

Gain and Loss of Esteem as Determinants of Interpersonal Attractiveness¹

ELLIOT ARONSON AND DARWYN LINDER

University of Minnesota

One of the major determinants of whether or not one person (*P*) will like another (*O*) is the nature of the other's behavior in relation to the person. Several investigators have predicted and found that if *P* finds *O*'s behavior "rewarding," he will tend to like *O* (Newcomb, 1956, 1961; Thibaut and Kelley, 1959; Homans, 1961; Byrne, 1961; Byrne and Wong, 1962). One obvious source of reward for *P* is *O*'s attitude regarding him. Thus, if *O* expresses invariably positive feelings and opinions about *P*, this constitutes a reward and will tend to increase *P*'s liking for *O*.

Although this has been demonstrated to be true (Newcomb, 1956, 1961), it may be that a more complex relationship exists between being liked and liking others. It is conceivable that the sequence of *O*'s behavior toward *P* might have more impact on *P*'s liking for *O* than the total number of rewarding acts emitted by *O* toward *P*. Stated briefly, it is our contention that the feeling of gain or loss is extremely important—specifically, that a gain in esteem is a more potent reward than invariant esteem, and similarly, the loss of esteem is a more potent "punishment" than invariant negative esteem. Thus, if *O*'s behavior toward *P* was initially negative but gradually became more positive, *P* would like *O* more than he would had *O*'s behavior been uniformly positive. This would follow even if, in the second case, the sum total of rewarding acts emitted by *O* was less than in the first case.

This "gain-loss" effect may have two entirely different causes. One is largely affective, the other cognitive. First, when *O* expresses negative feelings toward *P*, *P* probably experiences some negative affect, e.g., anxiety, hurt, self-doubt, anger, etc. If *O*'s behavior gradually becomes more positive, his behavior is not only rewarding for *P* in and of itself, but it also serves to reduce the existing negative drive state previously aroused by *O*. The total reward value of *O*'s positive behavior is, there-

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fore, greater. Thus, paradoxically, *P* will subsequently like *O* better because of *O*'s early negative, punitive behavior.

This reasoning is similar to that of Gerard and Greenbaum (1962). Their experiment involved an Asch-type situation in which they varied the behavior of the stooge whose judgments followed those of the subject. In one condition the investigators varied the trial on which the stooge switched from disagreeing with the judgment of the subject (and agreeing with that of the majority) to agreeing with the judgment of the subject. The results showed a curvilinear relationship between the point at which the stooge switched and his attractiveness for the subjects—the subjects liked him best if he switched either very early or very late in the sequence of judgments. The investigators predicted and explained the high degree of liking for the “late-switcher” as being due to the fact that he was reducing a greater degree of uncertainty. Our reasoning is also consistent with that of Walters and Ray (1960) who, in elaborating on an experiment by Gewirtz and Baer (1958), demonstrated that prior anxiety arousal increases the effectiveness of social reinforcement on children's performance. In their experiment social approval had a greater effect on performance in the anxiety conditions because it was reducing a greater drive.

We are carrying this one step further. What we are suggesting is that the existence of a prior negative drive state will increase the attractiveness of an individual who has both created and reduced this drive state. The kind of relationship we have in mind was perhaps best expressed by Spinoza (1955) in proposition 44 of *The Ethics*: “Hatred which is completely vanquished by love passes into love: and love is thereupon greater than if hatred had not preceded it. For he who begins to love a thing, which he has wont to hate or regard with pain, from the very fact of loving feels pleasure. To this pleasure involved in love is added the pleasure arising from aid given to the endeavour to remove the pain involved in hatred, accompanied by the idea of the former object of hatred as cause.”

The same kind of reasoning (in reverse) underlies the “loss” part of our notion. Here, *P* will like *O* better if *O*'s behavior toward *P* is invariably negative than if *O*'s initial behavior had been positive and gradually became more negative. Although in the former case *O*'s behavior may consist of a greater number of negative acts, the latter case constitutes a distinct loss of esteem and, therefore, would have a greater effect upon reducing *P*'s liking for *O*. When negative behavior follows positive behavior, it is not only punishing in its own right but also eradicates the positive affect associated with the rewarding nature of *O*'s earlier behavior. Therefore, *P* dislikes the positive-negative *O* more than the entirely

negative *O* precisely because of the fact that, in the first case, *O* had previously rewarded him.

