

APPROACH-AVOIDANCE BEHAVIORS AS A FUNCTION OF PLEASANTNESS AND AROUSING QUALITY OF SETTINGS AND INDIVIDUAL DIFFERENCES IN STIMULUS SCREENING

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Preference, affiliation, and work, 3 intercorrelated aspects of approach-avoidance to everyday environments, were investigated using slide stimuli. The slides were selected from a sample of 360 portraying a variety of indoor and outdoor settings, each of which had been rated by groups of subjects on pleasantness-unpleasantness and arousing quality. Written responses of participants to the slides were obtained using standardized measures of approach-avoidance: desire to seek, stay in, and explore the setting (preference), desire to interact socially in the setting (affiliation), and desire to work in the setting (work). All 3 approach behaviors were monotonically increasing functions of setting pleasantness. Desire to work was inversely related to increases in arousing quality of settings. Arousing quality and pleasantness interacted to determine the dependent measures of preference and affiliation. Preference was an increasing function of arousing quality in pleasant situations, an inverted U-shaped function of arousing quality in neutrally pleasant situations, and a U-shaped function of arousing quality in unpleasant situations. Affiliation was affected primarily by arousing quality in unpleasant situations. Here, it was a U-shaped function of arousing quality – a relationship that was more pronounced for the nonscreening participants. Variations in pleasantness-unpleasantness had a more pronounced effect on the approach behaviors of nonscreeners than of screeners.

Keywords: approach-avoidance behaviors, settings, stimulus screening, individual differences.

The approach to environmental psychology employed in the present study characterizes a broad range of behavioral reactions to everyday situations in terms of the concept of “approach-avoidance”. Approach-avoidance includes physical approach versus avoidance, degree of exploration, length of stay, verbal and nonverbal communications of liking and preference versus dislike and lack of preference, degree of approach toward or avoidance of persons in a setting (affiliation), and degree of approach toward versus avoidance of tasks in a setting (work or performance). Previous researchers have found support for the interrelatedness of these various aspects of approach-avoidance to situations (e.g., Mehrabian, 1978).

Within the conceptual framework employed, all approach-avoidance behaviors are viewed as determined by emotional states (the variables intervening between physical and social stimuli in a setting and approach-avoidance toward the setting). Emotional states are characterized in terms of an orthogonal three-dimensional framework with pleasure-displeasure, level of arousal (alertness and/or physical activity), and dominance-submissiveness (degree of control over a situation versus degree of being controlled by a situation). Considerable data have been accumulated indicating that

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these three dimensions are both necessary and sufficient for the characterization of any emotional state (e.g., Mehrabian & Russell, 1974a; Russell & Mehrabian, 1977). Thus, for instance, boredom is characterized by displeasure, high arousal, and dominance; boldness is characterized by pleasure, low arousal, and submissiveness; anger is characterized by displeasure, high arousal, and dominance; whereas relaxation is characterized by pleasure, low arousal, and dominance.

A "pleasure-arousal" hypothesis was formulated to describe the relationships between emotional states and approach behaviors (Mehrabian, 1976a; Mehrabian & Russell, 1975). According to this hypothesis, all approach-avoidance behaviors to a situation are directly correlated with level of pleasure-displeasure no matter how it is induced. Secondly, pleasure and arousal levels interact in determining approach-avoidance. Among situations which elicit pleasure, approach is a direct correlate of arousal, whereas among situations which elicit displeasure, approach is an inverse correlate of arousal. Finally, among situations that are neutrally pleasant-unpleasant, approach is an inverted-U function of arousal, such that it is maximized at intermediate arousal levels.

Since level of arousal is a key determinant of approach-avoidance, individual differences in arousability (Mehrabian, 1977a) are relevant in studying differences in individual reactions to places. Both arousability and situationally induced arousal are expected to interact in the same manner with situationally induced pleasure-displeasure in determining approach. "Stimulus screening", the converse of arousability, is defined as the degree to which an individual automatically (not deliberately or conceptually, but perceptually) responds to selected aspects of stimulation in everyday settings. Such selection involves a hierarchization of stimuli in terms of their relevance to ongoing activity. The degree of such automatic selectivity in attention can be viewed as an individual difference which in turn determines a person's level of arousability. Because nonscreeners by definition are less selective, they process more information and are thus generally more arousable than screeners. The rationale and relevant evidence for this hypothesis was provided by Mehrabian (1977a).

