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**FIVE COLLEGE
DEPOSITORY**

**SOME EFFECTS OF FAILURE STRESS AND ATTITUDE
TOWARD SELF ON THE SENTIMENT OF LIKEABILITY**

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Some Effects of Failure Stress and Attitude Toward Self
on the Sentiment of Likeability

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Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Ph.D.

University of Massachusetts, Amherst

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Introduction

The present investigation is concerned with the influence of self-regard and failure stress upon the network of feelings that develop and are "perceived" in a group. A rationale for the study of how people feel about one another has been succinctly stated by Tagiuri as follows, "There is no doubt that feelings of like and dislike are the common denominators of most interpersonal situations, a fact reflected in various areas of social science. Developmental and dynamic psychology have placed the issue of being and feeling accepted at the center of their theories of development." (1958, p.316). Assumptions regarding relationships between feelings of like and dislike and both self-regard and failure stress are implicit in most theories of psychopathology, and were made explicit to some extent by Sullivan (1953, 1956). Heider (1958) also considered some of the antecedents and consequences of feelings of like and dislike. The theories of Sullivan and Heider are discussed below, followed by a review of the relevant literature and the statement of the problem.

One of Sullivan's most general statements was his description of the self-system, which he defined as "... an organization of educative experience called into being by the necessity to avoid or to minimize incidents of anxiety" (1953, p.165). In another source, Sullivan stated that "Within the self there is a not necessarily conspicuous, but always very real group of processes which can be called

the organization of self-respect or the organization of self-esteem. The striking thing about this whole system of processes is that it can be expressed more or less adequately in communicative speech upon demand" (1956, p.122). Sullivan related that part of the self which he designated as self-esteem to anxiety as follows, "The peculiarities that are of psychiatric importance occur in the instances where the valuations of the self-respecting part of the self are unduly low. Generally you will find that the low appraisal of one's self does not mean that one is really not adequate for life, but that certain dynamics of difficulty have become quite effective in the period of development; there is a chronic aching void, a chronic extreme vulnerability to anxiety, a chronic insecurity, which may have so obstructed the process of normal self-appraisal that the person never did get a very clear idea of what he was good for" (1956, p.124). Thus, anxiety is one antecedent of low self-esteem. Sullivan also stated that the self-system is so organized as to maintain self-esteem, momentary losses of self-esteem being associated with anxiety (1953, pp.344-363; p.378). Thus, anxiety is also one consequence of low self-esteem.

The preceeding discussion of Sullivan's theory indicated that a mutual relationship exists between self-esteem and anxiety. Sullivan also considered the interpersonal consequences of both self-esteem and anxiety. A general statement of the disjunctive properties of low self-esteem was "...low self-esteem makes it difficult indeed for the carrier person to manifest conjunctive motivation..." (1956, p.361).

Specific consequences of this disjunctive tendency included the following: "...the self is unable to disguise or exclude a definite formulation that reads, 'I am inferior. Therefore people will dislike me and I cannot be secure with them.'" (1956, p.145); and "...it is no extraordinary use of inference to presume that self-respect is necessary for the adequate respect of others" (1953, p.308), or "one of the feeblest props for an inadequate self-system is the attitude of disparaging others..." (1953, p.309). A general statement of the disjunctive properties of anxiety was "...anxiety is a disjunctive or disintegrative tendency in interpersonal relations..." (1953, p.95). Specific consequences of this disjunctive tendency included the following: "Anxiety, as a phenomenon of relatively adult life, can often be explained plausibly as anticipated unfavorable appraisal of one's current activity by someone whose opinion is significant" (1953, p.113); and "...one gradually comes to dislike the people who provoke the minor degrees of anxiety which one promptly meets by being annoyed or angry..." (1956, p.98).

Heider's Theory of Sentiment Formation. Another major attempt at describing the conditions associated with the feelings of like and dislike was recently made by Heider from the point of view of cognitive theory (1958). Heider's main hypothesis was that the attitudes toward the parts of a common unit tend to be similar or "balanced," where unit formation was conceived to be contingent upon factors such as similarity, proximity, and past experience (1958, pp.174-178). Predictions that

were generated by this hypothesis included "We want people we like to like us, and we tend to like people who like us - and the parallel is true for negative sentiments" (1958, p.205). From this point of view, Heider also considered the role of self-regard, noting that "Most of the examples discussed ... presuppose a positive attitude toward the self" (1958, p.210). Self-regard thus became another part of the unit which must be consistent with the other components. However, the introduction of low self-regard into the system led to the alternative predictions; "If p dislikes himself he might reject a positive x as too good for him; ..., or, the minus character of p may spread to the x he has made..." (1958, p.210). (In this description, x refers to an object; however, the same relationships hold for persons as well as objects in Heider's discussion). The occurrence of alternate predictions indicates that Heider has not been able to fully incorporate self-regard into his theory.

Related Empirical Evidence. Sullivan's observation that attitude toward self influences feelings of like and dislike has some empirical support. Crandall and Bellugi (1954) reported that Ss with low self-regard are less favorable in their evaluations of others, and Bossom and Maslow (1957) found that Ss with high self-regard report greater warmth in photographs of persons. Sheerer (1949) graphically reported that attitudes toward self and others are highly related in counseling interviews. Finally, Berger (1952) found a positive correlation between attitude toward self and general attitude toward others, and

Smith (1958) reported that Ss who evaluate themselves unfavorably assume that they are generally evaluated unfavorably by others.

Sullivan's observation of the relationship between anxiety and feelings of like and dislike also has some empirical support. The study of the effects of stress upon person perception was initiated by Murray's classic demonstration (1933) that induced fear increases the perception of the maliciousness of photographs by children. Wright (1943) exposed a group of children to frustration and found that attraction between group members increases. Lanzetta (1955) exposed the members of a group to stress in the form of reprimands, failure instructions, and time limits, and also found that attraction between group members increases. In both of these investigations, the locus of frustration or stress was outside the group and the Ss were able to draw together in the face of a common threat. Different results were obtained when the locus of stress was internal to the group and the experimental method favored attribution of failure to the other group members. Under such conditions, Pepitone and Kleiner (1957) and Steiner and Dodge (1957) obtained decreased attraction between group members. Finally, Harvey, Kelley and Shapiro (1957) reported a study in which Ss were given unfavorable appraisals purported to come from other group members and then asked to re-evaluate one another. The Ss subsequently expressed greater dislike when the source of the supposed devaluation was a stranger or an acquaintance previously disliked, whereas previously liked acquaintances were not

devaluated, although they supposedly rated the S unfavorably. Prior acquaintance of the group members is thus one of the conditions which influence feelings of like and dislike.

Heider (1958) reviewed a number of earlier studies which supported his point of view. More recently, Kogan and Tagiuri (1958) found that balanced states exceed chance expectancy, and Tagiuri (1958) found that feelings of like and dislike are primarily associated with the tendency "... to perceive a person's feelings for us as congruent with our feelings for him" (1958, p.321).

Statement of the Problem

An understanding of the interpersonal consequences of self-regard and anxiety is pertinent to clinical theory and practice, as indicated by Sullivan, and to the study of interpersonal relations, as discussed by Heider. However, the interpersonal consequences of these variables have not been simultaneously studied to date, so that it is important to study this problem empirically.

The independent variables in this experiment were expressed or verbalized self-regard, and failure stress of both the perceiver or judge and the stimulus person or target. The dependent variables were a S's choice of others and a S's guess as to how the other group members felt about him. The S's perception as to how the other group members felt about each other was included as a secondary dependent variable. This variable was included so as to be consistent with prior research in this area (Tagiuri, 1958), and as an indirect source of evidence concerning how group members felt about one another; i.e., a S might not acknowledge his feelings but might "perceive" that the other group members disliked (or liked) each other. The degree to which each S reported that he overtly displayed his liking or disliking of others was also included as a secondary dependent variable. This variable was included to provide information on the possibility that Ss inhibit display of negative feeling and that such inhibition may account for the failure of other group members to perceive that they are disliked.

