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Frustration, Attribution of Blame, and Aggression

JAMES A. KULIK AND ROGER BROWN

Harvard University

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In contrast to most recent studies of human aggression, multiple measures of naturally occurring aggressive behavior were examined in a realistic and involving setting. Consistent with attributional formulations, it was found that aggression increased in accord with attributions of blame, and that more blame was attributed to another in response to inadequately justified thwartings than to adequately justified thwartings. As anticipated, anger, other-directed attributions of blame, and other-directed aggression were greatest in response to unjustified (illegitimate) thwartings. Justified (legitimate) thwartings produced intermediate anger and intermediate levels of blame and aggression internally and externally. Self-caused (internal) thwartings, ostensibly caused neither by the other's disposition nor by situational factors, produced the least anger and other-directed aggression but the most self-blame/self-aggression. In addition, unexpected thwartings produced independently more anger than did expected thwartings, and high-drive thwartings produced independently less other-directed aggression than did low-drive thwartings. The results are discussed with reference to both the need and the potential for studies of human aggression which employ more ecologically valid settings and measures of aggressive behavior.

Recent experimental studies of human aggression have generally employed electric shock as the primary, if not sole, measure of aggression. Electric-shock machines (cf. Buss, 1961) have undeniably provided reliable, objective measures of aggression with which to test numerous important questions. However, conclusions based upon data for only one mode of aggressive behavior are likely to be incomplete and/or misleading. In addition, the extremely rare real-world occurrence of shock machines and shock behavior makes experimental settings employing shock measures necessarily more artificial and leaves uncertain the

Requests for reprints should be sent to James A. Kulik, Department of Psychology and Social Relations, Harvard University, 33 Kirkland Street, Cambridge, MA 02138.

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generalizability of findings to more natural settings and forms of aggressive behavior.

The present research is principally concerned with the effect that different types of frustration [where frustration is defined as the thwarting of a goal response (Dollard, Doob, Miller, Mowrer, & Sears, 1939)] have on unobtrusive measures of perceptions and multiple forms of naturally occurring aggressive behavior. Previous research relevant to this topic has examined primarily the differential effects of arbitrary (unjustified) thwartings and nonarbitrary (justified) thwartings and found that arbitrary thwartings produce more anger and/or aggression than do nonarbitrary thwartings (e.g., Cohen, 1955; Fishman, 1965; Pastore, 1952), even when inhibitions for aggression were minimized experimentally (Burnstein & Worchel, 1962) or via the use of projective techniques (Rothaus & Worchel, 1960). However, most studies in this area have operationalized arbitrary (we will use the term illegitimate) frustrations in a manner which combines elements of unexpectedness and inadequate justification. The only study which has examined the independent effects of unexpected and illegitimate thwartings found that unexpected thwartings produced greater aggression than did expected thwartings, whereas illegitimate thwartings and legitimate thwartings produced similar levels of aggression (Kreganman & Worchel, 1961). However, methodological problems with the adequacy of the operationalizations of both frustration and justification render these results in need of replication.

An attributional approach (cf. Heider, 1958; Jones & Davis, 1965) to the area would suggest that the causal basis for inadequately justified thwartings should be attributed primarily to dispositional qualities of the frustrator, whereas appropriately justified thwartings should be attributed more to situational factors. Work on the relationship between attribution and retaliation further suggests that attributions of blame may influence importantly the direction and intensity of frustration-induced aggression; victims of attacks should retaliate more when the causal basis for the attack is attributed to dispositional qualities of the attacker than when it is attributed to situational factors (Dyck & Rule, 1978; Jones & Davis, 1965; Kelley, 1967, 1971). Thus the victim of an illegitimate or unjustified thwarting should attribute blame primarily to the disposition of the frustrator and should direct aggression primarily against the frustrator. As situational constraints upon the frustrator become more compelling, the frustration should be perceived as more legitimate, and the frustrator should receive less blame and aggression. The less both the disposition of and the situational constraints on the frustrator are to blame, however, the more the source of frustration should be perceived by the victim as primarily self-caused. Following Dollard et al. (1939), self-caused thwartings should produce internally rather than externally directed aggression.

