

Assessment Service Bulletin Number 1

Innovative Features of the Bender-Gestalt II and Expanded Guidelines for the Use of the Global Scoring System

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The 2003 publication of the Bender® Visual-Motor Gestalt Test, Second Edition, (Bender-Gestalt II) (Brannigan & Decker, 2003), represents the latest in a series of innovations over the span of 65 years to the original Visual-Motor Gestalt Test (Bender-Gestalt Test) (Bender, 1938). The Bender-Gestalt Test is widely used to assess visual-motor integration and for other clinical applications. This bulletin is designed to help examiners who have been trained on the first edition of the test understand and use the new enhancements and scoring system for the Bender-Gestalt II. It compares the components of both editions of the instrument. It also provides an expanded set of guidelines for using the Global Scoring System and incorporates a sample case that uses item-level information to demonstrate the use of the expanded guidelines. This bulletin is meant to assist examiners in their transition to the new edition's expanded range of items, comprehensive norms, and simplified scoring system.



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Introduction

This bulletin offers guidance and support for administration and scoring of the *Bender® Visual-Motor Gestalt Test, Second Edition* (Bender-Gestalt II) to examiners who have been trained to use the first edition of the *Visual-Motor Gestalt Test* (Bender-Gestalt Test). The goals of the bulletin are: (a) to compare the features of the Bender-Gestalt Test with the Bender-Gestalt II, (b) to provide expanded guidelines for using the Global Scoring System (GSS) with common errors in scoring that may occur, and (c) to provide a sample case that demonstrates a complete Copy phase scoring of the Bender-Gestalt II and compares it to another scoring system.

Comparing Features of the Bender-Gestalt Test and the Bender-Gestalt II

The Bender-Gestalt II measures visual-motor integration skills in children and adults from 4 to 85+ years of age. It also provides an assessment of memory for children and adults from 5 to 85+ years of age. The development of the test was guided by over 60 years of research on the original test, contemporary methods of test construction, and current standards of educational and psychological testing.

The Bender-Gestalt II provides useful information for educational, psychological, and neuropsychological assessment. The following comparisons of the original test and new test highlight the important advances made in the Bender-Gestalt II.

Bender-Gestalt Test

Bender-Gestalt II

Examiner's Manual

Provides an 8-page instruction pamphlet (Bender, 1946) that contains brief administration and interpretation guidelines and cites reference to Bender's (1938) monograph.

Provides a 167-page manual (Brannigan & Decker, 2003) that details the historical background, test development, administration and scoring guidelines, norming and standardization process, clinical and special populations studied, reliability and validity studies, interpretation guidelines, standard score tables for ages 4 to 85+ years, and examples of the Global Scoring System criteria for each design.

Stimulus Cards

Includes nine stimulus cards used for the entire age range for the test. Cards were reproduced from hand-drawn designs on thin cardboard stock.

Includes sixteen stimulus cards divided into two tests, each containing an enhanced version of the original nine designs and additional designs deemed more suitable for the age ranges covered. The additional stimulus cards are designed to extend the measurement scale at the lower and higher ends. Four additional designs are used for subjects 4 through 7 years of age. Three additional designs are used for subjects 8 to 85+ years of age. Stimulus cards are reproduced from mechanically drawn designs for greater clarity and precision and are printed on durable plastic that can be cleaned easily.

Bender-Gestalt II

Scoring Systems

Bender's Scoring System

No scoring system is provided, but Bender's (1938) scoring system was referenced. Bender's scoring system evaluates the overall quality of each design on scales ranging from 1 through 5 on one design to 1 through 7 on others. Descriptions are provided for each point on the scale. The scoring system was not extensively used in clinical practice or research.

Several other scoring systems are currently used.

Hutt's Scoring System

Hutt's (1945, 1969, 1977, 1985) inspection system emphasizes the personality and projective uses of the test in differential diagnosis of clinical disorders. The Adience-Abience Scale and the Psychopathology Scale consist of specific factors that are examined to assess the degree of openness or closeness to perceptual experience and the degree of pathology exhibited in the protocol. The scales evaluate the frequency and severity of deviations in a protocol. The system has been used primarily with adolescent and adult populations, although some research suggests that it may be appropriate for 10- to 12-year-olds.

Lacks's Scoring System

Lacks's (1984, 1999) screening system for brain dysfunction also employs a clinical inspection method that is based on Hutt and Briskin's (1960) twelve essential discriminators of intracranial damage. The system, which was designed for adolescents and adults, involves examining a protocol for the presence of each of the twelve indicants.