The predicted gain-loss effect may also have a more cognitive cause. By changing his opinion about *P*, *O* forces *P* to take his evaluation more seriously. If *O* expresses uniformly positive or uniformly negative feelings about *P*, *P* can dismiss this behavior as being a function of *O*'s style of response, i.e., that *O* likes everybody or dislikes everybody, and that is *his* problem. But if *O* begins by evaluating *P* negatively and then becomes more positive, *P* must consider the possibility that *O*'s evaluations are a function of *O*'s perception of him and not merely a style of responding. Because of this he is more apt to be impressed by *O* than if *O*'s evaluation had been invariably positive. It is probably not very meaningful to be liked by a person with no discernment or discrimination. *O*'s early negative evaluation proves that he has discernment and that he's paying attention to *P*—that he's neither blind nor bland. This renders his subsequent positive evaluation all the more meaningful and valuable.

By the same token, if *O*'s evaluation of *P* is entirely negative, *P* may be able to write *O* off as a misanthrope or a fool. But if *O*'s initial evaluation is positive and then becomes negative, *P* is forced to conclude that *O* can discriminate among people. This adds meaning (and sting) to *O*'s negative evaluation of *P* and, consequently, will decrease *P*'s liking for *O*.

The present experiment was designed to test the major prediction of our gain-loss notion, that is, the primary intent of this experiment was to determine whether or not *changes* in the feelings of *O* toward *P* have a greater effect on *P*'s liking for *O* than the total number of rewarding acts emitted by *O*. A secondary purpose was to shed some light on the possible reasons for this relationship. The specific hypotheses are (1) *P* will like *O* better if *O*'s initial attitude toward *P* is negative but gradually becomes more positive, than if his attitude is uniformly positive; (2) *P* will like *O* better if his attitude is uniformly negative than if his initial attitude toward *P* is positive and becomes increasingly negative.

METHOD

Subjects and Design

In order to provide a test of the hypotheses, it was necessary to design an experiment in which a subject interacts with a confederate over a series of discrete meetings. During these meetings the confederate should express either a uniformly positive attitude toward the subject, a uniformly negative attitude toward the subject, a negative attitude which gradually becomes positive, or a positive attitude which gradually becomes negative. It was essential that the interactions between subject and confederate be constant throughout experimental conditions except for the expression of attitude. At the close of the experiment, the subject's liking for the confederate could be assessed.

The subjects were 80 female students² at the University of Minnesota. Virtually all of them were sophomores; they were volunteers from introductory classes in psychology, sociology, and child development. All subjects were randomly assigned to one of the four experimental conditions.

Procedure

The experimenter greeted the subject and led her to an observation room which was connected to the main experimental room by a one-way window and an audio-amplification system. The experimenter told the subject that two students were scheduled for this hour, one would be the subject and the other would help the experimenter perform the experiment. He said that since she arrived first, she would be the helper. He asked her to wait while he left the room to see if the other girl had arrived yet. A few minutes later, through the one-way window, the subject was able to see the experimenter enter the experimental room with another female student (the paid confederate). The experimenter told the confederate to be seated for a moment and that he would return shortly to explain the experiment to her. The experimenter then returned to the observation room and began the instructions to the subject. The experimenter told the subject that she was going to assist him in performing a verbal conditioning experiment on the other student. The experimenter explained verbal conditioning briefly and told the subject that his particular interest was in the possible generalization of conditioned verbal responses from the person giving the reward to a person who did not reward the operant response. The experimenter explained that he would condition the other girl to say plural nouns to him by rewarding her with an "mmm hmmm" every time she said a plural noun. The experimenter told the subject that his procedure should increase the rate of plural nouns employed by the other girl. The subject was then told that her tasks were: (1) to listen in and record the number of plural nouns used by the other girl, and (2) to engage her in a series of conversations (not rewarding plural nouns) so that the experimenter could listen and determine whether generalization occurred. The experimenter told the subject that they would alternate in talking to the girl (first the subject, then the experimenter, then the subject) until each had spent seven sessions with her.

The experimenter made it clear to the subject that the other girl must not know the purpose of the experiment lest the results be contaminated. He explained that, in order to accomplish this, some deception must be used. The experimenter said that he was going to tell the girl that the purpose of the experiment was to determine how people form impressions of other people. He said that the other girl would be told that she was to carry on a series of seven short conversations with the subject, and that between each of these conversations both she and the subject would be interviewed, the other girl by the experimenter and the subject by an assistant in another room, to find out what impressions they had formed. The experimenter told the subject that this "cover story" would enable the experimenter and the subject to perform their experiment on verbal behavior since it provided the other girl with a credible explanation for the procedure they would follow. In actuality, this entire explanation was, in itself, a cover story which enabled the experimenter and his confederate to perform their experiment on the formation of impressions.

