the dependent measure questionnaire, and four expressed suspicion concerning the insult manipulation. With the above exceptions and with the restriction that there be equal-cell *N*s, 56 subjects were randomly assigned to the four experimental conditions of a two-by-two design. Half of the subjects were insulted and half were not, while within each of these conditions, half were given the opportunity to hurt the experimenter, while half were not.

Procedure

Subjects were run individually. After the subject was seated in the experimental room, a plethysmograph was attached to the index finger of her nonpreferred hand. She was then asked to remain as still as possible and to relax, while the purpose of the research was explained to her. She was told that the intention was to establish some physiological correlates of various mental activities, and that the plethysmograph would obtain these physiological measures throughout the experimental session. A brief explanation of the plethysmograph and the need for an initial rest period was also given. At the end of the rest period, which lasted three or four minutes, and in order to strengthen the stated rationale for the study, the WAIS picture completion test was given.

Insult manipulation After the WAIS picture test, the experimenter surreptitiously looked at a schedule to see whether the subject was to be in the insult or in the no-insult condition. The manipulation used was adapted from Hokanson and Burgess (1962). It consisted of having the subject count backwards from one hundred to zero by threes. Subjects in the insult condition were stopped after thirty seconds or when they reached fifty, whichever came first, and were told they were not going fast enough and that they should try harder because their data were useless. They were asked to start again at one hundred, and they were again stopped at thirty seconds or fifty. This time they were told that they had obviously not tried very hard, that their data were useless, and that the experimenter hoped they would try harder in other parts of the study. The experimenter then turned to the next task, to be described below. Subjects in the no-insult condition were allowed to count backwards without interruption and were told they had done well.

Manipulation of the opportunity to aggress As the subject finished her counting procedure, the experimenter surreptitiously looked at another schedule to see whether the subject was assigned to the opportunity or the no-opportunity condition for aggression against the

experimenter Accordingly, he handed the subject one or another set of typed instructions In the opportunity condition, the instructions described some past research concerning the effect of electric shock on guessing behavior The instructions went on to say that because the university ethics committee had not approved the use of shock with students from the subject pool, the experimenter would be the subject and the subject would act as experimenter The description of the task was that the subject was to think of a number between one and ten, the experimenter would make a guess, and if the guess were wrong, the subject could shock the experimenter This routine was to be repeated ten times To convince the subjects that the shocks were real, the instructions indicated that they could, if they wished, first administer a shock to themselves in order to see what it was like

While the subject read the instructions, the experimenter placed a small shock stimulator, complete with electrodes, on the table in front of the subject If the subject chose to try the shock, she found it to be moderately noxious

Instructions for subjects in the no-opportunity conditions omitted all reference to shock If the experimenter guessed the wrong number, the subjects were simply to tell the experimenter his guess was incorrect

Dependent measures When the subject indicated that she understood the procedure for the guessing task and was ready to begin, the experimenter acted as though he suddenly remembered that he was supposed to give the subject a questionnaire after the first part of the experiment He then handed the subject a questionnaire, explaining that it was part of a study the department had been asked to participate in The instructions at the beginning of the questionnaire described it as a study being conducted by the American Psychological Association The instructions stressed that the questionnaire was anonymous, that neither the experimenter nor anyone in the department would see it, and that not even the university would ever be connected with it The instructions directed the subject to place his completed questionnaire in an addressed envelope that was provided, to seal the envelope, and to place it in a labeled box that would be found in a reception room of the laboratory The point of these instructions was, of course, to minimize the possibility that the subject could interpret his responses as expressions of aggression against the experimenter

To support the rationale of being a general survey, the questionnaire first asked for background data such as age, sex, year in college, and amount of research experience It also contained filler questions concerning the scientific importance of the experiment, whether or

not the subject felt he had learned anything by participation, and whether participation had increased or decreased the subject's interest in psychology

Three questions were designed to be pertinent to the experiment. The first, intended as a check on the insult manipulation, asked the subject how fairly he had been treated. The second was the primary dependent measure and was intended as a measure of hostility toward the experimenter. It asked the subject how much he liked or disliked the experimenter. The third, intended as a measure of hostility toward the experimental situation, asked the subject how much he enjoyed participating in the project. These questions and their response scales will be described in detail in the report of results.

When the questionnaire had been completed and placed in its envelope, the number-guessing task was carried out according to the instructions given in the opportunity manipulation. While the second task was unnecessary for the main purpose of the experiment, it was carried out in order to maintain the deception into the postexperimental interview in order to obtain better estimates of a subject's suspicion and doubt concerning the central features of the study. After probing for suspicions and doubts in the postexperimental interview, the experimenter gave a full explanation of the experiment and the deceptions involved.