An additional set of secondary dependent variables was derived from the stress procedure. Specifically, Ss were asked to evaluate the presence of anxiety, hostility, and depression in themselves and in the other group members so that independent criteria of the effectiveness of failure stress would be available.

Statement of the Hypotheses. The hypotheses were primarily derived from Sullivan's observations (1953, 1956) and Heider's theory (1958) of sentiment formation.

The first hypothesis was of an inverse relationship between self-regard and tendencies to dislike others and anticipate dislike by others. Sullivan commented upon the disjunctive properties of low self-regard (1956, p.316), specifically observing that Ss with low self-regard do not respect others (1953, p.308), disparage others (1953, p.309), and anticipate dislike by others (1956, p.145). Heider hypothesized that there is a direct relationship between dislike of others and anticipated dislike by others (1958, p.205), lending further support to the notion that dislike of others and anticipated dislike by others are associated with similar antecedents. As noted previously, there is some empirical evidence that Ss with low self-regard are less favorable in their evaluations of others (Crandall and Bellugi, 1954) and assume they are unfavorably evaluated by others (Smith, 1950). Similarly, there is some empirical evidence of a direct relationship between dislike of others and anticipated dislike by others (Tagiuri, 1958).

The second hypothesis was of a direct relationship between exposure to failure stress and tendencies to dislike others and anticipate dislike by others. Sullivan did not specifically state that anxiety is associated with dislike of others and anticipated dislike by others. However, the second hypothesis can be inferred from Sullivan's discussion (1953, p.95) of the general disjunctive properties of anxiety. In addition, Sullivan's discussion of the mutual relationship between anxiety and self-esteem (1953, p.378; 1956, p.124) implies that anxiety and low self-esteem have similar interpersonal consequences. Sullivan did explicitly state that Ss tend to dislike people who make them anxious (1956, p.98); however, this observation does not necessarily imply that anxiety associated with another person will nevertheless be associated with dislike of that person. As discussed for the first hypothesis, the association of both dislike of others and anticipated dislike by others with similar antecedents can be derived from Heider's theory. Empirical support of the relationship between stress and dislike of others is confounded by variations in the locus of stress. Decreased attraction between group members was obtained when the locus of stress was internal to the group (Pepitone and Kleiner, 1957; Steiner and Dodge, 1957).

Neither theory nor data provide a clear basis for evaluating how failure stress and self-regard mutually influence feelings of like and dislike. However, this is the major concern of the present investigation, even though no specific hypotheses were formulated.

In order to provide the most appropriate conditions to test the hypotheses, the role that specific characteristics of the stimulus person might play were minimized, the S and not the group was the locus of stress, and stress in both the perceiver and stimulus person were varied. Reasons for these conditions are discussed below. In addition, it was assumed that anxiety is induced by failure stress. An independent test of this assumption was included in the experiment. Sullivan's observation that anxiety frequently follows anticipated unfavorable appraisal (1953, p.113) supports the use of failure stress to induce anxiety.

Only Ss who did not acknowledge prior acquaintance were employed in the experiment. In addition, the interaction between group members was restricted to a specific task and was restricted in time. These conditions were imposed so that Ss would not have an objective basis for their judgments. Under such conditions, the effects of self-regard and failure stress on feelings of like and dislike might be more readily obtained.

Subjects who are told they have done poorly on a given task may attribute their failure to the other group members and thereby mitigate the effectiveness of the stress procedure. Prior research demonstrated that the locus of stress does influence feelings of like and dislike in a group (Lanzetta, 1955; Pepitone & Kleiner, 1957; Steiner and Dodge, 1957; Wright, 1943). The possible role of attribution thus

suggested use of a stress procedure which would focus the locus of failure in the S himself.

In prior research, stress was applied to all the group members simultaneously, making it difficult to determine whether the locus of action of the stress manipulation is in the person being perceived or in the person making the perception. Clarification of this point required that stress in both the perceiver and the stimulus person be systematically varied. This condition limits the degree to which the characteristics of the stimulus person could be minimized, as the problem required that some Ss be exposed to stress.

Method

In order to study the effects of failure stress and self-regard upon the feelings that develop and are perceived in a group, the following procedure was followed. Thirty-six groups of three Ss each filled out scales of expressed self-regard and attitude toward others and then interacted as a group on a TAT task. This task had no significance except as a means of getting the Ss to interact. The task was structured so that either one or two of the Ss in each group were exposed to stress. Following their interaction, each S rated how he felt about the other group members, the degree to which he displayed his choice, and how the other group members felt about him and each other. Each S also rated himself and the other group members on anxiety, hostility, and depression. Finally, each S was interviewed by E to further evaluate the stress procedure.

Subjects

A total of 108 male Ss from introductory psychology classes at the University of Massachusetts were assigned to the stress and nonstress conditions. Data from only 72 of these Ss were employed in the main analyses for reasons to be described below. The Ss worked in groups of three, half of the groups containing one stress and two nonstress Ss, and half of the groups containing one nonstress and two stress Ss. Two restrictions were placed on allocation of Ss to a particular group. Subjects were not drawn from the same dormitory, fraternity, or class, and data from Ss who acknowledged prior acquaintance with the other group members while in the experimental session were excluded.

Scales Employed

Sociometric Ratings. Sociometric judgments were obtained with five-inch continuous rating scales anchored at the extremes by the phrases, "liked very much" and "liked very little." These scales were subsequently divided into 20 units with high scores corresponding to dislike. Croft and Grygier (1956) demonstrated that a scale employing questions in this general form are most predictive of a S's choice in various situations. A review of the literature by Witryol and Thompson (1953) reported that sociometric rating scales similar to those employed in this study have test-retest reliability in excess of .90 for intervals not in excess of one week. Lindsey and Borgatta (1954) concluded that sociometric scales have high face validity.

Attitude toward self and others. Attitudes toward self and others were measured by the Berger Scales (1952). The combined scales contained 64 items, each item being rated from one to five. Berger (1952) reported split-half reliability coefficients in excess of .77 for attitude toward others and in excess of .89 for attitude toward self, with the exception of one sample where it was .75. Omwake (1954) reported alternate form reliability coefficients for attitude toward self and attitude toward others, as measured by scales devised by Berger, Phillips, and Dills. All correlations which involved the Berger scale were significant at the .01 level, with one exception; the correlation of Berger's and Dills' scales of attitude toward others was not significant. Berger (1952) also reported on the validity of his scales;

specifically, he obtained correlations of .90 and .73 between essays rated for attitude toward self and others and his scales of attitude toward self and others, respectively.

Adjective check list. The Nowlis and Green (1957) adjective check list is a recently constructed scale designed to evaluate verbal report of emotional states. This scale was developed on the basis of an extensive factor-analytic study and on the ability of scale items to differentiate between experimental stress conditions. The seven anxiety adjective, six hostility adjective, and six depression adjectives employed in this study had maximum factor loadings in their respective areas. Each adjective was rated by checking one of four alternative. Hostility and depression items were included because of the covariation of anxiety and hostility reported by Feshbach and Singer (1957) and the covariation of anxiety, hostility, and depression obtained by Nowlis and Green (1957). The check list contained nine filler adjectives also taken from Nowlis and Green (1957). Subjects checked these adjective both with respect to how they felt and to how they thought the other group members felt.

Procedure

Assignment of Ss to treatments. The three Ss of each group entered a room containing three chairs placed at 120° angles about a circular table. The room contained drapes, lamps, and a one-way observation mirror. The chairs were opposite three "name" plates, designated A,

B, and C. The position of these plates was moved in a clockwise direction from group to group, position A always designating a stress S, and position B designating a stress S 50% of the time. By rotating the three name plates and having the B position designate a stress S every other time, all seating positions had an equal number of stress and nonstress Ss for the total experiment. The Ss in each group chose their own seats, the assignment of Ss to conditions not being determined by E.