The pleasure-arousal hypothesis predicts an interaction between pleasure and arousal levels in determining approach-avoidance, such that approach increases with arousal in pleasant settings and decreases with arousal in unpleasant settings. Since arousal can be a function of personality differences in stimulus screening (arousability) as well as of situational variables, more arousable persons are expected to approach a pleasant situation more than less arousable persons. Also, more arousable persons are expected to avoid an unpleasant situation more than less arousable persons (Mehrabian, 1977b).

METHOD

PARTICIPANTS

A sample of 325 University of California undergraduates participated as part of a course requirement.

MATERIALS

The photographic slide stimuli employed in this study were selected from a set of 360 which had been rated previously and shown to elicit a diversity of emotional states (e.g.,

Russell & Mehrabian, 1976, 1978). The slides represented a diversity of settings involving urban, rural, or wilderness areas; different climates; building interiors and exteriors; scenes with and without people or animals. The 72 slides employed in the present study were selected from the larger sample to represent the following design: 3 pleasantness-unpleasantness (pleasant, neutral, unpleasant) x 3 arousing quality (arousing, moderately arousing, unarousing) x 8 replications. The dependent measures in the study were approach-avoidance to the various settings and were assessed using a questionnaire. These approach-avoidance measures were pretested by Mehrabian (1978).

The specific questions assessing preference were as follows:

- (+) How much do you like this place?
- (+) How much would you want to explore around this place?
- (-) How much would you want to avoid looking around or exploring this setting?
- (-) Would you avoid ever having to return to this place?
- (+) How much time would you like to spend in this place?

The questions for affiliation were:

- (+) Is this a place where you would feel friendly and talkative to a stranger who happens to be near you?
- (-) Is this a place where you might try to avoid other people, avoid having to talk to them?

The questions for work were:

- (+) Suppose that you have some easy problem to work on – a mental task that is neither pleasant nor unpleasant, such as homework. Is this a good place to work on the problem?
- (-) Would you dislike working on the problem here?

All questions except the fifth preference question are answered on a scale which ranges from 0 (*not at all*) to 7 (*extremely so*). The fifth preference question is answered using a scale that ranges from 0 (*none*), 1 (*a few minutes*), on to 8 (*many months*). The (+) and (-) signs preceding the questions indicate directions of scoring to compute total scores for each of the three scales. Thus, a single preference score is computed from a participant's responses to each slide by summing his/her responses to the first, second, and fifth preference questions and subtracting from this quantity his/her responses to the third and fourth questions. In actual presentation to the participants, the nine questions are intermixed and signs indicating scoring directions are omitted.

PROCEDURE

Participants were divided into groups of approximately 15 and asked to read the following general instructions:

You are going to be shown a set of nine photographic slides projected on the screen, one at a time. These slides will be of various places or settings. The places shown are not meant to be connected in any way, nor does the order of presentation mean anything.

For each slide, we would like you to imagine that you are actually in the scene. It is very important that you take some time and think of yourself as being in that scene and then recreate for yourself how you would feel and act there.

To get an idea about your reactions to the situation or setting, we are asking you a series of questions after we show you each slide. These questions are not necessarily interrelated, but will help to give us a good idea about some of your reactions

to the particular scene. The experimenter will tell you when to begin answering the questions for each slide and will also give you the slide number to write on the form you'll be filling out. It is very important that you try to really get into the mood of the situation created by each slide and decide exactly how you would behave.

When participants had completed reading the preceding instructions, the lights were dimmed, and the first of nine slides was shown. Participants were reminded not to respond to any of the questions until told to do so and were allowed 90 seconds of viewing time for the first slide. Then the lights were turned up and participants were told to answer the page of questions for that slide.

These questions assessed preference, affiliation, and work and were noted under "materials". Participants were then shown the second slide, with dimmed lights, and were asked to answer the questions after 60 seconds of viewing time. Thus, with the exception of the first slide, a 60 second viewing time was used for all slides. The rationale for the somewhat longer viewing time for the first slide was to allow participants more time to adjust to the procedure. Participants were not allowed to answer the questions during viewing periods, but only after the lights were brightened and the experimenter directed them to answer the questions.

A total of nine slides corresponding to nine experimental conditions (three levels of pleasantness combined with three levels of arousing quality) were administered to each group of participants. There were eight different replications of sets of nine slides, with approximately 40 participants responding to each replication. Presentation of the nine slide conditions was randomized across replications and groups of participants such that, as nearly as possible, each of the nine experimental conditions occurred an equal number of times in each of the nine sequential positions.