Koppitz's Developmental Bender Scoring System

Koppitz developed the Developmental Bender Scoring System in 1963. It consists of 30 discrete errors that are scored when present. The number of errors scored for each design ranges from 2 to 4. The errors selected were thought to be sensitive predictors of school performance, differentiating between students who were either above or below average in achievement.

Qualitative Scoring System

The Qualitative Scoring System (Brannigan & Brunner, 1989, 1996, 2002) evaluates the accuracy of each drawing on a 6-point scale ranging from 0 to 5. In addition to providing general guidelines, this system also provides specific guidelines and examples for scoring each design. It was created to assess the overall quality of the reproductions of children from ages 4 years, 6 months to 8 years, 5 months.

This scoring system is similar to the Global Scoring System and uses the same strict scoring approach that requires drawings to be "as good as or better than the examples at a particular level" to receive credit at that level.

The scoring system was designed to be used with a modified version of the test (six designs), which is more appropriate in predicting school achievement in young children.

Global Scoring System

General guidelines and specific examples for the Global Scoring System are provided for quick, easy scoring of subjects' protocols. The scoring system evaluates the overall quality of the subjects' reproductions of each design on a 5-point scale ranging from 0 (no resemblance, random drawing, scribbling, lack of design) to 4 (nearly perfect). This scoring system is used for evaluating the reproductions of the designs in the standard administration of the test (Copy phase) and the recall of the designs (Recall phase).

Bender-Gestalt II

Supplemental Tests

Does not include any supplemental tests.

Provides a Motor Test and a Perception Test to detect deficits in motor and/or perception skills that would adversely affect a subject's visual-motor integration performance.

Test Record/Observation Form

Does not include any test record or observation form.

Includes a comprehensive four-page observation form used to document physical factors that might impede a subject's performance, test-taking behaviors, and specific drawing behaviors as well as to summarize scores on the Copy and Recall phases and the Motor and Perception Tests.

Normative Data and Available Scores

Bender-Gestalt Test Materials

Includes one chart depicting the typical reproduction of each design for subjects at various ages. Also includes a reference to Bender (1938), which provides tables and graphs of subjects' design reproductions. Norms were based on 800 subjects from the New York City area.

Other Normative Data Information

More comprehensive normative data are available for other scoring systems. Hutt's Psychopathology Scale and the Adience-Abience Scale were normed on diverse clinical populations. Means and standard deviations are provided for these populations (e.g., schizophrenics, neurologically impaired individuals) for differential diagnosis.

Lacks's scoring system was also normed on diverse clinical populations. The standard cutoff score for differentiating psychiatric patients with and without neurological impairment is provided.

The original normative sample (1963) for Koppitz's Developmental Bender Scoring System was based on 1,104 children grouped in 6-month age intervals from 5 years to 10 years, 11 months. However, the sample was underrepresented, especially geographically and racially. There were also wide disparities in the number of subjects per age group (e.g., one group had 27 subjects, while another had 180 subjects).

The Koppitz scoring system was renormed in 1974 (see Koppitz, 1975) to provide a more representative cross-section of children. This sample included 975 children grouped in 6-month age intervals from 5 years to 11 years, 11 months. Still, the vast majority of subjects were from the northeast (83%) and a large percentage of them were white (86%). In addition, large disparities existed in the number of subjects per age group (8 of the 13 groupings had fewer than 70 subjects, including 3 groups with fewer than 50 subjects). Many of these age groupings have low ceilings and skewed distributions. Percentile scores and age equivalents are provided for each age grouping.

Bender-Gestalt II Test Materials

Provides standard scores, *T*-scores, percentile ranks, confidence intervals, and classification labels for the reproductions of subjects from 4 to 85+ years of age. The test also provides this information for the recall performance of subjects 5 to 85+ years of age and includes percentile scores for raw scores on the Motor and Perception Tests. Norms are based on a stratified, random sampling that closely matched the U.S. census data from the year 2000 for sex, race/ethnicity, geographic region, and socioeconomic level. The sample included 4,000 subjects.

Normative Data and Available Scores, continued

Brannigan and Brunner's Qualitative Scoring System was originally normed in 1989 on 994 children grouped in 6-month age intervals. The number of subjects in each grouping ranged from 70 to 168. The sample was predominantly white and from northeastern New York state. The test was renormed in 1996 on a more nationally and racially representative sample, but still it was not fully consistent with U.S. census data. Each age grouping contained 145 subjects. *T*-scores and percentile scores are provided for age and grade groupings.