The Berger scales. The three Ss of each group began the experiment by completing the Berger scales. The Ss were asked to work as quickly as possible.

Task instructions. Following completion of the Berger scales, the three Ss of each group were given presumably identical typewritten instructions to develop a group story for a TAT card (card 2). They were instructed to give everyone an equal chance to participate. Nonstress Ss were informed that the purpose of the experiment was to study group performance, whereas stress Ss were informed that they were being individually evaluated by two psychologists on spontaneity, warmth, adjustment, creativity, and initiative. All Ss were shown the one-way mirror and microphone. During actual development of the group story, E observed the group through the one-way mirror.

Failure stress. The Ss interacted for a period of seven to eight minutes on the first TAT card, and then were interrupted and given false

ratings presumably based on their group performance. The nonstress Ss were given slightly positively toned ratings concerning the performance of their group as a whole in order to minimize their interpretation of the test situation as stressful. The stress Ss were given individual ratings on spontaneity, warmth, adjustment, creativity, and initiative which indicated that they were doing poorly. These ratings were supplemented by one brief sentence which told the nonstress Ss that their group was proceeding in accordance with the initial instructions, and which told the stress Ss that they were doing poorly in comparison with previous groups. The Ss were then instructed to work on a second TAT card (13 MF) and again asked to give everyone an equal chance to participate.

Rating Scales. The Ss interacted for seven to eight minutes on the second TAT card. They were then stopped and given a five-page test booklet which included instructions for its completion. In this booklet, Ss wrote a brief description of their impression of the other two group members so as to create an initial "set" to evaluate each other, filled out the sociometric rating scales, and then filled out the Nowlis and Green adjective check lists for themselves and the other group members.

Interview. Upon the completion of the test booklets, the Ss were separately interviewed in another room in the order in which they were seated. Each S was first asked, "How did you do on the picture-story task?" Ss who denied having done poorly were then asked "What about the

ratings you received?" If these Ss still denied failure, they were asked, "How did you feel when you read these ratings?" Stress Ss were then told the purpose of the experiment so as to reduce feelings of failure.

Results

Restrictions on the Data

Data from all three Ss of a given group cannot be evaluated in the same analysis, as the individual groups were unevenly split, each containing one stress and two nonstress Ss, or vice versa. This problem is clarified by considering two such groups, each containing three Ss:

<u>Group I</u>		<u>Group II</u>		
NS ₁		S ₁		(S = stress <u>S</u>)
S ₁	S ₂	NS ₁	NS ₂	(NS = nonstress <u>S</u>)

Categorizing the judgments obtained from the Ss in these two groups yields the following pattern of responses:

<u>Target <u>Ss</u></u>	<u>Judge <u>Ss</u></u>	
	<u>S</u>	<u>NS</u>
<u>S</u>	11	1111
<u>NS</u>	1111	11

In this diagram, a judge S designates the person making the response, and a target S designates the object of the response or the stimulus person. The pattern of responses obtained from this categorization has the following characteristics: (a) two of the four entries in the upper right- and lower left-hand cells are made by different judge Ss, and (b) two of the four entries in the upper right- and lower left-hand cells are made by the same judge S. (It should be noted that larger groups would have the same general characteristics). To make these data amenable to statistical treatment, the analysis of judgments

obtained from Ss in Group I was restricted to the two stress Ss, data from the nonstress S being excluded. Similarly, the analysis of judgments obtained from Ss in Group II was restricted to the two nonstress Ss, data from the stress S being excluded. Categorization of the obtained judgments in this manner yields the following pattern of responses:

Target <u>Ss</u>	Judge <u>Ss</u>	
	<u>S</u>	<u>NS</u>
<u>S</u>	11	11
<u>NS</u>	11	11

Because of the exclusion of one S in each group, data from only 72 of the 108 Ss were included in analyses of the dependent variables.

The data excluded from the main analyses were not amenable to separate statistical treatment. This is shown by categorizing the judgments obtained from the nonstress S in Group I and the stress S in Group II:

Target <u>Ss</u>	Judge <u>Ss</u>	
	<u>S</u>	<u>NS</u>
<u>S</u>		11
<u>NS</u>	11	

As can be seen, there is no way of separating the effects of stress on the target Ss from the effects of stress on the Judge Ss. A comparison of these data with the responses categorized in the main analysis is also questionable, as the characteristics of the stimulus persons are

not identical; specifically, each S in the main analysis interacted with one stress and one nonstress S, whereas the eliminated S of each group interacted with either two stress or two nonstress Ss.

Sociometric Dependent Variables

The means and SD's of the degree to which Ss liked or disliked the other group members (Choice), and guessed that the other group members liked or disliked them (Guess) and each other (Other Guess) are presented in Table 1. Analyses of variance for these variables are reported in Table 2. The analyses were mixed designs with each treatment at two levels. The between sources of variance were stress administered or not administered to the judge Ss, and self-regard scores above or below the median (median=111). The within source of variance was stress administered or not administered to the target Ss. (The means and SD's for the self-regard subgroups are presented in Table I in the Appendix). Attitude toward others could not be included as a further independent variable as originally proposed. The inclusion of this variable introduced disproportionality of subclass frequencies sufficient to raise doubts as to the validity of employing the approximate solutions for the analysis of variance described by Snedecor (1946).

Choice and Guess Ratings. None of the effects for the Choice and Guess dependent variables was significant. Three of the comparisons in these analyses approached significance at the .05 level; specifically, low-regard Ss were less positive in their choice of others than high-

Table 1

Means and Standard Deviations of Sociometric Ratings

(For each subgroup, N=18)

Dependent Variable	Judge Condition	Judge Attitude Self	Target Condition			
			Stress		Nonstress	
			Mean	<u>SD</u>	Mean	<u>SD</u>
Choice	Stress	High	6.00	4.19	6.39	4.46
	Nonstress	High	8.22	4.89	7.61	4.18
	Stress	Low	7.44	6.16	9.78	6.01
	Nonstress	Low	10.11	5.07	7.94	4.53
Guess	Stress	High	8.67	4.88	8.06	4.65
	Nonstress	High	8.83	3.83	8.67	3.31
	Stress	Low	9.67	4.78	11.22	4.59
	Nonstress	Low	10.28	4.71	8.28	4.24
Other Guess	Stress	High	5.89	3.84	7.56	4.13
	Nonstress	High	9.11	3.70	9.61	3.89
	Stress	Low	9.67	5.40	8.56	5.39
	Nonstress	Low	9.50	5.02	8.06	4.51

Table 2

Analysis of Variance of Means of Sociometric Ratings

Source of Variation	df	Dependent Variable					
		Choice		Guess		Other Guess	
		SS	F	SS	F	SS	F
Between Variance	71	2176.94		2021.75		2309.49	
Judge Stress (JS)	1	44.18	1.50	5.34	.19	47.84	1.51
Judge Attitude Self (JAS)	1	112.01	3.79	61.36	2.16	29.34	.93
JS x JAS	1	12.33	.42	21.88	.77	79.51	2.51
Between Residual	68	2008.42		1933.17		2152.80	
Within Variance	72	1671.50		922.00		868.50	
Target Stress (TS)	1	.01	.00	3.36	.27	.34	.03
TS x JS	1	65.06	2.81	21.88	1.73	5.06	.42
TS x JAS	1	.34	.01	.25	.20	50.17	4.21*
TS x JS x JAS	1	30.57	1.32	35.90	2.84	1.56	.13
Within Residual	68	1575.52		860.61		811.37	
Total Variance	143	3848.44		2943.75		3177.99	

* Significant at .05 level.

regard Ss, stress target Ss were liked most by stress judge Ss and liked least by nonstress judge Ss, and low-regard judge Ss exposed to stress guessed that they were liked least by nonstress target Ss. These tendencies may be fortuitous or might be confirmed by increased experimental precision. These tendencies might also be due to differences among the variances. However, F max, as defined by Hartley (1950), was 2.17 and 2.18 for the Choice and Guess variables, respectively, for eight subclasses and 17 df. These values do not fall in the critical region, so the hypothesis of equal subclass variances is acceptable.

