

PSYCHOLOGY

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ABSTRACTS

The Effects of Two Experimental Counseling Techniques on Performances Impaired by Induced Stress. MORTON WIENER.—The present study was designed to examine the effectiveness of experimental therapy in improving performances previously impaired by experimentally induced stress. A further aim was that of throwing light on the question of the relative effectiveness of two counseling techniques: Reassurance-Interpretation and Catharsis-Reflection.

Subjects consisted of 90 undergraduate students, divided into non-stress (N-30) and stress (N-60) subgroups. For the latter, stress was induced by implying that a Rorschach, which these Ss had taken earlier, had been interpreted and indicated possible maladjustive features. Comparison of stress and non-stress groups on a pretest battery, consisting of Thematic Apperception Test, Wisconsin Card Scoring Test, Mirror Tracing, and an Attitude Scale indicated that the stress group tended to be more impaired in their performance; differences between stress and non-stress groups were consistent although not always significant statistically. Immediately following the stress situation and the pre-testing, the stress group Ss were divided into four subgroups: I. Reassurance-Interpretation; II. Catharsis-Reflection; III. Talk; IV. Rest, which were the experimental conditions.

At the conclusion of the experimental counseling, the posttest battery was administered to all Ss. The basic unit of analysis was the difference score (pretest minus posttest score). Comparison of the performance of the two counseled subgroups combined and the two non-counseled groups combined, indicate that the counseled groups showed quite consistent, though not always significant improvement on posttest measures than the non-counseled. There were no indications, however, that either of the two experimental counseling techniques was more effective in improving performance than was the other.

Despite the fact that the results can only be viewed as suggestive rather than conclusive, that there are no differences between counseling techniques because of limitations noted in the discussions, there is reason to believe that this general type of design is a fruitful one for studying the complex problems of evaluation of psychotherapy and psychotherapeutic techniques.

A Comparison of Normals, Psychoneurotics, and Psychotics or Rorschach Determinant Shift. ROBERT G. GIBBY, BERNARD A. STOTSKY and ROBERT W. HARRINGTON, Veterans Administration Hospitals, Marion, Indiana, and Brockton, Mass.—The results of previous studies have shown

that determinant shift, a method of measuring changes which occur from free association in inquiry of the Rorschach, has value as an experimental technique for research with the Rorschach Test. One possible interpretation of shift has been as a measure of the adaptability of an individual to a sudden change in the testing situation. The degree of shift could possibly be used as a measure of flexibility. Lack of shift in a record would then be interpreted as a sign of inability or lack of motivation to respond effectively to the changed situation. If so, we would expect normals to show greater ability to shift. It is also possible that a lack of shift may be indicative of an ability to maintain consistency of response in the face of an uncertain situation brought about by the sudden change from the unstructured free association to the relatively structured inquiry. Thus, lack of shift may indicate retention of control in an uncertain, possibly stressful situation. If this were true, normals would tend to shift less than either psychotics or psychoneurotics. The purpose of this study was to determine which of these two interpretations of determinant shift was more tenable.

1. Thirty-five normals, 240 psychoneurotics, and sixty psychotics were compared for determinant shift from Rorschach free association to inquiry by the arc-sine method. Six determinants, *F*, *M*, *FC*, *CF*, *FY*, and *YF*, were studied.

2. Normals showed significantly greater shift than psychoneurotics on *FC*, *CF*, and *YF*; significantly less on *M*. Normals also shifted more than psychotics on all determinants, with the differences for *F*, *CF*, and *YF* attaining statistical significance.

3. Psychoneurotics showed more shift than psychotics on five of the six determinants studied. On the sixth, *FC*, there was a negligible difference in favor of psychotics. Differences in shift for *F*, *M*, and *FY* were significant.

4. The findings were regarded as favoring an interpretation of determinant shift as a measure of sensitivity and adaptability to changes in the stimulus situation. The differences between groups were discussed in the light of Rorschach theory and experimental findings.

A Study of Job Interrelationships. ERNEST J. MCCORMICK, Purdue University.—An R-technique principal components factor analysis was carried out involving 44 worker oriented variables that had been rated on 4,000 jobs (these data were furnished by the U. S. Employment Service). The variables consisted of two Training Time variables, twelve Aptitude variables, six Physical Demands variables, twelve Temperament variables, five Interest variables, and seven Working Conditions variables. Each of 4,000 jobs taken from the Dictionary of Occupational Titles was rated on these variables by U. S. Employment Service analysts. The following factors were ultimately identified:

1. Mental and Educational Development vs. Adaptability to Routine
2. Adaptability to Precision Operations
3. Body Agility
4. Artistic Ability and Esthetic Appreciation
5. Manual Art Ability

6. Supervisory Ability vs. Adaptability to Routine
7. Clerical Ability vs. Heavy Manual Work

For each factor a regression equation was derived, using the four variables that gave the highest multiple correlation with factor values. These regression equations were then used in obtaining factor scores for each job.

Factor Score "levels" were then obtained by dividing each distribution of factor scores into a "high" level (coded 2) and a "low" level (coded 1); for factor one, three levels were made, high, average, and low. Thus, there was a factor score level for each factor, for each of the 4,000 jobs.

Patterns of job requirements were then identified in terms of the permutations of the factor score levels of the seven factors. A total of 192 permutations was possible. Actually, the jobs fell into 115 patterns, with most jobs being concentrated in a limited number of patterns; for example, 88 per cent of the jobs fell in one of 33 patterns.