No information was provided on recall performance for any of these scoring systems.

Expanded Guidance for Accurately Scoring the Bender-Gestalt II

Although easy to use, the Global Scoring System for the Bender-Gestalt II requires strict adherence to the scoring guidelines and examples. To achieve a score at a particular level, a drawing must be *as good as or better than* the examples at that level. If not, the lower score must be assigned. When in doubt, examiners should always give the lower score. This policy may be difficult to adhere to at first, because some drawings may have some characteristics of the scoring examples for the higher score. However, the complete drawing clearly must be judged to be as good as or better than the examples to get credit at that level.

When using the Global Scoring System to score the Bender-Gestalt II, examiners may need to shift their mental set. Older scoring systems, particularly Koppitz's Developmental Bender Scoring System, are much more lenient; with these systems, errors are not scored unless they are obvious. The Global Scoring System is much stricter. To counteract this set, begin at the lowest scoring level and progress to higher scoring levels when scoring each drawing. Determine if the drawing is as good as or better than the overall quality of the four examples. A "yes" response should be obvious and quickly determined. If not, there is uncertainty and a "no" response is required. The score for the drawing should be the level at which the last "yes" response occurred.

Generally, moderate to severe deviations in the drawings, including characteristics such as misalignment (rotations), reduction of elements (e.g., the number of dots in Figure 6), increase of elements (e.g., the number of dots in Figure 6), simplification of elements (e.g., using lines in Figure 10), omission of elements (e.g., a line of dots in Figure 10), substitution of elements (e.g., drawing dots for circles in Figure 7), and integration of elements (e.g., not joining the circle and square in Figure 5), are typically scored in the 0 to 2 range, depending on the degree of severity and the overall intactness of the drawings.

The Global Scoring System may be more sensitive than other scoring systems to visual-motor integration problems. Examiners should be concerned with low-average performance and below (a standard score of 89 or lower), which indicates that the subject is functioning in the lowest quartile. The lower the score, the more confidence can be placed in the findings.

Because the Global Scoring System evaluates the overall intactness of each drawing, factors that are featured prominently in other scoring systems (e.g., problems involving distortion, integration, rotation, and perseveration) are considered in assigning scores.

In addition, other scoring systems can be used with the Bender-Gestalt II in several ways:

- 1. If all of the Bender-Gestalt II designs for a particular age group are administered, the relevant designs appropriate to each scoring system can be evaluated, and the Global Scoring System and other scoring systems can be employed.
- 2. If all of the Bender-Gestalt II designs for a particular age group are administered and considered, the Global Scoring System and other scoring systems can be employed. It is only appropriate to extend the Lacks and Hutt inspection systems because the factors considered are applied more generally to the evaluation of a protocol.
- 3. If only the original nine Bender-Gestalt Test designs are administered, a variety of scoring systems can be used. However, the Global Scoring System cannot be used because of incomplete information.

Examiners should be cautious when using the first and second procedures described above, because these approaches have not been verified by research. However, insights an examiner can gain from using other scoring methods may add greatly to the utility of the Global Scoring System in the process of differential diagnosis.

Common Problems Encountered When Administering and Scoring the Bender-Gestalt II

Administration

- Miscalculating the subject's age
- Administering the incorrect items for the subject's age
- Administering too many items
- Administering too few items
- Administering the items in the incorrect order
- Rotating or misaligning the stimulus cards during administration

Scoring

- Miscalculating the subject's age
- Incorrectly calculating the subject's score (summation of item values)
- Scoring based on too many items
- Scoring based on too few items
- Scoring based on incorrect items
- Assigning scores that are too low (misinterpreting scoring guidelines and examples)
- Assigning scores that are too high (misinterpreting scoring guidelines and examples)
- Reading the wrong norm table for the subject's age
- Confusing the copy and recall norm tables

Bender-Gestalt II Sample Case With Supplemental Information

The drawings presented in Figure 1 are for a female child who is 9 years, 6 months of age. The examiner scored the drawings using the Global Scoring System for the Bender-Gestalt II and the Koppitz Scoring System (looking only at the Bender-Gestalt Test images [Items 5 through 13 on the Bender-Gestalt II cards]). The Beery-Buktenica Developmental Test of Visual-Motor Integration–Fourth Edition (VMI) (Beery, 1997) was also administered, and that score is reported with the other scores at the end of the case.

