

# PHENOMENAL CAUSALITY AND RESPONSE TO FRUSTRATING INTERPERSONAL EVENTS<sup>1</sup>

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Some 30 years ago, Dollard et al. (1939) formulated the hypothesis that "the existence of frustration always leads to some form of aggression" (p. 1).

The hypothesis put forth by the Yale group has been fairly widely accepted, although many attacks to its original formulation are not difficult to find (Levy, 1941; Maslow, 1941; Seward, 1945; Pastore, 1952; Cohen, 1955; Berkowitz, 1962; Feshbach, 1964; Jones and Gerard, 1967).

The hypothesis that frustration leads to aggression has some validity, but it is too broad to be of real value in the understanding of social behavior. Moreover, as Jones and Gerard (1967) put it, "the authors of the frustration-aggression hypothesis largely ignored those factors that determine the perception of responsibility, and yet a consideration of such determinants is crucial in understanding what acts are frustrating in the first place" (p. 295). Two theoretical views can be invoked in order to add more meaning and usefulness to the traditional frustration-aggression hypothesis. One is Heider's (1944; 1958) notions of origin attribution, personal and impersonal causality and dispositional properties; the other is Berkowitz' (1962) proposed theoretical model for the analysis of reaction to frustration, according to which anger and inretpretation act as intervening variables between the frustrating stimulus and the *possible* aggressive response.

In his insightful and increasingly influential book, Heider (1958) expands and presents the guidlines of his cognitive psychology in a solid package. Among the many useful and thought provoking ideas put forth by Heider, those primarily relevant to the subject of this paper are the concepts subsumed under the general heading of origin attribution, whihc is a special case of phenomenal causality. As customary in our dealings with the physical reality, also in our interpersonal environment we seek for *invariances*, which will enable us

<sup>1</sup>This research has been sponsored by the American Psychological Foundation, through a Postdoctoral Research Grant awarded to the senior author. The authors wish to acknowledge their appreciation to this sponsoring agency and to Misses Lidia P. Gomes, Joyce Raschle, and Yolande Lisbona, and to Mrs. Marília Graciano for their important help. Thanks are also due to the Rio Data Center of the Catholic University of Rio de Janeiro for the availability of its IBM 7044 for the data analysis.

to understand and estimate the probability of certain behaviors. In the search for such invariances, we look for the dispositional properties of things or persons. Heider says: "The term dispositional properties is applied to these properties that 'dispose' objects and events to manifest themselves in certain ways under certain conditions. Dispositional properties are the invariances that make possible a more or less stable, predictable, and controllable world" (Heider, 1958, p. 80). Spheres have dispositional properties which enable us to predict that, when they are placed on a tilted table, they will roll. Friendship and enmity are also dispositional properties that allow us to foresee the likely action of a person toward a friend and toward an enemy. Still in line with Heider's cognitive psychology, when  $p$  sees an action of  $o$ ,  $p$  makes *attributions* in his search for the invariances that account for  $o$ 's behavior. Attributions will influence the perception of personal or impersonal causality. If  $p$  benefited  $o$ , for example, did he do this out of his own will or was he forced to do so? If he did it spontaneously, did he do it in retribution to a previous favorable action of  $o$ , or to make  $o$  in certain ways obliged to him, or still for some other reason? Several questions can be and are asked by us in our interpersonal relations. Our attributions will determine our response to  $o$ 's behavior toward us. For instance, a benefit attributed to a mere desire to flatter triggers off a different behavior than a benefit attributed to a sincere desire to help.

Applying these notions to the specific phenomenon of frustration, we state that whenever a person is confronted with a frustrating event, he is led to make causal attributions, which will connect that event with stable invariances or dispositional properties of the frustrating person. Using Heider's proposed three levels of attribution, we have in such a case the following chain of attribution processes. Firstly, the person asks who is the source of  $x$ , the frustrating event, that is, which agent is directly tied to it (origin attribution); secondly, he wants to know whether the event occurred by chance or was intended by the agent (personal or impersonal causation); thirdly, the person may inquire why the frustrating agent intended to frustrate him (the motive for the intended effect).

