

## A pilot study merging data from different sources

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### Public health relevance

- Reduction of socioeconomic health inequalities is a major challenge in The Hague.
- Suboptimal motor competence in early childhood can contribute to an unhealthy and inactive lifestyle later in life.
- A worrisome overall decline in motor competence in primary school children is observed over the past decades.
- Merging individual research data on motor competence to open source data on socioeconomic status (SES) provides an opportunity to explore health inequalities in early childhood.

### Aim of this study

- To examine the development of motor competence over time in primary school children.
- To study differences in this development according to the SES of the child's school district.

### Merging data from different sources

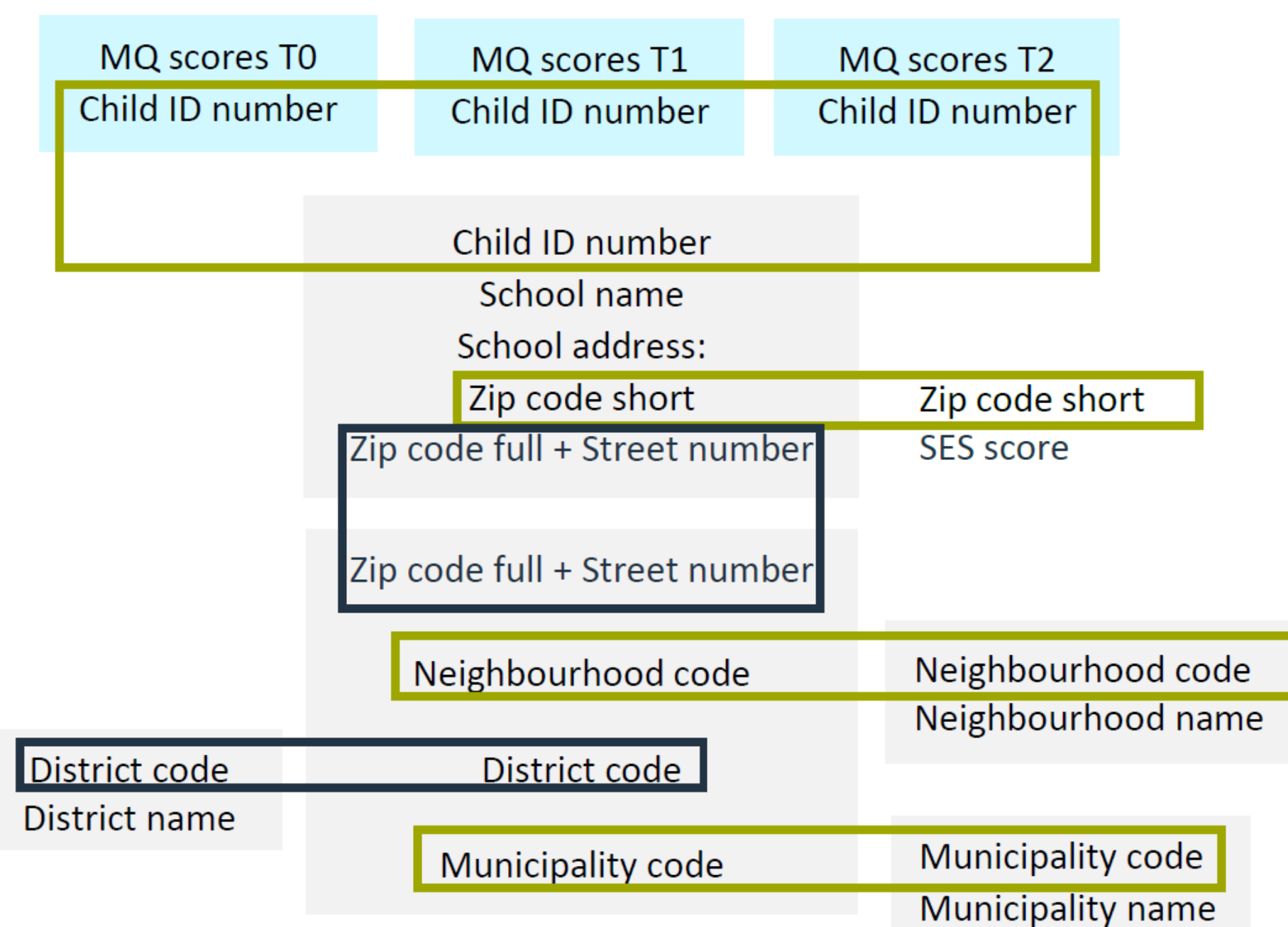


Figure 1: Process of merging data from different sources. Blue boxes: THUAS data. Grey boxes: Open source data of Statistics Netherlands (CBS).