Other Guess Ratings. The hypothesis of equal subclass variances in the Other Guess data is acceptable, F max (Hartley, 1950) being 2.13 for eight subclasses and 17 df. The target x self-regard interaction was significant at the .05 level. An analysis of the simple effects in this interaction (Table 3) demonstrated that high-regard Ss perceive nonstress target Ss as liked most by stress target Ss, whereas low-regard Ss perceive nonstress target Ss as liked least by stress target Ss. The t of 2.57 for this difference was significant at the .05 level.

Accuracy. The judgments contributing to the significant target x self-regard interaction in Table 3 might be accurate, i.e., a consideration of the feelings reported by the target Ss in question might confirm these judgments. A test of this hypothesis required a consideration of the feelings reported by the second and third member of each group, and so includes data that were excluded in the main analysis.

Table 3

Analysis of the TSxJAS Interaction in the Other Guess Data

(Test of simple effects; for each subgroup, N=36)

Judge Attitude Self		<u>Target Condition</u>				
		<u>Stress</u>		<u>Nonstress</u>		<u>t</u>
		Mean	<u>SD</u>	Mean	<u>SD</u>	
High		7.50	4.10	8.58	4.15	1.35
Low		9.58	5.23	8.31	4.97	1.57
	<u>t</u>	2.57*		.33		

*Significant at the .05 level.

The means and SDs for these Ss are presented in Table 4 for the choice and for the degree to which Ss reported that they displayed their choice (Displayed Choice). The analyses for variance in Table 5 do not support the hypothesis that high and low-regard judge Ss were accurate in their ratings of how stress target Ss felt about nonstress target Ss, as none of the obtained effects was significant. A trend for the Choice variable involved feelings rated by nonstress target Ss who interacted with low-regard judge Ss, and is thus not relevant to the issue under consideration. The variances in these comparisons were homogeneous, F max being 2.30 and 1.70 for Choice and Displayed Choice variables, respectively, for eight subclasses and 17 df.

Self-Ratings of Anxiety, Hostility, and Depression

The means and SDs of self-ratings of anxiety, hostility and depression are reported in Table 6. Analyses of variance are presented in Table 7. The main components of variance in each table are judge stress and self-regard.

Hartley's test (1950) indicated that the variances for all these measures were heterogeneous. None of the effects for hostility was significant in the original data, so transformations were not applied. Significant effects for anxiety and depression were obtained in the original data, requiring the use of square-root transformations. Variances based on transformed scores were homogeneous, F max being 1.89 and 2.56 for anxiety and depression, respectively, for four subclasses

Table 4

Means and Standard Deviations of
Choice and Displayed Choice Ratings by Target
Ss Reported to Like or Dislike Others

Dependent Variable	Target Rated	Judge Attitude Self	Target Condition			
			Stress		Nonstress	
			Mean	SD	Mean	SD
Choice	2nd	High	6.39	4.68	7.78	3.79
	2nd	Low	7.06	5.36	10.56	5.75
	3rd	High	5.72	4.18	8.06	4.99
	3rd	Low	7.89	4.94	6.56	4.41
Displayed Choice	2nd	High	9.11	5.63	8.83	4.32
	2nd	Low	7.61	4.82	10.67	5.61
	3rd	High	7.33	4.72	9.67	5.51
	3rd	Low	9.95	4.70	8.67	4.99

Table 5

Analysis of Variance of Choice and Displayed Choice Ratings

By Target Ss Reported to Like or Dislike Others

Source of Variation	df	Variable			
		Choice		Displayed Choice	
		<u>SS</u>	<u>F</u>	<u>SS</u>	<u>F</u>
AS	1	38.03	1.56	8.51	.31
T	1	78.03	3.20	33.06	1.22
Target Position in Group (P)	1	28.44	1.17	.84	.03
AS x T	1	5.44	.22	.17	.01
AS x P	1	17.36	.71	3.67	.14
T x P	1	34.03	1.40	6.67	.25
AS x T x P	1	75.11	3.08	35.59	1.31
Residual	136	3321.56		3694.43	
Total	143	3598.00		3782.94	

and 17 df. Significant ($p=.05$) main effects of judge stress and self-regard on the transformed anxiety data showed that stress Ss rate more anxiety in themselves than non-stress Ss, and low-regard Ss rate more anxiety in themselves than high-regard Ss. The significant ($p=.001$) main effect of self-regard on the transformed depression data showed that low-regard Ss rate more depression in themselves than high-regard Ss.

Ratings of Anxiety, Hostility, and Depression in Others.

The means and SDs of ratings of anxiety, hostility and depression of others are presented in Table 8. Analyses of variance for these variables are presented in Table 9. The analyses were mixed designs similar in format to the designs for the sociometric data; specifically, the between sources of variance were judge stress and self-regard, and the within source of variance was target stress. The actual computations were based on the approximate solution for disproportionate subclass numbers described by Snedecor (1946, pp.287-289).

Hartley's test (1950) indicated that the variances for hostility were heterogeneous; however, none of the effects for hostility was significant in the original data, so transformations were not applied. The variances for anxiety and depression were homogeneous, F max (as discussed by Walker and Lev for disproportionate subclass frequencies, 1953, pp.192-193) being 2.94 and 2.32, respectively, for eight subclasses and df ranging from 14 to 18. None of the effects for depression

Table 6

Means and Standard Deviations of Self-Ratings of
Anxiety, Hostility, and Depression
(For each subgroup, N=18)

Dependent Variable	Judge Condition	Judge Attitude Self	Mean	<u>SD</u>
Anxiety ^a	Stress	High	1.40	1.07
	Nonstress	High	1.02	.86
	Stress	Low	2.09	.92
	Nonstress	Low	1.45	1.18
Hostility	Stress	High	2.67	3.26
	Nonstress	High	3.44	4.10
	Stress	Low	1.83	1.65
	Nonstress	Low	2.89	3.38
Depression ^a	Stress	High	1.81	1.00
	Nonstress	High	1.38	.70
	Stress	Low	2.49	.64
	Nonstress	Low	2.20	1.04

^a Square-root transformation applied to data.

Table 7

Analysis of Variance of Means of Self-Ratings of

Anxiety, Hostility, and Depression

Source of Variation	df	Variable					
		SS	Anxiety	SS	Hostility	SS	Depression
			F		F		F
JS	1	4.46	4.44*	8.68	.78	2.33	2.99
JAS	1	5.70	5.43*	15.13	1.36	10.34	13.26**
JS x JAS	1	2.98	2.84	.35	.03	.09	.12
Residual	68	71.57		748.71		52.70	
Total	71	84.91		772.87		65.46	

*Significant at .05 level.

**Significant at .001 level.

Table 8

Means and Standard Deviations of Ratings of
Anxiety, Hostility, and Depression in Others

Dependent Variable	Judge Condition	Judge Attitude Self	<u>N</u>	<u>Target Condition</u>			
				<u>Stress</u>		<u>Nonstress</u>	
				Mean	<u>SD</u>	Mean	<u>SD</u>
Anxiety	Stress	High	18	2.56	2.49	1.39	1.83
	Nonstress	High	17	1.29	2.22	1.65	2.78
	Stress	Low	18	2.89	3.01	2.56	2.71
	Nonstress	Low	14	3.00	3.14	1.29	1.89
Hostility	Stress	High	18	1.50	2.09	2.11	2.69
	Nonstress	High	17	1.18	2.15	1.00	1.41
	Stress	Low	18	2.50	3.35	2.06	3.52
	Nonstress	Low	14	1.93	2.55	.93	1.33
Depression	Stress	High	18	3.28	2.92	2.22	2.64
	Nonstress	High	17	2.18	2.59	2.29	2.89
	Stress	Low	18	3.94	2.42	2.89	2.47
	Nonstress	Low	14	3.79	2.93	3.36	3.69

Table 9

Analysis of Variance of Ratings of Anxiety, Hostility, and Depression in Others
(Approximate Solution for Unequal Subclass Frequencies)

Source of Variation	df	Variable					
		Anxiety		Hostility		Depression	
		SS	F	SS	F	SS	F
Between Variance	66	635.60		728.55		796.88	
JS	1	9.76	1.01	20.30	1.82	1.04	.09
JAS	1	16.82	1.74	5.50	.49	33.31	2.76
JS x JAS	1	.05	.01	.15	.01	3.78	.31
Between Residual	63	607.59		701.46		759.48	
Within Variance	67	298.50		167.00		323.00	
TS	1	16.82	4.02*	2.12	.09	12.23	2.55
TS x JS	1	.05	.01	3.45	1.41	6.65	1.39
TS x JAS	1	3.13	.75	7.24	2.96	.58	.12
TS x JS x JAS	1	17.55	4.19*	.12	.05	.63	.13
Within Residual	63	263.62		154.59		301.53	
Total Variance	133	934.10		895.55		1119.88	

*Significant at .05 level.

