

# Bruininks-Oseretsky Test of Motor Proficiency, Second Edition BOT-2™

## Complete Form Report

**Name:** Sample Case

**Examinee ID:** 123147

**Birth Date:** 02/02/2001

**Age:** 12:08

**Gender:** Male

**Preferred Drawing Hand:** Right

**Preferred Throwing Hand/Arm:** Right

**Preferred Foot/Leg:** Right

**Test Date:** 10/22/2013

**Norms Used:** Male Norms

**Push-up Type:** Full

**Examiner Name:** Sally Examiner

**Ethnicity:** White

**Current Grade:** 7

**School/Clinic:**

**Testing Site:**

**Present Classification/Diagnosis:**

**Reason for Assessment:** Determine whether accommodations are needed

**Other Information:**

## Motor Score Summary

### Male Norms

| Subtest/<br>Composite            | Total<br>Point<br>Score | Scale<br>Score | Standard<br>Score | Confidence<br>Interval: 90% |          | Percentile<br>Rank | Age<br>Equivalent | Descriptive<br>Categories |
|----------------------------------|-------------------------|----------------|-------------------|-----------------------------|----------|--------------------|-------------------|---------------------------|
|                                  |                         |                |                   | Band                        | Interval |                    |                   |                           |
| Fine Motor<br>Precision          | 40                      | 17             |                   | ± 3                         | 14 - 20  |                    | 12:0-12:5         | Average                   |
| Fine Motor<br>Integration        | 40                      | 22             |                   | ± 3                         | 19 - 25  |                    | 15:0-15:5         | Above<br>Average          |
| <b>Fine Manual<br/>Control</b>   | Sum = 39 **             |                | 61                | ± 5                         | 56 - 66  | 86                 |                   | Above<br>Average          |
| Manual Dexterity                 | 13                      | 3              |                   | ± 4                         | 1 - 7    |                    | 4:10-4:11         | Well-Below<br>Average     |
| Upper-Limb<br>Coordination       | 17                      | 5              |                   | ± 3                         | 2 - 8    |                    | 5:10-5:11         | Well-Below<br>Average     |
| <b>Manual<br/>Coordination</b>   | Sum = 8 **              |                | 27                | ± 6                         | 21 - 33  | 1                  |                   | Well-Below<br>Average     |
| <b>Fine Motor<br/>Composite</b>  | Sum = 47 **             |                | 39                | ± 5                         | 43 - 44  | 14                 |                   | Below<br>Average          |
| Fine Motor<br>Composite          | 18                      | 7              |                   | ± 2                         | 5 - 9    |                    | 7:3-7:5           | Below<br>Average          |
| Balance                          | 35                      | 17             |                   | ± 3                         | 14 - 20  |                    | 16:6-16:11        | Average                   |
| <b>Body<br/>Coordination</b>     | Sum = 24 **             |                | 40                | ± 4                         | 36 - 44  | 16                 |                   | Below<br>Average          |
| Running Speed<br>Agility         | 15                      | 4              |                   | ± 3                         | 1 - 7    |                    | 4:6-4:7           | Well-Below<br>Average     |
| Strength (Full Push-<br>ups)     | 13                      | 6              |                   | ± 4                         | 2 - 10   |                    | 6:0-6:2           | Below<br>Average          |
| <b>Strength and<br/>Agility</b>  | Sum = 10 **             |                | 31                | ± 5                         | 26 - 36  | 3                  |                   | Below<br>Average          |
| <b>Gross Motor<br/>Composite</b> | Sum = 34 **             |                | 33                | ± 4                         | 20 - 37  | 5                  |                   | Below<br>Average          |
| <b>Total Motor<br/>Composite</b> | Sum = 159 **            |                | 36                | ± 4                         | 32 - 40  | 8                  |                   | Below<br>Average          |

\* Represents the sum of the composite standard scores for Fine Manual Control, Manual Coordination, Body Coordination, and Strength and Agility

\*\* Represents the sum of the subtest scale scores for the subtests that make up the composite

\*\*\* Caution is required when interpreting this age equivalent.

