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Measurement properties of the Body Awareness Scale Movement Quality (BAS MQ) in autistic persons

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Conclusions

In autistic persons, BAS MQ:

- has acceptable measurement properties
- contribute with relevant information about movement quality
- items do not target the most abled persons

Background

Autistic persons exhibit poorer body awareness than neurotypical persons. Movement quality may be regarded as an expression of body awareness. Sound assessments of movement quality are essential if reliable decisions about body awareness interventions for autistic persons are to be made.

Objective

To assess measurement properties of the Body Awareness Scale Movement Quality (BAS MQ) in an autism and a neurotypical reference group.

Method

Autistic persons (n=108) and neurotypical references (n=32) were assessed with BAS MQ. Data were analyzed according to the Rasch model.

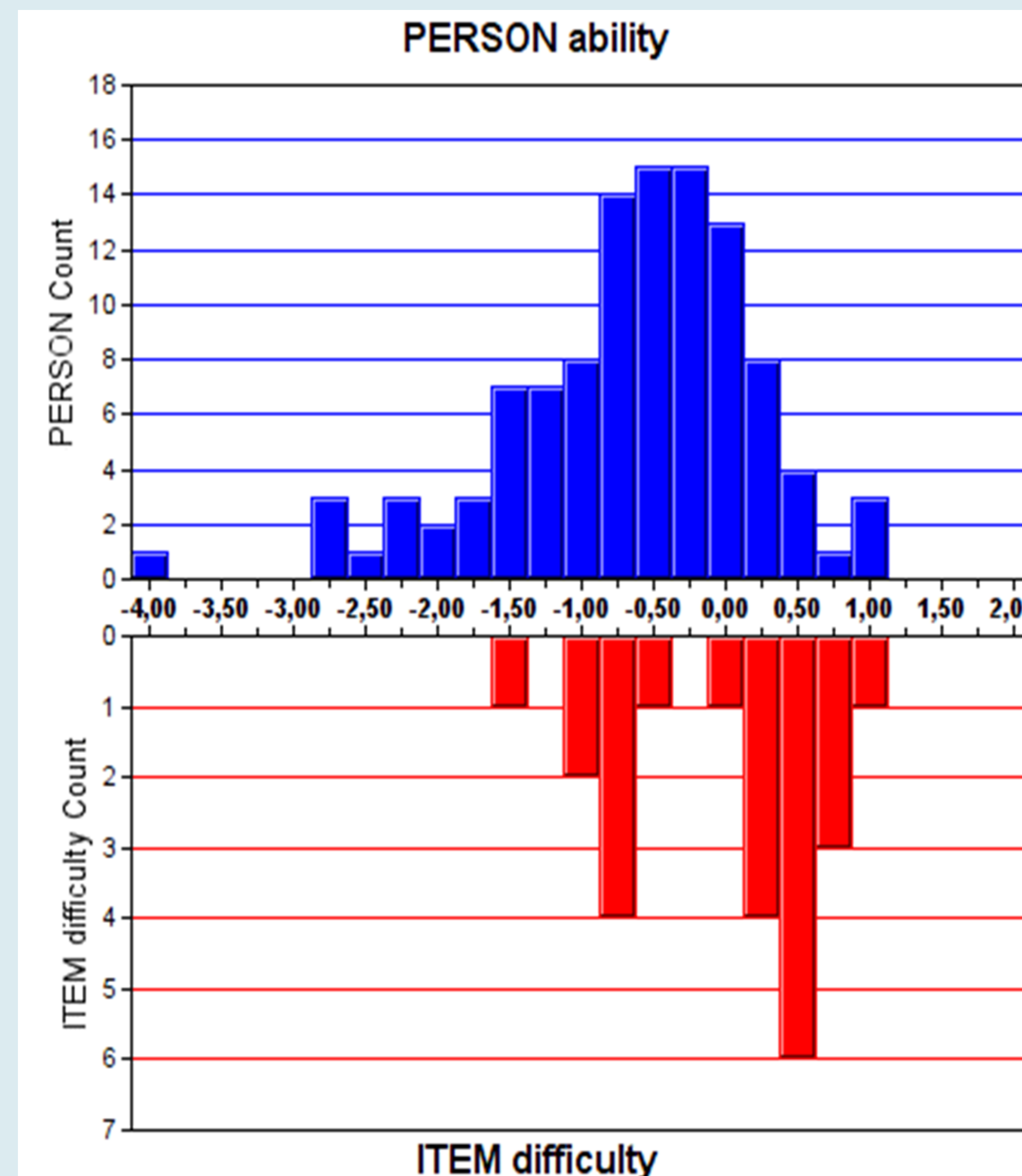


Figure 1. Distribution of autistic person ability (upper panel) and item difficulty (lower panel) measures. Measures are presented in logits, the more negative value the better movement quality or the more difficult items.