When participants had viewed and responded to the questions corresponding to the nine slides, they were given a questionnaire including items of the stimulus screening measure (Mebrabian, 1976b) interspersed among miscellaneous unrelated questions.

RESULTS AND DISCUSSION

THE DEPENDENT MEASURES

The dependent approach-avoidance measures employed in this study yielded three separate approach-avoidance response scores: preference, affiliation, and work. Intercorrelations were obtained for these three approach measures across participants and slides (2925 observations per correlation) and yielded the following results. Preference and affiliation correlated 0.51, preference and work correlated 0.46, affiliation and work correlated 0.26. All three correlations are significant at $p < .001$ and provide justification for the grouping of these three response dimensions under the general rubric of approach-avoidance behaviors.

ANALYSES OF VARIANCE (ANOVAS)

Each of 325 participants was administered all possible combinations of three levels of slide pleasantness (pleasant, neutral, unpleasant) and slide arousing quality (high, medium, low). Thus, the design employed in one set of ANOVAs for each of the three dependent measures (preference, affiliation, work) was 3 pleasantness x 3 arousing quality x 325 participants. These analyses of variance yielded information about the possible significance of pleasure and arousal levels, singly or in interaction, in determining preferences for places, desire to affiliate, and desire to work.

Mehrabian's (1976b) questionnaire measure of stimulus screening had also been administered to participants to assess their arousability. A second set of analyses of variance was carried out to assess the main and interactive effects of screening on the various approach behaviors. These analyses only employed data from participants who scored in approximately the top and bottom thirds on stimulus screening. The design was 3 pleasantness x 3 arousing quality x 2 stimulus screening x 93 participants, with the first two factors being within-subjects and the screening factor being between-subjects.

Preference Table 1 summarizes all the significant main and interaction effects obtained from the two analyses of variance for preferences of slides. Table 2 summarizes the corresponding significant effects on affiliation, and Table 3 provides the same data for work.

Table 1 shows a highly significant effect of setting pleasantness on preference: Preference for a setting increased monotonically with its pleasantness. The second effect in Table 1 provides the cell means for the significant effect of pleasantness x a arousing quality. Arrows are used in Table 1 (as well as in Tables 2 and 3) to connect cell means which differed significantly at $p < .01$. It is seen that for pleasant settings, as arousing quality increased to a moderate level, preference increased but then leveled off with a further increase in arousing quality. For neutrally pleasant/unpleasant settings, the inverted-U effect was obtained: As arousing quality increased, preference first increased and subsequently dropped. The row of means corresponding to the unpleasant conditions shows an effect that was contrary to the original formulation of the pleasure-arousal hypothesis (e.g., Mehrabian, 1976a; Mehrabian & Russell, 1975): for unpleasant settings, as arousing quality increased, preference initially decreased but then increased.

The results for preference given in Table 1 deviate in only one major respect from the pleasure-arousal hypothesis. Participants expressed a higher level of preference for highly arousing and unpleasant settings than for moderately arousing and unpleasant settings, whereas the reverse was expected.

The latter finding, as well as the general pattern of relationships for the pleasantness x arousing quality interaction means, replicates results reported by Russell and Mehrabian (1978). These show an attraction toward or a preference for highly arousing and unpleasant (stressful) situations. One interpretation of this result is that it is adaptive for humans to be drawn toward, to explore, and spend time in situations which are moderately threatening or stressful. The cell means in Table 1 show that this level of preference was far below that for the neutrally pleasant and arousing or the pleasant and arousing situations. That is, the increased preference for stressful situations holds only in comparison with the moderately arousing unpleasant condition and certainly not in comparison with the preferences for more pleasant settings.

