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Anxiety and Affiliation

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One of the consequences of isolation appears to be a psychological state which in its extreme form resembles a full-blown anxiety attack. In many of the autobiographical reports and in the interview protocol of our single subject who demanded his release after only two hours of confinement, there are strong indications of an overwhelming nervousness, of tremendous suffering and pain, and of a general "going-to-pieces." A milder form is illustrated by the two of our five subjects who reported that they had felt jittery, tense, and uneasy. At the other extreme, two subjects went through the experience with complete aplomb and reported no difficulties. The whole range of reactions is represented, and though we have little idea as to the variables which determine whether the reaction to isolation will be equanimity or terror, it is evident that anxiety, in some degree, is a fairly common concomitant of isolation. For a variety of frankly intuitive reasons, it seemed reasonable to expect that if conditions of isolation produce anxiety, conditions of anxiety would lead to the increase of affiliative tendencies. In order to test this proposition the following very simple experiment was constructed.

EXPERIMENTAL PROCEDURE

There were two experimental conditions, one of high anxiety and one of low anxiety. Anxiety was manipulated in the following fashion. In the high-anxiety condition, the subjects, all college girls, strangers to one another, entered a room to find facing them a gentleman of serious mien, horn-rimmed glasses, dressed in a white laboratory coat, stethoscope dribbling out of his pocket, behind him an array of formidable electrical junk. After a few preliminaries, the experimenter began:

Anxiety and Affiliation

Allow me to introduce myself, I am Dr. Gregor Zilstein of the Medical School's Departments of Neurology and Psychiatry. I have asked you all to come today in order to serve as subjects in an experiment concerned with the effects of electrical shock.

Zilstein paused ominously, then continued with a seven- or eight-minute recital of the importance of research in this area, citing electroshock therapy, the increasing number of accidents due to electricity, and so on. He concluded in this vein:

What we will ask each of you to do is very simple. We would like to give each of you a series of electric shocks. Now, I feel I must be completely honest with you and tell you exactly what you are in for. These shocks will hurt, they will be painful. As you can guess, if, in research of this sort, we're to learn anything at all that will really help humanity, it is necessary that our shocks be intense. What we will do is put an electrode on your hand, hook you into apparatus such as this [Zilstein points to the electrical-looking gadgetry behind him], give you a series of electric shocks, and take various measures such as your pulse rate, blood pressure, and so on. Again, I do want to be honest with you and tell you that these shocks will be quite painful but, of course, they will do no permanent damage.

In the low-anxiety condition, the setting and costume were precisely the same except that there was no electrical apparatus in the room. After introducing himself, Zilstein proceeded:

I have asked you all to come today in order to serve as subjects in an experiment concerned with the effects of electric shock. I hasten to add, do not let the word "shock" trouble you; I am sure that you will enjoy the experiment.

Then precisely the same recital on the importance of the research, concluding with:

What we will ask each one of you to do is very simple. We would like to give each of you a series of very mild electric shocks. I assure you that what you will feel will not in any way

be painful. It will resemble more a tickle or a tingle than anything unpleasant. We will put an electrode on your hand, give you a series of very mild shocks and measure such things as your pulse rate and blood pressure, measures with which I'm sure you are all familiar from visits to your family doctor.

From this point on, the experimental procedures in the two conditions were identical. In order to get a first measurement of the effectiveness of the anxiety manipulation, the experimenter continued:

Before we begin, I'd like to have you tell us how you feel about taking part in this experiment and being shocked. We need this information in order to fully understand your reactions in the shocking apparatus. I ask you therefore to be as honest as possible in answering and describe your feelings as accurately as possible.

He then passed out a sheet headed, "How do you feel about being shocked?" and asked the subjects to check the appropriate point on a five-point scale ranging from "I dislike the idea very much" to "I enjoy the idea very much."^{*}

This done, the experimenter continued:

Before we begin with the shocking proper there will be about a ten-minute delay while we get this room in order. We have several pieces of equipment to bring in and get set up. With this many people in the room, this would be very difficult to do, so we will have to ask you to be kind enough to leave the room.

Here is what we will ask you to do for this ten-minute period of waiting. We have on this floor a number of additional rooms, so that each of you, if you would like, can wait alone in your own room. These rooms are comfortable and

* The reader may well feel that this is hardly the most appropriate scale for measuring degree of anxiety. In experiments to be described in later chapters, precisely the same anxiety manipulation was employed and a scale that more directly tapped the anxiety dimension was added. This scale correlated with the "dislike-enjoy" scale described above with $r = +.76$.

spacious; they all have armchairs, and there are books and magazines in each room. It did occur to us, however, that some of you might want to wait for these ten minutes together with some of the other girls here. If you would prefer this, of course, just let us know. We'll take one of the empty classrooms on this floor and you can wait together with some of the other girls there.

The experimenter then passed out a sheet on which the subjects could indicate their preference. This sheet read as follows:

Please indicate below whether you prefer waiting your turn to be shocked alone or in the company of others.

_____ I prefer being alone.
 _____ I prefer being with others.
 _____ I really don't care.

In order to get a measure of the intensity of the subjects' desires to be alone or together, the experimenter continued:

With a group this size and with the number of additional rooms we have, it's not always possible to give each girl exactly what she'd like. So be perfectly honest and let us know how much you'd like to be alone or together with other girls. Let us know just how you feel, and we'll use that information to come as close as possible to putting you into the arrangement of your choice.