The independent variable was manipulated during the seven meetings that the

² Actually, 84 subjects were run in these four conditions. Four of the subjects were unusable because they were able to guess the real purpose of the experiment.

experimenter had with the confederate. During their meetings the subject was in the observation room, listening to the conversation and dutifully counting the number of plural nouns used by the confederate. Since the subject had been led to believe that the confederate thought that the experiment involved impressions of people, it was quite natural for the experimenter to ask the confederate to express her feelings about the subject. Thus, without intending to, the subject heard herself evaluated by a fellow student on seven successive occasions.

There were four experimental conditions: (1) Negative-Positive, (2) Positive-Negative, (3) Negative-Negative, and (4) Positive-Positive. In the Negative-Positive condition the confederate expressed a negative impression of the subject during the first three interviews with the experimenter. Specifically, she described her as being a dull conversationalist, a rather ordinary person, not very intelligent, as probably not having many friends, etc. During the fourth session she began to change her opinion about her. The confederate's attitude became more favorable with each successive meeting until, in the seventh interview, it was entirely positive. In the Positive-Positive condition the confederate's stated opinions were invariably positive. During the seventh interview her statements were precisely the same as those in the seventh meeting of the Negative-Positive condition. In the Negative-Negative condition the confederate expressed invariably negative feelings about the subject throughout the seven interviews. The Positive-Negative condition was the mirror image of the Negative-Positive condition. The confederate began by stating that the subject seemed interesting, intelligent, and likeable, but by the seventh session she described the subject as being dull, ordinary, etc.

In the Positive-Positive condition the confederate made 28 favorable statements about the subject and zero unfavorable statements. In the Negative-Negative condition the confederate made 24 unfavorable statements about the subject and zero favorable ones. In both the Negative-Positive and Positive-Negative conditions the confederate made 14 favorable and 8 unfavorable statements about the subject.

At the opening of the first interview, the experimenter informed the confederate that she should be perfectly frank and honest and that the subject would never be told anything about her evaluation. This was done so that the subject, upon hearing favorable statements, could not readily believe that the confederate might be trying to flatter her.

Interactions between Subjects and Confederate

Prior to each interview with the experimenter, the confederate and the subject engaged in a 3-minute conversation. This provided a credible basis upon which the confederate might form and change her impression of the subject. During these sessions it was essential that the confederate's conversations with the subject be as uniform as possible throughout the four experimental conditions. This was accomplished by informing the subject, prior to the first session, of the kind of topics she should lead the confederate into. These included movies, teachers, courses, life goals, personal background information, etc. Once the subject brought up one of these topics, the confederate spewed forth a prepared set of facts, opinions, and anecdotes which were identical for all experimental subjects. Of course, since a social interaction was involved, it was impossible for the confederate's conversations to be entirely uniform for all of the subjects. Occasionally the confederate was forced to respond to a direct question which was idiosyncratic to a particular subject. However, any variations in the statements made by the confederate were minor and nonsystematic.

The subject and confederate met in the same room but they were separated at all

times by a cardboard screen which prevented visual communication. This was done for two reasons. First, it made it easier for the confederate to play the role of the naive subject. We feared that the confederate, after saying negative things about the subject, might be reluctant to look her squarely in the eye and engage in casual conversation. In addition, the use of the screen allowed for a more precise control of the conversation of the confederate by enabling her to read her lines from a prepared script which was tacked to the screen. The use of the screen was easily explained to the subject (in terms of the verbal reinforcement cover story) as a necessary device for eliminating inadvertent nonverbal reinforcement, like nods and smiles.

The confederate carried on her end of the conversation in a rather bland, neutral tone of voice, expressing neither great enthusiasm nor monumental boredom. The same girl (an attractive 20-year-old senior) was used as the confederate throughout the experiment. In order to further convince the subject of the validity of the cover story, the confederate used increasingly more plural nouns throughout the course of the experiment.

The Dependent Variable

At the close of the experiment the experimenter told the subject that there was some additional information he needed from her, but that it was also necessary for him to see the other girl to explain the true nature of the experiment to her. He said that, since he was pressed for time, the subject would be interviewed by his research supervisor while he, the experimenter, explained the experiment to the other girl. The experimenter then led the subject into the interviewer's office, introduced them, and left.