## Composite Pairwise Comparisons

| Composite Comparisons                      | Standard Score Difference | Statistical Significance Level | Frequency of Difference |
|--|---------------------------|--------------------------------|-------------------------|
| Fine Manual Control > Manual Coordination  | 34                        | < 01                           | < 1%                    |
| Fine Manual Control > Body Coordination    | 21                        | < 01                           | < 5%                    |
| Fine Manual Control > Strength and Agility | 30                        | < 01                           | < 1%                    |
| Manual Coordination < Body Coordination    | 13                        | < 01                           | NI                      |
| Manual Coordination < Strength and Agility | 4                         | NS                             | NI                      |
| Body Coordination > Strength and Agility   | 9                         | < 05                           | NI                      |

NS = Not Significant

NI = Not Infrequent

## Composite Pairwise Comparisons

| Composite Comparisons                                | Scale Score Difference | Statistical Significance Level | Frequency of Difference |
|--|------------------------|--------------------------------|-------------------------|
| Fine Motor Precision < Fine Motor Integration        | 5                      | < 05                           | NI                      |
| Fine Motor Precision > Manual Dexterity              | 14                     | < 01                           | < 1%                    |
| Fine Motor Precision > Bilateral Coordination        | 10                     | < 01                           | < 5%                    |
| Fine Motor Precision = Balance                       | 0                      | NS                             | NI                      |
| Fine Motor Precision > Running Speed and Agility     | 13                     | < 01                           | < 5%                    |
| Fine Motor Precision > Upper-Limb Coordination       | 12                     | < 01                           | < 5%                    |
| Fine Motor Precision > Strength (Full Push-ups)      | 11                     | < 01                           | < 5%                    |
| Fine Motor Integration > Manual Dexterity            | 19                     | < 01                           | < 1%                    |
| Fine Motor Integration > Bilateral Coordination      | 15                     | < 01                           | < 1%                    |
| Fine Motor Integration > Balance                     | 5                      | < 05                           | NI                      |
| Fine Motor Integration > Running Speed and Agility   | 18                     | < 01                           | < 1%                    |
| Fine Motor Integration > Upper-Limb Coordination     | 17                     | < 01                           | < 1%                    |
| Fine Motor Integration > Strength (Full Push-ups)    | 16                     | < 01                           | < 1%                    |
| Manual Dexterity < Bilateral Coordination            | 4                      | NS                             | NI                      |
| Manual Dexterity < Balance                           | 14                     | < 01                           | < 5%                    |
| Manual Dexterity < Running Speed and Agility         | 1                      | NS                             | NI                      |
| Manual Dexterity < Upper-Limb Coordination           | 2                      | NS                             | NI                      |
| Manual Dexterity < Strength (Full Push-ups)          | 3                      | NS                             | NI                      |
| Bilateral Coordination < Balance                     | 10                     | < 01                           | < 0.10                  |
| Bilateral Coordination > Running Speed and Agility   | 3                      | NS                             | NI                      |
| Bilateral Coordination > Upper-Limb Coordination     | 2                      | NS                             | NI                      |
| Bilateral Coordination > Strength (Full Push-ups)    | 1                      | NS                             | NI                      |
| Balance > Running Speed and Agility                  | 13                     | < 01                           | < 5%                    |
| Balance > Upper-Limb Coordination                    | 12                     | < 01                           | < 1%                    |
| Balance > Strength (Full Push-ups)                   | 11                     | < 01                           | < 5%                    |
| Running Speed and Agility < Upper-Limb Coordination  | 1                      | NS                             | NI                      |
| Running Speed and Agility < Strength (Full Push-ups) | 2                      | NS                             | NI                      |
| Upper-Limb Coordination < Strength (Full Push-ups)   | 1                      | NS                             | NI                      |

