The Association Between Executive Functioning, Social-Emotional Skills, and School Readiness in Preschool

Purpose of Present Study

We hypothesized a mediational association between SE competence and school readiness via EF processes

Operationally defined and examined the joint contribution of:
- EF (working memory, hot and cold inhibitory control, and attention shifting)
- Multiple aspects of SE (emotion knowledge, emotion regulation and social problem solving) to school readiness longitudinally and via a multi-method approach

Measures

- Peabody Picture Vocabulary Test
- Woodcock Johnson Tests of Achievement-Understanding Directions, Letter Word Recognition, and Applied Problems
- Hot executive functioning: Less is More task
- Inhibitory control/cool executive functioning: Head-to-Toes task
- Working memory: Backward digit span
- Emotion knowledge: Emotion Matching scale
- Social Skills: Challenging Situations Task
- Teacher-rated social skills: SSIS

Results of Structural Equation Modeling (Amos, 22) revealed a strong measurement model ($\chi^2 = 43.549, p = .247$; RMSEA = .027; CFI = .987), and a strong structural model ($\chi^2 = 59.644, p = .085$; RMSEA = .039; CFI = .987).

- Strong association between EF and SE skills at baseline (.80).
- Strong longitudinal associations between baseline EF skills and follow-up pre-literacy (.75), and follow-up pre-math (.75) skills.
- The relationship between baseline SE skills and follow-up literacy was fully mediated by EF skills.
- The relationship between SE skills and pre-math was n.s.
- Income, ethnicity and gender were n.s.
- The model explained 64% of the variance in EF as measured by Head Toes, Backward digit, and Less is More tasks and 84% of the variance in pre-literacy as measured by WJ Letter-Word Recognition, Understanding Directions and PPVT.

Analyses

- Paired t-tests on teacher-rated and individually assessed skills fall to spring assessments
- Measurement Model
- Structural Equation Model (SEM)

Conclusions

- Pre-literacy and pre-math readiness skills are associated with EF and SE skills
- Baseline EF fully mediated the relationship between baseline SE and follow-up pre-literacy
- Strong associations between baseline EF and follow-up pre-math
- Relationship between SE skills and pre-math n.s.

Funding & References

- Based on data from Kohlberg II: Promoting school readiness through social-emotional skill building in preschool # R305A130336: US Department of Education, Institute for Education Sciences. Contact: Carole Upshur, EdD at Carole.Upshur@uamss.edu