The results indicate that, in terms of patterns of job requirements, jobs tend to be concentrated in a limited number of molds.

A Test of the Magnetic-Vertical-Coriolis Theory of Homing.¹ ARTHUR R. ORGEL and JAMES C. SMITH.—The present study attempts to determine by use of the conditioning technique whether pigeons are sensitive to a changing magnetic field. Two homing pigeons were given training in buzz-shock, light-shock, and magnetic field-shock sequences. Trials were run in a lucite cage, the floor of which was an electric grid. Shock was adjusted during each session to be of sufficient strength to cause the birds to jump from the grid. The conditioned stimuli (buzz, light, or magnetic field) were all of two second duration and were overlapped by a shock of .11 seconds duration. The conditioned response of walking or running to the sound of the buzzer or the presence of light appeared in both subjects. It took approximately 800 trials to reach a 95% criterion of conditioning with the buzzer; for light it took approximately 150 trials; for the magnetic field no conditioning appeared after 1,000 trials. The failure to establish conditioning in pigeons subjected to the magnetic field-shock sequence would tend to cast doubt on the fundamental hypothesis of Yeagley's Magnetic-Vertical-Coriolis theory of homing—that pigeons are able to home because of their sensitivity to the earth's magnetic field.

The Measurement of Anxiety in Clinical Situations and Its Relationship to the Taylor Anxiety Scale. ARNOLD BUSS, MORTON WIENER, ANN DURKEE, MARC BAER.—Anxiety is a construct that subsumes a variety of behaviors. In this study, the behavior of psychiatric patients was observed in an interview situation, the focus being on the manifestations of anxiety. There were three goals: (1) To separate out the various aspects of anxiety and to determine the interjudge reliability of rating each aspect; (2) To determine the relationship of each aspect of anxiety to a global rating of anxiety; and (3) To use the ratings of anxiety as a criterion against which to validate the Taylor Anxiety Scale.

1. The authors wish to express their gratitude to Drs. Winthrop N. Kellogg and George Ragosa and to Mr. Robert Kohler for their invaluable assistance in this study.

The subjects were 73 patients in a neuropsychiatric hospital. Each subject was interviewed in a room with four psychologists who rated anxious behavior. Then the subject was taken to another room where the Taylor Anxiety Scale was administered by another staff member.

Anxious behaviors were divided into two classes: *Observed*—Distractibility, Restlessness, and Physiological Concomitants and *Reported*: Feelings of Panic, Worry, Somatic Complaints, Physiological Concomitants, and Muscular Tension. Finally, there was an Over-All Rating of Anxiety.

The ratings of each judge were compared with those of every other judge. The mean inter-correlation for over-all anxiety of .83 indicates fairly high inter-rater reliability. Next the judges' ratings were pooled and the pooled ratings were used in all subsequent comparisons. The correlations between each of the individual categories and the over-all evaluation of anxiety suggest a definite relationship between global anxiety and the individual components.

Finally, each category was correlated with the Taylor Anxiety Scale. As expected, the reported aspects of anxiety correlated better with the Taylor Scale than the observed aspects. The over-all rating correlated .60 with the Taylor Scale, which suggests that the Taylor Scale is a fairly adequate measure of anxiety as seen in psychiatric patients.

A Comparison of Motivational Conditions of Maze Learning in Fish.

ROBERT D. MYERS.—Twelve goldfish termed group motivated and twelve goldfish termed non-group motivated were given ten trials a day for three consecutive days in a specially constructed four choice-point multiple U fish maze. The group motivated subjects were stimulated by intense light plus three goldfish in the goal area; the non-group motivated were stimulated only by intense light.

The purpose of the experiment was to investigate the effect of a group motivating factor on the maze learning capacity of goldfish. The results in time and errors per trial showed that there are large and statistically significant differences between the group and non-group motivated fish. The performance of the group motivated fish was superior to that of the non-group motivated.

It was suggested that interstimulation between the goldfish in the goal area and the group motivated subject raised the activity level which might account for differences between groups.

It was indicated that goldfish acquire a complex maze habit when motivated by intense light stimulus. Furthermore, goldfish perform a complex maze task more proficiently when acting under an additional motivating factor in the form of a group.

A Socio-psychological Investigation of Attitude Change. ROBERT E. MAINER.—An eleven item scale of attitude toward social discrimination was administered in September, 1952, and again in March, 1953, to a nation-wide sample of 7,472 high school pupils. For 1,823 of these pupils, responses made in September could be compared with those given the following March. Difference scores were obtained and transformed into an index of attitude change. While the split-half reliability of the scale was quite satisfactory ($r_{tt} = .87$), a high correlation between administrations

of the scale caused the estimated reliability of the change scores to be extremely low.

Correlations of 15 other socio-psychological variables with the rather unreliable criterion of attitude change proved to be very low, although seven were different from zero at better than the five per cent level of significance. A series of seven analysis of variance problems showed grade, vocabulary level, and exposure to intergroup education programs to be related significantly to attitude change. Furthermore, region, religion and authoritarianism all entered into interactions with intergroup education programs to produce effects upon attitude change.

Discussion and interpretations of findings are provided. Etiological factors are hypothesized to account for differences in the effectiveness of attitude modification programs, and future research to explore the roles of such factors in attitude change is suggested.