A CORRELATIONAL STUDY OF THE WEIGL-GOLDSSTEIN-
SCHERER COLOR FORM TEST
AND THE PROVERBS TEST

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The purpose of this study was to examine (1) whether the Weigl-Goldstein-Scheerer Color Form Test and the Proverbs Test were able to discriminate between a sample of normal patients and a sample of schizophrenic patients, and (2) to determine if there was a significant correlation between these two instruments.

It was hypothesized that there would be a significant difference between normal subjects and schizophrenic subjects' scores on both of these instruments. It was further hypothesized that there would be a significant correlation between these tests with both normal subjects and schizophrenic subjects. The positive results of these hypotheses would provide the examiner with supportive data of concurrent and predictive validity for these instruments.

Thirty male hospitalized patients (for non-psychiatric reasons) and thirty hospitalized schizophrenics were used as subjects for this study. A data sheet was used to obtain background information relating to age, marital status, and occupation. Each subject was administered a gross test of color blindness and the vocabulary portion
of the Wechsler Adult Intelligence Scale. Each subject was then administered, in random order, both the Weigl-Goldstein-Scheerer Color Form Test and the Proverbs Test.

The results of this study indicated that both instruments were capable of discriminating normal subjects from schizophrenic subjects. No significant correlation was found between the tests within the schizophrenic sample. There was a significant correlation using normal patients. However, caution should be exercised in interpretation of this score, since this correlation was extremely small. It was suggested that further experimentation be done with the Weigl-Goldstein-Scheerer Test to confirm the faith that clinicians have placed in this test over the years.
A CORRELATIONAL STUDY OF THE WEIGL—GOLDSTEIN—SCHREER COLOR FORM TEST
AND THE PROVERBS TEST

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By

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Introduction

There has been increasing controversy in the area of language disturbances in psychiatric disorders, especially in schizophrenia. Recently, there has been growing emphasis on the disruption of conceptual thinking in schizophrenics (Pope, Benjamin, & Scott, 1967). The application of psychological tests to the problem of conceptual thinking gained impetus from Goldstein's head-injury studies and the work of Vigotsky on schizophrenic thinking (Hall, 1951). The theories derived from these early studies led to the view that in schizophrenia there is a definite reduction in abstract thinking, and that as a result of this, schizophrenics tend to think more concretely than the normal population (Hall, 1951).

Goldstein & Scheerer (1941) designed a series of techniques for the purpose of measuring concrete and abstract thinking. The Weigl-Goldstein-Scheerer Color Form Test (W-G-S) was one of the most popular instruments of this test battery. Sundberg and Tyler (1962) listed this test as being used by one-half of the clinical services and being mentioned by one-half of the textbooks. Despite this apparent popularity, there has been scathing criticism of this instrument (Payne, 1965). In order to accurately interpret this criticism, it is vital to understand Goldstein and Scheerer's theory on which the W-G-S was based.
According to Goldstein and Scheerer (1941), the normal person is capable of assuming both a concrete and abstract attitude. They reported that the abnormal individual was confined to only one type of behavior, that being the concrete. Their purpose in designing the W-G-S was to determine whether the subjects would be able to sort a given variety of different colored figures according to shape or form. Hence, they felt that this method would enable them to determine whether the patient was able to formulate and employ abstract categories. Weigl (1941) found that normal adults were able to sort either according to color or form with little difficulty. His subjects were able to sort these figures and could shift to another pattern following their first sort.

The manual for the Weigl-Goldstein-Scheerer Color Form Test (1941) listed a number of conclusions drawn from direct observation of the W-G-S. Goldstein & Scheerer (1941) noted that the abstract person would assume a conceptual attitude from the start of the test. This type person would be able to segregate the two properties of color and shape from each other. The abstract person will either form piles of colored objects or piles of shapes which are similar. He is able to accomplish this because he is able to treat the single figures as collectively falling under one category or another.

Goldstein & Scheerer (1941) found that concrete subjects showed an abnormal tendency to build patterns on
this test. They theorized that the concrete individual was unable to single out the common properties; hence, his only way of responding would be to deal with the figures in a tangible way. The subject would arrange the pattern in such a way where the figures functioned as "things". This pattern, Goldstein theorized, was not arbitrary but followed definite structural laws. Another of Goldstein's findings was that the subjects could not abstract color or form as a conceptual principle of sorting. His subjects were unable to account for their groupings, and did not grasp the purpose of the test. His subjects were not able to shift volitionally from one impression to another (Goldstein & Scheerer, 1941).