Figures 2 through 13 present the Bender-Gestalt II items for the sample case in greater detail. Above each figure is the Bender-Gestalt II item number and a representation of the image that appears on the design card. To the right of or below that target image is the image that the child drew. Below the two images is information on the Global Scoring System item raw score, the key points used to determine the Bender-Gestalt II item raw score, and, when appropriate, scoring information using the Koppitz scoring system provided by the examiner. Figure 14 contains the summary information for the sample case on the GSS and Koppitz systems as well as the *Beery-Buktenica Developmental Test of Visual-Motor Integration–Fourth Edition* (VMI) information.

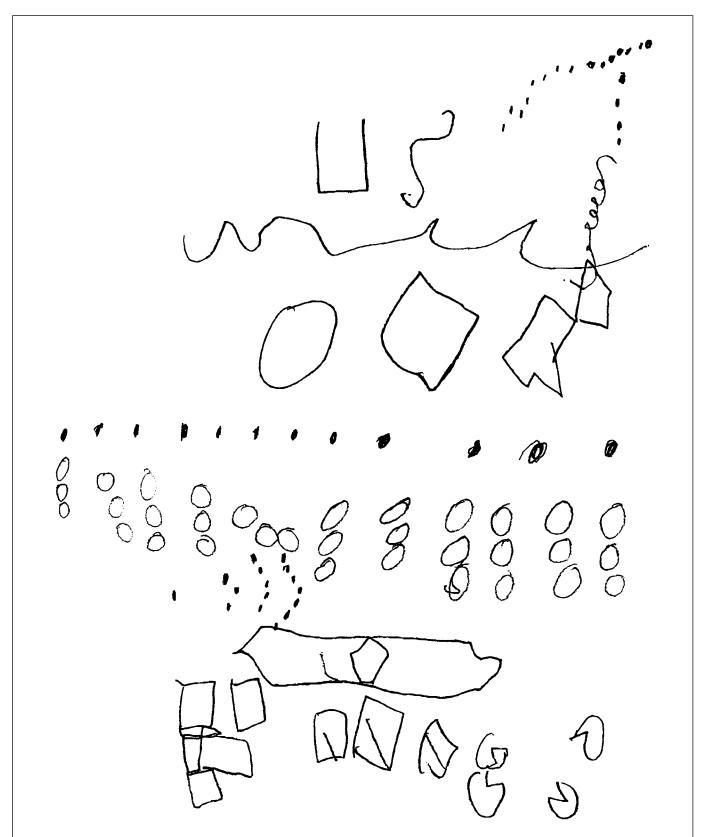
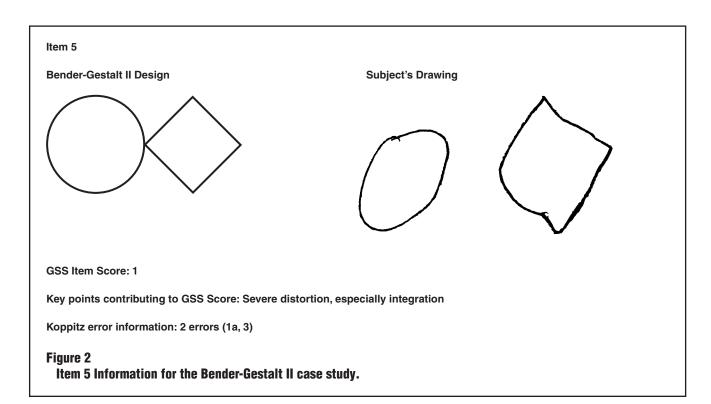
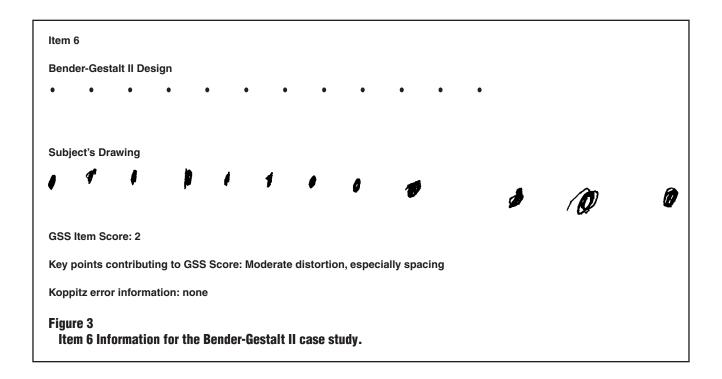
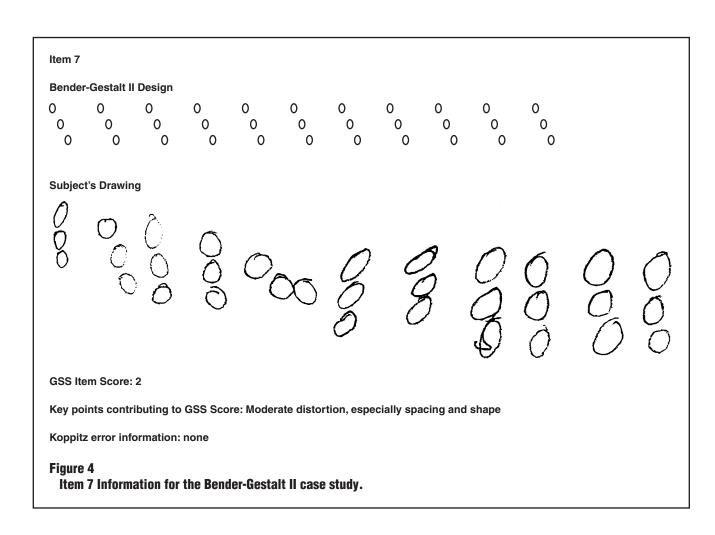
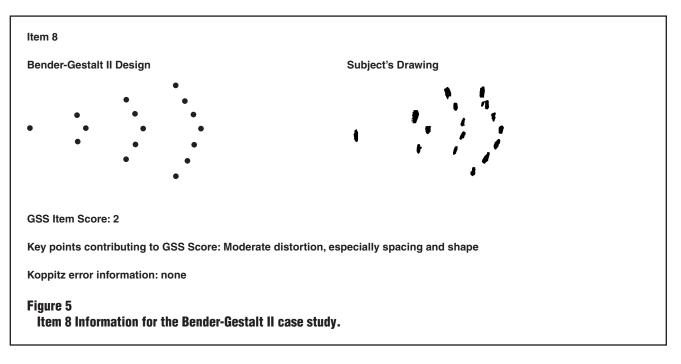