Table 10

Analysis of the TS x JS x JAS Interaction in the Ratings of

Anxiety in Others

(Test of Simple Effects)

Judge Attitude Self	Judge Condition	Target Condition		<u>t</u>
		<u>Stress</u> Mean	<u>Nonstress</u> Mean	
High	Stress	2.56	1.39	1.72
	Nonstress	1.29	1.65	.51
	<u>t</u>	1.84	.38	
Low	Stress	2.89	2.56	.50
	Nonstress	3.00	1.29	2.22*
	<u>t</u>	.15	1.74	

*Significant at the .05 level.

was significant. The main effect of target stress for the anxiety data was due to ratings of greater anxiety in stress target Ss than in non-stress target Ss. A significant ($p=.05$) target x judge x self-regard interaction for anxiety was also obtained. The relationships among the means of this interaction are presented in Table 10. The ts show that stress target Ss were rated to be most anxious by low-regard judge Ss not exposed to stress. There was also a tendency for stress target Ss to be rated most anxious by high-regard judge Ss who were exposed to stress.

Interview Data

When interviewed, 27 of 36 stress Ss admitted having "done poorly," whereas only one of 26 nonstress Ss admitted having "done poorly." The obtained chi-square (Sutcliffe, 1957) in Table 23 is highly significant. The stress Ss, in admitting failure, frequently reported feeling uneasy, tense, low, and "shook-up." Eighteen of the 27 stress Ss who admitted having done poorly said they tried harder or did better on the second TAT card, while four said they did worse as they were conscious of being observed. Finally, three of the nine stress Ss who denied having done poorly admitted being upset after the nature of the experiment was explained to them.

Table 11
Sutcliffe Chi-square of Stress Interview Data
(N=62)

Source of Variance	Chi-square
JS x Interview	30.63*
JAS x Interview	2.10
JS x JAS x Interview	.17
Total	32.90

*Significant at the .001 level.

Discussion

The major hypotheses were that tendencies to dislike others and to report being disliked by others are inversely related to self-regard and directly related to exposure to stress. In general, these hypotheses were not supported by the findings; however, high-regard judge Ss guessed that stress target Ss liked nonstress target Ss, and low-regard judge Ss guessed that stress target Ss disliked nonstress target Ss. An inverse relationship was thus obtained between self-regard and the report that stress target Ss disliked nonstress target Ss. In addition, three tendencies were obtained in support of the predicted relationships between self-regard and feelings of like and dislike. These results raise a number of questions to be discussed below.

Self-regard and feelings of like dislike. The perception that A likes or dislikes B may actually be correct. However, this did not prove to be the case. The judgments made by high- and low-regard judge Ss were not supported by the feelings reported by the specific target Ss involved. It is therefore likely that the perception that A likes or dislikes B indicates that the perceiver likes or dislikes B. This interpretation is consistent with Heider's theory of unit and sentiment formation (1958). Without reference to any theoretical system, it would be difficult to argue that the perceiver likes Ss perceived to be disliked by others and dislikes Ss perceived to be liked by others. This interpretation was also supported by two trends ($p=.10$) in the

data. Specifically, low-regard Ss were less positive in their choice of others than high-regard Ss, and low-regard judge Ss exposed to stress guessed that nonstress target Ss disliked them. These diverse findings require replication before a conclusion can be reached. Further support of these findings would indicate that predetermined characteristics of the perceiver are related to how people feel about one another.

If the perception that A likes or dislikes B indicates that the perceiver likes or dislikes B, why didn't the perceiver give direct expression to his feelings and perceive that these feelings were reciprocated, as predicted? This question is somewhat mitigated by the obtained trends discussed above; nevertheless, certain aspects of the procedure may have inhibited direct expression of feelings for the group members. The Ss were purposely not given an opportunity to form an objective opinion of each other. This was dictated by the objective of maximizing the role that experimentally varied characteristics of the perceiver play in the ratings of how group members feel about one another. Many of the Ss objected that they had no basis for making their judgments and had to be encouraged to complete the questionnaire. While formal data was not collected on this issue, qualitative observations were fairly definitive. It is thus likely that Ss did inhibit direct expression of their feelings on the sociometric questionnaires. It seems plausible that social convention makes people cautious in committing themselves on an issue as important as their feelings toward

others and the feelings of others toward them without some justification. The situation is somewhat modified when considering how people feel about one another. The personal consequences of such judgments aren't as great, as the perceiver is not immediately involved. In addition, judgments concerning how people feel about one another may be easily rationalized, as the perceiver can seemingly use external evidence to support his conclusions.

Stress and feelings of like-dislike. The failure to find an association of stress and feelings of like and dislike may signify that no relationship exists or that some aspect of the method used influenced these data. One obvious possibility is that the means of inducing stress were not effective. However, stress Ss admitted having done poorly on the interview and rated themselves as more anxious than nonstress Ss. In addition, stress target Ss were perceived to be most anxious by judge Ss, and in particular by low-regard nonstress judge Ss. These findings suggest that the stress condition was effective. Nevertheless, the conclusion that failure stress is not associated with feelings of like and dislike is probably premature. A tendency was obtained in which low-regard judge Ss exposed to stress guessed that nonstress target Ss disliked them. In this relationship, both stress and self-regard were effective. In addition, judge Ss perceived that stress target Ss liked or disliked nonstress target Ss. This latter finding does not directly pertain to the characteristics of the perceiver, but does raise various issues which require

consideration. Two alternatives are considered below.

The perception that like or dislike was focused on nonstress target Ss may reflect how the perceiver felt about these Ss, as noted previously. An understanding of why these specific target Ss are liked or disliked may relate to the characteristics of the perceiver. For example, high-regard judge Ss were less anxious and depressed than low-regard judge Ss and may have liked nonstress target Ss because they were also less anxious. Conversely, low-regard judge Ss were more anxious and depressed than high-regard judge Ss and may have disliked nonstress target Ss because they were not also anxious. In this analysis, the relative security of the perceiver may determine both the direction (like or dislike) and object (nonstress or stress target S) of his feelings.

A second alternative does not require that high- and low-regard judge Ss specifically liked or disliked nonstress target Ss. High-regard judge Ss may be optimistic people who generally assume that the other group members like one another, whereas low-regard judge Ss may be pessimistic people who generally assume that other group members dislike one another. The fact that these feelings were specifically attributed to stress target Ss might then indicate that these target Ss specifically drew the attention of the other group members. Direct evidence on this issue is lacking. However, stress target Ss were perceived to be most anxious in the group, and so may well have been

specifically attended to.

The finding that stress target Ss were reported to like or dislike nonstress target Ss may thus reflect the perceiver's attitude toward nonstress target Ss or the stimulus value of stress target Ss or both. These alternatives indicate the need for further research in which stress is retained as an independent variable.

Accuracy. It was noted above that the experimental procedure minimized the role that specific characteristics of the stimulus person played in the group interaction. The judgments made by high- and low-regard judge Ss were thus not supported by the feelings reported by the specific stress target Ss involved. Nevertheless, stress target Ss were perceived to be more anxious than nonstress target Ss by judge Ss, and in particular by low-regard nonstress judge Ss. This finding was unexpected. The Ss were involved in a short-term interaction and were not previously asked to focus on the presence of anxiety in others. Anxiety may thus be an especially visible characteristic of others. This finding was discussed above in support of the hypothesis that stress target Ss were specifically attended to. However, the implications of this finding may well go beyond the present study. What is implied is that anxiety may be an important stimulus characteristic of persons.

Summary and Conclusions

The present investigation evaluated the effects of failure stress and self-regard on the feelings that develop and are perceived in a group. A total of 108 male college sophomores who did not acknowledge prior acquaintance were assigned to groups of three. Half the groups containing two Ss to be exposed to stress, and half the groups containing one S to be exposed to stress. The Ss began the experiment by filling out the Berger scales of expressed self-regard and attitude toward others. The Ss next worked as a group on a TAT card. Stress Ss were instructed that their performance would be individually evaluated, whereas nonstress Ss were instructed that the purpose of the experiment was to study group performance. Following their performance on the first TAT card, stress Ss were given ratings which indicated that they had done poorly, whereas nonstress Ss were given slightly positively-toned ratings which indicated that their group was adequately following the instructions. The Ss then worked as a group on a second TAT card. Following this, the Ss wrote a free description of the other group members and then made the following ratings: how they felt about the other group members; the degree to which they displayed these feelings; how the other group members felt about each other; and how the other group members felt about them. Each S also rated himself and the other group members on anxiety, hostility, and depression by means of the Nowlis and Green adjective check list. Data from the two stress and the two nonstress Ss in each group were treated statistically, so

data from only 72 of the 108 Ss were actually employed in the main analyses.

It was hypothesized that the tendency to dislike others and report being disliked by others is inversely related to self-regard and directly related to exposure to stress. The hypotheses were not supported. However, an inverse relationship between self-regard and the report that stress target Ss disliked nonstress target Ss was obtained. It was hypothesized that this finding reflects how high- and low-regard Ss feel about others, and may specifically reflect how these Ss feel about nonstress target Ss. Another alternative was that high- and low-regard Ss specifically attributed feelings of like-dislike to stress target Ss. A number of obtained trends further supported the association of self-regard with feelings toward others, indicating that further exploration of the interpersonal consequences of self-regard is warranted.

The nonsupport of the association between stress and like-dislike was not attributable to the stress manipulation. Stress Ss admitted having done poorly on the group TAT task, rated themselves as more anxious than nonstress Ss, and were perceived to be more anxious by other group members, low-regard nonstress judge Ss being most discriminating in this respect. The accuracy with which target anxiety was perceived was an unexpected finding, especially as Ss were not able to accurately rate how the other group members felt about each other. This finding indicates that anxiety is a highly visible characteristic of others.

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The Berger Scales

Letter _____

This is a study of some of your attitudes. Of course, there is no right answer for any statement. The best answer is what you feel is true of yourself.

You are to respond to each question according to the following scheme:

1	2	3	4	5
Not at all true of my- self	Slightly true of myself	About half- way true of myself	Mostly true of myself	True of myself

Remember, the best answer is the one which applies to you.

- _____ 1. I'd like it if I could find someone who would tell me how to solve my personal problems.
- _____ 2. I don't question my worth as a person, even if I think others do.
- _____ 3. I can be comfortable with all varieties of people ... from the highest to the lowest.
- _____ 4. I can become so absorbed in the work I'm doing that it doesn't bother me not to have any intimate friends.
- _____ 5. I don't approve of spending time and energy in doing things for other people. I believe in looking to my family and myself more and letting others shift for themselves.
- _____ 6. When people say nice things about me, I find it difficult to believe they really mean it. I think maybe they're kidding me or just aren't being sincere.
- _____ 7. If there is any criticism or anyone says anything about me, I just can't take it.
- _____ 8. I don't say much at social affairs because I'm afraid that people will criticize me or laugh if I say the wrong thing.
- _____ 9. I realize that I'm not living very effectively but I just don't believe I've got it in me to use my energies in better ways.
- _____ 10. I don't approve of doing favors for people. If you're too agreeable they'll take advantage of you.

- _____ 11. I look on most of the feelings and impulses I have toward people as being quite natural and acceptable.
- _____ 12. Something inside me just won't let me be satisfied with any job I've done--if it turns out well, I get a very smug feeling that this is beneath me, I shouldn't be satisfied with this, this isn't a fair test.
- _____ 13. I feel different from other people. I'd like to have the feeling of security that comes from knowing I'm not too different from others.
- _____ 14. I'm afraid for people that I like to find out what I'm really like, for fear they'd be disappointed in me.
- _____ 15. I am frequently bothered by feelings of inferiority.
- _____ 16. Because of other people, I haven't been able to achieve as much as I should have.
- _____ 17. I am quite shy and self-conscious in social situations.
- _____ 18. In order to get along and be liked, I tend to be what people expect me to be rather than anything else.
- _____ 19. I usually ignore the feelings of others when I'm accomplishing some important end.
- _____ 20. I seem to have a real inner strength in handling things. I'm on a pretty solid foundation and it makes me pretty sure of myself.
- _____ 21. There's no sense in compromising. When people have values I don't like, I just don't care to have much to do with them.
- _____ 22. The person you marry may not be perfect, but I believe in trying to get him (or her) to change along desirable lines.
- _____ 23. I see no objection to stepping on other people's toes a little if it'll help get me what I want in life.
- _____ 24. I feel self-conscious when I'm with people who have a superior position to mine in business or at school.
- _____ 25. I try to get people to do what I want them to do, in one way or another.

- _____ 26. I often tell people what they should do when they're having trouble in making a decision.
- _____ 27. I enjoy myself most when I'm alone, away from other people.
- _____ 28. I think I'm neurotic or something.
- _____ 29. I feel neither above nor below the people I meet.
- _____ 30. Sometimes people misunderstand me when I try to keep them from making mistakes that could have an important effect on their lives.
- _____ 31. Very often I don't try to be friendly with people because I think they won't like me.
- _____ 32. There are very few times when I compliment people for their talents or jobs they've done.
- _____ 33. I enjoy doing little favors for people even if I don't know them well.
- _____ 34. I feel that I'm a person of worth, on an equal plane with others.
- _____ 35. I can't avoid feeling guilty about the way I feel toward certain people in my life.
- _____ 36. I prefer to be alone rather than have close friendships with any of the people around me.
- _____ 37. I'm not afraid of meeting new people. I feel that I'm a worthwhile person and there's no reason why they should dislike me.
- _____ 38. I sort of only half-believe in myself.
- _____ 39. I seldom worry about other people. I'm really pretty self-centered.
- _____ 40. I'm very sensitive. People say things and I have a tendency to think they're criticizing me or insulting me in some way and later when I think of it, they may not have meant anything like that at all.
- _____ 41. I think I have certain abilities and other people say so too but I wonder if I'm not giving them an importance way beyond what they deserve.

- _____ 42. I feel confident that I can do something about the problems that may arise in the future.
- _____ 43. I believe that people should get credit for their accomplishments, but I very seldom come across work that deserves praise.
- _____ 44. When someone asks for advice about some personal problem, I'm most likely to say, "It's up to you to decide," rather than tell him what he should do.
- _____ 45. I guess I put on a show to impress people. I know I'm not the person I pretend to be.
- _____ 46. I feel that for the most part one has to fight his way thru life. That means that people who stand in the way will be hurt.
- _____ 47. I can't help feeling superior (or inferior) to most of the people I know.
- _____ 48. I do not worry or condemn myself if other people pass judgment against me.
- _____ 49. I don't hesitate to urge people to live by the same high set of values which I have for myself.
- _____ 50. I can be friendly with people who do things which I consider wrong.
- _____ 51. I don't feel very normal, but I want to feel normal.
- _____ 52. When I'm in a group I usually don't say much for fear of saying the wrong thing.
- _____ 53. I have a tendency to sidestep my problems.
- _____ 54. If people are weak and inefficient I'm inclined to take advantage of them. I believe you must be strong to achieve your goals.
- _____ 55. I'm easily irritated by people who argue with me.
- _____ 56. When I'm dealing with younger persons, I expect them to do what I tell them.
- _____ 57. I don't see much point to doing things for others unless they can do you some good later on.

- _____ 58. Even when people do think well of me, I feel sort of guilty because I know I must be fooling them--that if I were really to be myself, they wouldn't think well of me.
- _____ 59. I feel that I'm on the same level as other people and that helps to establish good relations with them.
- _____ 60. If someone I know is having difficulty in working things out for himself, I like to tell him what to do.
- _____ 61. I feel that people are apt to react differently to me than they would normally react to other people.
- _____ 62. I live too much by other peoples' standards.
- _____ 63. When I have to address a group, I get self-conscious and have difficulty in saying things well.
- _____ 64. If I didn't always have such hard luck, I'd accomplish much more than I have.

Instructions for First TAT Card

Upon completion of the Berger scales, each S was given a two page instruction booklet for the first TAT card. The first page of this booklet is reproduced below, and was identical for all Ss.

Experimental Instructions

Examiner: Fred Schwartz

This study will take approximately one hour and is composed of four separate short tasks. You will receive instructions for each task just before it begins. The instructions for the first task are on the next page.

The second page of this booklet differed for stress and nonstress Ss. The stress Ss' instructions are reproduced below.

First Task

On the table before you is a picture. Your task is to make up a dramatic story about it. Tell what has led up to the event shown in the picture, describe what is happening at the moment, what the characters are feeling and thinking; and then give the outcome. You are to work at this problem as a group. Give everyone a chance to express his view and then gradually work towards a group story. Try to be imaginative and give everyone an equal chance to participate. Your performance will be rated by two psychologists on spontaneity, warmth, adjustment, creativity, and initiative. Previous research has shown that these ratings are indicative of your future intellectual and social development, so do your best. Your group will be observed through a one-way mirror. Please do not ask questions about the experiment now. Please begin now.

The second page of the instruction booklet for nonstress Ss is reproduced below.

First Task

On the table before you is a picture. Your task is to make up a dramatic story about it. Tell what has led up to the event shown

in the picture, describe what is happening at the moment, what the characters are feeling and thinking; and then give the outcome. You are to work at this problem as a group. Give everyone a chance to express his view and then gradually work towards a group story. Try to be imaginative and give everyone an equal chance to participate. The purpose of this study is to learn something about how people work together on an imaginative task. Previous research has shown that how people behave in small groups as in the present study is relevant to many problems in social psychology, so do your best. Your group will be observed through a one-way mirror. Please do not ask questions about the experiment now.

Instructions for Second TAT Card

Upon completion of the first TAT card, each S was given a two-page instruction booklet for the second TAT card. The first page of this booklet was a blank cover sheet which served to shield the contents of the instructions from the other group members. The second page of the instruction booklet for stress Ss is reproduced below. The ratings and the last two lines which further evaluate the Ss' performance were handwritten.

Second Task

You have just completed card one. To guide you for the next card, you have received the following ratings. Medium or high ratings indicate you are doing well. Low ratings indicate you are doing poorly.

	<u>Low</u>	<u>Medium</u>	<u>High</u>
spontaneity	x		
warmth		x	
adjustment	x		
creativity	x		
initiative	x		

Go on to the next card. Remember to be imaginative and to give everyone an equal chance to express his view.

Performance below average.
Inadequate interaction.

The second page of the instruction booklet for nonstress Ss is reproduced below. The ratings and the last line which further evaluates the Ss' performance were handwritten.

Second Task

You have just completed card one. To guide you for the next card, your group has received the following ratings. Medium or high ratings indicate your group has been following the instructions and should continue as before.

	<u>Low</u>	<u>Medium</u>	<u>High</u>
spontaneity			x
warmth		x	
rapport			x
interest		x	
initiative			x

Go on to the next card. Remember to be imaginative and to give everyone an equal chance to express his view.

Group performance above average.

Rating Scales

Third Task

Name _____

Letter Code _____

Date _____

We would like you to indicate your impression of the other two members of your group. This is not an easy thing to do, but previous research has shown that such impressions are usually very meaningful. Try to describe the kind of impression each person made upon you. Please keep in mind that your responses are completely confidential and will be seen only by the experimenter.

Subject _____ is

Subject _____ is (for additional space, go to next page)

Indicate below how much you liked the other two members of the group. It is conventional to show that you like others, but it is a sign of maturity to discriminate carefully how you feel about them. Do not hesitate to precisely indicate your true feeling. To do this, make a vertical mark on the scales below, as in the example. Place the mark so that it best indicates your feeling. All responses will of course be confidential.

EXAMPLE

liked _____ liked
very much _____ very little

This rating indicates who is liked very little.

How did you feel about subject ?

liked _____ liked
very much _____ very little

How did you feel about subject ?

liked _____ liked
very much _____ very little

Remember to indicate your feeling by making a vertical mark on the scales.

Sometimes we like someone very much or very little, but do not show how we feel. Indicate below the extent to which you actually showed how you felt about the other members of the group by your behavior, words, tone of voice, and attitude.

You actually show the following feeling for subject ?

liked _____ liked
very much _____ very little

You actually showed the following feeling for subject ?

liked _____ liked
very much _____ very little

How do you think the other group members felt about each other?

How did subject feel about subject ?

liked _____ liked
very much _____ very little

How did subject feel about subject ?

liked _____ liked
very much _____ very little

How do you think the other group members felt about you?

How did subject feel about you?

liked _____ liked
very much _____ very little

How did subject feel about you?

liked _____ liked
very much _____ very little

Below are words which may express how you felt during the picture story task. Rate them as follows:

- ++ Definitely describes your mood or feelings.
- + It is only slightly descriptive of your mood.
- 0 You cannot decide or it seems not to apply to your mood.
- The word definitely does not apply to your mood or feelings.

lonely
startled
defiant
energetic
insecure
shocked
rebellious
vigorous
frustrated
ashamed
angry
active
blue
clutched-up
fed-up
drowsy
uncertain
fearful
annoyed
tired
regretful
jittery
grouchy
sluggish
nonchalant
helpless
independent
sarcastic

This time, rate how you think the other two group members felt during the picture story task. Rate them as follows:

- ++ Definitely describes his mood or feelings.
- + It is only slightly descriptive of his mood.
- 0 You cannot decide or it seems not to apply to his mood.
- The word definitely does not apply to his mood or feelings.

Subject _____

lonely
startled
defiant
energetic
insecure
shocked
rebellious
vigorous
frustrated
ashamed
angry
active
blue
clutched-up
fed-up
drowsy
uncertain
fearful
annoyed
tired
regretful
jittery
grouchy
sluggish
nonchalant
helpless
independent
sarcastic

Subject _____

lonely
startled
defiant
energetic
insecure
shocked
rebellious
vigorous
frustrated
ashamed
angry
active
blue
clutched-up
fed-up
drowsy
uncertain
fearful
annoyed
tired
regretful
jittery
grouchy
sluggish
nonchalant
helpless
independent
sarcastic

Table A

Sociometric Data for High-Regard Nonstress Subjects

Stress Targets								Nonstress Targets			
Choice	Displayed Choice	Other Guess	Guess								
(C)	(DC)	(OG)	(G)	C	DC	OG	G	C	DC	OG	G
1	1	1	1	1	1	1	1	1	1	1	1
16	8	10	12	13	8	13	12	13	8	13	12
8	5	10	11	8	7	8	9	8	7	8	9
3	7	5	6	5	7	5	7	5	7	5	7
16	18	15	13	6	4	14	7	6	4	14	7
10	10	11	11	10	11	11	11	10	11	11	11
5	9	8	8	14	14	13	10	14	14	13	10
9	10	9	9	3	4	13	7	3	4	13	7
11	10	11	11	11	11	11	11	11	11	11	11
2	2	11	3	7	7	10	5	7	7	10	5
1	20	1	1	1	20	1	1	1	20	1	1
8	15	13	11	10	15	13	11	10	15	13	11
6	13	11	9	8	15	7	11	8	15	7	11
10	9	10	8	5	9	11	9	5	9	11	9
4	7	10	10	14	10	10	10	14	10	10	10
8	14	11	8	13	18	8	12	13	18	8	12
15	10	12	12	4	11	10	11	4	11	10	11
15	12	5	15	4	6	14	11	4	6	14	11

Table B

Sociometric Data for Low-Regard Nonstress Subjects

<u>Stress Targets</u>				<u>Nonstress Targets</u>			
C	DC	OG	G	C	DC	OG	G
8	7	9	10	7	6	10	9
7	6	8	8	8	7	8	8
14	6	6	11	6	6	8	7
15	4	7	7	6	16	10	13
2	6	4	7	4	6	4	7
20	20	1	20	2	1	1	1
10	8	11	9	9	9	11	9
6	10	12	12	12	10	9	9
1	1	1	1	1	1	1	1
18	20	20	20	20	20	20	20
10	10	10	10	2	3	10	7
7	10	10	11	7	11	10	13
10	3	6	6	14	18	2	6
10	9	13	9	12	11	10	9
9	11	9	10	9	12	8	10
18	17	18	18	6	3	5	4
10	16	16	9	8	4	5	7
7	7	10	7	10	7	13	9

Table C

Sociometric Data for High-Regard Stress Subjects

C	<u>Stress Targets</u>			C	<u>Nonstress Targets</u>		
	DC	OG	G		DC	OG	G
12	9	11	9	9	9	12	13
10	10	6	9	6	5	11	5
5	5	8	9	11	7	14	7
1	1	1	1	1	1	1	1
10	11	8	11	13	11	11	11
1	1	1	20	1	1	1	20
4	4	5	6	8	4	10	7
4	8	6	6	4	7	8	6
11	9	5	10	7	13	10	9
14	10	6	9	7	10	5	9
11	10	11	10	7	10	10	10
3	7	5	4	10	7	10	10
6	10	13	10	17	11	10	14
2	5	4	7	4	6	8	8
1	1	1	20	1	1	1	1
6	5	2	7	1	3	4	7
1	1	1	1	1	20	1	1
6	9	12	7	7	9	9	6

Table D

Sociometric Data for Low-Regard Stress Subjects

<u>Stress Targets</u>				<u>Nonstress Targets</u>			
C	DC	OG	G	C	DC	OG	G
15	15	11	14	5	5	14	8
1	18	10	10	8	18	10	10
1	1	2	1	19	1	19	19
20	20	20	20	20	20	20	20
1	5	2	5	6	7	2	3
18	18	10	7	2	2	5	7
9	9	7	9	12	11	5	10
9	10	11	9	12	11	13	11
1	1	20	1	20	20	1	18
8	12	8	8	8	12	7	8
2	5	5	8	4	7	6	8
1	20	4	9	1	1	7	9
1	1	19	19	19	1	1	19
10	10	11	11	11	11	11	10
5	9	8	9	5	9	8	9
8	10	11	12	9	11	12	12
9	10	11	12	10	7	9	11
15	11	4	10	5	8	4	10

Table E

Anxiety, Hostility, Depression Raw Data for High-Regard

Nonstress Subjects

<u>Self-Report Data</u>			<u>Objective Report Data</u>					
Anxiety	Hostility	Depression	Stress Targets			Nonstress Targets		
(A)	(H)	(D)	A	H	D	A	H	D
3	2	5	0	0	2	2	0	7
1	2	1	0	0	0	0	0	0
3	1	4	1	2	1	0	1	1
4	4	2	0	2	0	0	2	1
0	0	0	8	2	4	0	0	0
0	0	2	0	0	2	0	0	0
2	2	4	4	0	2	0	3	0
0	2	1	2	0	0	9	0	7
4	3	3						
2	2	2	0	0	0	0	2	1
4	2	3	0	1	2	2	2	1
0	0	1	0	0	2	0	0	2
2	0	0	0	0	0	8	0	4
0	2	2	0	0	4	0	0	2
2	2	1	1	0	1	3	2	1
5	7	9	5	8	11	4	5	10
0	1	2	0	5	2	0	0	2
0	1	1	1	0	4	0	0	0

Table F

Anxiety, Hostility, Depression Raw Data for Low-Regard

Nonstress Subjects

<u>Self-Report Data</u>			<u>Objective Report Data</u>					
A	H	D	A	H	D	A	H	D
3	9	15	0	5	4	3	2	10
2	1	5	5	4	4	3	5	3
0	3	3	0	7	2	0	1	0
0	0	3	0	0	3	0	0	2
8	3	7	3	1	3	3	1	4
0	1	2	1	1	4	0	1	3
0	0	2						
10	1	9						
12	12	8						
1	1	2						
0	0	1	4	0	4	0	0	1
0	2	10	0	0	0	0	1	2
3	0	0	2	1	0	0	0	0
7	7	12	3	0	9	3	0	11
4	2	3	0	0	1	0	0	0
3	0	2	8	1	7	0	0	0
4	6	10	6	7	2	6	2	9
6	4	12	10	0	10	0	0	2

Table G

Anxiety, Hostility, Depression Raw Data for High-Regard

Stress Subjects

<u>Self-Report Data</u>			<u>Objective Report Data</u>					
A	H	D	A	H	D	A	H	D
7	2	11	1	2	5	4	6	8
13	8	9	7	7	7	6	6	5
9	8	3	8	0	8	0	8	2
2	0	4	2	0	0	0	0	2
0	0	2	0	0	2	2	0	2
1	4	2	0	0	0	0	0	0
3	4	3	0	0	2	0	0	0
0	0	0	2	0	4	0	0	0
4	10	5	5	4	5	1	5	2
2	0	0	2	0	0	0	2	0
0	1	4	5	3	4	4	1	6
0	0	5	0	0	0	0	0	1
3	7	13	3	4	9	4	6	8
1	1	3	1	0	0	0	0	0
3	0	5	0	3	5	0	2	2
4	0	2	2	0	1	1	0	0
0	1	0	2	4	1	1	2	2
5	2	6	6	0	6	2	0	0

Table H

Anxiety, Hostility, Depression Raw Data for Low-Regard

Stress Subjects

<u>Self-Report Data</u>			<u>Objective Report Data</u>					
A	H	D	A	H	D	A	H	D
7	1	11	2	4	4	0	0	1
11	3	12	8	0	5	3	0	5
4	0	5	0	0	0	0	0	1
7	0	5	1	1	1	1	0	2
6	5	6	3	0	4	0	2	2
7	15	9	9	13	9	8	15	9
3	6	4	3	0	1	2	1	2
3	2	3	0	0	3	3	3	4
6	3	4	6	4	2	7	0	2
5	0	2	7	4	7	7	5	7
3	0	9	0	0	3	0	0	1
5	11	10	1	5	6	0	0	0
9	3	11	1	2	6	0	0	1
9	8	7	7	7	6	6	4	5
0	0	2	0	0	2	0	0	2
0	3	6	0	3	3	3	1	2
8	2	8	3	2	2	4	3	6
1	0	5	1	0	7	2	3	0

Table I

Means and Standard Deviations of Self-Regard Scores

Judge Condition	Self-Regard Subgroups			
	Low-Regard		High-Regard	
	Mean	<u>SD</u>	Mean	<u>SD</u>
Stress	129.07	9.40	151.18	8.03
Nonstress	129.29	10.35	153.85	8.06

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