

Advanced Tests and Measurement

Special Ability Tests



What We Will Cover in This Section

- Why special abilities tests?
- Sensory tests.
- Mechanical ability tests.
- Clerical tests.
- Art & Musical Ability Tests.
- Aptitude Test Batteries.



Why Special Abilities?

Bandwidth *Breadth of the characteristics being assessed.*

Fidelity *The extent to which a measure focuses on a specific trait or characteristic.*

Sensory/Perceptual Tests

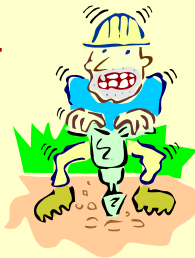
- Focus on visual and auditory discrimination.
- Visual
 - Acuity
 - Color
- Auditory

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4

Psychomotor Testing



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5

Fleishman's Psychomotor Factors

- Aim.
- Arm/hand steadiness.
- Control precision.
- Finger dexterity.
- Manual dexterity.
- Multilimb coordination.
- Rate control.
- Reaction time.
- Response orientation.
- Arm movement speed.
- Wrist/finger speed.

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6

Psychomotor Tests

- Large manual movements.
 - Stromberg Dexterity Test.
- Small Manual Tests
 - Purdue Pegboard.
- Gross Motor Movement
 - Flight simulators

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7

Mechanical Tests



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8

Types of Mechanical Tests

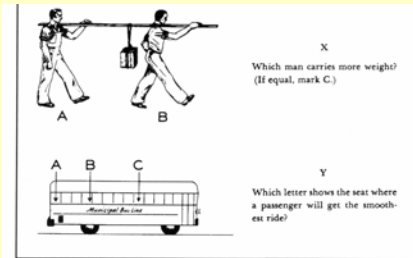
- Spatial Relations
 - Usually physical assembly requiring manual dexterity and space visualization.
 - Physical assembly.
- Paper and pencil.
 - Bennett Mechanical Comprehension Test.
 - Minnesota Paper Formboard

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9

Typical Bennett Item



X
Which man carries more weight?
(If equal, mark C.)

Y
Which letter shows the seat where
a passenger will get the smooth-
est ride?

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10

Clerical Ability



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11

Types of Clerical Tests

- Minnesota Clerical Test
 - 200 pairs of numbers and 200 pairs of names.
- Clerical Abilities Measures (7 tests)
 - Filing
 - Copying
 - Proofreading
 - Etc.

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12

Art and Musical Ability



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13

Art Ability

- Meier Art Tests
 - Art Judgment. Participant judges which of two pictures is better.
 - Aesthetic Perception Test. Participant rank orders four versions of the same work.
- Graves Design Judgment Test
 - Participant judges which of a group of abstract pictures is better.

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14

Musical Ability

- Analytic Assessment of Musical Ability (Seashore).
 - Uses tones and notes to assess 6 elements of auditory discrimination.
- Wing Standardized Test of Musical Intelligence.
 - Uses recorded piano music to evaluate eight areas (chord analysis, memory, rhythm, etc.)

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15

Multiple Aptitude Test Batteries

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16

Why a Test Battery?

- Individual tests have different norm groups.
 - Difficult to compare a mechanical test with a musical test if different norm group.
- Test batteries standardized on one norm group.
 - Can compare scores across different tests.

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17

Differential Aptitude Test (DAT)

- Designed to be used on school situations.
- Assesses
 - Verbal Reasoning
 - Numerical Ability
 - Abstract Reasoning
 - Space Relations
 - Clerical Speed
 - Mechanical Reasoning
 - Language Usage
- Time: 3 hours.
- Good reliabilities.
- Validity
 - OK for academic use.
 - Limited vocational use.
- Issue.
 - Not pure factors.
 - Significant gender differences.

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18

General Aptitude Test Battery (GATB)

- Designed for industrial application.
- Developed by the government and available through state agencies.
- Content.
 - Eight paper and pencil tests.
 - Four apparatus tests.
- Occupational Aptitude Pattern (OAP).
 - Relevant to 60 job families.
- Norms.
 - Variety of positions.

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19



THE END

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20