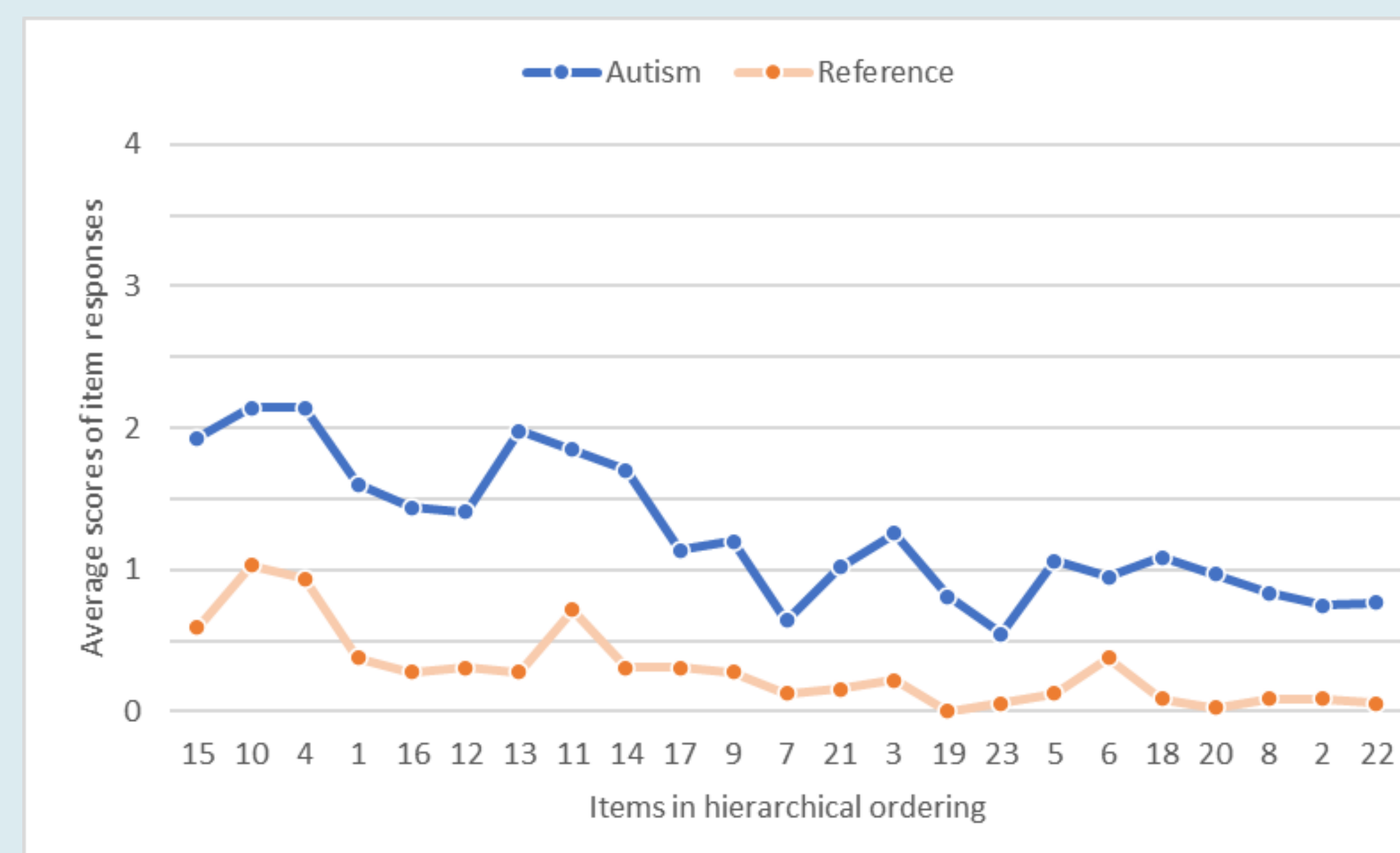


Figure 2. BAS MQ average scores for each item in the autism and the reference groups. The x-axis shows the items in hierarchical order, and the y-axis the average scores of the item responses (BAS MQ scores 0-4, higher score is worse movement quality).

Results

Measurement properties for autistic persons:

Item fit statistics were good for 22 out of 23 items, and they formed a unifying dimension for movement quality with a clinically expected item hierarchy. Person reliability was 0.85.

Limitations in the measurement properties included slight off-targeting for the most abled persons (Figure 1), local dependency in 7% of item pairs. All response categories were used in 12 out of 23 items.

Measurement properties for autism and reference groups:

One balance item showed a significant differential item function (DIF) between the autism and the reference groups. Discriminative validity showed a significant difference between the groups ($p < 0.001$), the autism group exhibiting worse movement quality (Figure 2).

Discussion

The off-targeting may be due to that several persons had relatively good movement quality, and with fewer difficult items than easier. The DIF may be due to problems with automated movements and inflexibility in autistic persons. Overall the BAS MQ can be used to assess movement quality in autistic persons.

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