It is the assumption of this paper that such sequence of attributions will dictate the person's reaction to a frustration. Consequently, the simple statement that frustration leads to aggression may or may not be true. The response to a frustrating event is contingent upon the frustrated person's attribution regarding the action linked to the frustrating agent. It should be clear by now that we are limiting ourselves, in this paper, to frustrating *interpersonal events*. It is the behavior of  $p$ , the perceiver of a frustrating event, as a function of the behavior of  $o$ , the agent of the frustrating event, that is being

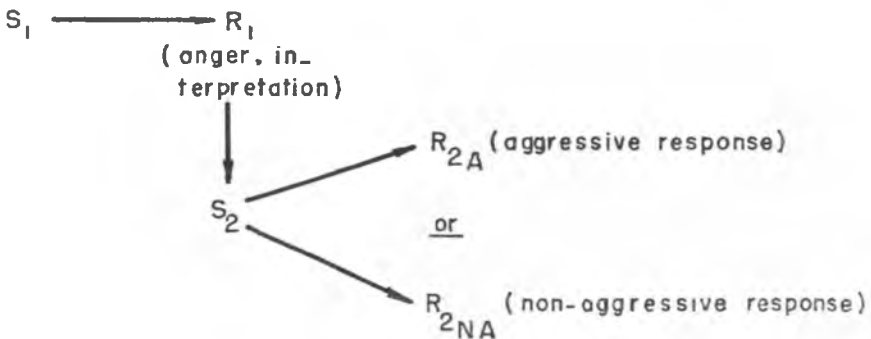
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dealt with in this paper. It should be recalled that Heider (1958) notes that "attributions may not be experienced as interpretations at all, but rather as intrinsic to the original stimuli" (p. 256), the analytical framework depicted above being presented just for the sake of conceptual clarity and explanatory purposes.

Berkowitz (1962) states that every frustration leads to *anger*, which in turn creates a readiness for aggressive acts. According to this author frustration always leads to anger and may or may not be followed by overt aggression. Feshbach (1964), as well as Berkowitz (1962), emphasizes the role of the frustrated person's *interpretation* of the situation as a determinant of his response to it. Thus, as Feshbach (1964) puts it, "a gratuitous insult and snub may arouse anger and the desire to hurt the insulter in some way. Let us assume that one discovers that one had misinterpreted the presumed 'insulting' comments. Under these circumstances the anger and hostility disappear" (p. 24). Apparently, Berkowitz would disagree with the final part of Feshbach's statement, in the sense that anger would continue, although hostile action would not be elicited. Berkowitz (1962) concludes for the "essential validity of the Dollard et al. formulation with some modifications. These alterations are largely brought about through the introduction of two classes of variables held to intervene between the objective situation and the individual's reaction to it: *anger* and *interpretation*" (p. 46).

Berkowitz' model may be graphically represented as in Figure 1.

FIG. 1. Reaction to frustration: a graphical representation of Berkowitz' (1962) model.



Based on such theoretical notions, we designed a simple experiment in which the following three hypotheses could be submitted to empirical test: (1) given a frustrating interpersonal relationship, the nature of the affective bond linking the frustrating agent to the frustrated person determines the latter's attributions.

There will be more attribution of personal causation when the nature of the affective bond is negative, than when it is positive; (2) a frustrating interpersonal event leads to feelings of anger in the frustrated person; (3) aggressive reactions to frustrating interpersonal events only occur when the frustrated person attributes personal causality to the action of the frustrating agent.

