

Long-Term Follow-Up of the DAGIS Intervention – Parental Perceptions and Screen Time Norms by Degree of Implementation

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Purpose: The study examines whether parents recall a preschool-based family-involving multicomponent intervention promoting children's health behaviours six years after the intervention. Additionally, the study examines long-term intervention effects on parental norms for appropriate screen time for children by intervention status and the degree of implementation (DOI).

Methods: In 2017–2018, 637 parents of children aged three to six (participation rate 47%) took part in a five-month randomised controlled study, the DAGIS intervention, aiming to promote children's health behaviours. The long-term follow-up was conducted in 2023–2024, when participants were 9–12 years old, and 207 children from the initial intervention participated (31% of eligible participants). Parents reported appropriate screen time for children on weekdays and weekends at baseline and follow-up. In 2018 they also reported on the implementation of the intervention activities. Intervention families were, based on the median of implementation points, divided into low and high DOI groups. Chi-Square Test was used to test whether there were differences in recalling the DAGIS study. Regression analyses were used in examining whether intervention status or DOI predicted parental screen time norms six years later. Models were adjusted for baseline values and highest educational level in the family.

Results: In the high DOI group, a higher proportion of parents recalled the DAGIS intervention study (84%) compared to the low DOI (55%) and the control (14%) ($n = 122$, $p < .001$). Being in the intervention group ($p = .079$) or in the high DOI group ($p = .055$), compared to low DOI or control groups, did not predict a lower screen time norm, in minutes, for weekdays in 2023–2024. When adjusting for the highest educational level in the family, the association strengthened for the high DOI group (unstandardised beta -10.78 , p -value 0.049). Intervention status ($p = .105$) or DOI group ($p = .083$) did not predict screen time norm for weekends.

Conclusion: This six-year follow-up study showed that families who implemented the intervention activities more also remembered the study better than others. Moreover, the results suggest that influencing parental screen time norms during the early childhood may have a lasting effect, with lower norms persisting for six years. However, the impact was seen only in norms for weekdays.