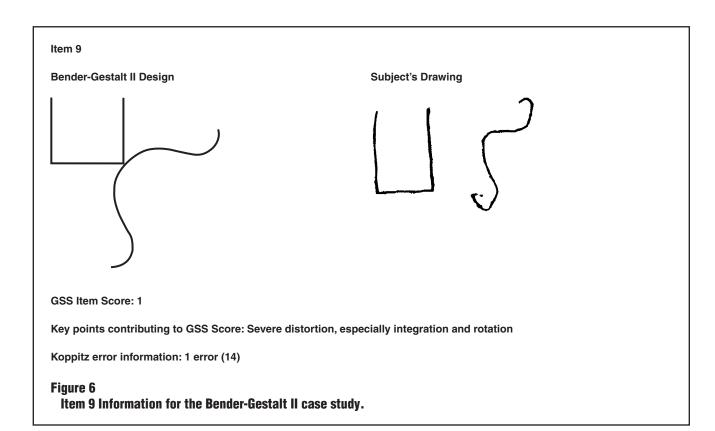
Figure 1
Bender-Gestalt II sample case drawings for a female subject age 9 years, 6 months.

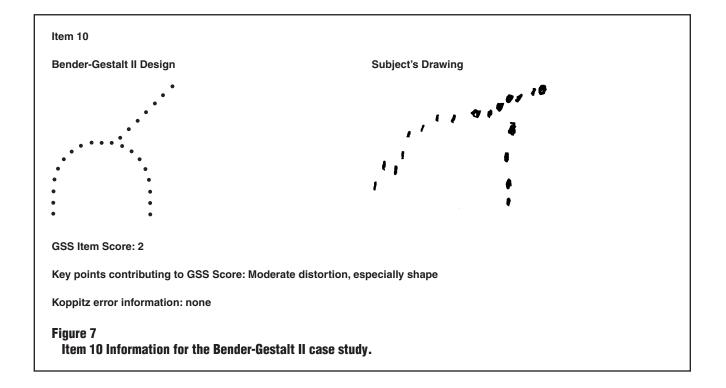






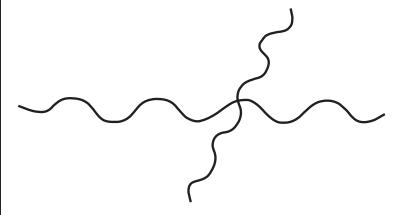




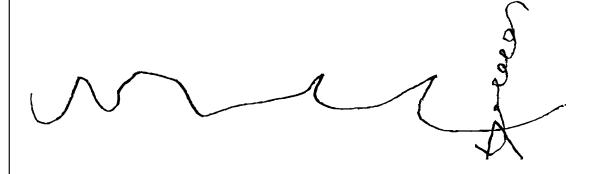


Item 11

Bender-Gestalt II Design



Subject's Drawing



GSS Item Score: 1

Key points contributing to GSS Score: Severe distortion, especially shape

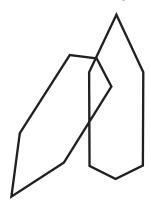
Koppitz error information: 2 errors (18a and 19)