This obtained "stress" effect does not justify a revision of the pleasure-arousal hypothesis, for two reasons. First, very high (or very low) levels of arousal were not achieved with the slide stimuli, because highly arousing (or highly unarousing) stimulus conditions would have to include controlled stimulation in most or all sense modalities. Second, participant exposure to the various stimuli in this and the previous experiment noted (Russell & Mehrabian, 1978) was brief, lasting 1 minute, whereas the effects of extremely high or extremely low arousing conditions are expected to be most pronounced with increasing duration of exposure to such conditions. On both

TABLE 1
ANALYSIS OF VARIANCE RESULTS FOR PREFERENCE

<i>Source</i>	<i>Mean Square</i>								
<i>F</i>	<i>df</i>	<i>Error</i>	<i>Cell Means</i>						
Pleasantness	410.6	2/648	66.7	<i>Pleasantness:</i>	<i>unpleasant</i>		<i>neutral</i>		<i>pleasant</i>
					-0.07	↔	4.83	↔	10.53
Pleasantness x Arousing Quality	17.0	4/1296	57.0	<i>Arousing Quality</i>	<i>low</i>		<i>moderate</i>		<i>high</i>
				<i>Pleasantness:</i>					
				pleasant	8.97	↔	11.53	↔	11.08
					↕		↕		↕
				neutral	3.92	↔	5.90	↔	4.67
					↕		↕		↕
				unpleasant	1.14	↔	-2.28	↔	0.94
Pleasantness x Screening	4.18	2/368	68.4	<i>Pleasantness:</i>	<i>unpleasant</i>		<i>neutral</i>		<i>pleasant</i>
				<i>Screening:</i>					
				nonscreeners	-0.33	↔	5.77	↔	11.55
							↕		↕
				screeners	0.38	↔	4.02	↔	9.75

Note: All *F* values are significant at $p < 0.05$. Arrows connect cell means which, based on *t* tests, differ significantly at $p < 0.01$. For the ANOVA which yielded the pleasantness x stimulus screening interaction, the design was 3 pleasantness x 3 arousing quality x 2 screening, with 93 participants at each level of screening.

counts, stimulation in only a single sense modality and brief duration of exposure, the “high” arousal condition employed was not sufficiently extreme to provide an adequate test of the hypothesized strong avoidance of highly arousing and unpleasant situations. Nevertheless, the findings did show that an adaptive attraction toward a stressful and transitory situation (e.g., an accident on the roadway, someone accidentally falling down, a house on fire, fire engines passing on the street, someone’s embarrassing mistake or slip) may indeed be the expected reaction for most individuals.

The second ANOVA performed on the preference measure yielded a significant pleasantness x screening interaction. Examination of the corresponding cell means in Table 1 indicates that both nonscreeners and screeners showed increasing levels of preference for more pleasant settings. However, the cell mean differences for nonscreeners and screeners under the neutral and pleasant setting conditions indicate a more pronounced slope of preference as a function of pleasantness for the nonscreeners. This finding supports one of the proposed hypotheses bearing on nonscreening (arousability). Arousal levels associated with the personality variable of screening have the same effect as arousal that is situationally induced. This is evidenced by the result that more arousable persons do have more extreme reactions to situations differing in pleasantness-unpleasantness

Affiliation Table 2 summarizes all the significant main and interaction effects obtained from the two ANOVAs on desire for affiliation. The expected significant effect of setting pleasantness was obtained: A person’s desire to socialize with others was a monotonically increasing function of setting pleasantness.

The second main effect in Table 2 indicates significance of setting arousing quality. Desire for affiliation was significantly greater under the low and the high arousing conditions in comparison with the moderately arousing condition. This effect is more readily interpreted by considering the pleasantness x a arousing quality significant interaction. The simple effects show that arousing quality had no significant impact on desire for affiliation in the pleasant or neutrally pleasant conditions. However, in the unpleasant condition, desire for affiliation dropped significantly in the moderate- compared with the low-arousal condition, and then increased significantly in the high-compared with the moderate-arousal condition – a pattern of cell means which was obtained for the main effect of arousing quality.

The increase in desire for affiliation under arousing and unpleasant (compared with moderately arousing, and unpleasant) conditions, also obtained by Russell and Mehrabian (1978), is consistent with Schachter’s (1959) findings that stressful (i.e., arousing and unpleasant) conditions yield an increment in affiliation. However, the present findings help to moderate the unwarranted emphasis on stress as a primary determinant of affiliation. Corroborating data reported by Mehrabian and Ksionzky (1974, pp. 48-50), the “stress” effect is shown to be secondary to the pleasure effect. That is, the effects of pleasant-unpleasant conditions on affiliation far outweighed those of any other emotional response variable (note the cell mean differences in the three columns of the pleasantness x arousing quality effect). Thus, even under stress, desire for affiliation was significantly less than it was in the high pleasure and high arousal condition – a state of emotional excitement. Study of the independent effects of pleasure and arousal on affiliation has helped place the effect of stress within broader