Another question of interest is whether highly motivated relative to less

motivated thwartings produce independently more anger arousal (cf. Dollard et al., 1939) and more externally directed aggression (Buss, 1963, 1966). However, because the present study involved a situation in which aggression would generally be considered counterproductive to the attainment of a goal, highly motivated individuals were expected to respond to thwartings with less other-directed aggression than were less motivated individuals.

If the foregoing notions are correct, the following pattern of results should be obtained. Anger, other-directed attributions of blame, and other-directed aggression should be greatest for illegitimate thwartings. Legitimate thwartings should produce intermediate anger and intermediate blame and aggression internally and externally. Self-caused or internal thwartings should produce the least anger and other-directed aggression but the most self-blame and self-aggression. In addition, thwartings which are unexpected should produce independently more aggressive behavior than expected thwartings, and thwartings of high-drive goal responses should produce more anger and less other-directed aggression than do thwartings of low-drive goal responses.

METHOD

Subjects

Subjects were 60 male undergraduates at Harvard University who responded to a sign-up sheet for a "study of persuasive communication" paying "\$1.50 for 30 minutes with the chance to make more." In fact all subjects were paid \$2.00 for their participation. Subjects were randomly assigned to experimental conditions and were run individually.

Procedure

A male experimenter presented the study to each subject as one of persuasive communication. The task of each subject was to persuade members of the community over the telephone to contribute to a (fictitious) charity that helped formerly institutionalized psychiatric patients to readjust to society.

Drive was experimentally manipulated by telling each subject that he would receive either an additional \$1.00 (high drive) or \$.10 (low drive) for each obtained pledge. Expectations (for frustration) were varied by telling each subject that he would call people either from a 10–15% success-rate list (high expectations) or from a 60–65% success-rate list (low expectations). The high rate of success for the latter list was explained by referring to the fact that the individuals on the list had been selected by an actuarial prediction method as relatively likely to donate to charities. Subjects in the high-expectations condition were told that the individuals on that list had been drawn randomly from the telephone book.

To increase further the credibility and visibility of the expectations manipulation, two five-page lists of names, addresses, and telephone numbers were prepared which showed each of the names on the initial 2.25 pages with a check mark in the left margin (signifying that the person had already been called) and both the response of the person (Yes–No) and the amount of the pledge, if any, written in the adjacent right margin. The two lists differed only in their respective percentages of Yes–No margin notations, with 65% of the telephoned names responding "Yes" on the low-expectations list compared to 15% on the high-expectations list.

Subjects were then told that depending on the call's outcome, they were to remove immediately from either the provided "Successful Calls" or "Unsuccessful Calls" folder a packet of three form letters. Subjects were told that they would then choose a letter that would serve as a cover letter for some literature about the charity that would be mailed to the person called. The subjects were instructed to fill in the name of the person called and to sign their own name to the letter that they chose to send. Subjects were then informed that their conversations would be recorded. After the subjects had prepared their persuasive communications from literature provided by the experimenter and had indicated that they were ready to begin, the experimenter administered a questionnaire containing manipulation checks for drive and for expectations as well as several filler items. Each subject telephoned the first two unchecked names on the provided list. Two male confederates received the counterbalanced calls. Both confederates responded to the efforts of a given subject in a manner which constituted one of three types of frustration: (1) illegitimate, (2) legitimate, or (3) internal. In order to avoid confounding frustration with attack or insult and to minimize extraneous variables, the confederates were trained to respond in a matter-of-fact, nonbelligerent manner in all frustration conditions. The confederates were blind both to the hypotheses of the study and to the drive, expectations, and trial conditions. The experimenter was blind to the frustration condition.

