DIFFERENTIAL EFFECTS OF COLOUR ON CHRONIC SCHIZOPHRENICS*

By

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FOUR experiments were carried out on chronic female schizophrenic patients in order to determine the differential effects of colour upon their behaviour. The three primary colours, red, blue and green, were used. The patients, who fell into Arieti's second or third stages of schizophrenia, had a mean age of 45 years (range 38–50), and a mean duration of hospitalization of 19 years (range 9–30). All experiments were carried out in a small side room painted white, the colour of which could be changed by the use of coloured lights hanging centrally from the ceiling. The colours used had a fixed intensity of 2 foot candles at a distance of 2 feet.

In the first experiment the following measures were obtained: word association reaction time, word association—bizarre responses, motor reaction time to a visual stimulus, and time estimation for periods of three minutes each.

In the second experiment psychogalvanic responses were obtained as follows: initial resistance of the palm, change in palmar resistance during a ten-minute period, and fluctuation of palmar resistance during the ten-minute period. All measurements were obtained from apparatus in an adjoining room.

In the third experiment each patient was asked to go into the room and to wait. The length of time she spent in the room was noted, patients being removed if they had not come out voluntarily within two hours.

The fourth experiment was a replica of the third except that the patients were ushered into the room by the ward sister rather than by the experimenter.

Each experiment was based upon a Latin Square design, patients experiencing each colour with colour sequences controlled. Analysis of Variance was used to evaluate the results.

The results were as follows:

Experiment I

There was no evidence to suggest differential colour effects upon the tests used.

Experiment II

No differential colour effects were detected.

Experiment III

The patients showed a differential colour response which was almost significant at the 5 per cent. level. They also showed a differential occasion response which approached significance at the 5 per cent. level. Patients remained longer in green (80 minutes) than in blue (60 minutes) and longer in

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blue than in red (52 minutes). In terms of testing occasions they remained in the room for 77 minutes on the first, 69 minutes on the second, and 51 minutes on the third, all occasions being irrespective of colour.

Experiment IV

Both the differential colour response, and the differential occasion response suggested in Experiment III disappeared, although the order of colours remained the same. The disappearance of these effects can be attributed either to the influence of the ward sisters who were in charge of the patients during the repeat test or to the influence of repetition *per se*. In both cases the conclusion must be that the colours used have not been shown to have any importance for the behaviour of this type of patient.

In conclusion, the present work suggests that none of the three primary colours has any appreciable effect on chronic schizophrenic patients in terms of the tests used. A number of problems remain. The first concerns the problem of assessing the differential effects of the whole range of the colour spectrum rather than of the primaries alone. Secondly the intensity of the colours used may be important. Thirdly, as patients are sometimes placed in wards on the basis of diagnosis, the relation between diagnosis and colour effects is important. Lastly, there is always the question of the nursing staff. Whether to organize the colours of wards in accordance with the effects of colour upon the nurses is a problem worthy of further research, as the general mood of the nursing staff must be reflected in their approach to the patients under their care.

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