Bolles and Goldstein (1938) employed the W-G-S, which had been successful with organic cases, in the area of schizophrenia. The study concluded that the mental changes in schizophrenia were very similar to those found in organic cases. Bolles and Goldstein (1938) state, "We do not mean that schizophrenia is the same as an organic lesion of the brain. We mean that the affects of the disorder in these tests show the same characteristics (p. 64)." Goldstein (1939), using the W-G-S, found that in certain groups of schizophrenics there was an impairment in abstract thinking. This study indicated that schizophrenics behaved much more concretely than normals, and that after considerable demonstration of the W-G-S the subjects were unable to learn from demonstrations.
In a study by Bolles, Rosen, & Landes (1938), the W-G-S was used along with several other tests in a study dealing with insulin therapy. The schizophrenic subjects showed an impairment in abstract thinking. Patients who performed very poorly on these tests tended to show no improvement under insulin therapy. It was also found that performance on these tests showed a closer relationship to the outcome of treatment than duration of psychosis.

The field of mental retardation is another area of study where the W-G-S has been used. Bolles (1937) found that all normal subjects were able to shift their preference in sorting, and that these subjects showed no preference in sorting according to color or form. The dement group (schizophrenics-hebephrenic type) had a tendency to sort according to form, and showed an inability to shift attitudes voluntarily. The ament group (retardates with head injuries) tended to sort on the basis of color. In addition, they were unable to shift from one sorting principle to another.

Halpin (1954) hypothesized that there are differences in concrete and abstract thinking in mentally retarded children diagnosed as brain-injured and those described as familially retarded. Using the W-G-S, Halpin found there was no significant differences between groups. Also there were no significant differences between sorting by color and form. Halpin (1958) tested the hypothesis that mentally retarded children, as a group, are more rigid in
their concept formation than are normal children. Her results showed that the responses of these children on the W-G-S did not follow any consistent pattern.

Silverstein & Mohan (1962), using five diagnostic groups of mentally retarded children, found that subjects who built patterns did not differ significantly from the remainder of the sample on age, sex, diagnosis, or length of hospitalization. In this study, the retardates did build patterns more frequently than normal subjects, but did not show a clear preference for sorting according to color or form. They concluded that the ability to shift, and intelligence (within the retarded range) is conflicting.

Clinical research with the W-G-S has been extremely small. Weiss (1964) felt that this was due to the fact that the test was not scaled and does not allow quantitative evaluation. In order to achieve an acceptable solution on this test, Weiss concluded that a person must develop along three criteria. These were flexibility (in order to achieve the shift from one principle to the other), liberation from the tendency towards pattern formation, and verbalization of rationale for test behavior. Using the above criteria, Weiss developed a quantitative scoring method for this test. Using this scoring system, Weiss found a negative correlation between total score and age; thus, indicating a positive relationship between age and level of performance. With this system the higher the total score, the lower the level of performance. Weiss
also found that most children above age twelve are able to shift without difficulty from either principle of sorting.

Silverstein & Mohan (1964) used Weiss's scoring system in an attempt to reveal any relationships that their earlier study might have missed. This study failed to find any such relationships. Korstvedt, Stacey, & Reynolds (1954) employed a modification of the W-G-S with normal and subnormal adolescents. Their results indicated a significant difference between normal and subnormal subjects. The normals were much more successful in sorting which is consistent with Bolles (1937) study.

When an analysis was run between moron and borderline subjects, there was no significant differences. This was interpreted as indicating that both groups had equal difficulty on this test.

Despite its popularity, the W-G-S has come under severe criticism. Payne (1965) criticized the test because of no standard scoring system. He felt that the psychologist's assessment of the patient was too subjective. He attacked Bolles and Goldstein (1938) study for not having a control group. Payne, Matussek, & George (1959) developed their own scoring system for the test, and failed to find a significant difference between schizophrenics and normals.

Levine (1949), on the other hand, praised the test for its brevity and simplicity. He felt that the total
test time (less than five minutes) was a definite asset. Another advantage of this test was the fact that motor disabilities, which often accompany cerebral pathology, interfered very little with performance on this test. Zenquill (1949) noted that certain cases of psychosis, in particular schizophrenia, showed an impairment in abstract thinking. He felt that this test was well adapted to measure defects in this area.