A separate interviewer³ was used in order to avoid bias, the interviewer being ignorant of the subject's experimental condition. The purpose of the interview was to measure the subject's liking for the confederate; but this could not be done in any simple manner because the bare outlines of this experiment were extremely transparent: the confederate evaluated the subject, then the subject evaluated the confederate. Unless the interviewer could provide the subject with a credible rationale (consistent with the cover story) for asking her to evaluate the other girl, even the most naive of our subjects might have guessed the real purpose of the experiment. Therefore, the interviewer took a great deal of time and trouble to convince the subject that these data were essential for an understanding of the other girl's verbal behavior. The essence of his story was that the attitudes and feelings that the "helpers" in the experiment had for the "subjects" in the experiment often found expression in such subtle ways as tone of voice, enthusiasm, etc. "For example, if you thought a lot of the other girl you might unwittingly talk with warmth and enthusi-

³ It should be reported that in an earlier attempt to test this hypothesis, a questionnaire was administered instead of an interview. This was a more economical procedure, but it proved to be less effective. Although the results in the four experimental conditions were in the predicted order, the variance was extremely large. Postexperimental discussions with the subjects led us to suspect that one reason for the large variance might be due to the fact that the subjects were treating the questionnaires in a rather casual manner, believing that this aspect of the experiment was of little importance. It was primarily for this reason that we decided to use a high-status interviewer, whose earnest presence forced the subjects to treat the interview seriously and to respond in an honest and thoughtful manner.

asm. If you didn't like her you might unwittingly sound aloof and distant." The interviewer went on to explain that, much to his chagrin, he noticed that these subtle differences in inflection had a marked effect upon the gross verbal output of the other girls, that is, they talked more when they were conversing with people who seemed to like them than when they were conversing with people who seemed not to like them. The interviewer said that this source of variance was impossible to control but must be accounted for in the statistical analysis of the data. He explained that if he could get a precise indication of the "helpers'" feelings toward the "subjects," he could then "plug this into a mathematical formula as a correction term and thereby get a more or less unbiased estimate of what her gross verbal output would have been if your attitude toward her had been neutral."

The interviewer told the subject that, in order to accomplish this, he was going to ask her a number of questions aimed at getting at her feelings about the other girl. He emphasized that he wanted her *feeling*, her "gut response"; i.e., that it was essential that she give her frank impression of the other girl regardless of whether or not she had solid, rational reasons for it.

After the subject indicated that she understood, the interviewer asked her whether she liked the other girl or not. After she answered, the interviewer showed her a card on which was printed a 21-point scale, from -10 to $+10$. The interviewer asked her to indicate the magnitude of her feeling as precisely as possible. He verbally labeled the scale: " $+10$ would mean you like her extremely, -10 that you dislike her extremely. Zero means that you are completely indifferent. If you liked her a little, you'd answer $+1$, $+2$, or $+3$; if you liked her moderately well, you'd answer $+4$, $+5$, or $+6$; if you liked her quite a bit, you'd answer with a higher number. What point on the scale do you feel reflects your feeling toward the girl most accurately?"

This was the dependent measure. In addition, the interviewer asked the subjects to rate the confederate on 14 evaluative scales including intelligence, friendliness, warmth, frankness, etc. Most of these were asked in order to ascertain whether or not general liking would manifest itself in terms of higher ratings on specific attributes; a few were asked as possible checks on the manipulations.

Finally, the interviewer asked the subject if it bothered, embarrassed, annoyed, or upset her to hear the other girl evaluate her to the experimenter. After recording her answer, the interviewer probed to find out whether or not the subject suspected the real purpose of the experiment. He then explained, in full, the true nature of the experiment and the necessity for the deception. The subjects, especially those who had been negatively evaluated, were relieved to learn that it was not "for real." Although several of the girls admitted to having been quite shaken during the experiment, they felt that it was a worthwhile experience, inasmuch as they learned the extent to which a negative evaluation (even by a stranger) can affect them. They left the interview room in good spirits.

In most cases the interviewer remained ignorant of which of the four experimental conditions the subject was in until the conclusion of the interview. On a few occasions, however, a subject said something casually, in the midst of the interview, from which the interviewer could infer her experimental condition. It should be emphasized, however, that the dependent variable was the first question asked; in no case was the interviewer aware of a subject's experimental condition before she responded to that question.

RESULTS AND DISCUSSION

Our hypotheses were that the confederate would be liked better in the Negative-Positive condition than in the Positive-Positive condition and

that she would be liked better in the Negative-Negative condition than in the Positive-Negative condition. To test these hypotheses we compared the subjects' ratings of their liking for the confederate across experimental conditions. The significance of the differences were determined by *t*-test.⁴ Table 1 shows the means, *SD*s, *t*-values, and significance levels. An examination of the table reveals that the means are ordered in the predicted direction. Moreover, it is clear that the confederate was liked significantly more in the Negative-Positive condition than in the Positive-Positive condition ($p < .02$, two-tailed). The difference between the Negative-Negative condition and the Positive-Negative condition showed a strong trend in the predicted direction, although it did not reach an acceptable level of significance ($p < .15$, two-tailed). There is a great deal

TABLE 1
MEANS AND STANDARD DEVIATIONS FOR LIKING OF THE CONFEDERATE

Experimental condition	Mean	<i>SD</i>	<i>t</i> -values	
1. Negative-Positive	+7.67	1.51	1 vs. 2	2.71**
2. Positive-Positive	+6.42	1.42	2 vs. 3	7.12***
3. Negative-Negative	+2.52	3.16	3 vs. 4	1.42*
4. Positive-Negative	+0.87	3.32		

* $p < .15$.

