

their role as either facilitators or differentiators of creativity.

Accordingly, an initial sample, composed of 146 upper level college students majoring in one of the four fields of art, writing, mathematics or music, was identified and tested. The test battery consisted of 16 Structure of Intellect measures, one for each of the divergent production aptitudes hypothesized by Guilford as indicative of creative ability; the Remote Associates Test of Mednick; the Thinking Interest Survey, a measure of cognitive style developed for this study; and the 16 Personality Factor Test of Cattell.

Following the administration of the tests, each of the subjects submitted one of his own products for rating by at least three judges who were experts in one of the four fields under investigation. The judges had been selected *a priori* according to their perceptions of criteria for a creative product. Through judges ratings of their products, 77 creative individuals were identified: 19 in art, 19 in writing, 21 in mathematics and 18 in music.

Since the small sample size precluded the use of all 40 variables in a single analysis, linear combinations of the 40 variables were developed through factor analysis, and scores on the 13 factorially-derived variates were used in the analysis. For both the four discipline-oriented creative groups and the creative and non-creative samples, multivariate analyses of variance followed by discriminant analysis were performed. It was found that variates in all three domains: aptitude, cognitive style and personality, functioned as facilitators and differentiators of creativity, and, of the 13 factorially-derived variates, eight could be considered differentiators of creativity, three were found to be facilitators, and two were found to be both facilitators and differentiators.

The findings of this study supported the following conclusions: (1) individuals, creative in the four fields of art, writing, mathematics and music had specifically different cognitive aptitudes, cognitive styles and personality traits; (2) Guilford's theoretical position was more characteristic of the creative sample than was Mednick's; (3) personality characteristics were differentiators of creativity as well as facilitators; and (4) the use of arbitrary aptitude variables in the identification of creativity, irrespective of the discipline in which it is exhibited, needs to be reassessed.

Order No. 74-11,842, 129 pages.

PAIRED ASSOCIATE PERFORMANCE OF LEARNING DISABLED BOYS AS A FUNCTION OF STIMULUS MODALITY AND ELABORATION

David Cornelius LOE, Ph.D.
University of Southern California, 1973

Co-Chairmen: Professor Hasterok and Professor Meyers

Purpose: This study was designed to assess the extent to which the learning of boys with learning disabilities was increased when paired associates were presented in elaborated form to the stronger modality, either auditory or visual.

The following hypotheses were tested: (1) Significantly fewer errors would be made in the elaborated conditions than in the nonelaborated conditions. (2) There would be no difference between PA scores of boys with high verbal-low performance IQs and boys with high performance-low verbal IQs. (3) High verbal IQ subjects would make fewer errors in the aural condition than in the visual condition. (4) High performance IQ subjects would make fewer errors in the visual condition than in the aural condition. (5) High verbal IQ subjects would be most successful in the elaborated aural condition. (6) High performance IQ subjects would be most successful in the elaborated visual condition.

Procedures: Forty learning disabled boys were selected from two school districts in urban areas. Selection criteria controlled for IQ, age, sex, socio-economic status, emotional status, sensory integrity, and experiential deprivation. Twenty subjects had a Wechsler Intelligence Scale for Children (WISC) verbal IQ at least 11 points greater than WISC performance IQ; twenty subjects had similar, but opposite, differences. High verbal IQ subjects were considered to prefer the auditory mode; high performance IQ subjects were considered to prefer the visual mode.

A paired associate (PA) list was individually administered. Half the pairs on the list were auditory and half were visual; within those divisions, half were elaborated and half were non-elaborated. Aural elaboration consisted of spoken noun phrases embedded within prepositional phrases, rather than simply stated. Visual elaboration consisted of still drawings of the two noun objects depicted in spatial interaction (visual prepositionality) rather than simple juxtaposition.

Group means were obtained and subjected to analysis of variance, testing for effects of elaboration and mode of presentation.

Findings: Elaboration produced significantly more correct scores than nonelaboration. There was no overall difference between the two subject types; however, high verbal IQ subjects were more successful in the elaborated conditions than were high performance IQ subjects.

Both groups were more successful in the visual condition than in the aural condition; both groups were most successful in the visual elaborated condition. The high verbal IQ group was more successful in the auditory elaborated condition than in the aural nonelaborated condition; the high performance IQ group was more successful in the aural nonelaborated condition than in the aural elaborated condition.

Conclusion: Elaboration seems to facilitate the PA performance of learning disabled boys, as it typically does for other subject types. The overall superiority of the visual mode was related to parallel findings in studies with other population samples, reflecting a variable, but general, effect.

The fact that high verbal IQ subjects were successful in both visually and aurally elaborated conditions, and high performance IQ subjects benefited by visual elaboration, but were hindered by aural elaboration, was tentatively related to an ability to apply verbal skills to both visual and aural stimuli by high verbal IQ subjects and a possible auditory sequencing deficit in high performance IQ subjects.

Results must be evaluated with caution; an undesirable order interaction occurred, in spite of counterbalancing. More stringent delimitations were recommended for future research, including more precise measures of visuo-perceptual abilities. Practical implications were identified in the event that similar results are obtained in subsequent studies.

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AN INVESTIGATION OF INTERACTIONS AMONG LSD, DEXTROAMPHETAMINE, AND VERBAL BEHAVIOR IN MONOLOGUES AND DIALOGUES

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The City University of New York, 1974

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The present monograph examines some of the classical approaches to drug research and discusses a new model for such research.