It is the purpose of this study to correlate the W-G-S Color Form Test, using Weiss's (1964) scoring system, with another test of abstract and concrete thinking, the Proverbs Test. The Proverbs Test has been shown to differentiate normal subjects from chronic schizophrenic populations at the .001 level of significance (Gorham, 1956; Elmore & Gorham, 1957; Kingsley, 1969).

Four hypotheses were tested:

1. There will be a significant difference between scores made by a sample of hospitalized schizophrenic subjects and a sample of normal hospitalized subjects on the W-G-S. Schizophrenic should score significantly higher than normals on this test.

2. There will be a significant difference between scores made by a sample of normal hospitalized subjects and a sample of hospitalized schizophrenic subjects on the Proverbs Test. Schizophrenic subjects should score significantly lower than normals on this test.

3. There will be a significant correlation between
the W-G-S and the Proverbs Test using normal hospitalized subjects.

4. There will be a significant correlation between the W-G-S and the Proverbs Test using hospitalized schizophrenics.

Method

Subjects

The subjects consisted of sixty male patients hospitalized at John Peter Smith Hospital in Ft. Worth, Texas. This hospital is an emergency hospital with an average length of stay of three days.

The control group consisted of thirty hospitalized patients with no known history of any psychiatric illness. These patients ranged in age from nineteen to fifty-nine years, with a mean age of 34.10 years. The subjects were all volunteers who were in sufficient health to answer the questions. They were not told the purpose of the study, but were informed that they were volunteering in hospital research. No college graduates were used in this study. The head nurse on each floor determined who was in sufficient health to participate, and all volunteers were obtained from this group. The patients were tested as they came into the hospital from September 1 to October 5, 1972.

The experimental group consisted of thirty male schizophrenics. A schizophrenic was operationally defined to be any person diagnosed as such upon entry to the
hospital by the chief psychiatrist. This definition encompassed all sub-categories of schizophrenia. It was impossible to determine the chronicity of these subjects. The psychiatrist's judgment was used to determine whether the subject was capable of being tested. The patients ranged in age from nineteen to fifty-seven, with a mean age of 33 years. These subjects were also volunteers and were not informed of the purpose of the study. All patients were tested upon entry to the hospital on the same days as the control group. No college graduates were utilized in this study.

**Instruments**

The vocabulary sub-test from the Wechsler Adult Intelligence Scale (WAIS) was used in this study to control for intelligence.

The Weigl-Goldstein-Scheerer Color Form Test (W-G-S) was used to measure abstract and concrete thinking. The purpose of this test was to determine whether the subjects were able to sort a given variety of differently colored figures according to the categories of color or form (Goldstein & Scheerer, 1941). The test consisted of twelve geometric figures: four equilateral triangles, four squares, and four circles. These figures were colored red, green, blue, and yellow. The reverse side of all figures was white.

The Proverbs Test was administered to obtain another independent measure of abstract and concrete thinking.
The multiple-choice form of this instrument was used. There were forty proverbs in this test form. The items were chosen by an item analysis, and the final revision was found to produce normal distributions of scores for each grade level from the fifth grade through the senior year in college (Gorham, 1956). Each question consisted of one proverb with four possible answers.

Procedure

Each subject was asked to complete a data sheet designed to obtain information in regard to age, education, occupation, and marital status. This data sheet provided information necessary to analyze both samples in regards to the above questions. The subjects were then administered a gross test of color blindness. Any subject who was not able to name the four colored cards was disqualified. The four colors were presented in random order. Each subject was then given the vocabulary portion of the WAIS. Only subjects who scored within the range of eight to twelve scale score points were used for this study.

The W-G-S and the Proverbs Test were administered in random order. The Proverbs Test was administered according to standard procedures except for one change. To control for subjects who did not have their glasses with them in the hospital or for subjects who were unable to read, all questions were read to the subjects by the examiner. Each subject was given a copy of the test booklet to follow along with if he so desired. The subjects were informed
that there was no time limit on this test, and that any question would be re-read as many times as the subject requested.

The W-G-S was administered according to standard procedures. The subjects were informed that there was no time limit on this test. The subject was allowed to change his sort as many times as necessary, but was asked to inform the examiner of his final sort in each stage. A detailed record of the subjects verbalizations was kept, as well as a detailed drawing of all patterns. Questions were answered carefully so as to avoid any hints at solution.

