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## Studies in Intolerance of Ambiguity, II: The Effects of "Set" on the Decision-Location Test

By EUGENE E. LEVITT

Recent interest among personality theorists has centered around the proposed variable tolerance-intolerance of ambiguity. Tolerance-intolerance of ambiguity or simply intolerance of ambiguity as it is commonly called, was put forth by Frenkel-Brunswik as the unifying concept of the syndrome of the so-called authoritarian personality (Frenkel-Brunswik, 1949). According to Frenkel-Brunswik, the individual who is intolerant of ambiguity tends to use "black-white" solutions of problems, both cognitive and interpersonal, and to subdivide the phenomena he encounters into strict categories and dichotomies rather than to view them as continua. He has a tendency to avoid ambiguous and unstructured situations, but upon finding himself in the midst of such circumstances, will subjectively structure the situation as soon as possible, even if the structuring conflicts drastically with reality. Following from this theoretical description, it has been hypothesized (Levitt, 1952) that the intolerant of ambiguity person tends to believe popular misconceptions and superstitions since such misbeliefs flourish in an atmosphere of ambiguity.

Recent studies have attempted, with some success, to relate operational measures of intolerance of ambiguity to measures of ethnocentrism and authoritarianism in adults. One study (Levitt, 1953) has demonstrated that a perceptual measure of intolerance of ambiguity is related both to a measure of authoritarianism and to belief in popular misconceptions in grade school children. The perceptual measure is called the Decision-Location Test (DLT), and is adequately described by the instructions to subjects taking the test.

You are going to see 15 straight-line drawings projected on the screen. The last drawing, number 15, is a picture of a simple object that you all know. Each of the other 14 drawings is a picture of the same thing, but each is not quite finished. Each time I show you a new drawing, there will be something added until the picture is complete on the last slide. Just as soon as you think you know what the picture *on the final slide* will be write the name of the object in the picture on your response sheet alongside the number corresponding to the slide number. Do this even if you are not quite sure what the object is. However, do not guess if you have no idea at all. In that case, write "Don't know" in the space along-

side the number of the slide. Write something for each slide. You may change your mind about what the completed picture will be any time. But do not change anything you have already written. The idea is to see how few slides you need to guess the final picture. Remember, do not guess if you have no idea, but if you have any idea as to what the final slide will show, write it in the appropriate space.

The test is based on the idea that the child who is intolerant of ambiguity will structure the picture before it can be clearly perceived and identified in order to avoid ambiguity. This child, then, will manifest fewer "Don't know" responses, and a greater number of precipitate guess responses, prior to the point of clear perception. The frequency of such guesses was the measure which was found to be significantly related to authoritarian tendency and belief in misconceptions as noted earlier.

There is no statistically adequate method of estimating the reliability of a test like the DLT. In one sample, we obtained a split-half reliability coefficient of .88 and a Kuder-Richardson coefficient of .74. The correlation between two different series of pictures presented one immediately following the other to the same group was .66 (Levitt, 1953). The actual reliability estimate of the ILT is, however, still uncertain.

In her original formulation of the variable, Frenkel-Brunswik (1949) considered intolerance of ambiguity to be an "emotional and perceptual personality variable," whose development depends largely on early environmental experiences. There is little or no mention of the possibility of learning the behavior manifestations of the variable in a direct fashion. The purpose of the present study was to investigate the effects of simple, antecedent learning on intolerance of ambiguity as measured by the Decision-Location test.

#### METHOD AND RESULTS

Two groups of 6th grade children were used, an experimental group of 59 subjects, and a control group of 31 subjects. A DLT series in which the final slide shows a baby buggy was administered to both groups using the instructions noted earlier. Immediately preceding this administration, the experimental group also responded to a series in which the completed picture was a house. This series was deliberately designed for early recognition of the final picture. The mean slide of the 15 slides on which the final picture was correctly guessed was 2.06 with a sigma of 0.80. It was hypothesized that this prior administration of an easily-recognized stimulus would engender a "set" which would predispose the

subjects in this group to guess more frequently on the baby buggy series.

The mean number of scorable (incorrect guess) responses to the buggy series by the experimental group was 4.12 with a sigma of 3.13. The corresponding data for the control group were 2.90 and 2.43. The critical ratio of the difference between means is 2.02 which is significant below the .05 level for 88 degrees of freedom.

It is of interest to determine whether or not the incorrect guesses interfered with correct recognition of the object. According to the general hypothesis on this point incorrect guesses or "prerecognition hypotheses" should result in a delayed correct identification of the stimulus (Wyatt and Campbell, 1951). The mean slide on which correct identification occurred for the experimental group was 8.09, for the control group, 8.65. There is a marked mode at the 10th slide in both groups with 43% of all the subjects identifying correctly on that slide. This skewness precludes the use of parametric statistics in measuring the significance of the difference in mean recognition points between the two groups. Using the median test (Mood, 1950), an appropriate non-parametric statistic, the resulting chi-square is only 0.13, which is highly insignificant. This indicates that there is no difference between mean recognition points for the experimental and control groups.

#### DISCUSSION

The experimental group, which had been subjected to a learning experience designed to create a "set" which would carry over into the primary task, showed a significantly greater number of guess responses than the untreated control group. This is interpreted to mean that intolerance of ambiguity may be in part a function of simple learning which could occur closely antecedent to the measurement situation. So-called pre-recognition hypotheses did not affect the time of correct recognition of the stimulus, a result which is generally contrary to expectation. However, Smock (in press) has found that the pre-recognition hypotheses interfere with perception only under conditions of stress. Our findings indirectly support those of Smock.

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