Intellectual Performance of Young Schizophrenic Males

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SUMMARY

The intellectual test performance of 16 young schizophrenic males, produced data which are presented. Certain research possibilities are proposed and examined. General conclusions indicate that schizophrenics display a particular pattern of intellectual test performance which may be diagnostically significant.


Schizophrenic cognitive processes have been studied and some of the findings indicate that schizophrenics display disturbances in their intellectual, volitional and thought processes. It is believed that a study of various aspects of schizophrenic intellectual function may prove illuminating and diagnostically worth while. Most of the psychological diagnostic work with schizophrenics has concentrated upon the results of intelligence tests.

Discrepancies between verbal and performance IQ-test scores of schizophrenics have been explained in terms of volitional disturbances, but as yet there is no conclusive evidence for this. Schizophrenics generally are believed to perform at lower intellectual levels, and patterns of disturbances have been found in the scores of various subsidiary intelligence tests. This is referred to as subtest scatter.

Three possibilities for research are suggested by the abovementioned findings. These are verbal/performance IQ functioning; general intelligence test functioning; and specific subtest response patterns of schizophrenics.

This article attempts a study of some of these aspects of cognitive function in a group of young male schizophrenics.

METHOD

A group of 16 young schizophrenic males with a mean age of 23.37 years (range 18 - 30 years), were tested on 10 subtests of the South African Wechsler Adult Intelligence Scale.

The full scale, verbal, performance, and specific subtest scores of these patients appear to reveal important diagnostic data.

RESULTS

The results are presented in Tables I and II.

**TABLE I. INTELLIGENCE TEST RESULTS OF 16 SCHIZOPHRENIC MALES**

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full IQ</td>
<td>93.43</td>
<td>16.34</td>
<td>65 - 133</td>
</tr>
<tr>
<td>Verbal IQ</td>
<td>104.25</td>
<td>17.45</td>
<td>72 - 137</td>
</tr>
<tr>
<td>Performance IQ</td>
<td>82.75</td>
<td>16.53</td>
<td>64 - 125</td>
</tr>
</tbody>
</table>

The differences between the various scores are as follows: Verbal performance IQ discrepancy 21.5 points, \( t = 3.58, P<0.01 \), significant. Full performance IQ discrepancy 10.68 points, \( t = 1.84, P>0.05 \), not significant. Full verbal discrepancy 10.82 points, \( t = 1.83, P>0.05 \), not significant.

**TABLE II. SPECIFIC WECHSLER SUBTESTS**

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>11.1</td>
</tr>
<tr>
<td>Comprehension</td>
<td>10.9</td>
</tr>
<tr>
<td>Arithmetic</td>
<td>9.37</td>
</tr>
<tr>
<td>Digit span</td>
<td>9.96</td>
</tr>
<tr>
<td>Similarities</td>
<td>10.9</td>
</tr>
<tr>
<td>Picture completion</td>
<td>8.9</td>
</tr>
<tr>
<td>Object assembly</td>
<td>7.3</td>
</tr>
<tr>
<td>Block design</td>
<td>8.06</td>
</tr>
<tr>
<td>Digit symbol</td>
<td>7.97</td>
</tr>
<tr>
<td>Picture arrangement</td>
<td>8.59</td>
</tr>
</tbody>
</table>

\( \chi^2 = 2.16, P>0.05 \), not significant.

**DISCUSSION**

The specific Wechsler subtests are designed to measure various aspects of cognitive function, as follows:

**Verbal Subtests**

The information test measures aspects of long-term memory, experience, education, and cultural background. The mean score of 11.1, equivalent to an IQ of 111, suggests that this group of patients has an above-average intellectual background.

The comprehension test measures aspects of practical social knowledge and awareness of the environment. The mean score of 10.9, equivalent to an IQ of 109, appears to be satisfactory.

The similarities test measures aspects of logical and abstract thinking, and is also a fairly good indicator of the patients' expected general intellectual level. The mean score of 10.9 indicates that the premorbid and basic IQ level of the patients was above average.
Psychopathological characteristics appear to be indicated by the remaining subtests, as follows:

The arithmetic test reveals aspects of concentration and abstract numerical quantitative reasoning. The mean score of 9.37, therefore, appears below the expected level of intellectual function. The digit-span test, which measures aspects of attention and rote memory, gave a mean score of 9.96 which also appears below the expected level of function. From the verbal point of view it would appear that schizophrenics display impairment of their ability to concentrate and pay attention.

Performance Subtests

A general impairment of functioning is indicated by the performance tests.

The picture completion test measures aspects of visual alertness, perception of detail, and the capacity to differentiate the essential from the non-essential intellectual function. The mean score of 8.9 is below the expected functioning level.

The object assembly test, which measures aspects of sequential, analytical problem-solving and motor co-ordination, gave a mean score of 7.3, which is the lowest score of all the subtests. Impairment of functioning is clearly indicated by this test.

The block design test measures ability to analyse and synthesize abstract designs; it also measures aspects of visual perception and motor co-ordination. The mean score of 8.06 is below the expected level of intellectual functioning.

The digit symbol test measures aspects of speed and accuracy of learning, and the reproduction of unfamiliar symbols. The quality of visual-motor co-ordination, memory for designs, and task application, are also measured by this test. The mean score of 7.97 is below the expected level of functioning.

The picture arrangement test measures the visual interpretation and comprehension of social situations, and involves aspects of anticipation and planning. The mean score of 8.59 is below the expected level of functioning.

General functioning on tasks of visual organization, analytical problem-solving, visual-motor co-ordination, speed and accuracy of reproduction, memory for designs, task application, and the comprehension and interpretation of social situations, appear impaired in this group of schizophrenics.

CONCLUSIONS

The intellectual test performance of schizophrenics presents a characteristic pattern of impairment. Verbal cognitive functioning appears to remain intact, but there is impairment of concentration and attention span. Schizophrenics may, therefore, remain distractible and verbally preoccupied. Their conative functioning is impaired, which can be shown by the statistically significant verbal performance IQ discrepancy of 21.50 points (Table I), and by the specific subtest scatter pattern (Table II).

The full-scale IQ score of 93.43 is below the expected or estimated premorbid IQ level of 109. The verbal IQ tends to remain intact, and the performance IQ reveals marked deterioration in visual motor and social volitional function.

REFERENCES