** $p < .02$.

*** $p < .001$ (all p levels are two-tailed).

of variability in these two conditions. This large variability may be partly a function of the well-known reluctance of college students to express negative feelings about their fellow students, even when the behavior of the latter is objectively negative (e.g., Aronson and Mills, 1959). Typically, in social psychological experiments, regardless of how obnoxiously a stooge behaves toward a subject, many subjects find it difficult to verbalize negative evaluations of the stooge. In these two conditions the behavior of the stimulus person would seem to have brought forth a negative evaluation; although most of the subjects were able to do this, several came out with highly positive evaluations. Thus,

⁴ A *t*-test was used because it is the most direct statistical technique and it also allowed us to perform an internal analysis to be described later. However, it is not the most powerful method of analyzing the data. An analysis of variance was also performed, and the results were slightly more significant than those of the *t*-test. The difference between Negative-Positive and Positive-Positive conditions reached the .02 level of significance; the difference between the Negative-Negative and the Positive-Negative conditions reached the .07 level of significance. The over-all treatment effect was highly significant ($p < .0005$).

the range for the Negative-Negative and Positive-Negative conditions was 15 scale units (from +7 to -7). In the other two conditions negative evaluations were *not* in order; thus, this difficulty was not encountered. The range for these two conditions was only seven scale units (from +9 to +3). Therefore, although the mean difference between the Positive-Negative and Negative-Negative conditions was actually larger than the mean difference between the Positive-Positive and Negative-Positive conditions, it fell short of statistical significance.

Table 1 also indicates that there is a very large difference between those conditions in which the confederate ended by expressing a positive feeling for the subject and those in which she ended with a negative feeling for the subject. For example, a comparison of the Positive-Positive condition with the Negative-Negative condition yields a *t* of 7.12, significant at far less than the .001 level. As predicted, the widest mean difference occurs between the Negative-Positive condition ($M = +7.67$) and the Positive-Negative condition ($M = +0.87$). This is interesting in view of the fact that the confederate made the same number of positive and negative statements in these two conditions; only the sequence was different.

It will be recalled that the subjects were asked to rate the confederate on 14 evaluative scales in order to ascertain whether or not greater liking would manifest itself in terms of higher ratings on specific attributes. No evidence for this was found; e.g., although the subjects liked the confederate better in the Negative-Positive condition than in the Positive-Positive condition, they did not find her significantly more intelligent or less conceited. In fact, the only ratings that reached an acceptable level of significance showed a reverse effect: In the Positive-Positive condition the confederate was rated more friendly ($p < .01$), nicer ($p < .01$), and warmer ($p < .01$) than in the Negative-Positive condition. Our failure to predict this effect may be attributable to a naive belief in generalization which served to blind us to more obvious factors. Thus, although we did not predict this result, it is not startling if one considers the simple fact that in the Positive-Positive condition the confederate's evaluations of the subject, because they were entirely positive, *did* reflect greater friendliness, niceness, and warmth. That is, when forced to consider such things as friendliness, niceness, and warmth, the subjects in the Negative-Positive condition could not give the confederate a very high rating. The confederate, here, is not the kind of person who exudes niceness; by definition she is capable of saying negative things. Nevertheless, when asked for their "gut-response" regarding how much they liked the confederate, the subjects in the Negative-Positive condition tended to give her a high rating. To speculate, we might suggest the following: When one is asked to rate a person on a particular attribute, one tends to sum the person's

relevant behavior in a rather cognitive, rational manner. On the other hand, when one is asked how much one likes a person, one tends to state a current feeling rather than to add and subtract various components of the person's past behavior.