RESULTS

Half of the subjects were insulted in order to create the impression among them that they had the freedom to aggress against the experimenter. If the insult manipulation were successful, then subjects should have felt treated less fairly in the insult than in the no-insult condition. To check the success of this manipulation, the questionnaire included the question, "How fairly were you treated?" and allowed subjects to make their responses along an eleven point scale that ran from -5 to +5 with respective endpoint labels of "unfairly" and "fairly." The mean response for insult subjects was -0.7 while that for no-insult subjects was 4.36. An analysis of variance showed a main effect for the insult manipulation ($F = 48.86$, $df = 1/52$, $p < .001$)³ and no other reliable effects or trends. The insult manipulation accounted for 46.5 percent of the variance (ϵ^2) and therefore seems to have been reasonably successful.

3 All p values are two-tailed.

Table 1 Mean liking for the experimenter (insultor)

	Opportunity	No opportunity
No-insult	1.93 ^a	3.43
Insult	.43	-1.36

^a +5 = maximum liking, -5 = maximum disliking. *MS_e* = 3.98

Effects on hostility It was assumed that if an insult creates the freedom to aggress against the insultor, then reactance would be aroused to the extent that there was no opportunity to aggress against the insultor. The greater the magnitude of reactance, the greater would be the total motivation to aggress and, thus, the greater should be the hostility toward the insultor. To the extent that an opportunity is provided to hurt the insultor, reactance and consequent hostility should be minimized.

The primary measure of hostility was a question that asked, "How much did you like the experimenter?" and allowed responses on an eleven point scale that ran from -5 to +5 with respective endpoint labels of "disliked him or her" and "liked him or her." The mean responses to this question are shown in Table 1. As this table shows, subjects liked the experimenter much less in the insult condition (-.46) than in the no-insult condition (+2.68) ($F = 34.74$, $df = 1/52$, $p < .001$). More importantly, however, the interaction between insult and opportunity was highly reliable ($F = 9.49$, $df = 1/52$, $p < .01$). In direct support of the hypothesis, insulted subjects liked the experimenter more when they had an opportunity to hurt him (+.43) than when they had no such opportunity (-1.36) ($F = 5.61$, $df = 1/52$, $p < .05$). In contrast, subjects who were not insulted showed a reverse trend ($F = 3.96$, $df = 1/52$, $p < .07$).

A second measure of hostility asked subjects, "How much did you enjoy participating in this project?" and allowed responses along an eleven point scale that ran from -5 to +5 with respective endpoint labels of "disliked it" and "liked it." The pattern of mean responses to this question was similar to that for the primary measure of hostility. There were a reliable main effect for insult ($F = 19.07$, $df = 1/52$, $p < .001$) and a reliable interaction between insult and opportunity ($F = 6.98$, $df = 1/52$, $p < .05$). Again, in direct support of the hypothesis, insulted subjects re-

ported less enjoyment in the no-opportunity (-1.93) than in the opportunity (0.0) condition ($F = 4.24$, $df = 1/52$, $p < .05$)

Other measures No effects were predicted on the remaining three questions on the questionnaire, and indeed, there were no reliable effects concerning how much subjects thought they had learned by participating in the project. However, subjects reported that their interest in psychology was increased more in the no-insult (1.75) than in the insult (.29) condition ($F = 8.41$, $df = 1/52$, $p < .01$). In addition, there was a reliable interaction ($F = 4.28$, $df = 1/52$, $p < .05$) between insult and opportunity on subjects' responses regarding the judged scientific importance of the study. This interaction was due primarily to the fact that subjects in the opportunity condition rated scientific importance lower when they were insulted (2.64) than when they were not insulted (3.43) ($F = 4.61$, $df = 1/52$, $p < .05$).

Finally, since subjects in the opportunity conditions did in fact have a chance to shock the experimenter, it is pertinent to see whether or not those who were insulted shocked him more than did those who were not insulted. Eight out of thirteen⁴ subjects in the insult condition, and eight out of eleven subjects in the no-insult condition, shocked the experimenter. Thus, the majority of subjects who had the opportunity did in fact shock the experimenter, but there was no apparent difference due to the insult manipulation. This pattern is not surprising, of course, because the experimental instructions in both opportunity conditions indicated that it was appropriate to shock the experimenter when he guessed the wrong number.

Unfortunately, the plethysmographic data were completely useless due to several technical difficulties.