Types of Frustration

Illegitimate. Frustration in this condition is illegitimate in that the justification offered is inappropriate. As such the frustration should be attributed primarily to the disposition of the confederate frustrator. One confederate in this condition stated that he did not believe in charities, and that charities were a waste of time and a "rip-off." If the subject persisted, the confederate repeated his belief that charities were a waste. The other confederate similarly stated that he was not the type of person who just gave money away, that former mental patients should learn to look out for themselves, and that in his opinion mental patients should probably not even be allowed out of the hospital. If the subject persisted, the confederate repeated his belief that mental patients should learn to look out for themselves.

Legitimate. Frustration in this condition is legitimate, being caused ostensibly more by situational constraints on the frustrator than by his dispositional qualities. One confederate who had "always tried to give to charities" refused, because he had recently been laid off from his job and could not afford the money. The other confederate felt that the charity was worthy of support but refused, because he had recently donated all he could afford to the United Fund. If the subject persisted, both confederates repeated that they could not afford to donate.

Internal. Frustration in this condition should be attributed not to the disposition of the confederate or to situational constraints but rather to the subject's own lack of persuasive ability. One confederate, after a long, reflective pause indicated that it was difficult for him to refuse any charity, but that he would rather give to "some other charity." Similarly, the other confederate stated that the charity was worthwhile, but that he would probably give elsewhere. If the subject persisted, the former confederate said, "I don't think so," and the latter confederate said, "I don't think I can help you." Thus both confederates, although ostensibly dispositionally and situationally amenable to charitable donations, were unper-suaded by the subject and unwilling to donate to this particular charity.

An independent sample of 22 college students (hereafter referred to as the validation subjects), drawn from the same population as the experimental sample, provides strong support for both the legitimacy and the attributional aspects of the foregoing frustration operationalizations. Counterbalanced transcripts of the illegitimate, the legitimate, and the internal-frustration statements made by either Confederate A or B were rated by each subject on a series of 11-point scales. Separate 2×3 analyses of variance (Form \times Frustration) with repeated measures on the last factor indicated no significant effects involving

form, i.e., Confederate A versus B versions, on any of these measures. However a significant effect of frustration was obtained for the perceived "legitimacy of the reason for refusal given by the nondonor," $F(2,40) = 20.16, p < .001$. Consistent with the proposed legitimacy conceptualizations, illegitimate thwartings ($M = 8.55$) were rated more illegitimate than were legitimate ($M = 3.32$) and internal ($M = 5.32$) frustrations on a scale with labeled end points "Very Legitimate" (1) and "Very Illegitimate" (11). Protected t tests (see Carmer & Swanson, 1973, under the Fischer LSD method) indicated that each of these means differed significantly ($p < .05$) from the others.

Significant ($p < .001$) effects of frustration were also obtained on items concerned with "the degree to which situational factors were responsible for the refusal of the callee to donate," $F(2,40) = 21.56$, and "the degree to which dispositional/personal qualities of the callee were responsible for the refusal of the callee to donate," $F(2,40) = 22.02$. A composite index formed by subtracting the situational from the corresponding dispositional attribution for each thwarting produced a significant main effect for frustration, $F(2,40) = 26.70, p < .001$. As anticipated, illegitimate thwartings were attributed more to dispositional qualities of the confederate ($M = 6.82$), internal frustrations slightly more to dispositional than to situational factors ($M = 2.00$), and legitimate frustrations more to situational factors ($M = -3.18$). Protected t tests indicated that each of these means differed significantly ($p < .001$) from the others.

Finally, in support of the proposed attribution-of-blame formulations, significant effects of frustration were obtained on "the extent to which the caller appears responsible," $F(2,40) = 20.67, p < .001$, and on "the extent to which the callee appears responsible," $F(2,40) = 4.86, p < .02$. A composite index formed by subtracting caller from callee attributions of responsibility for each thwarting likewise revealed a significant effect for frustration, $F(2,40) = 5.21, p < .02$. Blame attributed to the callee in the legitimate-frustration condition ($M = 5.27$) was significantly ($p < .05$) less than in the illegitimate condition ($M = 6.91$) and near significantly ($p < .07$) greater than in the internal condition ($M = 3.82$).