<i>Source</i>	<i>Mean Square</i>				<i>Cell Means</i>				
	<i>F</i>	<i>df</i>	<i>Error</i>		<i>unpleasant</i>		<i>neutral</i>		<i>pleasant</i>
Pleasantness	101.7	2/648	12.5	<i>Pleasantness:</i>					
					-0.03	↔	1.10	↔	2.25
Pleasantness x Arousing Quality	14.8	2/648	9.9	<i>Arousing Quality</i>					
					low		moderate		high
				:	1.25	↔	0.67	↔	1.41
	13.2	4/1296	10.5	<i>Arousing Quality</i>					
					low		moderate		high
				<i>Pleasantness:</i>					
				Pleasant	2.05		2.34		2.36
					↕		↕		↕
				neutral	1.38		0.93		1.00
					↕		↕		↕
				unpleasant	0.31	↔	-1.26	↔	0.86
Pleasantness x Screening	4.18	2/368	68.4	<i>Arousing Quality</i>					
					low		moderate		high
				<i>Screening:</i>					
				nonscreeners	1.62	↔	0.35	↔	1.49
							↕		
				screeners	1.20		0.82		1.22
				<i>Arousing Quality</i>					
					low		moderate		high
				<i>Nonscreeners</i>					
				<i>Pleasantness:</i>					
				Pleasant	2.75		2.10		2.08
					↕		↕		
				neutral	1.49		1.01		1.49
					↕		↕		
				unpleasant	0.61	↔	2.05	↔	0.89

□

Screeners				
Pleasantness:				
pleasant	1.61		2.32	2.23
neutral	1.61	↔	0.72	0.67
unpleasant	0.37	↔	0.58	0.75

Note: All F values except that corresponding to the three-way interaction are significant at the 0.05 level. The three-way interaction F is significant at the 0.10 level. Arrows connect cell means which, based on t tests, differ significantly at the 0.01 level. For the analysis of variance which yielded the interaction effects involving Stimulus Screening, the design was 3 Pleasantness x 3 Arousing Quality x 2 Screening, with 93 subjects at each level of screening

TABLE 3: ANALYSIS OF VARIANCE RESULTS FOR WORK

Source	F	df	Mean Square Error	Cell Means		
Pleasantness	248.6	2/648	15.7	<i>Pleasantness:</i>		
				unpleasant	neutral	pleasant
Arousing Quality	55.5	2/648	15.3	<i>Arousing Quality:</i>		
				low	moderate	high
Pleasantness x Stimulus Screening	2.8	2/368	16.5	unpleasant	neutral	pleasant
				<i>Pleasantness:</i>		
				<i>Screening:</i>		
				nonscreeners	screeners	

Note: F values for Pleasantness and Arousing Quality are significant at the 0.05 level. The F value for Pleasantness x Stimulus Screening is significant at the 0.10[□] level. Arrows connect cell means which, based on t tests, differ significantly at the 0.01 level. For the analysis of variance which yielded the Pleasantness x Stimulus Screening interaction, the design was 3 Pleasantness x 3 Arousing Quality x 2 Screening, with 93 subjects at each level of screening.

perspective.

Additional clarification of the “stress” effect is provided by the significant arousing quality x stimulus screening interaction. The stress effect was significant only for nonscreeners, that is, more arousable persons. This finding is consistent with the hypotheses and findings associated with stimulus screening: more arousable persons exhibit more extreme behavioral responses to situations involving highly arousing conditions, particularly when those conditions are also unpleasant (Mehrabian, 1977b, 1978). The effect of high arousal on affiliation was greater for the nonscreeners than for the screeners, since arousability heightens the effects of arousing conditions on various approach-avoidance behaviors. Incidentally, Schachter (1959) reported the increased desire for affiliation under stress only for his firstborn, and not laterborn, female participants. The present data suggest that his firstborn females were more arousable than his laterborn participants.

The pleasantness x arousing quality x screening effect which approaches significance provides further clarification of the preceding two-way interactions. In unpleasant settings, the “stress” effect was stronger for nonscreeners (-2.05 to 0.89) than it was for screeners (-0.58 to 0.75).