DISCUSSION

A crucial factor in the interpretation of the present results is the psychological meaning of the differential opportunity to hurt the experimenter. The reactance theory analysis that led to the present experiment assumes that for insulted subjects the differential opportunity to hurt the experimenter constitutes a differential reduction in freedom to aggress against the experi-

4 These *N*s are reduced because some data were lost for seven subjects when the data were moved from one location to another.

menter Let us therefore consider what other effects the opportunity manipulation may have had

First, it might be argued that insulted subjects were aroused to make implicit aggressive responses against the experimenter, and that the lack of an opportunity to counteraggress frustrated these aggressive responses This added frustration would produce more hostility toward the experimenter than would exist for those subjects who were given the opportunity to counteraggress This explanation of the effect of opportunity for the insulted subjects cannot be completely ruled out At the same time, this explanation lacks plausibility for two reasons First, despite rather wide acceptance of the proposition, there is little or no evidence in the literature to indicate that the mere blocking of a response sequence results in hostility toward the agent responsible for the blocking Second, according to Berkowitz (1966), implicit aggressive responses are set in motion only when anger (from insult) is accompanied by the opportunity to aggress According to this view, where there is no opportunity to aggress there would be no implicit aggressive responses and thus no possibility of frustration It may be noted that within the reactance-theory analysis, insult is assumed to create a freedom to counter-aggress, but not necessarily to create implicit aggressive responses Thus, given the arousal of anger by insult, the lack of opportunity to aggress can arouse reactance without causing frustration

The effect of the opportunity manipulation was like that which is hypothesized to occur from catharsis (Dollard, Doob, Miller, Mowrer and Sears, 1939) According to the catharsis hypothesis, the expression of hostility or aggression should reduce the amount of felt hostility and tendency toward further aggression Is it likely, then, that the reduction of hostility in the opportunity condition relative to that in the no-opportunity condition was due to catharsis? This interpretation is implausible because subjects in the opportunity condition did not actually shock the experimenter before the measure of hostility was taken, nor did they even have a chance to indicate that they would shock the experimenter Thus, the opportunity condition did not allow any actual expression of hostility or aggression before the dependent measure of hostility was obtained

Nevertheless, in the opportunity condition it was possible for

subjects to make an implicit decision about whether or not they would shock the experimenter during the guessing task. While it might be conjectured that an implicit decision to shock the experimenter would constitute a catharsis, it might be more plausibly argued that such an implicit decision would increase hostility and the tendency to aggress. A decision to hurt the experimenter could arouse dissonance that in turn could be reduced by cognitive changes that would justify hurting him. Such changes would tend to increase hostility and the aggressive tendency (Glass, 1964). Rather than having a cathartic effect, then, the implicit decision to shock the experimenter could be expected to maintain or increase hostility toward him.

Is it then possible that subjects in the opportunity condition made an implicit decision not to shock the experimenter, which would have aroused dissonance and a consequent tendency to justify not hurting him? This possibility is easily ruled out, of course, by the fact that most of the subjects in the opportunity condition did in fact shock the experimenter. Quite clearly, then, an implicit decision not to shock the experimenter, with consequent dissonance reduction, cannot account for the amelioration of dislike in the opportunity condition relative to the no-opportunity condition.

However, if subjects anticipated the expression of their anger toward the experimenter, then they may have felt anxious or guilty, and this anxiety or guilt could have led to repression of hostility. While direct experimental evidence for this line of reasoning is not available, some tangential evidence is. Berkowitz, Lepinski and Angulo (1969) found that subjects who were informed that they were very angry with another person administered relatively little shock to him. They interpreted this relative lack of aggression as being due to an inhibition that was produced by anxiety over inappropriately high anger. But they also found that these same subjects rated themselves as being relatively high in feelings of anger. Thus, even if the expression of aggression can be inhibited by anxiety about inappropriately high anger, the anger itself does not appear to be repressed.

In a study of the effect of guilt and the expression of direct and displaced aggression on diastolic blood pressure, Gambaro and Rabin (1969) found that subjects who measured high and low on guilt about aggression did not differ in the extent to which

their diastolic blood pressure was reduced by aggression against a person who had instigated hostility. Furthermore, though self-ratings of anger were not reported separately for the high and low guilt groups, the authors did not mention any difference due to guilt and we may assume that none occurred. Thus, it appears that guilt about aggression is not a likely cause of lowered hostility. Neither guilt nor anxiety about aggression, then, serves as a plausible reason for the lowered hostility produced by the opportunity to counteraggress.