NS = Not Significant

NI = Not Infrequent

# Score Profile

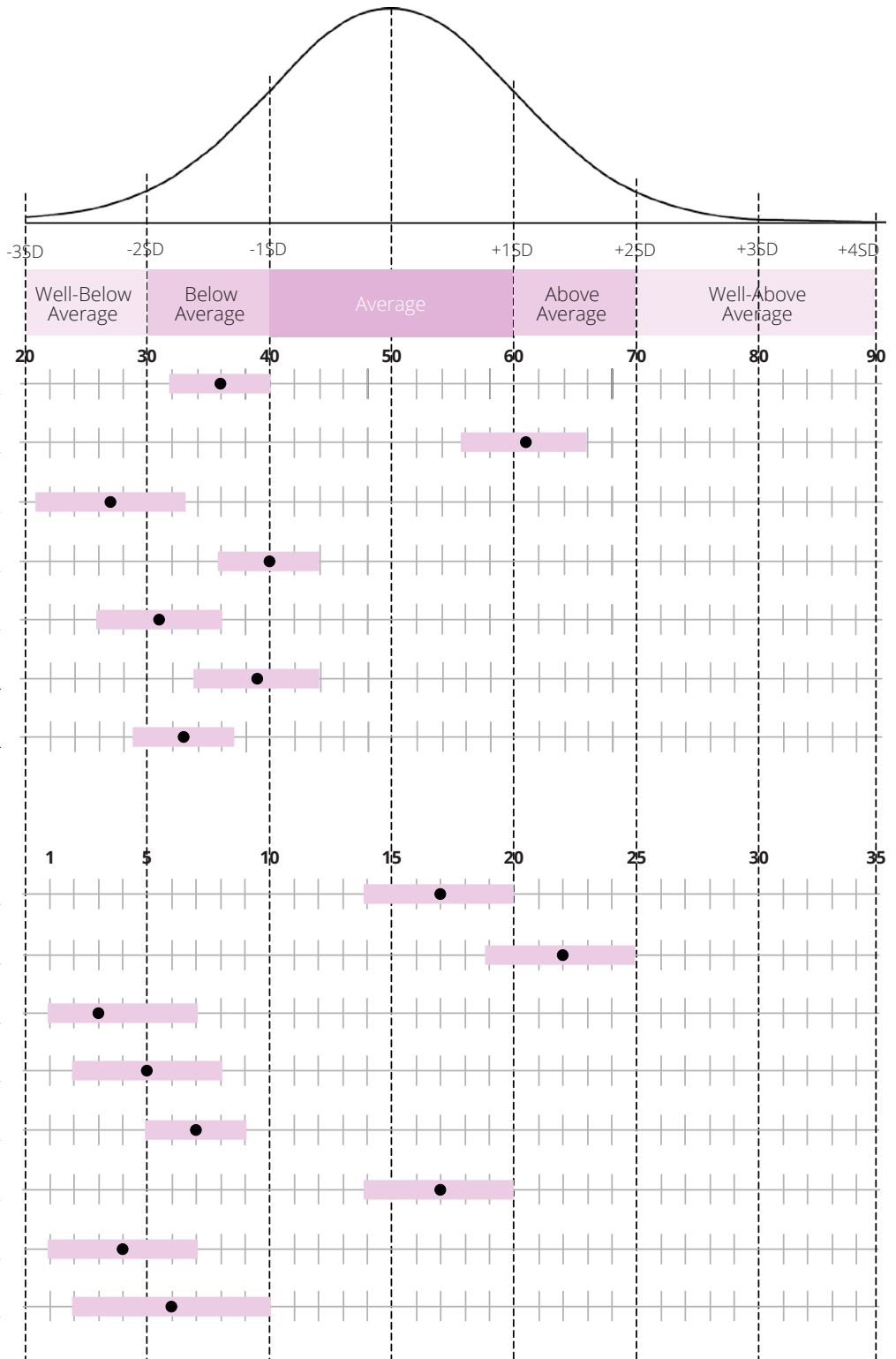
## 90% Confidence Level

### Composite Score Profile

|                       | Std. Score | Conf. Int. |
|-----------------------|------------|------------|
| Total Motor Composite | 36         | 32 - 40    |
| Fine Manual Control   | 61         | 56 - 66    |
| Manual Coordination   | 27         | 21 - 33    |
| Body Coordination     | 40         | 36 - 44    |
| Strength and Agility  | 31         | 26 - 36    |
| Fine Motor Composite  | 39         | 34 - 44    |
| Gross Motor Composite | 33         | 29 - 37    |

### Subtest Score Profile

|                           | Scale Score | Conf. Int. |
|---------------------------|-------------|------------|
| Fine Motor Precision      | 17          | 14 - 20    |
| Fine Motor Integration    | 22          | 19 - 25    |
| Manual Dexterity          | 3           | 1 - 7      |
| Upper-Limb Coordination   | 5           | 2 - 8      |
| Bilateral Coordination    | 7           | 5 - 9      |
| Balance                   | 17          | 14 - 20    |
| Running Speed and Agility | 4           | 1 - 7      |
| Strength (Full Push-ups)  | 6           | 2 - 10     |



## Narrative Report

**The Bruininks-Oseretsky Test of Motor Proficiency, Second Edition (BOT-2)** is an individually administered test that uses engaging, goal-directed activities to measure a wide array of motor skills in individuals ages 4 through 21. The BOT-2 uses a subtest and composite structure that highlights motor performance in the broad functional areas of stability, mobility, strength, coordination, and object manipulation. This report will discuss four motor-area composites, each comprising two of the eight BOT-2 subtests, and a Total Motor Composite, which comprises the four composites and provides the most reliable measure of overall motor proficiency.