The second hypothesis stems directly from Berkowitz' (1962) proposition. The first and the third are directly inspired by Heider's cognitive psychology, insofar as it deals with attribution processes, personal and impersonal causality, origin attribution and dispositional properties, as mentioned at the outset of this paper. In this connection, Jordan (1966) points out in his paper on the cognitive psychology of Fritz Heider: "Somehow it is difficult to organize a causal unit when an actor who is liked by the perceiver is responsible for or causes an action, disliked by the perceiver; the perceiver seems to feel an imbalance in such case, an imbalance which acts as a Lewinian force against unit organization" (p. 15). Therefore, for the sake of balance, in the social phenomenon of frustration stemming from a liked person, *o*, the frustrated person, *p*, is likely to attribute impersonal causality to *o* (i.e., lack of intention and thus breaking the unit relation between *o* and the frustrating act), and this, in turn, would lead *p* to refrain himself from reacting aggressively. Let us see how these theoretical expectations met the challenge of an empirical test.

#### METHOD

*Subjects*—84 college students, with both sexes equally represented, served as Ss. They were all first year undergraduate students at the Catholic University of Rio de Janeiro, and participated voluntarily in the experiment.

*Procedure*—Three groups of 28 Ss each were randomly formed, and shown a slide of a modified picture of the Rosenzweig Picture-Frustration Test (Picture 13). The picture portrayed the situation of a person (identified as A in the slide) saying to another person (B in the slide) that "he would not be able to keep the appointment they had previously made." Person A appears in the picture sitting behind an office desk, and person B is shown standing up, with an overcoat on his arm, conveying the idea that he had to make a trip to A's office. Male figure outlines were portrayed in the slides shown to male Ss, and female figure outlines were shown to female Ss.

The independent variable was the nature of the affective relationship between A and B. Ss in the experimental conditions were instructed to put themselves in the place of B, and (a) to consider A as a friend of his (friend condition); or (b) to consider A as an en-

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emy of his (enemy condition). A control condition was also run. In this condition Ss were asked to put themselves in the place of B, but nothing was said in regard to the nature of the affective bond between A and B.

The dependent variables were: (a) the person response, which was recorded by the Ss on a blank sheet of paper previously given them, similar to the standard procedure of the application of Rosenzweig's test, and later scored by two independent judges as being intropunitive, extrapunitive or impunitive (Rosenzweig, 1944); (b) four ratings made on 90 millimeter long scales. In the first two scales the Ss were asked to indicate the likelihood of two possible reasons for A's breaking off the appointment previously made. One such reason conveyed the idea of *impersonal causation* (A was unable to see B for reasons outside his will), and the other indicated *personal causation* (A did not see B because he did not want to). These two reasons were counterbalanced for order of presentation. The scales were anchored by three points: "very unlikely," "reasonably likely" and "very likely." The third rating was made on a similar scale. The Ss were to indicate how intense the *anger* eventually felt by B for not having been able to see A. The scale had three anchoring points: "not intense at all," "relatively intense," and "very intense." Finally, Ss were requested to rate on a scale identical to the one just described, the intensity of B's *aggressive reaction* to such an act of A.

Ss were instructed to put a mark anywhere along the scales, so that their opinions and feelings were as best represented by the scales as possible. The marks were converted into numerical scores by placing a ruler alongside the scales and reading off the numbers. The lowest point on the scale had a value of 10 and the highest, 99, with a mid-point of 55.

### RESULTS

In the data analysis an index of attribution of personal causation (IAPC) was calculated by subtracting the scale value correspondent to the likelihood of a motive involving personal causality having led person A to break the appointment with person B, from the scale value associated with the likelihood of a motive involving the impersonal causality having led A to take that action. In order to avoid negative numbers, a constant of 100 was added to the result of this subtraction. Thus, the range of possible scores that the IAPC could take on was 11 (10—99+100) and 189 (99—10+100).

Table 1 depicts the mean ratings of IAPC obtained for the two experimental and the control conditions. The main effects of both

TABLE 1  
Mean Ratings of IAPC for Conditions and Sex Condition

Sex	Friend	Enemy	Control
Males	48.43	133.36	82.21
Females	31.14	114.86	60.64
Both Sexes	39.78	124.11	71.24

conditions and sex were significant (conditions:  $F=34.37$ ,  $p<.001$ ; sex:  $F=5.19$ ,  $p<.05$ ). The interaction was not significant ( $F<1$ ).