In summary, it appears that the opportunity manipulation affected hostility in the insult condition by differentially reducing freedom. Subjects who received a gratuitous insult felt they had the freedom to aggress against the experimenter, and the magnitude of reactance and their consequent hostility toward the experimenter increased to the extent that they were given no opportunity to do so. Conversely, to the extent that insulted subjects were given an opportunity to hurt the experimenter, their hostility toward him was reduced.

The present results also produced an unpredicted effect. Subjects in the no-insult condition liked the experimenter less when they had an opportunity to shock him than when they did not have such an opportunity. As has already been noted, an effect of this kind could arise from an implicit decision to shock the experimenter, which could result in dissonance arousal and consequent attempts to reduce dissonance by derogation of the experimenter. A second possibility is that subjects tended to like the experimenter less, simply because he asked them to administer electric shock. A third possibility is that subjects liked the experimenter less in the opportunity condition in order to be able to shock him. Unfortunately, the present design does not allow an unambiguous test of any of these possibilities.

The finding that hostility can be increased by the lack of opportunity to counteraggress complements earlier research on reactance as a cause of aggression. Worchel (1972) has shown that the attractiveness of aggressive activity is increased when the freedom to participate in that kind of activity is important and when one is subjected to pressure not to participate. In other work, Worchel (1974) has shown that aggression toward a person who eliminates a freedom increases as the importance of the eliminated freedom increases. The latter work demonstrated that

aggression can result from reactance arousal even when the freedom interfered with has nothing to do with aggression. Presumably, aggression can result any time that it has instrumental value for the restoration of freedom, and there are no strong forces such as threat of retaliation to inhibit aggression.

Our interpretation of the present results can be applied to some of the previous research on the catharsis hypothesis. For example, Thibaut and Coules (1952) reported that the opportunity to counteraggress tended to reduce hostility toward an instigator of aggression. While their subjects actually sent communications to the instigator, interestingly enough, those communications contained very little hostile content. In other words, the reduction in hostility was due not to the expression of aggression but rather, as in the present case, to the opportunity to aggress. Similarly, Rosenbaum and deCharms (1960) reported that low self-esteem college students who had been gratuitously insulted by a peer made fewer negative evaluations of him if first given a chance to reply to him than if not given such a chance. As in the Thibaut and Coules study, subjects who were given a chance to counteraggress did not actually act aggressively. This study too, then, supports the present argument that hostility is reduced by the mere opportunity to counteraggress.

While the present analysis indicates that an opportunity to counteraggress will tend to reduce hostility and subsequent aggressive tendencies, the occurrence of actual counteraggression may be expected to complicate the picture. As outlined earlier, a decision to aggress, or actual aggressive behavior, can arouse dissonance and a consequent tendency to justify aggressiveness. Hence, it is not surprising that many studies (e.g. deCharms and Wilkins, 1963) have reported that aggressive behavior increases the aggressive tendency. In addition to dissonance effects, aggressive behavior can facilitate hostility and aggression in a variety of other ways (Berkowitz, 1964, Bramel, 1969).

A second important limitation of the present view concerns the character of the instigation to aggress. In order that reactance add to the motivation to aggress, the instigation to aggress must imply that the individual has some freedom to aggress. That implication was made clear in the present experiment by using a gratuitous insult. However, it is conceivable that there are ways of instigating aggression that would not imply any freedom to

aggress. For example, a strong, goal-directed motive might be frustrated in order to produce a motivation to aggress without any implied freedom to aggress. To the extent that there are cases of motivation to aggress without an implied freedom to do so, the mere opportunity to aggress would presumably have no effect on the amount of hostility or the amount of aggression expressed.

If we may assume that instigations to aggression rather frequently imply a freedom to aggress, then a general implication of the present view is that aggressive impulses can frequently be reduced by making aggression easy. Thus, for example, persons in positions of authority should allow or even facilitate the opportunity for demonstrations by those who are discontented. And it may be for this same reason that it is functional for a criminal to put himself at the mercy of the court, or for the weaker of two combatants in the animal kingdom (as, for example, among wolves) to bare his throat to his opponent. On occasion, at least, the offer of one's hide may be the better part of valor.

SUMMARY

Half of the subjects, college students, were insulted by the experimenter while half were not. Within each of these conditions, half of the subjects were led to believe they would have an opportunity to administer electric shock to the experimenter, while the other half were not. A measure of hostility toward the experimenter was taken before there was any actual opportunity to shock him. As predicted from reactance theory, it was found that the mere opportunity to shock the experimenter reduced hostility that was produced by his insulting behavior. Alternative interpretations and implications were discussed.

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