Degree of Liking as a Function of "Upset"

The major results are consistent with the hypotheses derived from the gain-loss notion. Although, in this experiment, it was not our intention to test the underlying assumptions of this notion, there are some data which may be of relevance. Recall that one of the suggested causes of the gain-loss effect is that, in the negative conditions, the subjects experienced negative feelings such as anxiety, anger, self-doubt, etc. That is, it was predicted that the subjects in the Negative-Positive condition would like the confederate better than would the subjects in the Positive-Positive condition because in the Negative-Positive condition the confederate's behavior was reducing a negative drive state. If this assumption is correct, the effect should not occur if, for some reason, the confederate's negative behavior did not produce a negative drive state in the subjects. For example, in the Negative-Positive condition, if the subjects did not take the negative evaluation personally there would be no negative drive state to be reduced. Similarly, in the Positive-Negative condition, loss would not be experienced if the confederate's negative behavior, for some reason, were not taken personally by the subject. As mentioned earlier, near the end of the experiment the interviewer asked the subject if it bothered, embarrassed, or upset her to listen to herself being evaluated by the other girl. As one might expect, in the Positive-Positive condition none of the subjects were at all bothered, upset, or embarrassed by the situation. In the Negative-Positive condition, however, 11 subjects admitted to having been somewhat upset when the other girl was evaluating them negatively; similarly, nine girls in the Negative-Negative condition and nine in the Positive-Negative condition admitted that they were upset by the negative evaluation. In these latter conditions the subjects who claimed that they were not upset by the negative evaluation tended to explain this by saying that the situation was so restricted that they lacked the freedom and relaxation to "be themselves" and "make a good impression" on the other girl. Typically, they felt that it was reasonable for the other girl to think of them as dull and stupid—the situation *forced* them to appear dull. Thus, many of the girls refused to take a negative evaluation personally; instead, they felt that the confederate would have liked them better if the situation had been freer, allowing them to express their usual, loveable personalities.

For what it is worth, let us compare those who were upset by a negative

evaluation with those who were not in terms of how much they liked the confederate. Within the Negative-Positive condition those subjects who were upset by the negative evaluation liked the confederate *more* than those who were not upset ($t = 3.36, p < .01$, two-tailed). Similarly, within the Positive-Negative condition those who were upset by the negative evaluation liked the confederate *less* than those who were not upset ($t = 4.44, p < .01$). In the Negative-Negative condition, as might be expected, there was a tendency for those who were not upset to like the confederate better than those who were upset ($t = 1.26, N.S.$). We can also compare degree of liking across experimental conditions, eliminating those subjects who were not upset by a negative evaluation. The difference between the Negative-Positive and Positive-Positive conditions is highly significant ($t = 4.57, p < .005$, two-tailed). When the "upset" subjects only are compared, the difference between the Negative-Negative and Positive-Negative conditions approaches significance ($t = 1.91, p < .08$, two-tailed).

These data are consistent with the affective assumption of the gain-loss notion inasmuch as they suggest that a feeling of upset is a necessary precondition for the great liking in the Negative-Positive condition and the great dislike in the Positive-Negative condition. However, since these data are based on an internal analysis, they are not unequivocal; those subjects who were upset (strictly speaking, those who admitted to being upset) by a negative evaluation may be different kinds of animals from those who did not admit to being upset. The differences in their liking for the stimulus person may be a reflection of some unknown individual differences rather than of the manipulated differences in the independent variable. For example, considering the explanations given by those subjects who were not upset, it is conceivable that these individuals may be extreme on "ego-defensiveness"; or, conversely, those subjects who *were* upset may be extremely "hypersensitive." From our data it is impossible to judge whether or not such individual differences could be correlated with the dependent variable. In sum, although the results from the internal analysis are suggestive, they are equivocal because they do not represent a systematic experimental manipulation.

A Neutral-Positive Condition

If, for the moment, one ignores the internal analysis, the possibility exists that *any* increase in the confederate's positive evaluation of the subject would have produced an increase in the subject's liking for the confederate, even if pain had not been involved. For example, suppose the confederate's initial evaluation of the subject had been neutral rather than negative, and then had become increasingly positive; would the subject like the confederate as much in this condition as in the Negative-

Positive condition? If so, then, clearly, pain and suffering are not necessary factors. To test this possibility, 15 additional subjects were run in a Neutral-Positive condition.⁵ This condition is identical to the Negative-Positive condition except that during the first three meetings, instead of expressing negative evaluations of the subject, the confederate was non-committal, saying such things as "She seems to be pretty intelligent, but perhaps just a little on the dull side. . . ." "I'm not sure; she kind of strikes me both ways. . . ." "I just can't make up my mind about her. My feelings are rather neutral." The subjects were randomly assigned to this condition, although assignment did not commence until after two or three subjects had been run in each of the other four conditions. In this condition the mean liking score was 6.66. This is almost identical with the mean in the Positive-Positive condition. The difference between the Neutral-Positive and Negative-Positive conditions approaches statistical significance ($t = 1.96$, $p < .07$, two-tailed).