All tests were hand scored. The Proverbs Test was scored by a stencil. Three scores were obtained on this test. The abstract score was the total of the best abstract responses out of forty items on this test. The concrete score was the number of responses from the twenty items which were selected by item analysis as differentiating schizophrenics from normals. The adjusted score (Adj) was used to have a single index which could be used in assessing impairment of the abstract function (Gorham, 1963). To obtain this score the concrete score was subtracted from the abstract score. Ten points were then added to this score. This single score combines the discriminatory power of both scores and eliminates minus scores. Gorham (1963) applied this score (Adj) to the data and found it to differentiate schizophrenics from normals at the .001 level of significance.
The W-G-S Test was scored according to a system developed by Weiss (1964). This test was scored directly from the subjects' verbalizations and sorting patterns. This system was based on empirical observations. Each record was evaluated separately for "shift", "pattern formation", and "level of explanation". The subject was given a numerical score obtained from the combination of the three scales above (see Appendix B). A possible score ranged from three to twenty points.

The WAIS was scored according to the manual (Wechsler, 1955), and all raw scores were converted to scale scores.

A t test was used to determine if there was a significant difference between groups on the Proverbs Test and between groups on the W-G-S Test. The level of significance was set at .05 for rejection of the null hypothesis for both tests. A Pearson product moment correlation was utilized to determine the correlation between tests for the two independent groups.

Results

It was necessary to control for intelligence in this study. The mean scale score on the vocabulary portion of the WAIS was 9.60 for normal subjects and 9.63 for schizophrenics subjects (see Table 1).
Analyses are presented for two sets of measurements: subjects' scores on the W-G-S and subjects' scores on the Proverbs Test. On the W-G-S, the schizophrenic group obtained a mean score of 11.57 and the normal group obtained a mean score of 8.80 (see Table 2). As can be seen, the data supported the hypothesis that there would be a significant difference between scores of schizophrenics and normals on the W-G-S.

The data for the Proverbs Test is given in Table 3. Once again there was a significant difference between means which would confirm the hypothesis that there is a significant difference between scores of schizophrenics and normals on this test.

The third and fourth hypotheses were concerned with correlations between the Proverbs Test and the W-G-S Test. The Pearson product moment correlation between these two instruments in the schizophrenic sample was -.28. This correlation was not significant at the .05 level of
significance; therefore, the hypothesis that there was a significant correlation between these two tests for schizophrenics must be rejected.

**TABLE 2**

MEANS, STANDARD DEVIATIONS, RANGES AND t VALUE FOR THE W-G-S SCORES

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenic</td>
<td>11.57</td>
<td>5.02</td>
<td>3-19</td>
<td>2.56*</td>
</tr>
<tr>
<td>Normal</td>
<td>8.80</td>
<td>3.12</td>
<td>3-16</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .01 level

For the normal subject sample, the Pearson product moment correlation was -.41, which was significant. However, caution should be used since this correlation was not very high.

**TABLE 3**

MEANS, STANDARD DEVIATIONS, RANGES AND t VALUE FOR THE PROVERBS TEST

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenic</td>
<td>21.06</td>
<td>8.63</td>
<td>9-43</td>
<td>4.34*</td>
</tr>
<tr>
<td>Normal</td>
<td>29.63</td>
<td>6.49</td>
<td>15-40</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .001 level
Discussion

The first hypothesis predicted a significant difference between scores made by a sample of normal hospitalized subjects and a sample of hospitalized schizophrenic subjects, as measured by the W-G-S. This hypothesis was confirmed, and the data supports Goldstein and Scheerer's (1941) hypothesis that, on this test, schizophrenics tended to respond in a more concrete way than normals. The higher the score using Weiss's (1964) scoring system (see Appendix B), the more concretely the person responded in terms of ability to shift sorting principles, pattern formation, and level of explanation. The mean score for the schizophrenic group was 11.57, while the mean for the normal group was 8.80. The difference between means was significant at the .01 level, and for this limited sample of subjects would support the view that schizophrenics score more concretely than normals on this test.