Measures of Aggression

Anger. The force exerted on the telephone by the subject when terminating the call, assessed by a Grass Model FT 10C force displacement transducer and a Grass Model 79D polygraph, provided a reliable measure of anger arousal. The force exerted provides a relatively uncontaminated measure of anger given the uniformity across conditions of both the exculpability of the telephone as a cause of frustration and the minimal sanctions against slamming the telephone. In addition, the measure was completely unobtrusive and is therefore much less susceptible than standard self-rating measures of anger to demand characteristics arguments.

Verbal aggression. Content analysis of the recorded conversations provided a measure of verbal aggression expressed by subjects to the confederates. Two judges who were blind to the hypotheses of the experiment coded transcripts of each conversation for aggression from the time of initial frustration to the termination of the call. The content-analysis system used consisted of three dimensions and had an overall interjudge reliability of .97. The first dimension, aggressive content, involved counting each statement which was perceived by the judges as rebuffing, accusing, and/or condemning. For example, a statement such as, "that's a pretty poor attitude to have . . ." was scored for aggressive content. The second and third dimensions involved the degree of gratitude expressed by the subject and the nature of his sign-off, respectively. Moderate expressions of gratitude were scored less aggressive/more friendly than no expression of gratitude and more aggressive/less friendly than high degrees of gratitude. Similarly, formal sign-off expressions (e.g., "good-bye") were scored less aggressive/more friendly than no sign-off expression (as for example occurred when subjects hung up on the confederate) and more aggressive/less friendly than informal sign-off expressions (e.g., "bye-bye").

In order to validate the foregoing classification scheme, the validation subjects rated randomly ordered transcripts representing all combinations of gratitude and sign-off expressions on both friendliness and aggressiveness 11-point scales. The results of a 3×3 analysis of variance (with repeated measures on both factors) provided strong empirical support for both the gratitude, $F(2,42) = 56.42, p < .001$, and the sign-off, $F(2,42) = 38.16, p < .001$, conceptualizations. Protected t tests indicated, as predicted, that moderate gratitude ($M = 4.71$) was considered significantly ($p < .01$) less unfriendly than no gratitude ($M = 7.09$) and significantly ($p < .01$) more unfriendly than high gratitude ($M = 3.97$). Similarly, formal sign-offs ($M = 5.02$) were perceived as significantly ($p < .01$) less unfriendly than no sign-offs ($M = 6.58$) and significantly ($p < .01$) more unfriendly than informal sign-offs ($M = 4.18$). The same significant pattern of means was obtained for both gratitude, $F(2,42) = 21.98, p < .001$, and sign-offs, $F(2,42) = 37.13, p < .001$, on ratings of aggressiveness.

Written Aggression. The three follow-up form letters chosen and signed by subjects to mail to the confederate varied in the degree to which each expressed self-aggression and outwardly directed aggression. The intended self-aggressive (SA) letter was very self-effacing in tone, apologizing for the "imposition on your time," admitting both to "a lack of persuasiveness on my part" and to being "not especially gifted at persuasion." In contrast, the intended outwardly aggressive (OA) letter was quite threatening and/or accusatory in tone, e.g., "... consider yourself lucky if none of your family or friends is mentally ill . . . you are performing a disservice to the community . . . to ignore their efforts . . . is inhumane." Finally, the third letter was meant to be relatively moderate in tone, neither extremely self-aggressive nor extremely outwardly aggressive. Representative phrases mentioned "the social stigma that still exists regarding mental illness," and the fact that "at a time when assistance is critical, rejection is often received."