### Measuring motor skills

- At baseline (T0), 530 children aged 4 to 7 years were enrolled in this study in the Hague.
- The motor competence was measured at three consecutive years (T0, T1 & T2) in 341 children (64% of the baseline population).
- Motor skills were measured using the Athletic Skills Track (AST): a reliable, valid, and feasible motor skill assessment tool for children in a physical education setting.
- The track consists of a series of 5 concatenated fundamental movement skills (e.g., rolling, creeping and walking, Figure 2).
- The time that children need to complete the track is converted into Motor Quotient (MQ) scores based on age- and gender-related reference values.

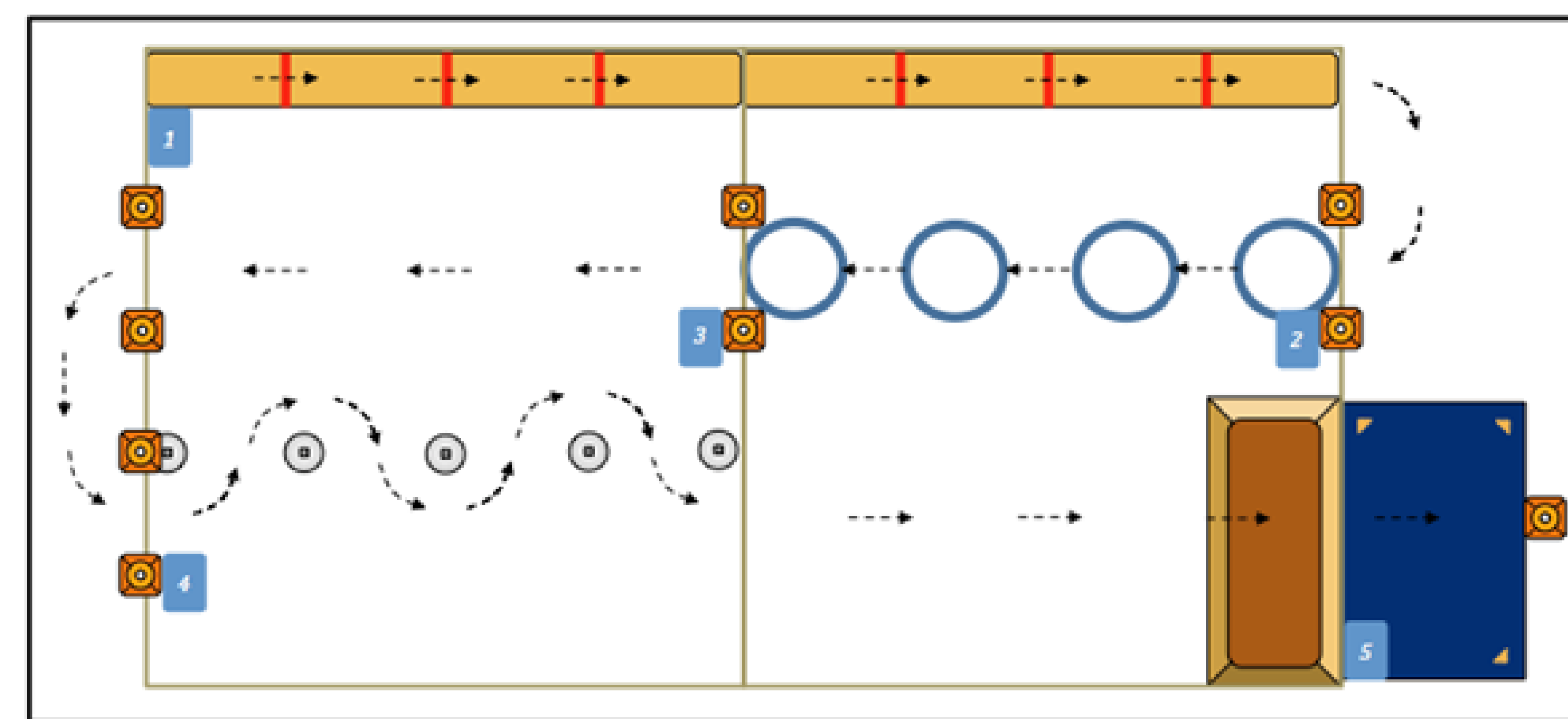


Figure 2: AST-1 track.