The positive result of the first hypothesis, that schizophrenics will score significantly different than normals, agreed with other previous studies (Bolles & Goldstein, 1938; Goldstein, 1939; Bolles, Rosen & Landes, 1938; Goldstein, 1941). Payne (1965) attacked Bolles & Goldstein's (1938) study for having no control group. The present study tried to rectify this error by adding a control group and increasing the size of the sample used. Another of Payne's criticisms was the lack of a scoring system. He felt that the psychologist was left to assess
the data too subjectively. Weiss (1964) has presented a quantitative scoring system with definite guide lines for the examiner to follow.

Payne, Matussek, and George (1959) developed their own scoring system for the W-G-S. With their system, they failed to find a significance between schizophrenics' and neurotics' scores on the W-G-S. Their scores ranged from one to five points. The schizophrenic group covered the whole range while the neurotic sample scored between one and four. One advantage of Weiss's (1964) system was that it allowed for an increased range of scores. Had Payne's system allowed for more range, a significant difference might have been found.

The literature has been extremely sparse concerning the use of the W-G-S with schizophrenic populations. The majority of studies were made in the early 1940's and mention very few controls. For example, the early studies made no mention of controlling for intelligence, sex, or age. The present study attempted to control for intelligence by rejecting any scale score not within the range of eight to twelve scale score points on the WAIS vocabulary sub-test.

The present study was unable to control for drugs. The majority of schizophrenics were given the drug Thorazine daily. The Physicians' Desk Reference (1971, p. 1243) stated that Thorazine is "For control of moderate to severe agitation, anxiety, tension, confusion, and related symptoms." The normal subjects were not under the influence of any psychotrophic drugs.
It was also impossible to control for the process-reactive variable in schizophrenia in this study. Weckowitz & Blewett (1959), using a different sorting test, found process schizophrenics were more concrete on that test than the reactive group.

The second hypothesis, predicting a significant difference between scores made by a sample of schizophrenics and normals on the Proverbs Test, was confirmed. This confirmation supported the findings of previous studies (Gorham, 1956; Kingsley, 1969).

Johnson (1966), in a similar study, found that process schizophrenics showed greater impairment than reactive schizophrenics. He concluded "that if we can assume that ability to interpret proverbs reflects the level of thought organization, measurable differences do exist between normal persons and schizophrenics... (p. 227)."

It was hypothesized that there would be a significant correlation between the Proverbs Test and the W-G-S using a schizophrenic sample. This hypothesis was not confirmed. It was anticipated that there would be significant negative correlation because a high score on the W-G-S was thought to be correlated with a low score on the Proverbs Test. The correlation obtained was -.28, and this was not significant, although it was in the right direction. Despite the fact that the Proverbs Test has been correlated with forty-five other tests, there have been no other studies attempting to correlate it with the W-G-S. The W-G-S Test has never
been correlated with any test. Apparently this has been due to a lack of a quantitative scoring system.

It is possible that these two instruments are attempting to measure different aspects of abstract and concrete thinking. In the one test (W-G-S), the subject was asked to sort objects into groups in order to determine whether they are able to formulate and employ abstract categories. In the Proverbs Test, the subject was asked to interpret a concrete illustration of a general principle in an abstract way. For the schizophrenic sample, there was no significant correlation between these two instruments.

The final hypothesis tested was that there would be a significant correlation between these two instruments, using normal hospitalized subjects. The correlation obtained was -.41, which was significant at the .05 level. Caution should be used when interpreting this figure since the correlation is not that large.

In terms of theory, this study would support Goldstein's hypothesis that schizophrenics tended to score more concretely than normal subjects. One must keep in mind that only male subjects were used, and the age range was large. For the W-G-S test, the data warranted continued use and experimentation with this instrument. The present study attempted to answer the criticism directed against it. In terms of the Proverbs Test, the confirmation of the second hypothesis, that schizophrenics score significantly different than normals on this test, supported the positive findings of others.
The failure to find a significant correlation within the schizophrenic group, and the low correlation within the normal group, would indicate that these two instruments might be measuring different aspects of abstract and concrete thinking.

Further empirical research is needed in this area. How the individual approaches his problems and the daily facets of life has great meaning for psychotherapy in particular and for psychology in general.

Summary and Conclusions

This study attempted to ascertain whether the Weigl-Goldstein-Scheerer Color Form Test was capable of discriminating between a sample of schizophrenic hospitalized patients and a sample of normal patients. Another purpose was to correlate the W-G-S with another test of abstract and concrete thinking, the Proverbs Test.

