

## What do we know about middle school students' self-knowledge regarding handwriting performance?

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**Introduction:** Handwriting is an important skill that enables individuals to communicate ideas and to participate in school activities. As school year's progress, writing requires not only basic skills but also planning, revising, self-regulation and self-knowledge. The importance of self-knowledge as a metacognitive awareness' aspect has become increasingly significant in recent times. Although few studies examined the relationship between students' handwriting performance and self-knowledge, the research on students' handwriting self-knowledge in middle-school is limited.

**Study objectives:** to measure (a) students' self-knowledge re their handwriting ability to predict low performance; (b) teachers' evaluation of students' handwriting ability to predicts low performance.

**Methods:** The study included 186 middle school (7<sup>th</sup>-9<sup>th</sup> grades) students (45% boys) from 13 general education schools in Israel. Students were presented with a Self-Knowledge Handwriting Questionnaire, where they rated their handwriting ability in terms of speed and legibility on a 5-level scale. The teachers were asked to evaluate the students' handwriting performance in terms of speed and legibility using the same scale. Finally, the students were administered the Handwriting Assessment for Middle School (HAMS), that includes two tasks, copying and dictation, and are rated for overall legibility and speed. Girls' handwriting speed and legibility performance were significantly better than boys. Hence we define low performing students among each gender, as those students who performed at least one standard deviation below their gender average.

**Results:** Girls' self-knowledge predicts speed low performance with 92.3% sensitivity and 96.3% specificity. Girls' self-knowledge legibility and boys self-knowledge in both speed and legibility low performance predictions are poor. Teachers' speed evaluation predicts boys low performance with 100% sensitivity and 100% specificity. All other teacher evaluation low performance predictions are poor.

**Conclusion:** The results suggest that compared to the girls, boys are less knowledgeable (aware) about their handwriting speed performance. Additionally, teachers' evaluations partially predicted the students' handwriting performance.

**Contribution to the practice/evidence base of occupational therapy:** This innovative study provides preliminary results regarding students' handwriting self-knowledge. These perspectives may support occupational therapy intervention programs planning among students with handwriting difficulties.