The BOT-2 provides several types of derived scores that will assist you in interpreting performance and communicating results to parents and other practitioners. Scale scores (mean = 15, standard deviation = 5), confidence intervals, age equivalents, and descriptive categories are used to describe subtest performance. Standard scores (mean = 50, standard deviation = 10), confidence intervals, percentile ranks, and descriptive categories are used to describe composite and Short Form performance.

Sample Case was administered the Complete Form of the BOT-2 by Sally Examiner. Sample's age was 12 years 8 months on the assessment date of 10/22/2013. This report describes Sample's motor proficiency in relation to a representative national sample of males his age, as well as an analysis of Sample's personal strengths and weaknesses in the four motor-areas and a description of his performance level on each subtest.

During the testing session, his attention was observed to be Good, his fluidity of movement was Good, his effort was Excellent, and his understanding of the activities was Excellent.

Sample's scores on the Total Motor Composite, four motor-area composites, and eight subtests are presented below. When a standard score or a scale score is reported, the corresponding 90% confidence interval is presented in parentheses.

### Total Motor Composite

Sample's Total Motor Composite standard score of 36 (32-40) summarizes his overall motor proficiency. His standard score is considered Below Average and corresponds to a percentile rank of 8, which means that Sample's standard score is higher than 8% of the population of males his age in the norm sample.

The four motor-area composite standard scores, discussed below, range from 27 on Manual Coordination to 61 on Fine Manual Control. The wide range of scores indicates that important differences in Sample's motor proficiency among the four motor-area composites are likely and should be taken into consideration when diagnosing motor impairment and developing motor-training programs.

## Fine Manual Control

This motor-area composite measures control and coordination of the distal musculature of the hands and fingers, especially for grasping, drawing, and cutting. Sample's Fine Manual Control standard score is 61 (56-66), which corresponds to a percentile rank of 86. His performance in this area is Above Average for males his age.

Sample earned a scale score of 17 (14-20) on the Fine Motor Precision subtest and a scale score of 22 (19-25) on the Fine Motor Integration subtest. His Fine Motor Precision scale score falls in the Average range and his Fine Motor Integration scale score falls in the Above Average range. Sample's Fine Motor Integration scale score is significantly greater than his Fine Motor Precision scale score at the  $<.05$  level. However, a difference of this size can be considered common because it occurs in more than 10% of the norm sample.

His Fine Motor Precision age equivalent falls in the range of 12 years 0 month through 12 years 5 month (12:0-12:5), which means that his total point score on this subtest is equal to the average point score earned by males in this age range. His Fine Motor Integration age equivalent falls in the range of 15:0-15:5.

The Fine Motor Precision subtest consists of activities that require precise control of finger and hand movement. The object is to draw, fold, or cut within a specified boundary. Sample's score is consistent with individuals who generally make no errors when drawing a line through a crooked path (3 mm wide, 20 cm long) and are able to remain within a boundary 1 cm wide when cutting out a circle.

The Fine Motor Integration subtest requires the examinee to reproduce drawings of various geometric shapes that range in complexity from a circle to overlapping pencils. Sample's score is consistent with individuals who, when copying from pictures, can accurately draw a variety of geometric shapes such as a triangle and a wavy line, as well as more complex designs such as a five-point star and overlapping pencils.

## Manual Coordination

This motor-area composite measures control and coordination of the arms and hands, especially for object manipulation. Sample's Manual Coordination standard score is 27 (21-33), which corresponds to a percentile rank of 1. His performance in this area is Well-Below Average for males his age.