Thirty male hospitalized schizophrenics and thirty male hospitalized patients (for non-psychiatric reasons) were given the W-G-S and the Proverbs Test. The data indicated a significant difference between groups on both the W-G-S and the Proverbs Test. No significant correlation was found between the two instruments using schizophrenic subjects. A significant correlation was found when using normal subjects.

It is concluded from this study that both the W-G-S and the Proverbs Test are capable of discriminating
schizophrenic patients from normal patients. In the past the W-G-S has provided the examiner with expert qualitative results. Now, it is possible to use a quantitative scoring system. From the evidence presented, the W-G-S would merit further research involving other correlational studies and the use of other quantitative scoring systems. Clinical services have utilized this instrument, yet there has been little data to support its use. The data presented should help confirm belief in this test. The whole area of impairment of abstract functioning in psychiatric disorders should be dealt with in future research.
Appendix A

Proverbs Test

Directions: Below are some proverbs and you are supposed to indicate what they mean. You are to black in below the letter on the Answer Sheet which is the same as the best answer to each proverb: the one which best explains what the proverb means.

1. ROME WAS NOT BUILT IN A DAY.
   a. It takes some things longer to happen than others.
   b. It took a number of years.
   c. Great things come about slowly.
   d. You can't do certain things in a day.

2. WHERE THERE'S A WILL THERE'S A WAY.
   a. There is always a right way to do something.
   b. If you keep trying, you will succeed.
   c. If one has determination, he will succeed.
   d. There's always a way for everything.

3. STRIKE WHILE THE IRON IS HOT.
   a. Be quick and alert.
   b. Iron with a hot iron, a cold one won't do.
   c. That's when it bends the best.
   d. Do something when the time is right.

4. RICHES SERVE A WISE MAN BUT COMMAND A FOOL.
   a. Don't let money go to your head.
   b. The poor work for the rich.
   c. Money may help or hinder, according to the individual.
   d. Don't beg, borrow, or steal.

5. GREAT BODIES MOVE SLOWLY.
   a. The bigger you are the slower you are.
   b. Large things cannot be moved quickly.
   c. It is better to think about spiritual things than your physical body.
   d. Great things are done little by little.

6. BETTER BE HAPPY THAN WISE.
   a. Wise people are not happy.
   b. Don't let money stand in your way.
   c. Happiness in life is more important than anything.
   d. Happiness is a great feeling.
7. THE SUN SHINES UPON ALL ALIKE.
   a. It's the same sun everywhere.
   b. All are created equal.
   c. The sun shines on everybody.
   d. People that do the same things are alike.

8. DON'T JUDGE A BOOK BY ITS COVER.
   a. There is good inside everything.
   b. Read a book before you judge it.
   c. Don't judge people by looks only.
   d. A nice cover doesn't make good reading.

9. THE MORE COST, THE MORE HONOR.
   a. For honor and society, it costs.
   b. The harder a thing is to get, the more you appreciate it.
   c. The higher the price, the better a thing is.
   d. Good things have to be paid for in some way.

10. DON'T SWAP (TRADE) HORSES WHEN CROSSING A STREAM.
    a. Make up your mind before you do anything.
    b. Don't antagonize animals or people when they are helping you.
    c. Don't change ideas when something is half done.
    d. Don't try something until you're able to do it.

11. GOLD GOES IN AT ANY GATE EXCEPT HEAVEN'S.
    a. No one can be as good as gold.
    b. Anyone would take money.
    c. Fortune only comes to those who work for it.
    d. You can't buy morals.

12. A DROWNING MAN WILL CLUTCH AT A STRAW.
    a. When a person is drowning, he'll grab the person nearest to him.
    b. No one will ever actually give up on anything.
    c. A desperate person will try anything.
    d. Don't ever let go.

13. THE WORST SPOKE IN A CART BREAKS FIRST.
    a. The bad piece breaks first.
    b. Don't speak before you think.
    c. The weakest are always the first to go down.
    d. It takes a good man to keep on trying.

14. THE GRASS IS ALWAYS GREENER IN THE OTHER FELLOW'S YARD.
    a. He works to keep his looking nice.
    b. Don't stay in one place to do something.
    c. Always live within your means.
    d. Every job looks better than your own.
15. THE WIFE IS THE KEY TO THE HOUSE.
a. What she wants, she gets.
b. She's a partner.
c. Her efforts make it a home.
d. Use the key wisely and lovingly.

