Reorder Manipulative Aptitude Test

University of Jordan

Lab Human

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Team

- Alaa Saqr 0201373
- Saleem BOURI 0202428
- Bara Edris 0206169
- Yazan Othman 0195843
- Nour eddin zwayed 0199286

❖ Objectives:

This assessment evaluates hand, arm, and finger dexterity as well as speed, aiming to assess individuals for employment purposes and to gauge the dexterity of elementary through college students when it is a crucial requirement. The objectives can be summarized as follows:

- Measure manual dexterity skills.
- Identify individuals with exceptional abilities (e.g., achieving scores in the 99th percentile).
- Evaluate aptitude for particular occupations: Predict success in roles demanding fine motor coordination, visual-spatial reasoning, and sequential thinking, such as assembly line work, packaging, mechanics, surgery, dentistry, laboratory work, and more.

❖ Background:

The Reorder Manipulative Aptitude Test is designed to assess an individual's eye, hand, and finger coordination or dexterity, crucial for various occupations. The apparatus includes a styrene-plexiglass performance board with perforations and sockets, rods, nuts, caps, a horizontal bar, a standard, and perforated members. The test helps in evaluating manipulative skills for vocational planning and job selection.

❖ Equipment:

Equipment utilized includes:

1) Pegboard
2) Assembly Board
3) Form Board
4) Rods, Caps, Washers, and Nuts

❖ Tables:

female	time
1	389
2	376
3	376
4	309
5	353
6	333

male	time
1	290
2	440
3	275
4	279
5	387
6	391

Mean	356
Standard Error	12.43114
Median	364.5
Mode	376
Standard Deviation	30.44996
Sample Variance	927.2
q1	333
q3	376
Range	80
Minimum	309
Maximum	389
Sum	2136
Count	6
Confidence Level(95.0%)	31.95527

Mean	343.6667
Standard Error	28.96857
Median	338.5
Mode	#N/A
Standard Deviation	70.9582
Sample Variance	5035.067
q1	279
q3	391
Range	165
Minimum	275
Maximum	440
Sum	2062
Count	6
Confidence Level(95.0%)	74.46607

The numbers in the report are for students or an older age group?
It is natural for those who are older than us to be better than us for a certain age, regardless of external influences.
If it is only one attempt or more than one attempt?
It should be more than one attempt.
Why do we have numbers that are outside the existing percentages?
It is due to

  1. **biological reasons**
  2. **psychological reasons**
  3. **the nature of the work**

❖ Procedure:

Getting Set Up:

1. **Comfortable Seating:** Have the person sit comfortably at a table around 30 inches high.
2. **Test Board Placement:** Place the Tweezer Dexterity Test about a foot from the table's edge. For right-handed users, position the tray on the right. Lefties can have it on the left. The board's angle starts at 90 degrees to their working hand but can be adjusted for comfort.
3. **Practice Pins:** The board has 100 holes, each designed to hold one pin. Use the tweezers to pick up a single pin at a time and fill the holes, placing one in each. Remember to grab the pins from the end farthest from you and only use the hand holding the tweezers.
4. **Gentle Lift:** Lift the pin carefully, letting it naturally stand upright for easier placement in the hole.

The Test:

1. **Practice Round:** Start with a practice run by placing ten pins, filling the top row of holes.
2. **Timed Test:** Use a stopwatch to accurately measure the time (in seconds) it takes to fill the entire board, starting when you place the first pin and ending when you place the last.

❖ Sources of E

The Reorder Manipulative Aptitude Test, like any evaluation tool, is susceptible to various errors. Here's a breakdown of potential issues:

1. Human Error: Mistakes by the people administering or taking the test. This includes things like:

- Misunderstanding the instructions.
- Placing the test items incorrectly.
- Errors in recording the test results.

2. Scoring Errors: Inaccuracies during the scoring process, such as:

- Mistakes in marking the test sheets.
- Errors in recording the performance data.

3. Equipment Issues: If the test uses specific tools, malfunctioning or improperly calibrated equipment can affect the results.

4. Testing Environment: Variations in the testing area, including:

- Noise distractions
- Uncomfortable seating
- Other environmental factors

These can all influence a person's performance and introduce errors.

5. Cultural Bias: If the test content or format favors a specific culture, it might not accurately assess the skills of people from different backgrounds.

6. Practice Effects: Repeated exposure to similar tests can lead to improved performance due to familiarity. This might overestimate a person's actual aptitude.

7. Test Design Flaws: Poor test design can introduce errors. This includes things like:

- Confusing instructions
- Unclear test items
- Inadequate test structure

These flaws can prevent the test from accurately measuring the intended aptitude.

8. Time Pressure: People may perform differently under timed conditions. Variations in response times may not accurately reflect their true manipulative ability.

9. Participant Motivation: Differences in motivation can affect a person's effort and engagement during the test, influencing the results.

10. Sample Bias: If the test group isn't representative of the larger population, the results may not be generalizable.

❖ Conclusion:

The Manipulative Aptitude Test objectively assesses manual dexterity, spatial reasoning, and problem-solving for object handling. It measures fine motor control, spatial visualization, and precise manipulation. While some error is possible, the test offers a valuable starting point to identify skill strengths and weaknesses.