Table 2 shows the percentages of cases in which the IAPC was greater than, smaller than, or equal to, the mid-point of 100.

TABLE 2  
Percentage of Cases in Which the IAPC Was Greater Than, Smaller Than, or Equal to 100 in Each Condition Conditions

IAPC	Friend	Enemy	Control
Greater than 100	11%	68%	18%
Smaller than 100	86%	21%	75%
Equal to 100	3%	11%	7%

Note—All nine possible combinations of pairs of percentages in the three rows, and all possible nine in the three columns were tested for significance of the difference. All pairs compared were significantly different beyond the .001 level of confidence, except 11 and 18%, 86 and 75%, 3 and 11%, 11 and 7%, 21 and 11%, 18 and 7%.

The mean rating of *anger*, as revealed by the Ss in the appropriate scale, was 56.14 (N=84). Table 3 presents the data for average intensity of anger, taking into account experimental and control conditions, and sex.

TABLE 3  
Mean Ratings of Intensity of Anger for Conditions and Sex Conditions

Sex	Friend	Enemy	Control
Males	50.70	70.21	63.14
Females	35.71	70.36	40.64
Both sexes	43.25	70.28	58.39

The analysis of variance showed no significant interaction, and

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significant main effects of both—conditions and sex—( $F=13.23$ ,  $p<.001$  and  $F=4.83$ ,  $p<.05$ , respectively).

The average rating of intensity of *aggressive reaction* for the 84 Ss was 41.04. Table 4 depicts the mean values for ratings of this variable, for each condition and for each sex.

TABLE 4

Mean Ratings of Intensity of Aggressive Reaction for Conditions and Sex

Sex	Conditions		
	Friend	Enemy	Control
Males	33.86	48.71	39.14
Females	29.40	59.79	35.57
Both sexes	36.63	54.25	37.35

The  $F$  ratio was significant only for the main effect of conditions ( $F=8.24$ ,  $p<.01$ ).

A further analysis of the data was carried out in regard to Ss' ratings of intensity and aggressive reaction. Ss were broken down into two groups: HiIAPC (top 25%) and LoIAPC (bottom 25%). The mean rating of intensity of aggressive reaction for the HiIAPCs was 58.71 and that for the LoIAPC was 26.61 ( $t = 4.73$ ,  $p < .001$ ). A similar breakdown was done for Ss high in intensity of aggressive reaction and low in this dimension. Mean ratings of anger were, respectively, 63.86 and 19.88 ( $t=7.94$ ,  $p<.001$ ).

For the HiIAPCs and for the LoIAPCs the percentage of extra-punitive responses was calculated. The percentages were, respectively, 81% and 29%. The first figure differs from the chance expectation of 33% (only three types of responses were considered) beyond the .01 level of confidence. The second figure does not differ significantly from 33%.

Finally, intercorrelations among ratings of IAPC, intensity of anger and intensity of aggressive reaction were calculated. IAPC correlated with anger and aggressive reaction at .63 and .56, respectively. The rating for the latter two variables correlated between themselves at .69. All these correlation coefficients are significantly different from 0 ( $p<.001$ ).

## DISCUSSION

It is clearly shown by the data that causal attribution varies with the dispositional properties of agents. Friends do not hurt friends wittingly, and enemies do. The data showed that less personal causation is attributed to friends than to enemies, given the

same frustrating situation. These findings confirm hypothesis 1 quite convincingly.