16. HE WHO STUMBLES TWICE OVER ONE STONE DESERVES TO BREAK HIS SHINS.
a. If you're careless, you deserve it.
b. Once should teach you a lesson.
c. A person should learn by experience.
d. You should watch where you're walking.

17. LET SLEEPING DOGS LIE.
a. Don't stir up old troubles.
b. Be kind to dumb animals.
c. Let those who don't wish to learn alone.
d. Because he might bite.

18. QUICKLY COME, QUICKLY GO. (EASY COME, EASY GO.)
a. Always coming and going and never satisfied.
b. What you get easily does not mean much to you.
c. Always do things on time.
d. Most people do as they please and go as they please.

19. BARKING DOGS SELDOM BITE.
a. Barking dogs are friendly dogs.
b. Too busy barking to bite.
c. Things that make noise seldom are dangerous.
d. A man who brags isn't likely to live up to it.

20. THE USED KEY IS ALWAYS BRIGHT.
a. Something old is better than something new.
b. The key used the most doesn't grow rusty.
c. A person who uses his mind a lot becomes very smart.
d. The person who brags should have a reason.

21. THERE'S MANY A SLIP TWIXT (BETWEEN) THE CUP AND THE LIP.
a. Something can happen at the last minute.
b. Don't talk too much while eating.
c. A lot can happen between plan and completion.
d. Don't talk about people too much.

22. A ROLLING STONE GATHERS NO MOSS.
a. Be consistent.
b. The moss gets brushed off.
c. If you don't settle down you won't accomplish much.
d. A person who thinks no evil does no evil.

23. ALL IS NOT GOLD THAT GLITTERS.
a. Don't let temptation get you.
b. Other things than gold glitter, too.
c. Everything that looks good isn't necessarily good.
d. Some things may fool you.
24. THE PROOF OF THE PUDDING IS IN THE EATING.
   a. Something is good only if it tastes good.
   b. You know pudding by eating it.
   c. You can tell how good a thing is by how well it works.
   d. Things often look good but taste bad.

25. WORDS CUT MORE THAN SWORDS.
   a. Words always mean more.
   b. A person might lose his temper.
   c. There is nothing as bad as a bad word.
   d. Words can accomplish more than wars.

26. IT NEVER RAINS BUT IT POURS.
   a. A little is as bad as a lot.
   b. When something goes wrong, everything does.
   c. It always rains hard.
   d. It never suits your fancy.

27. ONE SWALLOW (BIRD) DOESN'T MAKE A SUMMER.
   a. Because a person thinks so doesn't mean he's right.
   b. It takes all the parts to make a whole.
   c. It takes different things to make up summer.
   d. It takes a long time for time to pass.

28. SPEECH IS THE PICTURE OF THE MIND.
   a. To have good speech will always help you.
   b. Words paint pictures in the mind.
   c. Speech can accomplish a lot of things.
   d. You are judged by what you say.

29. ALL'S WELL THAT ENDS WELL.
   a. Anything that is good remains good.
   b. Things usually turn out well in the end.
   c. If something turns out right, the beginning is no longer important.
   d. Don't start something and then not finish it.

30. TOO MANY COOKS SPOIL THE BROTH.
   a. Too many bosses are not good for a job.
   b. One person can do something as well as two.
   c. You'll have too many ideas.
   d. It doesn't take much work to do a little thing.

31. A STREAM CANNOT RISE HIGHER THAN ITS SOURCE.
   a. There is no short cut to success.
   b. A person is no better than his background.
   c. Water won't run uphill.
   d. You have a peak in life.

32. DON'T CAST PEARLS BEFORE SWINE (PIGS).
   a. Put your efforts where they're appreciated.
   b. Don't give pearls to fools.
   c. Don't be wasteful.
   d. Don't always put yourself before everybody.
33. **One may ride a free horse to death.**
a. Don't take advantage of someone's generosity.
b. Something free is no good.
c. Take advantage of what is given you.
d. Don't take everything free, work for something.

34. **When the cat's away the mice will play.**
a. When authority is gone things will be done that shouldn't be done.
b. No work and all play is bad.
c. When one isn't watched he will play.
d. When the danger is gone, they will play.