### Preliminary results

#### Development of motor competence over time

All children with 3 repeated measures in The Hague

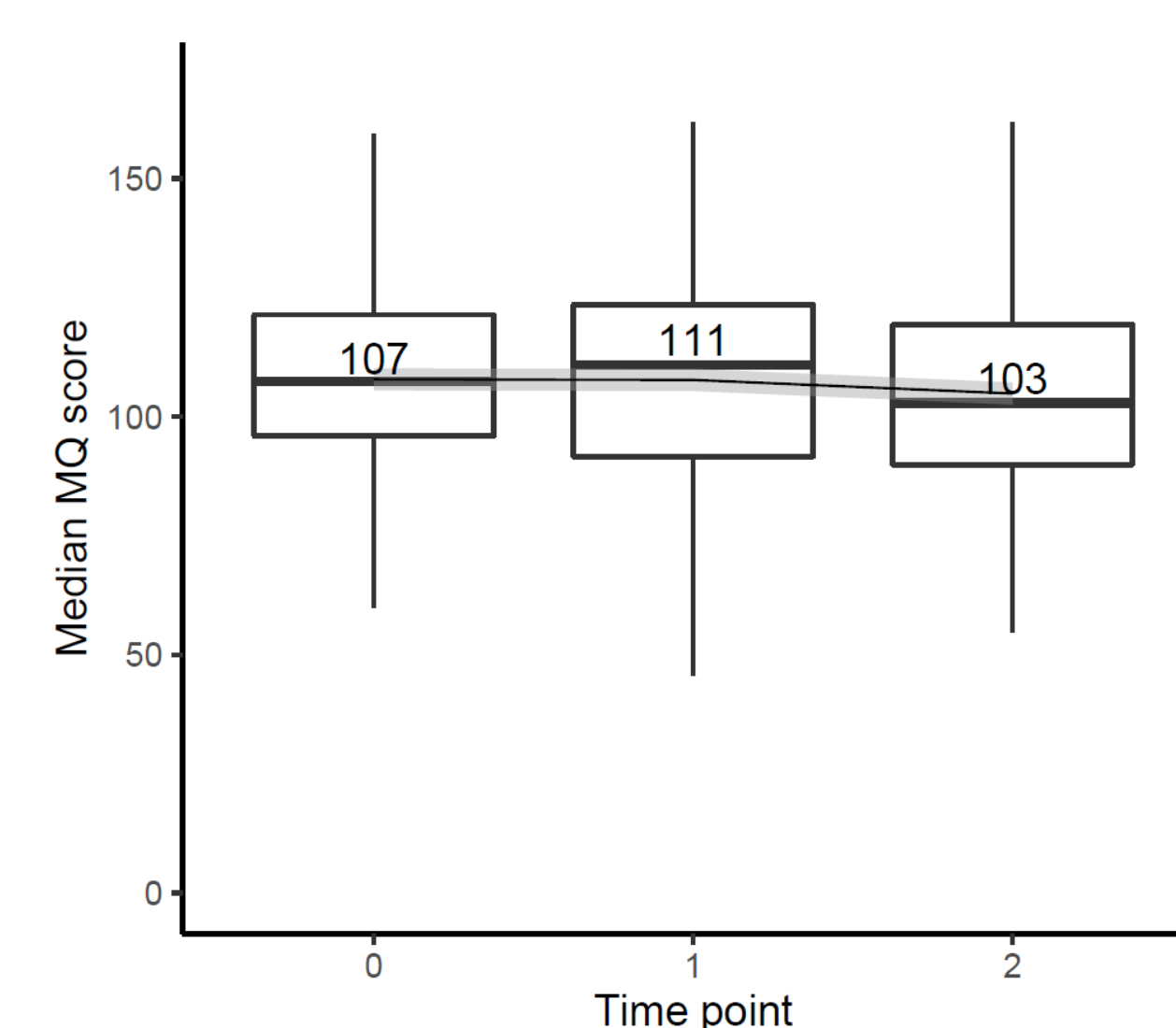


Figure 3: Development of median MQ scores over time in The Hague.