The experimenter then passed out the following scale:

I very much prefer being alone	I prefer being alone	I don't care very much	I prefer be- ing together with others	I very much prefer being together with others
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To get a final measure of the effectiveness of the anxiety manipulation, the experimenter continued:

It has, of course, occurred to us that some of you may not wish to take part in this experiment. Now, we would find it perfectly understandable if some of you should feel that you do not want to be a subject in an experiment in which you will be

shocked. If this is the case just let us know. I'll pass out this sheet on which you may indicate whether or not you want to go on. If you do wish to be a subject, check "yes"; if you do not wish to take part, check "no" and you may leave. Of course, if you check "no" we cannot give you credit in your psychology classes for having taken part in this experiment.

After the subjects had marked their sheets, the experiment was over and the experimenter took off his white coat and explained in detail the purpose of the experiment and the reasons for the various deceptions practiced. The cooperation of the subjects was of course enlisted in not talking about the experiment to other students.

In summary, in this experimental set-up, anxiety has been manipulated by varying the fear of being shocked. The affiliative tendency is measured by the subject's preference for "Alone," "Together," or "Don't care" and by the expressed intensity of this preference.

SUBJECTS

The subjects in this study were all girls, students in Introductory Psychology courses at the University of Minnesota. At the beginning of each semester, students in these classes may sign up for a subject pool. More than 90 percent of the students usually do so, for they receive one additional point on their final examination for each experimental hour they serve. This fact should be kept in mind when considering the proportion of subjects who refused to continue in the experiment.

The experimental sessions were run with groups of five to eight girls at a time, for a total of 32 subjects in the high-anxiety condition and 30 subjects in the low-anxiety condition. A deliberate attempt was made to insure that the subjects did not know one another before coming to the experiment. Despite our best efforts, 16 percent of the subjects had known one another beforehand. Data for these subjects were discarded, for it seemed clear that previous friendship would thoroughly confound the meaning of a choice

of "Together" or "Alone." It should be noted, however, that though in both conditions such girls chose "Together" considerably more often than did girls who had not known one another before the experiment, the between-condition differences were in the same direction for both groups of subjects.

On this same point, an attempt was made to prevent the subjects from talking to one another while waiting for the experiment to begin, for again it was felt that an interesting conversation or a particularly friendly girl might confound the choice of "Together" or "Alone." As each subject entered the experimental room, she was handed a multipaged questionnaire labeled "Biographical Inventory" and asked to begin filling it out. This device worked well and effectively prevented any chatter until all of the subjects had arrived and the experimenter could begin his monologue.

RESULTS

Table 1 presents data permitting evaluation of the effectiveness of the manipulation of anxiety. The column labeled "Anx" presents the mean score, by condition, of responses to the question "How do you feel about being shocked?" The greater the score, the greater the anxiety; a score greater than 3 indicates dislike. Clearly there are large and significant differences between the two conditions.

TABLE 1
EFFECTIVENESS OF THE ANXIETY MANIPULATION

	N	Anx	% S's refusing to continue
Hi Anx	32	3.69	18.8
Lo Anx	30	2.48	0
		$t = 5.22$	Exact $p = .03$
		$p^* < .001$	

* The probability values reported throughout this volume are all based on two-tailed tests of significance.

The results of the second measure of anxiety, a subject's willingness to continue in the experiment when given the opportunity to drop out, are presented in the column labeled "% S's refusing to continue." This is, perhaps, the best single indicator of the effectiveness of the manipulation, for it is a reality-bound measure. Again it is clear that the manipulation of anxiety has been successful. Some 19 percent of subjects in the high-anxiety condition refused to continue in the experiment. All subjects in the low-anxiety condition were willing to go through with the experiment.

The effect of anxiety on the affiliative tendency may be noted in Table 2, where, for each condition, the number of subjects choosing "Together," "Alone," or "Don't Care" is tabulated. It is evident that there is a strong positive relationship between anxiety and the index of affiliative tendency, the proportion of subjects choosing the "Together" alternative. Some 63 percent of subjects in the high-anxiety condition wanted to be together with other subjects while they waited to be shocked. In the low-anxiety condition only 33 percent of the subjects wished to be together.

TABLE 2
RELATIONSHIP OF ANXIETY TO THE AFFILIATIVE TENDENCY

	No. Choosing			Overall Intensity
	Together	Don't Care	Alone	
Hi Anx	20	9	3	+ .88
Lo Anx	10	18	2	+ .35
	$X^2_{T=0} \text{ vs } D0 + A = 5.27$			$t = 2.83$
	.02 < p < .05			$p < .01$

The column labeled "Overall Intensity" in Table 2 presents the mean score for all subjects, in each condition, of responses to the scale designed to measure the intensity of the desire to be alone or together with others. The point "I don't care very much" is scored as zero. The two points on this scale indicating a preference for

being together with other subjects are scored as +1 and +2 respectively. The points indicating a preference for being alone are scored as -1 and -2. The mean scores of this scale provide the best overall index of the magnitude of affiliative desires, for this score combines choice and intensity of choice. Also, this index incorporates the relatively milder preferences of subjects who chose the "Don't Care" alternative, for 30 percent of these subjects did express some preference on this scale. Again it is clear that affiliative desires increase with anxiety. The mean intensity score for high-anxiety subjects is +.88 and for low-anxiety subjects is +.35.

Expectations, then, are confirmed, but confirmed, in truth, in a blaze of ambiguity, for the several terms of the formulation "anxiety leads to the arousal of affiliative tendencies" are still vague. What is meant by the "affiliative tendency," and precisely why do the subjects choose to be together when anxious? What is meant by "anxiety," and what are the limits of this relationship? What is meant by "leads to," and, historically, just how and why is this relationship established? The remainder of this monograph is devoted to consideration of these questions and to a description of research designed to clarify and elaborate the nature of this relationship.