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The Proverbs Test in Schizophrenia*

By J. L. REED

The ability to interpret the meaning of metaphorical proverbs has been used not only in intelligence testing but also to investigate abnormalities of thinking in schizophrenia; mainly the theories that schizophrenics are either "concrete" or "overinclusive" in their thinking. The theory of concreteness has been proposed mainly by Goldstein (1946), who held that schizophrenics were unable to adopt the "abstract attitude", and, having lost the ability to form normal abstract concepts, formed concrete ones instead. Cameron (1946) described overinclusion as one of several abnormalities found in schizophrenic thinking. This abnormality has been adopted by Payne and his co-workers (1957, 1959, 1960, 1962, and 1966) as the basic disorder of schizophrenic thinking. Schizophrenics showing this disorder appear unable to maintain the boundaries of a problem, and so form overbroad concepts. Overinclusion, however, is found in only about 50 per cent. of acute schizophrenics and has also reported in other psychiatric conditions (Payne and Hirst, 1957; Payne and Frielander, 1962; Sturm, 1965).

Previous Proverbs Tests

The main investigations using proverbs tests have given very diverse results. Benjamin (1946) and Gorham (1956a and b) both found that schizophrenics tended to give more concrete explanations to proverbs than normals, Gorham claiming that his proverbs test was 77·5 per cent. accurate in differentiating normals from schizophrenics. Lehman (1960) found a predominance of literal responses to proverbs among psychotic children.

Both before and since these reports, other investigators have reached other conclusions. Hadlich (1931) found that schizophrenics gave answers that were diffuse and idiosyncratic rather than related to the proverb. Zeigarnik (1934), although finding concrete answers, emphasized the wide scatter in response and the many and unusual associations which occurred. Wegrocki (1940) concluded that only some schizophrenics (usually hebephrenics) were unable to generalize. Brattemo (1961), using depressives as controls, found that the answers given by schizophrenics were not more concrete but rather more wrong and more abstract. Payne and Hewlett (1960) found that, although the Benjamin proverbs test differentiated a group of schizophrenics from other psychiatric groups and normals on concreteness scores, this was due to a bias in scoring towards concreteness in the original test. When rescored, allowance being made for bizarre responses (which had previously been scored as refusal to do the test), the test no longer differentiated the groups on concreteness scores.

Payne and Hewlett claim that there is no evidence that any psychotic illness can produce a disability that could be called "concreteness", the earlier findings being due to scoring bias, failure to match groups for I.Q., and failure to make allowance for the schizophrenics' slowness and lack of persistence. Regarding proverbs tests, they suggest that if schizophrenics were given unlimited time and encouraged to go on talking they might ultimately be able to give correct, abstract interpretations, even though these might be preceded by concrete responses or apparently irrelevant remarks.

Present Investigations

This was carried out to see if Payne and Hewlett's suggestions about proverb interpretation could be confirmed. It was predicted that under conditions of no time limit and when encouraged to persist:

(*i*) Schizophrenics will, at some stage in replying, give interpretations as abstract as normals.

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TABLE I

Social Class and Education

	Social Class					Length of Education (yrs.)	
	I	II	III	IV	V	Mean	Range
Patients	1	5	7	5	0	16·0	13–22
Controls	1	5	7	5	0	15·7	12–21

TABLE II

Inter-Rater Correlation Coefficients

	r	p (D.F. = 16)
Patients' abstractness	0·987	<0·001
Patients' correctness	0·751	<0·001
Controls' abstractness	0·929	<0·001
Controls' correctness	0·923	<0·001

(*ii*) Schizophrenics will, at some stage in replying, give interpretations as correct as controls.

However, because of their slowness and over-inclusiveness

(*iii*) Schizophrenics will take longer to start replying and longer to complete their replies than controls.

(*iv*) Schizophrenics will use more words than controls in their replies.

METHOD

1. *Subjects:*

Eighteen schizophrenics and eighteen controls were tested. All were between the ages of 18 and 55 and were of English cultural background. The schizophrenics (both acute and chronic) were all in-patients and of all sub-categories except catatonic. The only criteria for inclusion were that they should have been diagnosed as schizophrenic by their consultant psychiatrist and be on no treatment other than night sedation. The controls were lay hospital staff and acquaintances of the investigator. They were selected as individual matches with patients on social class and length of education (Table I).

2. *The Test:*

The subjects were asked to interpret orally twenty common metaphorical proverbs, the tester having given them two examples of the correct, abstract answers required. In order to overcome slowness and lack of persistence, all subjects were encouraged, by neutral comments, to go on talking until they were satisfied they had given a satisfactory answer.

3. *Scoring:*

(*a*) Abstraction and correctness were scored by two raters. Scores were based on whether at some time in the answer a correct or abstract interpretation was given. Each proverb was marked as having two parts, e.g. "A new broom/sweeps clean" and a point was given for each part correctly or abstractly interpreted. When no answer was given the score was pro-rated so that all scores were for a total of twenty proverbs.

(*b*) *Time:* Two measures of time were taken: the time between the tester finishing reading out the proverb and the subject starting his answer (reaction time) and the time needed to complete the answer once started (talking time). The time scores for each subject were the total times over 20 proverbs.

(*c*) *Prompts:* The number of times each subject was prompted was scored.

(*d*) *Words Used:* The number of words used to reply to each proverb was counted and scored in multiples of ten.

4. The differences between the schizophrenic and control groups were tested by uncorrelated t-tests.

RESULTS

Inter-Rater Reliability

The correlation coefficient between the scores given by the two raters was calculated for the four different parts of the test-patients' abstractness, patients' correctness, controls' abstractness, controls' correctness.

