

Verbal transformations and boredom susceptibility

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Twelve high-boredom-susceptible and 12 low-boredom-susceptible college students were presented with seven neutral words for 7 min each on a tape recorder, repeated at a constant rate. Contrary to the arousal hypothesis, the low-boredom-susceptible students reported significantly more verbal transformations or word distortions than did the high-boredom-susceptible students. The differences were attributed to an attention factor.

Previous researchers (Evans & Kitson, 1967; Warren, 1968) have studied subjects' reports of word distortions following the continuous repetition of the same word. Results have shown that a word may undergo illusory changes (verbal transformations) as a function of being repeated aloud a number of times. These transformations have ranged from perceptions of words that rhyme with the actual stimulus to more extreme phonetic distortions such as synonyms or antonyms (Calef, Calef, Kesecker, & Burwell, 1974).

Theoretically, these word distortions occur because of a lack of psychological and/or physiological "arousal" produced by auditory repetition. Indeed, Calef et al. (1974), Evans and Kitson (1967), and Warren (1968) obtained results supportive of an "arousal" theory. More specifically, Warren (1968) found verbal transformations to decrease with phonetic complexity; Evans and Kitson (1967) observed more familiar words to undergo more perceptual changes than less familiar words; and Calef et al. (1974) found more verbal transformations from neutral words than from taboo words. Thus, it seems that words which elicit more "arousal" maintain the subject's attention longer and yield relatively fewer transformations (e.g., words with less familiarity, more phonetic complexity, and less social acceptability).

The present study was designed to test further the "arousal" theory by presenting neutral words to subjects who varied in boredom susceptibility as measured by the boredom-susceptibility subscale of the sensation-seeking scale (Zuckerman, Kolin, Price, & Zoob, 1964). It was hypothesized that subjects scoring relatively high in boredom susceptibility would experience more transformations than subjects scoring lower on the scale

because the arousal elicited from a word should vary inversely with one's degree of boredom susceptibility.

METHOD

Sixteen female and eight male freshman and sophomore college students served as subjects. For participating in the experiment, subjects received extra points toward their grades in introductory psychology.

The boredom-susceptibility subscale of the sensation-seeking subscale (Zuckerman et al., 1964) was given to 80 introductory psychology students at West Virginia Wesleyan College. The 12 students scoring at the upper and lower 15% of the sample were chosen as subjects. The uppermost 15% of the students were considered high-boredom-susceptible (HBS) and scored above 12 out of a possible 20 points on the scale. The lowest 15% of the students were defined as low-boredom-susceptible (LBS) and scored below 5 on the scale.

The study was conducted in two 1-h sessions. Six HBS and six LBS subjects were tested each session in a large, well-lighted classroom. Each word was recorded on a cassette tape recorder and then re-recorded on a high-fidelity tape recorder so that it was repeated at a constant rate of about 1 word/2 sec for a 7-min period. The seven neutral words were presented in the following order during both sessions: chair, table, pencil, room, border, book, floor.

The subjects were instructed as follows: "When I switch on the tape recorder, you will hear a word repeated a number of times. I want you to listen very carefully and quietly, and if you think the word changes, record a check mark after the appropriate numbered trial on your data sheet, even if the change you hear does not resemble a recognizable word. If the word does not change, then just place a hyphen through the appropriate numbered trial." The first word was then presented for 7 min and was repeated approximately 315 times, with a 1-sec interval between each repetition. The subjects were then given a 3-min rest period between stimuli. This procedure continued until the list of seven words was completed.

RESULTS AND DISCUSSION

The average number of verbal transformations for the HBS subjects was 73, whereas the mean number of dis-

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tortions for the LBS subjects was 243. A planned independent two-tailed *t* test yielded a significant group difference ($T_{10} = 4.27, p < .01$).

These results did not support the hypothesis that HBS subjects would show more transformations than LBS subjects. Rather, significantly more transformations were perceived by subjects scoring low (rather than high) on the boredom-susceptibility questionnaire. It is noteworthy that the present findings were also obtained in a pilot study (*N* per group = 6, $p < .05$), the method of which was nearly the same as that used in the present study.

Applied to the present study, an "arousal" theory would postulate that neutral stimuli should produce less "arousal" for HBS subjects than for LBS subjects. However, the opposite observations in the present study seem to disconfirm the notion that stimuli producing more "arousal" will remain stable. One possible explanation for the contrary findings of the present study is based on the assumption that HBS subjects have a shorter attention span than LBS subjects. If so, this could have resulted in the LBS subjects attending more readily to the repetitive stimuli, and enabled them to experience more verbal transformations. In other words, the HBS subjects may have had difficulty focusing their attention on the repeating stimuli, thereby precluding them from experiencing word distortions. Hence, it is possible that the arousal hypothesis might have been supported if more arousal-producing words had been used in the study (e.g., less familiar, more complex, or taboo words). That is, once the attention of the HBS

subject is directed to the stimulus, then more verbal transformations may be perceived by these subjects than by the LBS subjects because of differential arousability associated with different degrees of boredom.

Another possible explanation for the present findings (unrelated to arousal theory) is that the process of verbal transformation may be one of the determinants of the boredom level of a particular subject. In other words, a subject who can verbally transform repetitive stimuli (either innately or through learning) may experience relatively little boredom as a consequence. Conversely, a subject who cannot easily transform redundant stimuli may experience more than average amounts of boredom.

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