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Activity Programmes and Chronic Schizophrenia: A Comment

By J. P. N. PHILLIPS

Introduction

Hamilton and Salmon (1962) and Hamilton (1964) have investigated the effect upon male chronic schizophrenics, *inter alios*, of the following regimes: (*a*) working in a hospital industrial workshop, (*b*) occupational therapy and (*c*) no specific activity (the first study only). Hamilton (1964), considering both studies, concludes that the results "may be said to weight the available evidence in favour of the superiority of Workshop Therapy". Certain points should be raised in connection with this conclusion.

The Measures Used

The conclusion is weakened by the far from satisfactory character of some of the tests and rating scale procedures employed.

Visual Reaction Time

The apparatus emitted an audible click on the closing of the lighting circuit and a fraction of a second before the bulb lit up, so that it is not certain whether the test was measuring visual or auditory reaction time.

Visual and Auditory Reaction Time

Contrary to what is stated by Hamilton and Salmon, standard laboratory techniques were *not* used: rather, the patient was instructed to rest his hand beside the R.T. key, and on presentation of the stimulus to lift his hand and bring it down on the key. The tests were therefore not pure measures of reaction time. Moreover, some patients tended to hold their hand ready above the key, giving themselves an advantage over others who obeyed instructions: the layout of the apparatus prevented the tester from seeing when this was occurring.

Cambridge Triple Tester

The machine was rather old, and tended to break down and stop when roughly handled, as it was by some of the more disturbed patients, making their scores unreliable.

Venables' Activity-Withdrawal Scale and Wing's Clinical Rating Scale

In the second study the patients were not, as in the first, all rated by the same two psychiatrists, but each by one of three different psychiatrists: three patients were not rated by the same psychiatrist on all three occasions. The results on these scales may therefore have been contaminated by inter-rater differences.

Modified Vineland Social Maturity Scale

Ratings of patients on this scale in the first study (by Miss Salmon) were markedly higher than those in the second study: consultation established that she had interpreted the items more generously; this suggests a lack of objectivity in the scale. Certainly, the rater in the second study (the present writer) experienced great difficulty in deciding whether these chronic schizophrenic patients fulfilled the criteria for passing items originally designed for children, and had little confidence in his own ability to do so reliably.

Comment

It is interesting to note that these unsatisfactory measures include the only five on which any group of patients showed a significant improvement from first to last test occasion in either study.*

* This was pointed out by Dr. A. M. Clarke.

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The Apparent Superiority of Workshop Therapy

The trends in favour of the superiority of Workshop Therapy found in both studies are trends (consisting mainly of insignificant changes) whose significance cannot be assessed. There are, moreover, two ways, both quoted by Hamilton (1964), in which they might be artefacts.

1. In both studies the N of the Workshop group was larger than that of the Occupational Therapy group. It is possible that there was an underlying small but equal improvement in all groups, which resulted in more significant improvements in the Workshop group because of the greater power of the U-test for this group, and more improvements (significant or not) in this group because of the more stable estimation of medians, both resulting from the greater N. In view of this possibility (apparently accepted by Hamilton) the quoted conclusion is untenable.

2. In both studies the Workshop group had initially a lower level on most of the tests than the Occupational Therapy group. In view of the negatively accelerated form of the improvement curve found, the Workshop group might have shown greater improvement simply because of its initially lower level on the same curve rather than because it was on a different and superior curve. Hamilton raises two objections to this argument:

(*i*) "The learning curves of chronic schizophrenics have generally a low gradient . . . so that equal intercepts on the abscissa would be more likely to cut off insignificantly different increments." However, what is generally the case is less relevant than what is the case in these two studies, which is that there are almost always fewer improvements from test occasion 2 to occasion 3 than from occasion 1 to occasion 2, suggesting a negative acceleration pronounced enough to account for the observed differences (for their significance, see above).

(*ii*) "This argument would predict smaller changes for the better of the two Workshop and the two Occupational Therapy groups in the two studies in terms of within-group improvements. The empirical findings, however, do not support such a prediction." This prediction is only valid if the patients in the two studies can be considered as being drawn from the same population. However, in view of the greater age, generally worse clinical condition, and different behaviour under different modes of payment and group structure of the patients in the second study, they must be considered as belonging to a different population. Within each separate population (study) the patients may have been on the same improvement curve, but the curves were different for the two studies.

Summary

It is argued that the conclusion of Hamilton (1964) that his results and those of Hamilton and Salmon (1962) "weight the available evidence in favour of the superiority of Workshop Therapy" is in fact unsupported by the evidence. Firstly, the results are vitiated by the unsatisfactory character of nearly half the measures used, including all those on which the patients showed significant improvements. Secondly, the trends in favour of the Workshop group are of doubtful significance, and there are two separate possible sources of bias in favour of this group, either of which might account for the trends.

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References

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