As to hypothesis 2 the data are not definitely clear. The mean rating of anger intensity was 56.14, which reveals a fair degree of anger. Anger is higher when frustration comes from an enemy than when it comes from a friend. We have no way to assert with certainty, however, how much anger is present after a frustration. The experiment lacked a basis for comparison with the 56.14 figure. At any rate, some anger seems to be always present after a frustrating event, and the results showed that the intensity of that feeling is dependent upon the affective bond between the persons involved in the interpersonal event, and that this variable correlates high with both—*attribution of personal causality and intensity of aggressive reaction.*

In regard to hypothesis 3 the data are quite convincing when percentage of extrapunitive responses is considered as the dependent variable. 81% of the responses given by the HiIAPCs were extrapunitive, and only 29% were in the LoIAPC group. The mean rating of intensity of aggressive reaction is also significantly higher for the HiIAPCs than for the LoIAPCs. The effect of the dispositional properties of friendship and enmity was also revealed as influencing the intensity of the aggressive reaction of frustrated persons.

It seems safe to say that the overall pattern of results tends to confirm the hypotheses tested. The nature of the affective bond between two persons is definitely an important variable in the attributions made by one of them, in regard to the action of the other. Both Heider's and Berkowitz' refinements of the traditional frustration-aggression hypothesis seem well substantiated by the data. The data do not warrant a conclusion that aggressive reaction only occurs when personal causation is attributed to the frustrating agent. They do warrant the conclusion, however, that more intense aggressive reaction is revealed when *p* attributes personal causation to *o*'s act.

This simple experiment served reasonably well two main purposes. Firstly, it lent empirical support to some theoretical refinements made to the frustration-aggression hypothesis. It should be recalled that previous experiments (e.g., Pastore, 1952; Cohen, 1955; Jones and De Charms, 1957; Jones et al., 1959; Rothaus and Worchel, 1960) have shown the importance of origin attribution in the response to frustrating interpersonal events, although they were not explicitly anchored on Heider's attribution theory. Secondly, the present paper also lends support to Berkowitz' intervening variable model.

The importance of origin attributions is of considerable relevance in social behavior. Two recent papers have dealt with this topic ad-



mirably well (Jones and Davis, 1965; Kelley, 1967), and a very interesting and well conducted empirical work based on Heider's ideas about attribution has just been published (Lanzetta and Hannah, 1969). It is hoped that this important theoretical notion will capture the attention and the interest of social psychologists in a steadily increasing pace, for its relevance to the understanding of social behavior can hardly be overestimated.

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## ABSTRACT

An experiment was carried out to test the following 3 hypotheses: (1) in any frustrating interpersonal relation, the affective bond between the frustrating and the frustrated person will determine the latter's attributions. There will be more attribution of personal causality when the interpersonal relation is negative than when it is positive; (2) any frustrating interpersonal event always leads to anger in the frustrated person; (3) aggressive reactions will only

occur when the frustrated person attributes personal causality to the frustrating agent.

The theoretical rationale for these hypotheses are provided by Heider's attribution theory and Berkowitz' additions to the frustration-aggression hypothesis.

The experimental set-up consisted of presenting to 84 freshmen of the Catholic University of Rio de Janeiro a slide showing a slightly modified picture of Rosenzweig's Picture Frustration Test. Two experimental and one control condition were run, each having 14 males and 14 females, randomly assigned to them. The Ss were instructed to put themselves in the position of the frustrated person shown in the slide, and write on an appropriate sheet of paper their spontaneous reaction to the frustrating person. Next, they were asked to indicate on a 90 millimeter long scale (a) the probability of a motive indicating personal causation having been the reason for the frustrating event; (b) the probability of a motive indicating impersonal causation having been the reason for the frustrating event; (c) the intensity of the anger aroused by the frustrating event; and (d) the intensity of the aggression instigated by the frustrating event. In one of the two experimental conditions Ss were informed that the two persons involved in the interpersonal interaction were friends and, in the other, that they were enemies. Nothing was said about the affective bond between the two people in the control condition.

The results confirmed hypothesis 1 and gave relative amount of support to hypotheses 2 and 3.