In subgroups of the SES of their school district

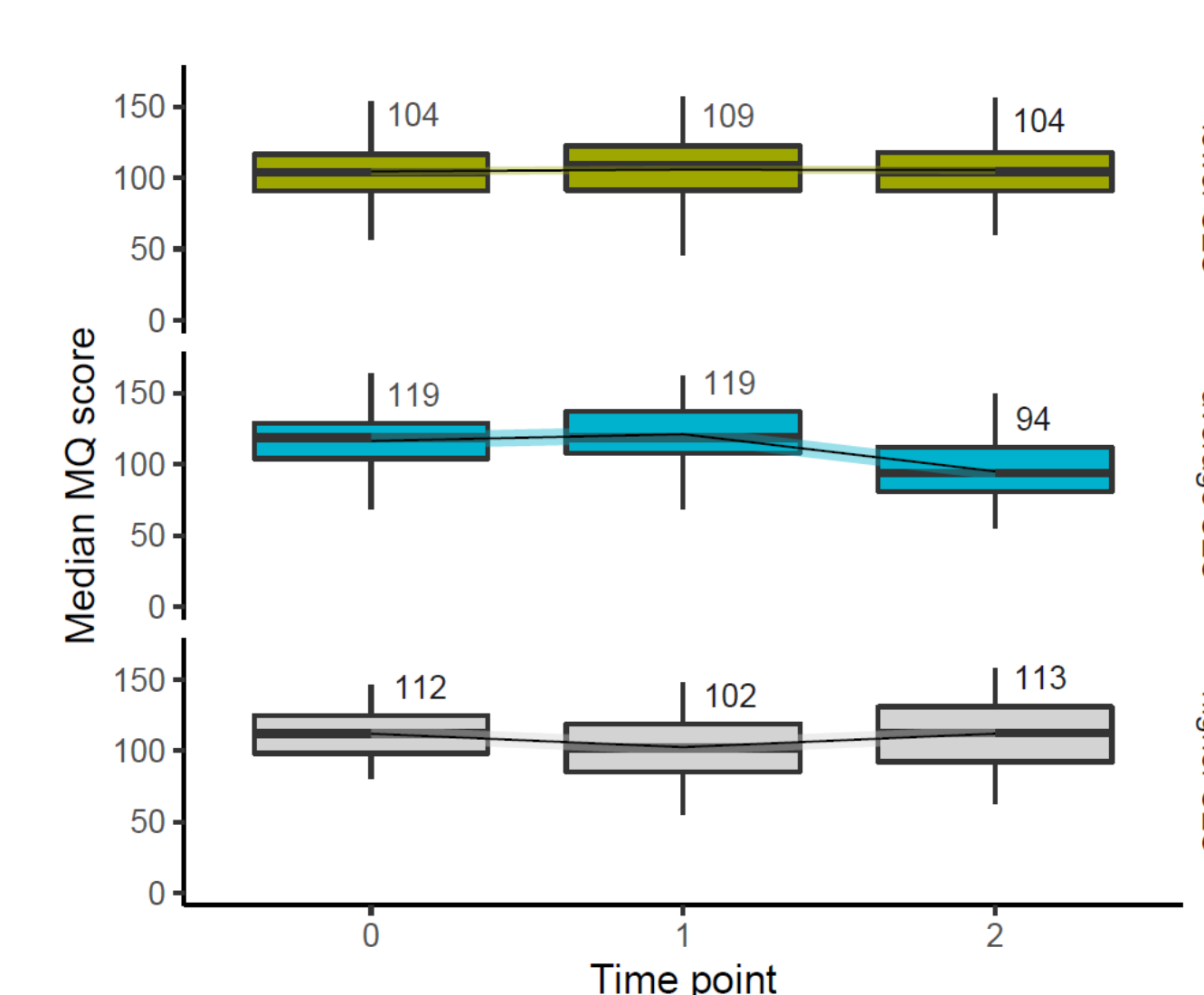


Figure 4: Development of median MQ scores over time grouped by SES of the school district in The Hague. Lower, n= 224 ; average, n= 58 ; higher, n= 59.

### Recommendations

Enrich SES data of the school district with SES data of the child's individual household.

Explore other potential determinants of differences in motor competence development.

Develop interventions targeting the most discriminating determinants of a decline in motor skills of young children.

The median motor competence of primary school children showed only minor fluctuations over time.

No clear differences in this development by SES of the school district were observed.

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