Table II shows that the scores given by the two scorers correlate at a highly significant level on all parts of the test. The scoring system appears to be satisfactory, each scorer measuring the same things. The score used in calculating the t-tests was the mean of the two raters' scores.

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TABLE III
Abstractness and Concreteness

	Mean	Range	S.D.	t	p (D.F.=34)
Schizophrenics' abstractness	25·02	1–39	12·13	2·35	<0·02
Controls' abstractness	32·95	14–40	7·15		
Schizophrenics' correctness	29·32	14–39	5·25	0·59	N.S.
Controls' correctness	31·30	18–36	5·50		

TABLE IV
Reaction Time (mins.)

	Mean	Range	S.D.	t	p (D.F.=33)
Schizophrenics	3·0	1·2–8·7	1·9	2·12	<0·05
Controls	2·2	0·7–4·0	0·85		

TABLE V
Talking Time (mins.)

	Mean	Range	S.D.	t	p (D.F.=33)
Schizophrenics	11·5	6·5–28	4·82	3·42	<0·01
Controls	7·4	2·9–12·9	2·21		

Differences Between Schizophrenics and Controls

1. Abstractness and correctness (Table III).

As a group, the schizophrenics, though no less correct than the controls, have a significant tendency to give answers less abstract, but with considerable overlap between the groups.

2. Time (Tables IV and V).

As predicted, the schizophrenics were significantly slower than controls in time talking and just significantly slower in reaction time, though again there is considerable overlap between the groups.

3. Words used (Table VI).

As predicted, the schizophrenics used significantly more words to answer than the controls.

4. Prompts (Table VII).

The schizophrenics were prompted significantly more often than the controls.

DISCUSSION

This study does not confirm Payne and Hewlett's suggestion that there is no specific disability of "concreteness". As predicted, the schizophrenics were significantly slower and used more words in their answers than the normals; but, despite being prompted more often, they were still unable to give answers as abstract as the normals.

There are several possible causes for the present finding. The first, which is also a criticism of much of the work that has been carried out on investigation of abstractness/concreteness, is the lack of definition of the terms "Abstract" and "Concrete". Hunt and Jones (1958) have shown that when clinicians rate the vocabulary responses of schizophrenics on a variety of parameters the reliability coefficient (each judge's score compared with the mean score of the group) is lowest (0·55) when judging concreteness/abstractness. Less sophisticated judges gave even less consistent results. In the present experiment it was possible to some extent to objectify the correct, abstract answer, but the assessment of wrong abstract answers was of necessity much more subjective.

A second possible cause for the present finding is that the schizophrenics were of lower verbal I.Q. than the controls. The groups were not matched on a test of verbal I.Q., in view of Yates' (1956) finding that vocabulary level is not always preserved in schizophrenia; however, the groups matched closely on social class and

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TABLE VI

Number of Words Used (in tens)

	Mean	Range	S.D.	t	p (D.F.=28)
Schizophrenics	8·2	2·3–17·8	4·2	2·66	<0·01
Controls	5·0	2·8–11·7	2·2		

TABLE VII

Number of Prompts

	Mean	Range	S.D.	t	p (D.F.=33)
Schizophrenics	16·2	0–55	14·0	2·56	<0·02
Controls	6·6	0–26	7·3		

length of education, the controls having if anything a less lengthy education than the schizophrenics.

Another possibility is that some schizophrenics were misdiagnosed, being really cases of organic cerebral disease with schizophrenic symptoms. The presence of one or two such cases, who would score low on abstraction, could weight the scores sufficiently to produce the present result. However, during admission no signs of acute or chronic organic involvement were found, and follow-up of the schizophrenics two to three years later showed no cases of progressive organic cerebral disease.

There are two other possibilities. Firstly "concreteness" may occur in schizophrenic thinking, and Payne and Hewlett have been wrong in their suggestion. Secondly it is possible that the present test did not properly fulfil Payne and Hewlett's suggestions on methodology. Although the subjects were given unlimited time and were prompted to continue answering, they were allowed to stop when they said they were satisfied with their answer. This may have been insufficient to overcome the slowness and lack of persistence of the schizophrenic, while giving the normals sufficient time and stimulus to formulate correct abstract answers. It is possible that if more time and prompting had been given the schizophrenics would have been able to give adequate answers.

CONCLUSION

It remains to be shown that schizophrenics do not give more concrete interpretations of proverbs than normals. In view of the diverse findings with previous proverbs tests, and the wide overlap of scores by normals and schizophrenics on abstractness, time and words used, it seems questionable whether there is any value in asking patients to interpret proverbs as part of the routine examination of their mental state. Of the 18 patients tested on this occasion only 4 had scores so low on abstraction as to make them obviously clinically different from the remainder of the subjects. Among these others, both schizophrenics and controls tended to give concrete answers first, which they then amended, and there was little by which schizophrenics could be differentiated from controls individually.

SUMMARY

1. Previous proverbs tests in schizophrenia are reviewed.

2. Payne and Hewlett's suggestion that under the right conditions schizophrenics should be able to give correct, abstract interpretation of proverbs is tested, but not confirmed. Possible reasons are discussed.

3. The value of the use of proverbs in assessing the mental state is questioned.

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J. L. Reed, M.R.C.P., D.P.M., *Senior Registrar, Maudsley Hospital, Denmark Hill, London, S.E.5; Present address: Dept. of Psychiatry, St. Bartholomew's Hospital, London, E.C.1*

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