Sample earned a scale score of 3 (1-7) on the Manual Dexterity subtest and a scale score of 5 (2-8) on the Upper-Limb Coordination subtest. Both scale scores fall in the Well-Below Average range. His Manual Dexterity age equivalent falls in the range of 4:10-4:11 and his Upper-Limb Coordination age equivalent falls in the range of 5:10-5:11. The difference between Sample's scale scores on these subtests is not considered significant.

The Manual Dexterity subtest uses goal-directed activities that involve reaching, grasping, and bimanual coordination with small objects. Emphasis is placed on accuracy; however, the items are timed to more precisely differentiate levels of dexterity. Sample's score is consistent with individuals who need to be deliberate and focused when performing goal-directed activities that involve small objects.

Individuals performing at this level can pick up and transfer about 5 to 10 pennies in 15 seconds and can place about 6 to 10 pegs into a pegboard in 15 seconds.

The Upper-Limb Coordination subtest consists of activities designed to measure visual tracking with coordinated arm and hand movement. Sample's score is consistent with individuals who generally can catch a tennis ball that is tossed from 10 feet away about 50% of the time, dribble a tennis ball two to five times, and hit a target with a tennis ball from 10 feet away about 25% of the time.

## Body Coordination

This motor-area composite measures control and coordination of the large musculature that aids in posture and balance. Sample's Body Coordination standard score is 40 (36-44), which corresponds to a percentile rank of 16. His performance in this area is Below Average for males his age.

Sample earned a scale score of 7 (5-9) on the Bilateral Coordination subtest and a scale score of 17 (14-20) on the Balance subtest. His Bilateral Coordination scale score falls in the Below Average range and his Balance scale score falls in the Average range. His Bilateral Coordination age equivalent falls in the range of 7:3-7:5 and his Balance age equivalent falls in the range of 16:6-16:11. Sample's Balance scale score is significantly greater than his Bilateral Coordination scale score at the <.01 level. A difference of this size can be considered uncommon because it occurs in <10% of the norm sample.

The Bilateral Coordination subtest measures the motor skills involved in playing sports and many recreational games. The tasks require body control, and sequential and simultaneous coordination of the upper and lower limbs. Sample's score is consistent with individuals who can perform coordinated arm/hand and leg/foot movements when the limbs on the same sides of the body are synchronized, but have difficulty with coordinated arm/hand and leg/foot movements when the limbs on the opposite sides of the body are synchronized.

The Balance subtest evaluates motor-control skills that are integral for maintaining posture when standing, walking, or reaching. Sample's score is consistent with individuals who can maintain stability in a fixed position standing on one leg on a balance beam when the eyes are open for more than 10 seconds and can likely do so when the eyes are closed for about 5 to 10 seconds.

## Strength and Agility

This motor-area composite measures control and coordination of the large musculature involved in locomotion, especially in recreational and competitive sports. Sample's Strength and Agility standard score is 31 (26-36), which corresponds to a percentile rank of 3. His performance in this area is Below Average for males his age.

Sample earned a scale score of 4 (1-7) on the Running Speed and Agility subtest and a scale score of 6 (2-10) on the Strength subtest. His Running Speed and Agility scale score falls in the Well-Below Average range and his Strength scale score falls in the Below Average range.



His Running Speed and Agility age equivalent falls in the range of 4:6-4:7 and his Strength age equivalent falls in the range of 6:0-6:2. The difference between Sample's scale scores on these subtests is not considered significant.

The Running Speed and Agility subtest assesses running speed and agility. Sample's score is consistent with individuals who can complete a 100-foot shuttle run course in under 13 seconds and can hop on one leg about 5 to 20 times, but have difficulty hopping on one leg from side to side more than 5 times.

The Strength subtest is designed to measure trunk and upper and lower body strength. Sample's score is consistent with individuals who can complete about 5 to 15 knee push-ups or sit-ups in 30 seconds and can jump forward about 30 to 54 inches from a stationary start.

## Motor-Area Composite Comparisons

Comparison of BOT-2 motor-area composites can provide insight into an examinee's personal strengths and weaknesses.

Sample's performance across the motor-area composites reveals significant differences. The following paragraphs describe the significant differences among Sample's motor-area composite standard scores and the frequency with which the differences occur in the norm sample.

Sample's Fine Manual Control standard score of 61 is significantly greater at the  $<.01$  level than his Manual Coordination standard score of 27. A difference of this size can be considered uncommon because it occurs in  $<1\%$  of the norm sample.