In order to validate our conceptualizations of these letters, the validation subjects rated counterbalanced copies of each form letter on a series of 11-point scales. The repeated measures analyses of variance indicated that the letters differed significantly ($p < .001$) both for self-aggression ratings, $F(2,42) = 182.23$, and for outwardly directed aggression ratings, $F(2,42) = 42.85$. The results of a set of orthogonal comparisons indicated, as predicted, that the SA letter contained significantly, $F(1,42) = 362.89, p < .001$, more self-aggression than the OA letter and moderate letter ($M = 9.00$ versus 2.4 and 1.59 , respectively), and that the OA and moderate letters did not differ significantly, $F(1,42) = 1.59$, ns. Another set of orthogonal contrasts indicated, as predicted, that the OA letter expressed significantly, $F(1,42) = 85.46, p < .001$, more aggression "to the recipient of the letter" than did the SA and moderate letters ($M = 8.82$ versus 3.50 and 3.82 , respectively), and that the SA and moderate letters did not differ significantly, $F(1,42) < 1$. Interestingly, numerous validation subjects expressed gratuitously surprise that anyone could have sent such a self-effacing (in the case of the SA letter) and/or such a rude letter (in the case of the OA letter).

Attributions of Blame

The attribution-of-blame measure was unobtrusively built into the form letters chosen by the subjects. In contrast to standard rating-scale measures, such an unobtrusive measure is *nondisruptive* to the setting and minimizes both demand characteristics and the likelihood of obtaining after-the-act rationalizations for aggression rather than "true" attributions of blame. Ratings on 11-point scales by the validation subjects indicated clearly that the letters differed significantly ($p < .001$) both for the amount of blame attributed to the confederate for not donating, $F(2,42) = 39.93$, and for blame attributed to the sender of the letter, $F(2,42) = 46.71$. Planned, orthogonal comparisons indicated that other blame was significantly, $F(1,42) = 79.85, p < .001$, greater in the OA letter ($M = 9.68$) than in the moderate ($M = 3.96$) and SA ($M = 3.91$) letters, respectively, and that the moderate and SA letters did not differ, $F(1,42) < 1$. In contrast, planned comparisons indicated that self-blame was significantly, $F(1,42) = 93.12, p < .001$, greater in the SA letter ($M = 7.82$) than in the OA ($M =$

2.41) and moderate ($M = 2.05$) letters, respectively, and that the OA and moderate letters did not differ, $F(1,42) < 1$. Thus subjects who chose to sign and to mail the OA letter blamed strongly and primarily the confederate for frustration, senders of the SA letter blamed strongly and primarily themselves, and senders of the moderate letter blamed themselves and the confederate equally moderately.

RESULTS

Separate $2 \times 2 \times 3$ analyses of variance¹ (Drive \times Expectations \times Frustration) were performed to analyze the anger and the verbal and blame/written aggression measures. For the blame/written aggression measure, the follow-up form letters were coded 0 (high self-aggression), 1 (moderate self/outward aggression), and 2 (high outward aggression) and entered into an analysis of variance (Lunney, 1970). Intercorrelations of the dependent measures for the sample, collapsed across trials, indicated that both anger and verbal aggression were significantly ($p < .03$) related to blame/written aggression, $r(58) = .322$ and $.248$, respectively, and that there was a near-significant relationship between anger and verbal aggression, $r(58) = .173$, $p < .10$.

Manipulation Checks

Separate 2×2 (Drive \times Expectations) analyses of variance on the manipulation-check items for drive and for expectations, respectively, indicated that both manipulations had their intended effects. The drive manipulation check produced only a significant main effect for drive, $F(1,56) = 5.40$, $p < .05$. Prior to the initial frustration, high-drive individuals ($M = 2.32$) felt significantly more "motivated for success at the task" than did low-drive individuals ($M = 2.93$) on a scale with end points labeled "Extremely Motivated" (1) and "Extremely Unmotivated" (7).