35. **Don't throw good money after bad.**
a. Don't gamble with a cheater.
b. Be wise and think of the future.
c. When you've lost out in something, accept the fact.
d. Don't waste your money.

36. **A disease known is half cured.**
a. A good doctor can tell what is wrong with you.
b. You have to understand the problem before you can solve it.
c. Diagnosis comes before treatment.
d. You can only half cure some things.

37. **A golden hammer breaks an iron door.**
a. Virtue conquers all.
b. You have to use what tools you have to work with.
c. The stronger a thing is, the harder to break it.
d. Gold is more powerful than iron.

38. **Crooked logs make a straight fire.**
a. Even the humblest can create things of beauty.
b. Handicaps may be used to advantage.
c. There is some good in everybody.
d. Things will come out all right in the end.

39. **The good is the enemy of the best.**
a. Get the best of your enemy whenever you can.
b. It is best to be good even if you fail.
c. We should love our enemies.
d. Most people are too easily satisfied.

40. **The hot coal burns, the cold one blackens.**
a. Impetuous action may hurt your reputation.
b. The burned child avoids the fire.
c. Extremes of anything are bad.
d. Leave dangerous things alone.
Appendix B

Weiss's (1964) Scoring System

SHIFT

Form/Color

1. S arranges pieces simultaneously according to color and form and explains double arrangement as such on abstract level.

2. S arranges pieces according to form, then makes transition to color spontaneously, i.e., without further instructions.

3. S arranges pieces according to form; then makes transition to color without difficulty upon being instructed, to rearrange pieces "in another/different way."

4. S arranges pieces according to form, but does not grasp what is expected of him in second stage without repetition and/or rephrasing of instructions.

5. S arranges pieces according to form, but does not grasp what is expected of him in second stage despite repetition and/or rephrasing. Instead he rearranges pieces according to form "in a different way" with definite pattern formation. He succeeds in achieving the shift to color when told in a third trial to arrange the pieces "in a completely different way."

6. S arranges the pieces according to form, but fails to achieve shift in second and third trial as per (5), though able to verbalize basis of sorting.

7. S arranges pieces according to form, but is unable to explain arrangement, nor to shift to color.

8. S is unable to arrange pieces according to any principle.

Color/Form

1. S arranges pieces simultaneously according to color and form and explains double arrangement as such on abstract level.
2. S arranges pieces according to color, then makes transition to form spontaneously, i.e., without further instructions.

3. S arranges pieces according to color, then makes transition to form without difficulty upon being instructed to rearrange pieces "in another/different way."

4. S arranges according to color, but does not grasp what is expected of him in second stage without repetition and/or rephrasing of instructions.

5. S arranges pieces according to color, but does not grasp what is expected of him in second stage despite repetition and/or rephrasing. Instead he rearranges pieces according to color "in a different way" with definite pattern formation. He succeeds in achieving the shift to form when told in a third trial to arrange the pieces "in a completely different way."

6. S arranges the pieces according to color, but fails to achieve shift in second and third trial as per (5), though able to verbalize basis of sorting. He does grasp principle of form, when in a fourth trial the white faces are turned up and the color variable is thus removed. He also succeeds in transferring what he has learned to the colored faces.

7. S arranges the pieces according to color, but fails to make the shift in second and third trial as per (5). He grasps principle of form, when in a fourth trial the white faces are turned up and the color variable is thus removed. However, he reverts to sorting by color, when the colored faces are turned up again.

8. S arranges pieces according to color, but fails to grasp principle of form even with the white faces turned up.

9. S arranges pieces according to color, but is unable to explain arrangement, nor to shift to form.

10. S is unable to arrange pieces according to any principle.

PATTERN FORMATION
1. Double arrangement
2. No pattern in either stage.
3. No pattern in first stage, but no shift with pattern formation in second stage.
4. Pattern formation in all stages.
5. Perseveration of pattern
LEVEL OF EXPLANATION

1. Integrated explanation on abstract level of double arrangement.

2. Explanation on abstract level for each stage.

3. Explanation on concrete level in one of the two stages; or explanation on abstract level in one stage, but no shift.

4. Explanation on concrete level in both stages.

5. No explanation.
References


Goldstein, K. The significance of special mental tests for diagnosis in schizophrenia. American Journal of Psychiatry, 1939, 96, 575-588.


