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SOCIAL ANXIETY, OPINION STRUCTURE, AND OPINION CHANGE[1]

DAVID O. SEARS

University of California, Los Angeles

An experiment was carried out to determine the effects of aroused and chronic social anxiety upon (a) opinion change following a persuasive communication, (b) opinion presentation, and (c) opinion structure. The relationship between opinion structure and opinion change was also examined. Social anxiety was aroused by telling the S he would interact with a highly critical peer about an issue he felt relatively uninformed on. Aroused social anxiety increased opinion change, regardless of whether it was aroused by varying the criticalness of the interaction partner or varying anticipation of interaction. Chronic social anxiety was not related to opinion change. There was some tendency for opinions to be less differentiated and less centralized under high aroused social anxiety. Centralization of opinion was positively related to opinion change under high pressure to change, but negatively related to opinion change under low pressure to change.

Numerous attempts have been made to isolate personality predispositions which bear some consistent relationship to general or topic-free persuasibility. Perhaps most attention has been devoted to those predispositions that act by governing the value of interpersonal rewards and punishments. In a number of studies persons with low self-esteem, feelings of inadequacy, social inhibitions, and social anxiety have been found to be especially persuasible (Janis, 1954, 1955; Janis & Field, 1959). The dynamic underlying each of these relationships, presumably, is that such persons excessively fear social disapproval and prize social approval. (Hence they are unusually chameleon-like in response to influence attempts.)

The major shortcoming of these studies has been that they have only correlated chronic personality predispositions with persuasibility. This is a problem for two reasons. First, such studies obviously do not provide firm evidence regarding the causal role of the predisposition in question; a variety of plausible alternative explanations for the findings exist (Hovland & Janis, 1959). The other reason is that they focus upon chronic personality predispositions alone. They do not indicate whether or not an acute arousal of the predisposition also facilitates opinion change. Thus they give an incomplete account of the relationship between the personality factor and persuasibility. It is possible that in some cases acute arousals and chronic differences summate, yielding a linear relationship with suggestibility. In other cases, they may interact, yielding a linear relationship to some ceiling or even a curvilinear relationship. Which of these is involved with any given personality factor can only be determined by experimentally varying its acute level in persons of known chronic levels.

The present experiment was designed primarily to examine the joint effects of chronic and acute differences in social anxiety upon opinion change. Since social anxiety is usually described in terms of an unusual concern with others' approval or disapproval (Fenichel, 1945; Janis, 1955), it was aroused by threatening the subject with criticism and disapproval from a peer. The most obvious expectation was that opinion change would increase with greater social anxiety, whether of the chronic or aroused variety (Janis, 1955).

The other main goal of the experiment was to explore the process by which interperson-

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ally induced emotional states, such as social anxiety, affect susceptibility to influence. The particular possibility investigated was that cognitive organization plays a mediating role in interpersonal influence situations. This implies two general hypotheses: first, that situational pressures in interaction with personality dispositions affect an individual's organization of his cognitions about a given attitude object, and second, that this organization determines, in part, how susceptible to influence the individual will be. In the context of the present study, this involved testing the effects of social anxiety upon indexes of cognitive organization, and then looking at the relationship between the two main dependent variables of the study, cognitive organization and opinion change.

Cognitive organization is here defined in terms of two main dimensions. The first was the degree of structure; that is, the extent to which an opinion is organized around a few central cognitive elements, and all elements interrelated. The second focused on how the subject publicly presented his opinion: its level of differentiation, and the extent to which it was a strong, internally consistent, one-sided position. The measures for these variables were derived from Zajonc (1954, 1960).

The first of these hypotheses, that cognitive organization is determined by situational demands and personality characteristics, is consistent with a number of prior observations. Variations in the demands made upon an individual for the use of his information have been shown to affect his cognitive organization; for example, preparing to communicate generates more structured thoughts than does preparing to receive (Zajonc, 1960). Also, chronic personality predispositions and temporary emotional arousals alike affect cognitive organization (Dittes, 1959; Harvey, Hunt, & Schroder, 1961).

Social anxiety in particular should be an important variable affecting cognitive organization in interpersonal interactions. The expression of a highly structured, highly partisan opinion ought to have some obvious interpersonal repercussions. It should facilitate fluid communication and interaction (Zajonc, 1960), but it also should raise the possibility of conflict and hostility, especially if differences of opinion emerge. Highly anxious individuals might therefore be expected to express unstructured, moderate opinions to avoid interpersonal conflict and hostility. Moderately anxious individuals might present more structured, partisan opinions, since they are presumably motivated to interact, but less threatened by the possibility of conflict. Those low in anxiety may be neither threatened by conflict nor particularly motivated to interact, and hence might also express unstructured, moderate opinions. A plausible hypothesis, therefore, was that chronic and situationally aroused anxiety would interact, with opinions of maximum structure and partisanship being expressed under intermediate total levels of anxiety.

What about the second of these hypotheses, that cognitive organization determines opinion change? It seemed more plausible that more structured opinions would be more resistant to change. However, they might be unusually vulnerable under high pressure to change; minor changes of opinion would force other ramifying changes in highly structured opinions, and would presumably be more common under high pressure to change. Thus it was expected that the two dependent variables in this study, opinion structure and opinion change, would be positively related under conditions of high pressure to change, and negatively related under conditions of low pressure to change.

Pressure to change was varied directly by manipulating the discrepancy of the persuasive communication from the subject's own position. The expectation was that the higher the subject's opinion structure, the greater his opinion change under high discrepancy, and the less his opinion change under low discrepancy. This of course represents only a correlational test of the hypothesis, but significant correlations would encourage further test of the possibility that a causal relationship might underlie them.

METHOD

Synopsis

Each subject was first given a personality and opinion premeasure. Approximately 3 weeks later he took part in the experimental session. First he was

told whether or not he would have a discussion with another student toward the end of the session. In either case he was then given a prepared personality sketch of his "partner"; in some cases the partner was described as generally highly critical of others' ideas, and in others, as warmer and only moderately critical. He then completed measures of cognitive organization on the discussion topic ("the future of American economy"), and was given a persuasive communication on this topic, ostensibly just written by his partner. The communication took either an extreme or a moderate position opposite to the one the subject had earlier indicated on the premeasure. Finally, the subject filled out an opinion postmeasure. No discussions were actually held.

The design was basically a 2×4, in which subjects of low and high chronic social anxiety were tested under four different conditions. High arousal of acute social anxiety was attempted in the "high-criticism" condition by warning the subject to expect a discussion with the highly critical partner. Lower levels of arousal were expected in the "low-criticism" condition, in which the subject expected a discussion with a warmer and less critical partner, and in the "no-discussion" condition, in which the partner was described as highly critical but no discussion with him was expected. In all three conditions communications of extreme discrepancy from the subject's position were presented, while a fourth condition ("low discrepancy") was identical to the high-criticism condition except that communications of only moderate discrepancy were used. These differences are shown in Table 1.

Premeasure and Issue

Attitude and personality questionnaires were administered to 112 undergraduates in four introductory psychology sections at Yale College. The attitude issue was the future of the American economy. Two agree-disagree items, with 7-point scales, were used to measure initial opinion about it. They were embedded in approximately 35 other items on national and international issues. These two items read: "There is good reason to be worried about the future of the American economy over the next few years," and "Outside of a few industries in special circumstances, we can expect a lengthy period of distinctly non-boom performance from the American economy in the future." This issue was introduced in the experimental session in these terms: "whether or not the American economy seems to be slowing down—i.e., whether or not the rate of progress the past decade has witnessed is likely to continue in the American economy as a whole, over the next few years." This issue was selected because it was generally familiar to Yale students, and one they had clear opinions about, perhaps partly because of family background and partly because of its importance for their futures. It had also represented an important aspect of the recently concluded presidential campaign, in the form of a debate about national rates of economic growth. These considerations were important, because obtaining meaningful cognitive organization measures depended in part upon the subject's ability to express a differentiated series of thoughts about the issue. It was also selected because the students were about evenly divided between optimists and pessimists on the issue.

The personality premeasure included a six-item scale on socially oriented anxiety initially constructed by Sarason and Gorden (1953), and subsequently used by Janis (1955) and Lane (1962). The items referred to stagefright, fear of being criticized, social adjustment, fear of failure, and sensitivity to embarrassing situations. High- and low-anxiety subgroups were divided at the median for the entire sample tested ($n = 112$).

Anticipated Discussion Manipulation

At the beginning of the experimental session, the subject was placed in a room by himself, and was given a booklet containing all instructions. He had only minimal contact with the experimenter thereafter. In the three conditions with discussion expected, the experiment was described as mainly concerning group interaction, focusing on how initial feelings of the participants about each other affect their subsequent interaction. The subject was told that half the students in the study had been interviewed beforehand, and that brief personality sketches on them were available. He had supposedly been assigned one of these other students as a partner and during the last 20 minutes of the hour they would discuss the future of the economy together, and the discussion would be tape-recorded in its entirety. In the no-discussion condition the main focus of the experiment was allegedly on how people's initial feelings about each other affect their non-face-to-face communication about an issue in the news, so they would not meet during the experiment.

Partner Criticalness Manipulation

The subject then read the personality sketch that had allegedly been prepared by a "senior undergraduate assistant" after an interview with the partner. It was about 1,000 words long, typed on a mimeographed form. Two reports were used, one describing a highly critical person, and the other a less critical person. Both attempted to establish high credibility by describing the partner as widely read on economic matters, as having social contacts with stockbrokers in New York, and as having impressed his roommates with his knowledge about the economy. These passages were identical in both versions.

The criticalness manipulation consisted of differences such as the following. The highly critical partner:

> Although he's a warm person he is highly critical intellectually . . . toward the end of the interview he got pretty annoyed with me . . . both because the discussion wasn't on a higher level and because he didn't think I knew very much about the subject. I . . . didn't feel uninformed with the

TABLE 1

DESIGN

Manipulation	Experimental condition			
	High criticism	Low criticism	No discussion	Low discrepancy
Discussion anticipated?	Yes	Yes	No	Yes
Partner criticalness	Critical	Warm	Critical	Critical
Communication discrepancy	High	High	High	Low

others I interviewed, but with Gil I didn't feel as self-confident. As we went on, he got more and more disgusted with some of the questions I was asking, and his answers tended to be briefer and somewhat withering . . . when I made a particularly unsophisticated remark, his answer was so terse and almost cutting that he made me feel as if I wanted to crawl into a hole. Even an idea that supported his position didn't impress him if you hadn't thought it through.

The warmer, less critical partner:

Although he has a good critical mind and is very tough-minded, he is a very warm person . . . he never got annoyed by having to answer the questions . . . he would have liked to have the discussion on a higher level, but he always was very cooperative . . . I never had the feeling . . . that he thought I didn't know much about the subject . . . I didn't feel up to his level, for the most part. However, he didn't make me feel uncomfortable about this at all . . . when I made a particularly unsophisticated remark, he stopped and really went into the issue to try to explain how he felt about it. I noticed that he spent as much time trying to clarify misconceptions that supported his own positions as those that didn't.

After reading this report, the subject indicated his impression of his partner. Five items were intended as direct checks on the criticalness manipulation, asking how much he expected to like his partner, how easy he thought it would be to get along with him, how easy it would be to come to a mutually satisfactory conclusion with him, how critical of others' ideas the partner was, and how favorably he thought his partner would react to him. Seven other items were intended as checks to insure that the sketches had not suggested a particular position about the economy for the partner, or created differences in source credibility. With one exception, these items were rated on 9-point scales with labeled endpoints. Those items referring to the discussion were of course omitted in the no-discussion condition.

Cognitive Organization Measures

The procedure used for obtaining measures of cognitive organization was modified from that developed by Zajonc (1954, 1960). The basic procedure involved first making explicit the constituent cognitions of the opinion, then measuring the following of their major properties: (*a*) their affective loadings and importance, (*b*) the subjective categories into which they were divided, and (*c*) the interrelations among them.

To begin with, the subject was given 16 slips of paper. On any given slip he was to write "a phrase or a simple sentence or two, indicating what you consider to be a crucial factor in the future of the economy in the immediate future." He was told that the slips would be given to his partner prior to the discussion (except that the partner would not see them in the no-discussion condition). He was told he could write as many slips as he wished. After writing them, he was instructed to rate each one on a 7-point scale with respect to whether its contents would contribute to the "progress" or the "leveling-off or decline" of the economy. Then each was rated on a 5-point scale for importance.

The subject was then asked to group the slips:

You will undoubtedly notice that some of the slips seem to touch on a common theme, or aspect of the issue. Take all the slips that seem to address themselves on the same basic point, and place them together in a group. Do this for all the slips . . . A slip may appear in only *one* group.

And finally, the interdependencies were noted: considering each slip in turn, he was to list each slip that "would change if slip 'A' were changed, modified, or rejected."

Opinion presentation. These measures yielded three opinion presentation variables. *Differentiation* was simply indexed by the number of slips written by the subject (Zajonc, 1960). Partisanship was indexed in two ways: *affective consistency* was the extent to which his slips favored only one side of the issue, specifically, the proportion of slips rated on the "progress" side or the "leveling-off or decline" side of the midpoint of the scales given on the slips, whichever was greater. Cohen (1961) termed a similar measure "polarization." The other was *position strength,* defined as the extent to which the subject's position strongly and extremely favored one side. The deviation from the midpoint of each slip rating was multiplied by the importance rating given the slip, then summed over slips and divided by the number of slips. The sign of the result was not considered.

Opinion structure. The degree of structure in the subject's opinion was measured in terms of its

interrelatedness and its centralization. The index for interrelatedness was *unity;* that is, the total number of interdependices indicated by the subject, divided by the number of slips, times the number of slips minus one (Zajonc, 1960). Two indexes were used for centralization: "organization" and "category centrality." *Organization* is the extent to which the structure is dominated by a single idea or cognition. The index involves multiplying the reciprocal of "unity" by the number of dependencies upon the slip with the greatest number of dependencies upon it (Zajonc, 1960). *Category centrality* is the extent to which the structure is dominated by one or two categories of ideas or cognitions rather than the cognitions being distributed evenly through a number of categories. It was indexed by summing over all groups the squares of the number of slips in each group, and dividing by the product of the total number of slips and the total number of groups. Hence the maximum score would go to a subject with all his slips in one group, and the minimum to those whose slips were divided exactly among their groups. A composite *centralization* index was generated by ranking the subjects on organization and category centrality, then combining the ranks.

Persuasive Communication and Discrepancy Manipulation

All materials were then taken from the subject, with the slips allegedly being taken to the partner (except in the no-discussion condition). After 2 or 3 minutes, the experimenter returned with a handwritten essay supposedly just finished by the partner in another room. The essay always took a position opposite to the subject's. Each subject in the high-criticism, low-criticism, and no-discussion conditions was given one of two high-discrepancy communications, one advocating extreme optimism about the economy, and the other extreme pessimism. In the low-discrepancy condition, the subject received either a moderately optimistic or a moderately pessimistic communication. The four communications all covered essentially the same points, and were very similar in length, style, level of sophistication, number of statistics and references cited, etc.

After the subject read the communication, he rated it for validity, clarity, persuasiveness, and indicated the position he felt it advocated. Nineteen agree-disagree opinion items were then given, including the two used in the premeasure. Change on these two items was the key dependent measure. The subject's perception of his partner and his feelings about the experiment were then indicated on several final items. None of these postcommunication responses were supposedly to be shown to the partner.[2] Each subject was then taken to another room and intensively interviewed, particularly with regard to the success of the deceptions used. Skeptical subjects were immediately discarded from the analysis.[3]

[2] Copies of all materials used are included in the original report (Sears, 1962).

RESULTS

Checks on Criticalness Manipulation

The primary checks upon the effectiveness of the partner-criticalness manipulation were provided by five items given immediately after the subject had finished reading the description of his partner. The two relevant conditions, high criticism (including subjects in the low-discrepancy condition) and low criticism, differed beyond the .001 level on each item, with $df = 1/64$. The highly critical partner was perceived as more critical of others' ideas ($F = 53.61$), as less easy to get along with ($F = 62.06$), as less likely to like the subject ($F = 27.96$), and less likely to be able to reach a conclusion mutually satisfactory to both partner and subject ($F = 19.59$). The subjects also liked him less ($F = 16.79$). These differences persisted following presentation of the communications; high-criticism subjects (now excluding the low-discrepancy subjects) continued to like their partner less than did the low-criticism subjects ($F = 7.07$, $df = 1/28$, $p < .01$) and to perceive him as more critical ($F = 45.04$, $df = 1/28$, $p < .001$). This provides ample evidence that the description of the highly critical partner differed greatly from that of the warmer, less critical partner along the intended dimensions.

The partner-criticalness manipulation was intended to leave unaffected the partner's credibility and the subject's perception of the partner on other dimensions irrelevant to his criticalness. This effort seems to have been successful. On the items given after the subject had read the description of his partner, the high- and low-criticism conditions did not differ in how well-informed the partner was seen as being, how strongly he was thought to feel about the issue, or on the position attributed to him or in its discrepancy from the subject's position. The two reports also yielded equally clear impressions

[3] Two subjects were dropped because they indicated they suspected the announced discussion would not take place. Five others were dropped because they indicated they had some suspicion of whether or not the "partner" really existed. These were distributed fairly evenly across conditions.

of the partner, and were regarded as equally objective ($F < 1.00$ for all these items). Following the communication, the two partners were still perceived as equally well-informed, as feeling equally strongly about the issue, and as holding the same position relative to the subject's position ($F < 1.00$ on each).

Expectation of a discussion with the partner, per se, was also intended not to affect the partner's credibility. This too seems to have been successful, since the high-criticism and no-discussion conditions did not differ appreciably on any of the items just cited.

Checks on the Discrepancy Manipulation

The two moderate communications were in fact judged as taking more moderate positions than their more extreme counterparts ($\chi^2 = 8.77$, $df = 2$, $p < .02$ for the optimistic communications and $\chi^2 = 7.91$, $df = 2$, $p < .02$ for the pessimistic communications). Moreover, the mean positions attributed to the four communications were approximately symmetrical around the midpoint of the check item, indicating roughly equivalent extremity and moderation on each side. Two subjects given extreme communications and one given a moderate communication were dropped from the analysis because they misperceived the side of the issue taken by the communicator.

It was also necessary that the moderate communications be of comparable quality to the extreme communications. Each subject was asked to rate the communication for how valid, convincing, and good a statement it was. Extremity did not affect these judgments discernibly. Moreover, there were no significant differences on the postcommunication questions regarding how well-informed the partner was or on how strongly he felt about the issue. Hence the moderate communications were apparently fully as strong as the extreme communications, and differences in their effects can be attributed to differential discrepancy rather than to differential quality or persuasiveness.

Social Anxiety and Opinion Change

It was assumed that social anxiety would be aroused by the threat of criticism. Two separate comparisons are therefore relevant for assessing the effects of anxiety arousal. First, more anxiety should have been aroused in the high-criticism than in the low-criticism condition, since the subject expected to interact with a highly critical partner in the former, and with a much less critical partner in the latter condition. Expecting to meet the highly critical partner produced significantly more opinion change than expecting to meet the more tolerant partner, as shown in Table 2 ($F = 4.77$, $df = 1/44$, $p < .05$). This held for subjects given the optimistic communication and those given the pessimistic communication alike, as indicated by the nonsignificant ($F = 0.72$) interaction with position advocated.[4]

The highly critical partner may have been more influential, however, simply because he was inadvertently described as a more credible source. The check items cited above indicate substantial equality between high- and low-criticism conditions on the dimensions relevant to credibility, and hence make this unlikely. In addition, the comparison of the high-criticism and no-discussion conditions varies yet another component of anxiety arousal, but holding information about the characteristics of the source constant. More opinion change was produced in the high criticism condition ($F = 5.64$, $df = 1/44$, $p < .025$), despite the fact that the same source descriptions and communications were used in both. A nonsignificant interaction between condition and communication position ($F = 0.02$) indicates that anticipating a discussion facilitated the influence of the optimistic and pessimistic communications alike. these means are shown in Table 2.

These data are consistent, therefore, with

[4] The high- and low-criticism conditions were also compared in a pilot test conducted during the spring of 1960. The same materials were used, but testing was done under less controlled conditions (the subjects were tested in small groups rather than individually). The high-criticism condition again produced more opinion change, although with fewer cases ($N = 30$) and more variable scores, the difference did not attain significance. These data provide, in a sense, a third replication of the basic comparison. Adding these subjects as a third row in the high- and low-criticism columns of Table 2 does not attenuate the strength of the difference due to criticalness ($F = 5.43$, $df = 1/72$, $p < .05$).

TABLE 2

MEAN OPINION CHANGE

Communication	Experimental condition			
	High criticism	Low criticism	No discussion	Low discrepancy
Optimistic	+3.25(12)	+2.32(9)	+1.34(8)	+1.38(12)
Pessimistic	+5.25(17)	+3.14(10)	+3.55(11)	+3.08(5)
Both	+4.41	+2.74	+2.63	+1.82

Note.—Entry is mean number of scale points changed in advocated direction on combined attitude scale (which had a possible range of 12 points). Scores are adjusted by covariance for differences in extremity of initial position. *N*s in parentheses.

the notion that social anxiety is aroused and facilitates influence when a person expects to interact with a highly critical, disapproving person, whether by comparison with an expected interaction with a gentler person, or with receiving the persuasive communication but not expecting a personal confrontation with the highly critical person.

The situational arousal of social anxiety therefore seems to have facilitated opinion change. What about predispositional differences in social anxiety? Here the data contribute very little. While the low anxious subjects appear to have changed slightly more, the differences are not even marginally significant. Nor are the interactions significant between predispositional anxiety and criticalness of the partner or expection of discussion ($F < 1.00$ in both cases).

Social Anxiety and Opinion Presentation

The threat of criticism was also supposed to affect the way in which the subjects presented their opinions on the slips. First, differentiation was greatest in the no-discussion condition, least in the high-criticism condition ($F = 8.11$, $df = 1/63$, $p < .01$ for the difference between the two), and intermediate in the low-criticism condition. Chronic anxiety was not systematically related to differentiation. The second dimension tested was the strength of the subject's stand. Neither on affective consistency nor on position strength was there any reliable trend due either to the manipulations or to chronic anxiety. The means are shown in Table 3.

TABLE 3

MEAN OPINION PRESENTATION AND OPINION STRUCTURE

	Experimental condition		
	High criticism	Low criticism	No discussion
Opinion presentation			
Differentiation	7.96(48)	8.55(20)	9.79(19)
Affective consistency	0.66(48)	0.70(19)	0.65(19)
Position strength	2.89(45)	3.78(18)	2.29(19)
Opinion structure			
Unity	0.36(48)	0.33(20)	0.29(19)
Organization	13.53(48)	13.89(20)	20.83(19)
Category centrality	0.81(47)	0.78(20)	0.82(19)
Centralization	40.95(48)	43.22(20)	55.82(19)

Note.—Entries are means. A higher number indicates a more differentiated, stronger, more centralized, etc., opinion. *N*s in parentheses.

Social Anxiety and Opinion Structure

Opinion structure was indexed by four measures: organization, category centrality, composite centralization, and unity. The only significant differences were that the no-discussion condition was the highest, and the high-criticism condition the lowest on organization ($F = 14.48$, $df = 1/63$, $p < .01$) and on the composite centralization measure ($z = 2.03$, $p < .05$ using the Mann-Whitney U test). The low-criticism condition was intermediate in both cases. The conditions did not differ appreciably on category centrality or on unity. The means are shown in Table 3. Chronic anxiety had no overall effect on these structure measures, and there were no significant interactions between chronic anxiety and experimental conditions.

Opinion Structure and Opinion Change

It was hypothesized that persons with highly structured opinions would change more under high situational pressure than would persons with less structured opinions, whereas under less situational pressure the reverse would hold. Pressure to change was most directly manipulated by varying the extremity of the communications. This was a successful manipulation, as shown in Table 2. Subjects

TABLE 4

CENTRALIZATION AND MEAN OPINION CHANGE

	Experimental condition			
	High criticism	Low discrepancy	Low criticism	No discussion
High centralization	+4.34(16)	+0.55(9)	+1.38(10)	+1.38(10)
Low centralization	+2.32(13)	+2.32(8)	+2.39(9)	+1.94(9)
Difference	+2.02	−1.77	−1.01	−0.56

Note.—Entry is the same as in Table 2, except that a correction had to be applied in order to combine subjects receiving both kinds of communications. The average difference in opinion change between pessimistic and optimistic communications was subtracted from the change score of each subject receiving the former. *N*s in parentheses.

in the high-criticism condition who were given the extreme communication changed more than did those given the moderate communication ($F = 7.87$, $df = 1/42$, $p < .01$). Again there was no interaction between conditions and communication position ($F = 0.04$), indicating that the effect of discrepancy held equally for optimistic and pessimistic communications.

However, only on the composite measure of centralization did the expected interaction of structure and communication discrepancy occur. The high-centralization subjects (based on a median split) changed more than low-centralization subjects in the high-criticism condition, while the reverse held in the low-discrepancy condition ($F = 9.86$, $df = 1/42$, $p < .005$). On each of the other structure measures (unity, organization, and category centrality) the high-structure subjects changed more than low-structure subjects in the high-criticism condition, but the direction of differences within the low-discrepancy condition was inconsistent across these measures. In any case none of the differences on these other measures approach significance.

Finally, it might be noted that the expected interaction between centralization and pressure to change also held with regard to each of the other two low-pressure conditions (for low criticism, $F = 5.43$, $df = 1/44$, $p < .05$; for no discussion $F = 3.27$, $df = 1/44$, $p < .10$). This provides some additional support for the hypothesis. The other structure measures again revealed little, however. The means are given in Table 4.

DISCUSSION

The main findings on opinion change were as predicted. Subjects who expected to interact with a highly critical peer changed more in response to a persuasive communication ostensibly written by him than did subjects who expected not to meet him, or subjects who expected to meet a less critical person. The main question of interpretation is whether or not this was due to induced differences in social anxiety.

The check items indicated that anxiety was successfully manipulated, and that the manipulation was relatively specific to anxiety. To provide additional support for the notion that social anxiety was responsible for the obtained differences between conditions in opinion change, one can compare within conditions those subjects who displayed the most acute anxiety arousal with those who responded least anxiously. Scores on the five check items for the criticalness manipulation were summed to produce, for each subject, a composite anxiety-response measure. A median split was performed within each condition on this measure. The mean opinion change was in fact greater for subjects classified in this way as high anxious than for low-anxious subjects in each condition (except for the no-discussion condition, where this analysis could not be done because the check items were inapplicable). Hence the most opinion change was manifested by high anxiety-arousal subjects in the high-criticism condition, and the least by low anxiety-arousal subjects in the low-criticism and low-discrepancy conditions. The differences between high- and low-arousal subjects were not significant, but even so the ordering of cells supports the notion that social anxiety is the factor responsible for the obtained between-condition differences in opinion change.

One possible alternative explanation for the main findings concerning opinion change is that subjects in the high-criticism condition were simply publicly complying without private attitude change, to forestall criticism (cf. Dittes & Kelley, 1956; Raven, 1959). This is implausible for two reasons. First, the highly critical partner was described in the interview report as not likely to be mollified by uninformed agreement—the main emphasis was upon his criticalness of people who "hadn't thought it through." The salience of this emphasis is illustrated by the fact that subjects frequently commented upon this aspect of the report in postexperiment interviews. Second, the attitude postmeasures were not to be distributed to the partner, and thus were not public expressions of opinion. They were contained in the booklet which also included the subject's final personality ratings of the partner (e.g., on the question "how much do you like him"), where the subjects were unhesitatingly unflattering to the highly critical partner. Thus it seems unlikely that the opinion responses were intended to be ingratiating. The postexperiment interviews revealed no confusion about this; the subjects seemed aware that only their slips were to be given to the partner.

The exact shape of the relationship between social anxiety and opinion change is of course not clear from this experiment alone. Clearly this particular acute arousal of social anxiety facilitated influence, but it may be that more extreme arousals might induce stubbornness, defensiveness, hostility, or other emotional states that would block attention, learning, and the acceptance of the message. McGuire (1967) has an especially lucid discussion of this possibility. In any case, the present data offer some justification for being more certain that anxiety states, low self-esteem, feelings of social inadequacy, etc., do have some causal responsibility for inducing susceptibility to influence. This does not rule out some of the alternative possibilities suggested by Hovland and Janis (1959), but it means that they do not explain away their obtained correlations between personality characteristics and persuasibility.

The failure to find a relationship between chronic social anxiety and opinion change in the present experiment should perhaps not be very surprising. There are a variety of obvious possibilities: the social anxiety scale itself may be at fault, since it previously (Janis, 1955) related only in a weak way to opinion change. In fact, correlational studies on chronic personality dispositions have generally used more subjects and used multiple issues but still have repeatedly obtained relatively weak correlations between personality and opinion change (Janis & Hovland, 1959). It may be that chronic personality predispositions do not influence susceptibility to persuasion very much except at extreme levels (Janis & Rife, 1959).

The second general goal of the study was to determine the effects of social anxiety upon opinion presentation and opinion structure. The experimental conditions differed very little on the several measures of presentation and structure used, except that aroused anxiety seems to have reduced differentiation and centralization. Chronic anxiety had little predictive value. It is not clear why so little was revealed. The structural measures themselves have been shown to be sensitive to situational manipulations (Zajonc, 1960), and there is considerable precedent for believing that anxiety manipulations should have substantial effects on the composition of an opinion (cf. Dittes, 1959). Moreover, the manipulations used here were clearly effective and clearly rather compelling. Perhaps the most obvious possibility is that initial individual differences in opinion structure and in opinion strength were so marked that they washed out the effects of the manipulation. Presumably this would not have been a problem in the numerous previous experiments which have relied upon tasks unfamiliar to the subject, impression formation materials about fictitious persons, and so forth.

The same argument may hold for the final set of findings, concerning the possible influence of opinion structure upon opinion change. Here the outcome was again not particularly revealing. It may well be that the best way to test such a relationship is to manipulate directly the structure of an impression or an opinion. One can imagine creating a highly differentiated or poorly

differentiated opinion by varying the informational input on an unfamiliar issue (or by using impression formation materials), and presumably the same could be done for other dimensions of opinion structure. The sort of phenomenological measures used in the present experiment may have their uses, but it seems evident that they are not particularly responsive to even rather clear manipulations when their content concerns opinions or beliefs of long standing.

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