These data, coupled with the data from the internal analysis, suggest that some upset on the subjects part increased her liking for the stimulus person. However, other factors may contribute to the effect. One such contributing factor has already been discussed as the cognitive assumption underlying the gain-loss notion. Specifically, when O changes his evaluation of P , it is indicative of the fact that he (O) has some discernment and that his evaluation is a considered judgment. Consequently, his evaluation of P should have greater impact on P than an invariably positive or invariably negative evaluation. This would lead to greater liking in the Negative-Positive condition and less liking in the Positive-Negative condition. We made no great attempt to investigate the validity of this assumption in the present experiment. We did ask the subjects to rate the degree of discernment of the stimulus person. Here, we found a faint glimmer of support. There was some tendency for the subjects in the Negative-Positive condition to rate the stimulus person higher ($M = 6.75$) than did the subjects in the Positive-Positive condition ($M = 5.35$), but this difference was not statistically significant ($t = 1.40$, $p < .15$). There was no difference in the ratings made by the subjects in the other two conditions.

Alternative Explanations

Flattery. Recent work by Jones (1964) on flattery and ingratiation suggests the possibility that a person who makes exclusively positive statements might be suspected of using flattery in order to manipulate the subject, and therefore might be liked less than someone whose evaluations include negative statements. However, this is not a compelling

⁵ We wish to thank Ellen Berscheid, who first suggested this condition.

explanation of the results of the present experiment because the subject was led to believe that the confederate was unaware that she (the subject) was eavesdropping during the evaluation. One cannot easily attribute these ulterior motives to a person who says nice things about us in our absence.

Contrast. Another possible alternative explanation involves the phenomenon of contrast (Helson, 1964). After several negative and neutral statements, a positive evaluation may seem more positive than the same statement preceded by other positive statements. Similarly, a negative evaluation following several positive and neutral statements may appear to be more negative than one that formed part of a series of uniformly negative statements. Thus, a contrast effect, if operative, could have contributed to our results. At the same time, it should be noted that in the Neutral-Positive condition, where some degree of contrast should also occur, there is little evidence of the existence of this phenomenon. Specifically, the mean liking score in the Neutral-Positive condition was almost identical to that in the Positive-Positive condition and quite different from that in the Negative-Positive condition ($p < .07$). These data suggest that, although a contrast effect could conceivably have contributed to the results, it is doubtful that such an effect was strong enough, in this experimental situation, to have generated the results in and of itself.

Competence. In the Negative-Positive condition the subject has succeeded in showing the confederate that he (the subject) is not a dull clod but is, in fact, a bright and interesting person. This is no mean accomplishment and therefore might lead the subject to experience a feeling of competence or efficacy (White, 1959). Thus, in this condition, part of the reason for *O*'s great attractiveness may be due to the fact that he has provided the subject with a success experience. Indeed, during the interview many subjects in this condition spontaneously mentioned that, after hearing *O* describe them as dull and stupid, they tried hard to make interesting and intelligent statements in subsequent encounters with *O*. It is reasonable to suspect that they were gratified to find that these efforts paid off by inducing a change in *O*'s evaluations. This raises an interesting theoretical question; it may be that the feeling of competence is not only a contributing factor to the "gain" effect but may actually be a necessary condition. This possibility could be tested in future experimentation by manipulating the extent to which the subject feels that *O*'s change in evaluation is contingent upon the subject's actual behavior.

Possible Implications

One of the implications of the gain-loss notion is that "you always hurt the one you love," i.e., once we have grown certain of the good will

(rewarding behavior) of a person (e.g., a mother, a spouse, a close friend), that person may become less potent as a source of reward than a stranger. If we are correct in our assumption that a gain in esteem is a more potent reward than the absolute level of the esteem itself, then it follows that a close friend (by definition) is operating near ceiling level and therefore cannot provide us with a gain. To put it another way, since we have learned to expect love, favors, praise, etc. from a friend, such behavior cannot possibly represent a gain in his esteem for us. On the other hand, the constant friend and rewarder has great potential as a punisher. The closer the friend, the greater the past history of invariant esteem and reward, the more devastating is its withdrawal. Such withdrawal, by definition, constitutes a loss of esteem.

An example may help clarify this point. After 10 years of marriage, if a doting husband compliments his wife on her appearance, it may mean very little to her. She already knows that her husband thinks she's attractive. A sincere compliment from a relative stranger may be much more effective, however, since it constitutes a gain in esteem. On the other hand, if the doting husband (who used to think that his wife was attractive) were to tell his wife that he had decided that she was actually quite ugly, this would cause a great deal of pain since it represents a distinct loss of esteem.