Sample's Fine Manual Control standard score of 61 is significantly greater at the  $<.01$  level than his Body Coordination standard score of 40. A difference of this size can be considered uncommon because it occurs in  $<5\%$  of the norm sample.

Sample's Fine Manual Control standard score of 61 is significantly greater at the  $<.01$  level than his Strength and Agility standard score of 31. A difference of this size can be considered uncommon because it occurs in  $<1\%$  of the norm sample.

Sample's Body Coordination standard score of 40 is significantly greater at the  $<.01$  level than his Manual Coordination standard score of 27. A difference of this size can be considered common because it occurs in more than 10% of the norm sample.

Sample's Body Coordination standard score of 40 is significantly greater at the  $<.05$  level than his Strength and Agility standard score of 31. A difference of this size can be considered common because it occurs in more than 10% of the norm sample.

## Personal Strengths and Weaknesses

A personal strength or weakness is indicated when an examinee's motor-area composite standard score is either substantially higher or substantially lower than his or her other motor-area composite standard scores. For Sample, Fine Manual Control represents a personal strength. Manual Coordination represents a personal weakness.

## Background and Behavioural Observations

### Examinee's Performance Rating

Attention: Good

Fluidity of Movement: Good

Effort: Excellent

Understanding: Excellent

### Notes & Observations

### End of Report

NOTE: This and previous pages of this report contain trade secrets and are not to be released in response to requests under HIPAA (or any other data disclosure law that exempts trade secret information from release). Further, release in response to litigation discovery demands should be made only in accordance with your profession's ethical guidelines and under an appropriate protective order.

## Parent/Caregiver letter

On 10/22/2013, Sample completed the Bruininks-Oseretsky Test of Motor Proficiency, Second Edition (BOT-2). The BOT-2 measures hand and arm coordination, balance, mobility, and strength using fun activities like drawing shapes, bouncing a ball, standing on a small balance beam, hopping on one foot, and performing sit-ups.

The skills that the BOT-2 measures play an important role in everyday tasks, including drawing and writing, using small objects, walking and running, and participating in recreational and competitive sports. Learning about how an individual performs these tasks helps to identify special needs so that plans can be made to accommodate these needs and develop programs to improve performance.

An individual's performance on the BOT-2 can be described by comparing his scores to the scores obtained by the norm group, a representative sample of individuals from across the United States. One type of score, called the percentile rank, indicates the percentage of individuals from this group who performed at or below a specific score. For example, a percentile rank of 20 indicates that 20% of the group performed at or below that score.

Sample's performance in the following motor skill areas is described below: Fine Manual Control, Manual Coordination, Body Coordination, and Strength and Agility. Because Sample completed all four parts of the BOT-2, a comprehensive score from all four areas called the Total Motor Composite also is reported. Sample's scores were compared to a group of males his age.

Sample's Total Motor Composite score corresponds to a percentile rank of 8, which is considered Below Average for males his age.

Sample's performance on Fine Manual Control, which measures the motor skills involved in writing, drawing, and other tasks requiring a high degree of precision, corresponds to a percentile rank of 86, which is considered Above Average for males his age.

Sample's performance on Manual Coordination, which measures coordination and control of the arms and hands, especially for manipulating small objects and catching, bouncing, and throwing a ball, corresponds to a percentile rank of 1, which is considered Well-Below Average for males his age.

Sample's performance on Body Coordination, which measures control of the large muscles that aid in maintaining posture and balance, corresponds to a percentile rank of 16, which is considered Below Average for males his age.

Sample's performance on Strength and Agility, which measures upper and lower body strength and control of the large muscles used in walking and running, corresponds to a percentile rank of 3, which is considered Below Average for males his age.

More specific areas of motor performance within each assessed motor skills area are also reported. For each of these specific areas, Sample's score is rated well-above average, above average, average, below average, or well-below average. Sample's abilities in the Fine Manual Control skills area were Average for Fine Motor Precision and Above Average for Fine Motor Integration. Sample's abilities in the Manual Coordination skills area were Well-Below Average

for Manual Dexterity and Well-Below Average for Upper-Limb Coordination. Sample's abilities in the Body Coordination skills area were Below Average for Bilateral Coordination and Average for Balance. Sample's abilities in the Strength and Agility skills area were Well-Below Average for Running Speed and Agility and Below Average for Strength.

Sincerely,