The expectations manipulation check produced only a significant main effect for expectations, $F(1,56) = 4.16$, $P < .05$. Prior to the initial frustration, high expectation-for-frustration subjects ($M = 3.80$) anticipated being significantly less "successful at the task" than did low expectation-for-frustration subjects ($M = 3.17$) on a scale with end points labeled "Extremely Successful" (1) and "Extremely Unsuccessful" (7).

¹ Preliminary analyses of variance included Sequence of Confederate (AB versus BA) as a between-subjects factor and Trial as within-subjects factor. Because the results indicated no significant effects involving sequence, the data are here collapsed across sequence. Similarly, because the trials factor was included to increase both the generalizability of the frustration operationalizations and the stability of measurement rather than for conceptual interest, and because there were no significant interactions of trial with the results to be reported, the data are also collapsed across trials. Only a significant main effect for trials, $F(1,48) = 15.28$, $p < .001$, was found on the anger measure, such that initial thwartings were more anger inducing than were subsequent thwartings.

Effects of Frustration Type

The type of frustration significantly affected anger,² $F(2,48) = 14.80$, $p < .001$, verbal aggression,³ $F(2,48) = 3.42$, $p < .05$, and blame/written aggression, $F(2,48) = 5.16$, $p < .01$. As predicted, illegitimately thwarted victims expressed the most, internally thwarted victims the least, and legitimately thwarted victims intermediate anger and verbal aggression. Also as predicted, illegitimate thwartings produced the most other-blame/written aggression, internal frustrations the most self-blame/self-aggression, and legitimate thwartings intermediate levels of self- and other-blame/written aggression (Table 1). The results of protected t tests indicated that each of the means for anger significantly differed from the others ($p < .01$, one tail), and that the differences between internal and illegitimate and between legitimate and illegitimate frustrations were significant ($p < .025$, one tail) for both verbal and blame/written aggression measures.

Effects of Expectations for Frustration and Drive

A main effect for expectations was found for anger, $F(1,48) = 4.82$, $p < .05$, such that individuals with low expectations for frustration were more angered in response to being thwarted than were individuals who had higher expectations for frustration (Table 1). No other effects involving expectations were significant for anger or for verbal and blame/written aggression.

Drive significantly influenced verbal aggression, $F(1,48) = 10.41$, $p < .01$ such that high-drive thwartings produced less verbal aggression than did lower drive thwartings. No other effects involving drive were significant for verbal aggression or for anger and blame/written aggression (Table 1).

DISCUSSION

As anticipated, anger, other-directed attributions of blame, and other-directed aggression were greatest for illegitimate or unjustified thwartings. Situationally justified or legitimate thwartings produced intermediate

² A log transformation was performed on the raw data for anger in order both to make more homogeneous the cell variances and to reduce the correlation between cell means and variances from $r(10) = .91$, $p < .01$ before to $r(10) = .11$ ns, after transformation. The reported means for anger therefore are log transformations of the raw data.

³ A Drive \times Expectations \times Frustration analysis of variance (with repeated measures on the last factor), performed on the length of subjects' postfrustration conversations, produced only a significant effect for the three-way interaction, $F(2,48) = 3.55$, $p < .05$. For both internal and illegitimate thwartings, the two same-level (i.e., high-high and low-low) drive and expectations conditions produced longer conversations than the two mixed-level (i.e., high-low and low-high) drive and expectations conditions, whereas for legitimate thwartings this pattern was reversed. Thus the obtained significant effect of frustration upon verbal aggression cannot be attributed to any built-in time bias of the aggressive content component of the verbal aggression measure. A separate analysis of variance performed on the length of conversations prior to frustration revealed no significant differences among conditions.