This reasoning is consistent with previous experimental findings. Harvey (1962) found a tendency for subjects to react more positively to a stranger than a friend when they were listed as sources of a relatively positive evaluation of the subject. Moreover, subjects tended to react more negatively to a friend than a stranger when they were listed as sources of negative evaluations of the subject. Similarly, experiments with children indicate that strangers are more effective as agents of social reinforcement than parents, and that strangers are also more effective than more familiar people (Shallenberger and Zigler, 1961; Stevenson and Knights, 1962; Stevenson, Keen, and Knights, 1963). It is reasonable to assume that children are accustomed to receiving approval from parents and familiar people. Therefore, additional approval from them does not represent much of a gain. However, approval from a stranger is a gain and, according to the gain-loss notion, should result in a greater improvement in performance. These latter results add credence to our speculations regarding one of the underlying causes of the gain-loss effect. Specifically, children probably experience greater social anxiety in the presence of a stranger than a familiar person. Therefore, social approval from a stranger may be reducing a greater drive than social approval from a friend. As previously noted, this reasoning is identical to that of Walters and his colleagues regarding the effect of prior anxiety on subsequent performance (Walters and Ray, 1960; Walters and Foote, 1962).

SUMMARY

In a laboratory experiment, coeds interacted in two-person groups over a series of brief meetings. After each meeting the subjects were allowed to eavesdrop on a conversation between the experimenter and her partner in which the latter (actually a confederate) evaluated the subject. There were four major experimental conditions: (1) the evaluations were all highly positive; (2) the evaluations were all quite negative; (3) the first few evaluations were negative but gradually became positive; (4) the first few evaluations were positive but gradually became negative.

The major results showed that the subjects liked the confederate best when her evaluations moved from negative to positive and least when her evaluations moved from positive to negative. The results were predicted and discussed in terms of a "gain-loss" notion of interpersonal attractiveness.

REFERENCES

- ARONSON, E., AND MILLS, J. The effect of severity of initiation on liking for a group. *J. abnorm. soc. Psychol.*, 1959, **59**, 177-181.
- BYRNE, D. Interpersonal attraction and attitude similarity. *J. abnorm. soc. Psychol.*, 1961, **62**, 713-715.
- BYRNE, D., AND WONG, T. J. Racial prejudice, interpersonal attraction, and assumed dissimilarity of attitudes. *J. abnorm. soc. Psychol.*, 1962, **65**, 246-253.
- GERARD, H. B., AND GREENBAUM, C. W. Attitudes toward an agent of uncertainty reduction. *J. Pers.*, 1962, **30**, 485-495.
- GEWIRTZ, J. L., AND BAER, D. M. The effect of brief social deprivation on behaviors for a social reinforcer. *J. abnorm. soc. Psychol.*, 1958, **56**, 49-56.
- HARVEY, O. J. Personality factors in resolution of conceptual incongruities. *Sociometry*, 1962, **25**, 336-352.
- HELSON, H. Current trends and issues in adaptation-level theory. *Amer. Psychologist*, 1964, **19**, 26-38.
- HOMANS, G. *Social behavior: Its elementary forms*. New York: Harcourt, Brace, and World, 1961.
- JONES, E. E. *Ingratiation: A social psychological analysis*. New York: Appleton, Century, Crofts, 1964.
- NEWCOMB, T. M. *The acquaintance process*. New York: Holt, Rinehart, and Winston, 1961.
- NEWCOMB, T. M. The prediction of interpersonal attraction. *Amer. Psychologist*, 1956, **11**, 575-586.
- SHALLENBERGER, PATRICIA, AND ZIGLER, E. Rigidity, negative reaction tendencies and cosatiation effects in normal and feebleminded children. *J. abnorm. soc. Psychol.*, 1961, **63**, 20-26.
- SPINOZA, B. *The ethics*. New York: Dover Press, 1955. Prop. 44, p. 159.
- STEVENSON, H. W., KEEN, RACHEL, AND KNIGHTS, R. M. Parents and strangers as reinforcing agents for children's performance. *J. abnorm. soc. Psychol.*, 1963, **67**, 183-185.
- STEVENSON, H. W., AND KNIGHTS, R. M. Social reinforcement with normal and re-

- tarded children as a function of pretraining, sex of *E*, and sex of *S*. *Amer. J. ment. Defic.*, 1962, **66**, 866-871.
- THIBAUT, J., AND KELLEY, H. H. *The social psychology of groups*. New York: Wiley, 1959.
- WALTERS, R. H., AND FOOTE, ANN. A study of reinforcer effectiveness with children. *Merrill-Palmer quart. Behav. Develpm.*, 1962, **8**, 149-157.
- WALTERS, R. H., AND RAY, E. Anxiety, social isolation, and reinforcer effectiveness. *J. Pers.*, 1960, **28**, 258-267.
- WHITE, R. W. Motivation reconsidered: the concept of competence. *Psychol. Rev.*, 1959, **66**, 297-334.

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