The role of cognitive flexibility in early literacy and numeracy skills

Dana Cohen, M.A student. Supervisor: Dr. Shelley Shaul

Research topic: My study focuses on the role of cognitive flexibility in early literacy and numeracy skills. This project, which builds on the Safra longitudinal study, focuses on the early (preschool) identification of different cognitive flexibility profiles and their contribution to early literacy and numeracy skills in elementary school (Grades 1 and 2), among Hebrew speaking children.

Why is my study unique? This is the first study to look at profiles of cognitive flexibility and the contribution of these profiles to academic abilities (literacy and mathematical) in a large population-based sample of young Hebrew-speaking children. I will also be looking at the differential contribution of cognitive flexibility to the different literacy and numeracy skills and subskills in this sample.

Preliminary and planned analyses. The children participating in the present study will be drawn from the Safra longitudinal study, which covers a wide range of socioeconomic backgrounds (low, middle, and middle-high SES). We plan to examine different cognitive flexibility profiles in kindergarten, following up these subgroups into the 1st and 2nd grades, looking at (i) stability and change in cognitive flexibility, (ii) the impact of these profiles on early literacy and numeracy skills and subskills in 1st and 2nd grades.

Preliminary findings: Cognitive flexibility was found to correlate significantly and similarly with early literacy and numeracy skills in preschool. Additional regression analyses are now in progress.

Relevance for educational practice: The connection between cognitive flexibility and literacy and mathematical skills among preschool and 1st and 2nd graders, along with comparisons between the different cognitive flexibility profiles, point to the value of early identification and intervention in at-risk children.