#### RESUMEN

Se llevó a cabo un experimento para investigar las siguientes tres hipótesis: (1) en cualquier relación interpersonal frustrante el lazo afectivo entre la persona frustrada determinará los atributos de esta última. Habrá más atributos de causalidad personal cuando la relación interpersonal es negativa que cuando es positiva; (2) cualquier acontecimiento interpersonal frustrante siempre conducirá al enojo en la persona frustrada; (3) las reacciones agresivas sólo tendrán lugar cuando la persona frustrada atribuye la causalidad personal al agente frustrante.

La racional teórica (fundamento lógico) para estas hipótesis proviene de la teoría de la atribución de Heider y las adiciones de Berkowitz a la hipótesis de la frustración-agresión.

El procedimiento experimental consistió de presentar un diapositivo representando un cuadro ligeramente modificado del "Picture Frustration Test de Rosenzweig" a los Sujetos—84 estudiantes del primer año en la Universidad Católica de Rio de Janeiro. Se

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establecieron dos condiciones y una de control, cada una con 14 estudiantes del sexo masculino y 14 del femenino. Se les dijo a los Sujetos que se colocaran en el lugar de la persona frustrada que aparecía en el diapositivo y escribir en una hoja apropiada de papel sus reacciones espontáneas a la persona frustrante. Después, se les pidió que indicaran en una escala de 90 milímetros de longitud (a) la probabilidad de que un motivo indicativo de causalidad personal haya sido la razón de un acontecimiento frustrante; (b) la probabilidad de que un motivo indicativo de causalidad impersonal haya sido lo razón de un acontecimiento frustrante; (c) la intensidad del enojo suscitado por el acontecimiento frustrante; y (d) la intensidad de la agresión instigada por el acontecimiento frustrante. En una de las dos condiciones experimentales los Sujetos fueron informados que las dos personas participantes en la interacción interpersonal eran amigos y, en la otra, eran enemigos. Nada se dijo acerca de los lazos de afección entre las dos personas en la condición control.

Los resultados confirmaron la primera hipótesis e indicaron cierto grado de apoyo a la segunda y tercera hipótesis.

### RESUMO

Realizou-se um experimento para investigar as seguintes três hipóteses: (1) em qualquer relação interpessoal frustrante, o laço afetivo entre a pessoa frustrante e a frustrada determinará as atribuições dêste. Haverá mais atribuição de causalidade pessoal quando a relação interpessoal é negativa (que quando positiva); (2) qualquer acontecimento interpessoal frustrante sempre resulta em ira na pessoa frustrada; (3) reações agressivas ocorrerão somente quando a pessoa frustrada atribui causalidade pessoal ao agente frustrante.

A razão (fundamento lógico) teórica destas hipóteses vêm da teoria de atribuição de Heider e aos acréscimos à hipótese de frustração-agressão feitos por Berkowitz.

O procedimento experimental consistiu de apresentar um diapositivo representando um item ligeiramente modificado do Picture Frustration Test de Rosenzweig aos Sujeitos—84 estudantes de primeiro ano na Universidade Católica do Rio de Janeiro. Estabeleceram-se duas condições experimentais e uma contróle com 14 estudantes do sexo masculino e 14 do feminino em cada uma delas. Os Sujeitos foram instruídos a colocar-se na posição da pessoa frustrada que aparecia no diapositivo, e escrever no material distribuído suas reações espontâneas à pessoa frustrante. Depois, pediu-se que indicassem numa escala de 90 milímetros (a) a probabilidade de um motivo indicativo de causalidade pessoal ter sido a razão do acontecimento frustrante; (b) a probabilidade de um motivo indicativo de causalidade impessoal ter sido a razão do acontecimento frustrante;

(c) a intensidade da ira elicitada pelo acontecimento frustrante; (d) a intensidade da agressão instigada pelo acontecimento. Em uma das duas condições experimentais, os Sujeitos foram instruídos que as duas pessoas participando na interação interpessoal eram amigos e, na outra, que eram inimigos. Não se disse nada relativamente ao laço afetivo entre as duas pessoas na condição controle.

Os resultados confirmaram a primeira hipótese e indicam certo grau de apoio às hipóteses 2 e 3.