Figure 8

Item 11 Information for the Bender-Gestalt II case study.

Item 12

Bender-Gestalt II Design



Subject's Drawing



GSS Item Score: 1

Key points contributing to GSS Score: Severe distortion, especially shape and integration

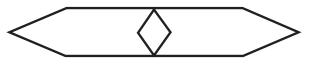
Koppitz error information: 4 errors (21a, 21b, 22, and 23)

Figure 9

Item 12 Information for the Bender-Gestalt II case study.

Item 13

Bender-Gestalt II Design



Subject's Drawing



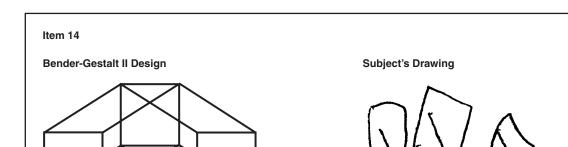
GSS Item Score: 2

Key points contributing to GSS Score: Moderate distortion, especially shape

Koppitz error information: 1 error (24)

Figure 10

Item 13 Information for the Bender-Gestalt II case study.

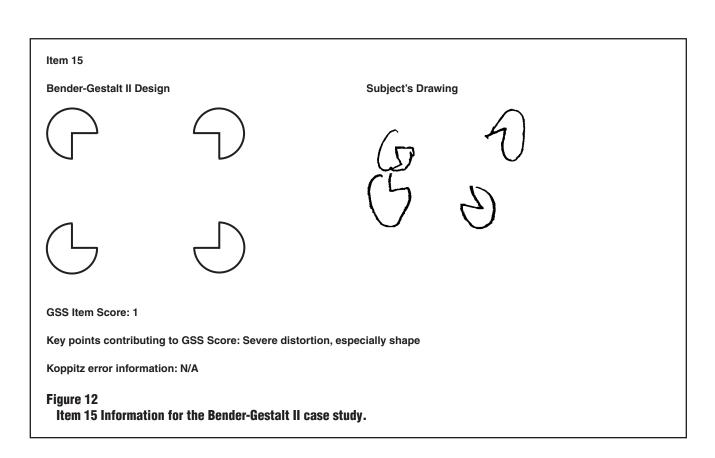


GSS Item Score: 0

Key points contributing to GSS Score: No resemblance

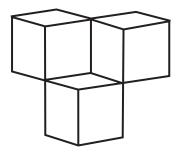
Koppitz error information: N/A

Figure 11 Item 14 Information for the Bender-Gestalt II case study.



Item 16

Bender-Gestalt II Design



Subject's Drawing



GSS Item Score: 0

Key points contributing to GSS Score: No resemblance

Koppitz error information: N/A

Figure 13

Item 16 Information for the Bender-Gestalt II case study.

Bender-Gestalt II Information

GSS Total Raw Score = 15

Standard Score = 75

Percentile Rank = 4.78

Koppitz Error Score = 10

Mean and Standard Deviation = 2.3+/- 2.1 (Koppitz, 1975, p. 185)

Age Equivalent = 5 years, 6 months to 5 years, 8 months (Koppitz, 1975, p. 187)

Standard Score (Sattler) = 45 (Sattler, 1992, p. 885)

VMI Standard Score = 80

All three scores indicate significantly low visual motor integration functioning. However, while the GSS for the Bender-Gestalt II and the Beery-Buktenica Developmental Test of Visual-Motor Integration—Fourth Edition (VMI) scores are comparable, Koppitz's Developmental score is considerably lower. This discrepancy may be due, at least in part, to the age and composition of these norms, as mentioned previously. Note particularly the strict adherence to scoring requirements on the GSS—the drawing must be as good as or better than the examples at a specific level to get credit at that level. If not, the lower score must be assigned. When in doubt, give the lower score. (See scoring for designs 8, 9, and 11.)

Figure 14

Summary score information for the Bender-Gestalt II case study.

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