TABLE I
MAIN-EFFECT MEANS ACROSS TRIALS FOR ANGER, VERBAL AGGRESSION, AND BLAME/WRITTEN AGGRESSION

Aggression measure	Experimental condition							
	Drive				Expectations			
	High	Low	High	Low	High	Low	Internal	Illegitimate
Anger	.649 ^a	.651 ^a	.593 ^a	.709 ^b	.404 ^a	.662 ^b	.883 ^c	
Verbal	35.92 ^a	45.08 ^b	40.75 ^a	40.25 ^a	37.75 ^a	38.00 ^a	45.75 ^b	
Blame/written	0.88 ^a	0.95 ^a	0.85 ^a	0.98 ^a	0.68 ^a	0.85 ^a	1.23 ^b	

Note. Higher values indicate greater anger or externally directed aggression/blame. Cells within aggression measures and within levels of a factor having different superscripts differ from each other at $p < .05$ or less.

anger and intermediate levels of blame and aggression internally and externally. Thwartings which were ostensibly caused neither by dispositional qualities of the other nor by situational constraints produced the least anger and other-directed aggression but the most self-blame/self-aggression.

These results, obtained in a frustration-aggression context, are consistent with the notion that retaliation increases as more personal causality is attributed to an attacker (Kelley, 1971), and that more personal causality is inferred from behavior which is situationally unjustified (Heider, 1958; Jones & Davis, 1965). These results are also consistent with recent findings of Dyck and Rule (1978) that retaliation is greater when attacks are considered unjustified than when considered relatively justified. Dyck and Rule, however, did not find a significant relationship between justification and attributions of personal causality to the self or to the opponent, whereas our results indicated that justification affected perceptions of self and other's blame and consequently the direction of aggression.

Another finding of interest is the greater anger produced independently of the nature of the frustration by unexpected thwartings than by expected thwartings. The fact that the expectations effect was not also obtained on the verbal and blame/written aggression measures indicates that expectations for frustration were not as critical a determinant for aggression in this setting as was the type of frustration. We suspect this is generally the case. However it is noteworthy that the manipulation check for expectations, although statistically significant, indicated that both groups had on average quite similar, optimistic expectations for success. It is quite possible, therefore, that larger differences in expectations for frustration would have produced the effect across the aggression measures. Regardless, the obtained results for anger are relevant to previous studies which have confounded unexpectedness with unjustifiability (e.g., Cohen, 1955; Pastore, 1952; Rothaus & Worchel, 1960) or have failed to find independent effects of expectations and justification because of operationalization problems (Kregarman & Worchel, 1961).

The least clear results were those involving the drive level of the thwarted response. High- relative to low-drive thwartings did not differentially affect anger arousal or blame/written aggression but did produce less verbal aggression. The latter result may appear to conflict with findings that high-drive thwartings produce more aggression than do low-drive thwartings when aggression is instrumental to the attainment of a goal (Buss, 1963, 1966). However if one can make the assumption that verbal aggression by charity fund raisers is generally viewed as more likely to harm than to abet pledges, the results may reflect similar anger arousal but greater inhibition of aggression by highly motivated relative to less motivated individuals. Although additional research is needed to warrant a more definitive statement, it may be that high-drive relative to low-drive

thwartings augment or suppress aggression as a function of the relative adaptiveness or nonadaptiveness of aggression for the attainment of a goal.

Finally, and perhaps most importantly, the present study has important methodological implications for experimental studies of human aggression. In contrast to most recent studies which employ a single measure of aggression in an artificial situation, the present research examines multiple measures of naturally occurring aggressive behavior and blame which were unobtrusively embedded in a realistic, involving situation [as evidenced by the pervasive nervousness of subjects during their telephone conversations, by numerous requests to make additional calls, and by the fact that 10% of the subjects (66% of which were in the internal-frustration condition) offered gratuitously to donate their earnings to the charity prior to debriefing]. As a result, our findings, particularly those demonstrating that the nature of a thwarting influences perceptions of blame and subsequent aggressive behavior, are likely to have relatively greater ecological validity. It is not our intention to advocate the specific methods of the present study as a new paradigm for the study of aggression. However it is hoped that future studies will give increased attention to studying human aggression in more realistic settings with multiple, unobtrusive measures of naturally occurring aggressive behavior.

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