THE RELATIONSHIP OF GSR CONDITIONING TO DRINKING PATTERNS OF ALCOHOLICS

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As defined by Eysenck (2, 3), "introversion-extraversion" has been related to individual differences in a variety of types of behavior displayed by normal and neurotic individuals (summarized in 3, p. 28) and these findings have been formulated into a general theory of personality. Hypotheses derived from Eysenck's theory have been employed by Vogel (4) in research on alcoholism. She found that "introversion," defined as E (extraversion) scores below the mean on the Maudsley Personality Inventory (MPI), was related to reports by male alcoholics of a steady drinking pattern, of solitary drinking, and of a longer time between the occurrence of first "blackout" and onset of frequent blackouts, while "extraversion" (E scores above the mean), was associated with reports of a periodic drinking pattern, of no solitary drinking and of a shorter time between first blackout and their frequent occurrence (5). A study of galvanic skin response (GSR) conditioning (6) in alcoholics showed that introversion, similarly defined, was associated with faster acquisition and slower extinction of the conditioned response as compared with extraversion. These studies could imply that the way alcoholics respond in a conditioning situation is related to their drinking practices, specifically with regard to steady or periodic drinking, solitary drinking and blackout experiences. The present study was designed to examine this implication, in the form of the following hypotheses:

1. A conditioned GSR is established in fewer trials, and is more resistant to extinction, in alcoholics who report solitary drinking than in those who report that they never drink solitarily.

2. A conditioned GSR is established in fewer trials, and is more resistant to extinction, in alcoholics who report a longer time between the first blackout and the increasing frequency of these blackouts, than in those who report a shorter time between these events.

3. A conditioned GSR is established in fewer trials, and is more resistant to extinction, in alcoholics who report a steady drinking pattern than in those who report a periodic drinking pattern.

Method

Subjects

The sample consisted of 48 male inpatients of the Alcoholism Research Foundation Clinic. This treatment facility receives referrals from a variety of sources and admission is not restricted on any economic basis; Skid Row type alcoholics, however, are not usually obtained in this hospital population. The sample contained all the male patients admitted to the Clinic during the time the study was being conducted, provided they were able to read and write English sufficiently to complete a paper and pencil questionnaire.

Eight subjects in the sample failed to condition within the maximum number of acquisition trials permitted in the conditioning procedure. Since acquisition and extinction scores could not be obtained for these subjects, they were not included in the analyses of the conditioning measures but were retained for another investigation (7).

Procedure

The GSR conditioning procedure and measures have been fully described elsewhere (1) and may be summarized here briefly. Conditioning was conducted in a semi-soundproof room. The subject was told that the test was one of relaxation or repose, and that his task was to spell the syllables which were presented to him by a memory drum.

The conditioned stimulus (cs) was a nonsense syllable, "LAJ," which appeared 16 times, randomly placed among 35 other syllables of low association value (8). The memory drum presented a different syllable every 6 seconds. The unconditioned stimulus (us) was an unpleasantly loud-ringing door buzzer which reliably elicited the unconditioned response (ur) of abrupt change in skin conductance. The first presentation of the cs was followed in 0.5 sec. by the us. A 50-per-cent reinforcement schedule was employed so that alternate presentations of the cs were reinforced. Skin resistance was measured by a Lafayette 601-A GSR amplifier, using finger clamp electrodes and an Esterline Angus pen recorder which traced the GSR continuously. Every 6 sec., immediately before presentation of a new syllable by the memory drum, the GSR amplifier was balanced to the subject's skin resistance at that moment. This procedure automatically centered the Esterline Angus pen at zero on the record chart. The size of the pen deflection on the chart was a constant function of ohm change in resistance, and independent of the basal skin resistance level. This allowed the direct comparison of a subject's GSR responses to each syllable during the conditioning procedure. Accurate identification of the response to cs and us.