Patients under the influence of LSD, dextroamphetamine, and an inactive placebo, ingested in random order, are recorded in monologues and therapeutic dialogues. Comparisons of speech rhythms, specifically transitional pause probabilities,

in monologues and therapeutic dialogues were made to test the following three hypotheses: First, with respect to drug effects as measured by transitional pause probabilities, there will be differences between monologues and dialogues. Second, LSD which increases pauses in monologues should be attenuated in respective dialogues, while dextroamphetamine which decreases pauses in monologues should be intensified in respective dialogues. Third, with respect to placebo, both LSD and dextroamphetamine should decrease mean transitional pause probabilities.

The three hypotheses were confirmed. The dichotomy between "social" and "personality" variables is examined and a different approach is suggested.

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CAREER MOTIVATION, EGO DEVELOPMENT AND SELF-ACTUALIZATION IN ADULT WOMEN

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The Catholic University of America, 1973

Two theoretical and practical movements in terms of women's lives seem to be converging in the present era. Women seem to be becoming more open to the possibility of career in conjunction with marriage, and they are beginning to see a search for identity and self-fulfillment as an important part of their lives. To examine the relationship of these trends, the present study based its concept of self-fulfillment and identity on Loevinger's (1966, 1970) construct of ego development.

This theory of ego maturity (defined by increasing cognitive complexity, moral development, depth of interpersonal relationships, sense of self identity as well as decreasing stereotype) predicts persons proceeding through developmental stages of Impulsive, Self-Protective, Conformist, Conscientious, Autonomous and Integrated. Though persons pass through stages in this invariant order, the theory does not attempt to predict at what ages individuals will reach certain stages nor the length of time they may stay in them. Characteristics common to persons making developmental progress through each stage as well as to those more or less stably functioning there are included in the Loevinger theory.

Predictions of the study were as follows: 1. Women in the Conformist stage should be low in career motivation. 2. Women in the Conscientious stage should tend to be those high in career motivation. 3. Women in the Autonomous and Integrated stages should be lower in career motivation than those in the Conscientious stage, but higher than those in the Conformist stage. 4. Highly career motivated women should tend to be field independent. 5. Highly career motivated women should tend to be more self-actualized than those low in career motivation.

Subsidiary predictions: 1. Women in the conformist or lower stages should tend to be field dependent. 2. Women in the Conscientious or higher stages should tend to be field independent. 3. Women in the Conscientious or higher stages should tend to be self-actualized.

Sixty-four middle class Caucasian women between the ages of 23-36, married with children, were given an extensive biographical questionnaire, the Ego Development Sentence Completion Blank, the Personal Orientation Inventory as a measure of self-actualization and the Hidden Figures Test as a measure of field independence. Using information from the questionnaire, judges rated career motivation in several ways for each woman, including career saliency, career pattern, usual occupation, and work values. When these measures were highly interrelated, they were combined to form a career motivation index. On the ego development measure, few women were found at the Conformist level or lower; those were combined

with the Transition stage above to form the low ego development group. Six subjects at the Autonomous level and three at the Integrated were combined as the high group.

Analyses of variance were calculated over ego development groups on the career motivation index as well as other personality and biographical variables. There was no relationship between ego development and career motivation. After education was found to be strongly positively related to career motivation and significantly positively to ego development, a partial correlation was calculated to control education. Analyses of covariance were then performed to equalize education over ego development groups while examining relevant variables, and the procedure was repeated for career motivation index groups.

Major findings were: (1) significant negative correlation between ego development and career motivation when education was partialled, (2) no differences on the career index, but significantly lower career pattern and significantly fewer employed at the high ego development levels with education equalized, (3) no relationship between ego development and self-actualization measures, (4) strong tendency in predicted direction for ego development to be related to field independence.

Results were explained in terms of more options for the highly ego developed women, as well as by the few women at the Conformist level to permit testing of relevant predictions. Suggestions for future studies include control of, but not neglect of, the importance of education in studying career motivation.

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THE RELATIONSHIP OF CAUSAL ATTRIBUTIONS TO ACHIEVEMENT-RELATED BEHAVIOR

Jeanne Ann MARECEK, Ph.D.

Yale University, 1973

This study investigated whether causal attributions of ability versus effort would produce differences in future achievement-related behavior. Specifically, it was predicted that when a series of failures was followed by a success, subjects who attributed their performance to effort would report higher expectancies and exert more effort after the success than subjects who attributed their performance to ability. It was also expected that subjects' self-percepts and their affect would be influenced by their causal attributions. To test these hypotheses, subjects' causal attributions were manipulated by means of the instructions they were given prior to working on an Interpersonal Sensitivity Test. False feedback was given after each of six initial question sets of the test. No feedback was given on the final two trials. The dependent measures were subjects' trial-by-trial expectancies; their effort output for each trial; and their reported self-percepts and affects, as measured by a semantic-differential scale.

The results confirmed the major prediction: subsequent to an unexpected success, subjects in the Effort condition raised their expectancies and their effort more than subjects in the Ability condition. Unexpectedly, the subjects' reported self-percepts showed a pattern similar to the effort and expectancy data: in the Failure with Success condition, subjects who attributed their performance to effort rather than ability reported a stronger sense of adequacy and high- or self-appraisals. The results were discussed in terms of the differences in information provided by outcomes attributed to ability versus effort.

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