In sum, the obtained arousal, pleasantness x arousing quality, arousing quality v screening, and pleasantness x arousing quality x screening effects are best considered in terms of the cell means for the three-way interaction. The U-shaped relationship between affiliation and arousal held only when a situation was unpleasant and this effect was especially pronounced for the nonscreeners. Theoretically, it is expected for arousing conditions to have a greater effect on more arousable persons, or nonscreeners. Further, behavioral reactions of nonscreeners to highly arousing situations are especially pronounced when those situations are also unpleasant (e.g., Mehrabian, 1977b, 1978). Thus, the present results for affiliation provide support for the stress effect while indicating the conditions and personality types for which this effect is most pronounced. These results also provide perspective regarding the magnitude of the stress effect in comparison with that of situation pleasantness as determinants of affiliation.

Work Table 3 summarizes all the significant main and interaction effects obtained from the two ANOVAs on desire to work. The significant main effect of pleasantness shows that desire to work was a monotonically increasing function of the pleasantness of the work environment. Further, the main effect of arousing quality shows that desire to work was a monotonically decreasing function of arousing quality (or information rate, Mehrabian & Russell, 1974b) of the work setting. Finally, the pleasantness x screening effect indicates that in unpleasant situations (but not neutrally pleasant or pleasant situations) nonscreeners or more arousable persons avoided work more than the screeners. The main effects obtained here corroborate findings reported by Mehrabian and West (1977, equation 4), and the interaction effect corroborates the pattern of cell means given in their Figure 2. In pleasant situations, nonscreeners tend to work more than screeners (not significant here but significant in the Mehrabian & West study), whereas, compared with screeners, they are more prone to avoid work in the unpleasant situations.

GENERAL DISCUSSION

The obtained results conform only in part to the hypothesized pleasure-arousal interaction. The major exception to this hypothesis is the stress effect which is clearly manifested for affiliation and which can be seen also for preferences for situations. For the data on preferences, the interpretation offered was that it is adaptive for humans to be drawn toward, to explore and spend time in situations which are moderately threatening or stressful; that is, to reduce the arousing impact of stimulation through familiarity when the situation is not overwhelmingly threatening.

The stress effect obtained with the affiliation data may be viewed similarly in the context of adaptive functioning. In a stressful situation, social interaction and particularly social comparison (Festinger, 1954) help reduce uncertainty (and thus reduce arousal) while increasing pleasant feelings (Mehrabian & Ksionzky, 1974).

Although the pleasure-arousal effect had been obtained by Mehrabian and West (1977) in a more extensive study of work, it was not replicated here. Only the main effects of pleasure and arousal on work were replicated showing that desire for work increases with pleasure and decreases with arousal. These effects were also obtained by Russell and Mehrabian (1975). Thus, three studies have consistently shown the detrimental effect of arousal on work. This reliable effect can be interpreted by noting that work generally requires effort and concentration; that is, it is arousing. When the situation in which work is to be performed is also arousing, it tends to demand additional effort and attention (is distracting) and understandably reduces performance.

Nonscreening or arousability was included as an individual difference factor in this study since it bears directly on the differential impact that arousing and/or pleasant-unpleasant situations have on people. Since, in general, arousal and pleasure levels interact to determine approach behaviors, it follows that arousability and pleasure should similarly interact. The findings support this hypothesis. For preference and work, the expected pleasantness x screening interaction was obtained showing that the slopes of the preference and work curves as functions of increasing pleasantness were greater for nonscreeners than for screeners. That is, pleasure-displeasure had a greater overall impact on nonscreeners than on screeners.

Additional data bearing on stimulus screening were obtained from analyses of the affiliation measure. Cell means for the three-way interaction (pleasantness x arousing quality x screening) helped clarify the significance of several significant lower order effects. These cell means indicated that the arousing quality of a setting had a significant impact on affiliation primarily when the setting was also unpleasant. In this case, affiliation initially decreased as a function of increasing levels of arousal. This drop was more pronounced for the nonscreeners, as expected – note the significant difference between the unpleasant and moderately arousing condition scores for nonscreeners and screeners in Table 3. However, affiliation next increased with further increases in arousing quality of the setting, thus yielding a U-shaped relationship between affiliation and arousing quality. The stress effect evident in the right-hand half of this U-shaped function has now been replicated three times (here and in studies by Mehrabian & Ksionzky, 1974, pp. 48-50; and Russell & Mehrabian, 1978) and must be

considered to be reliable. It shows a heightened need for social contact and social comparison under stressful conditions which is even greater for more arousable persons (the nonscreeners).

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