M-FUN: Miller Function and Participation Scales

Purpose:
The M-FUN is a developmental assessment of educationally relevant functional abilities and social participation for children ages 2.6-7.11 years.

It was designed to determine or identify:

- Visual-motor, fine or gross motor delay
- Eligibility for services to address delays
- Motor abilities which could benefit from home or classroom adaptations or accommodations
- Underlying neuromotor issues
- Curriculum relevant interventions
- Student progress toward goals

Additionally the assessment can help identify how a student’s motor competency affects:

- the ability to engage in home & school activities
- successful social participation

AND identify WHY the child is having difficulty with skills acquisition:

- decreased emphasis on specific developmental skills
- increased emphasis on analysis of underlying neuromotor foundation abilities required to perform the task

Time to administer:
40-60 minutes; 5-10 minutes to complete the checklists

Format:
This is an individually administered assessment of a child’s engagement in tasks which sample functional preschool/school skills. It is presented in a “game” format in which each task is referred to as a game: the “piggy bank game”, the “mazes game”, the “soccer game” etc. In addition to scores on performance-based components of fine motor, visual motor and gross motor skills, parent and teacher questionnaires provide information about the child’s participation in their natural environment.

Scoring:
Each subsection (fine motor, visual motor and gross motor) is scored individually by totaling the points received on each game/activity. Total raw scores are converted to scaled scores, percentile ranks and age equivalents. Observation checklists are summed and converted to the following categories: average, below average and far below average. Re-assessments compare a student’s change in performance as a result of intervention.
Interpretation:
Each game is broken into sub-skills so that a child’s sub-skills or performance components are identified as a strength or need. Once all items are scored, a profile of strengths and needs is developed and can serve as a guide to target interventions. For example, several games have bilateral integration as a sub-skill/performance component. A student’s performance across games can reveal an isolated skill deficit vs. an underlying performance deficit. This can assist development of goals and objectives.

Reliability:
- Test-Retest: 27 children from the sample repeated the test within 0-21 days
  - .77: VM & GM, .82: FM (moderately high reliability)
- Internal consistency: determines if items in a domain are measuring one construct; homogeneity of items
  - Average reliability coefficient:
    - .85 VM (very good), .90 FM, .92 GM (excellent)
- Inter-Rater Agreement- correlation between raters’ scores
  - .91 VM & GM, .93 FM (excellent)
- Average decision agreement (both raters deciding on average range or motor impairment performance)
  - 96% VM, 97% FM, 93% GM (excellent)

Validity:
- The degree to which data, research & theory support that the test measures what it says it measures and is applicable to the population
  - Content relevance: test content areas are generally accepted or related to the construct
  - Content coverage: content areas adequately sample relevant areas of the construct
  - Developmental progression for child testing, items increase in difficulty for older children

For additional information:
http://www.pearsonclinical.co.uk/AlliedHealth/PaediatricAssessments/Participation/MillerFunctionParticipationScales/ForThisProduct/critical-review.aspx

References: