

# **The Role of Home Experience in Children's Executive Function Skills**

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## **Theis summary**

Early childhood is known for the important developmental improvement of executive function (EF) (Carlson, 2005; Fay-Stammbach et al., 2014). A growing body of literature underlines that well-developed EF during this period of life is associated with better school readiness skills, including math, science, language, social, and emotional competence (Bull, Espy, & Wiebe, 2008; Nayfeld, Fuccillo, & Greenfield, 2013; Ponitz, McClelland, Matthews, & Morrison, 2009), and early school achievement (Blair & Razza, 2007; McClelland et al., 2007). On the other hand, poor mastery of EF skills in the early period of life has been allied with problems like developmental psychopathology (Pennington & Ozonoff, 1996), physical aggression (Séguin & Zelazo, 2005) and school readiness problems and academic difficulty (Blair, 2002; Diamond, 2007).

On top of biological maturation, a number of factors contribute to the development of EF (Blair, 2006; Cicchetti, 2002; Vernon-Feagans, Willoughby, & Garrett-Peters, 2016). A culture in which a child grows is among the important factors associated with variation in the development of EF. A cross-cultural comparison of children from Eastern and Western cultures, for instance, demonstrated that children from Eastern culture typically outperform their Western counterparts on EF tasks (Grabell et al., 2015; Lan et al., 2011; Charlie Lewis et al., 2009; Oh & Lewis, 2008; Sabbagh, Xu, Carlson, Moses, & Lee, 2006). However, the cross-cultural comparisons of EF skills so far have predominantly been limited to children from the East and West. This dissertation, thus, is believed to be one of the first efforts to enrich the literature in these areas by comparing samples highly underrepresented in the literature: Ethiopia and Hungary.

Moreover, children's home experience factors such as socioeconomic status (Noble et al., 2005; Sarsour et al. 2011), parent-child relationships and interaction (Bernier et al., 2012; Bernier et al., 2010; Blair et al., 2014; Rhoades et al., 2011; Valcan, Davis, & Pino-Pasternak, 2017), and parental scaffolding (Bernier et al., 2010; Hammond et al., 2012; Hughes & Ensor, 2009) are also among the important environmental variables connected to developmental differences in EF in early childhood. There are also findings (e.g., Berk & Meyers, 2013; Pierucci et al., 2014;

Thibodeau et al., 2016) demonstrating the positive contribution of participation in pretend play to EF skills during early childhood. In the current literature, however, it seems that forms of play other than pretend play (e.g., peer play, solitary play, motor play) as well as various experiences of children at home (such as engagement in academic-related activities, arts and crafts activities, motor activities, and sports and physical activities, and spending mealtime with family) get little attention with respect to their contribution to the development of EF. To the best of our knowledge, no study has so far investigated the relationship between children's everyday home activities (which include both play and other experiences) and the development of their EF skills. In this regard, this dissertation is the first of its kind to investigate the contribution of these variables to the development of EFs. The incorporation of all of these home-related factors together into the current study allowed us to develop a more comprehensive picture of the role of children's home experiences in the development of their EF skills, including an examination of the relative importance of the experiences in EF development.

With respect to the role of play in child development, parents hold different views that range from perceiving play as predominantly amusement all the way to play as a vehicle for a range of developmental benefits to children (Farver & Howes, 1993; Fisher et al., 2008). A rising body of literature highlights the importance of parents' play beliefs in connection to their support and engagement in their children's play (see Ihmeideh, 2019) as well as creating play opportunities and arrange learning environments at their home (Farver & Wimbarti, 1995; Haight, Parke, & Black, 1997). Parents who place high value on the developmental importance of play are more likely to facilitate children's play by actively engaging in and encouraging play and supporting peer play (Farver & Howes, 1993; Farver, Kim, & Lee, 1995; Haight et al., 1997; Parmar, Harkness, & Super, 2004a). There is also literature supporting that parental engagement in their children's play, in turn, is associated with children's developmental benefits such as the attainment of prosocial behaviors (Putallaz, 1987), advancement in cognitive skills (Lin & Yawkey, 2013), and better skills at regulating emotions (O'brien & Md-Yunus, 2007).

Thus, the purposes of this dissertation were to examine the contribution of preschool children's home experiences (parents' play beliefs and preschoolers' home activities) in the development of their EFs in the context of Ethiopia and Hungary, and cross-culturally scrutinize the universality and specificity of the variables contributing to children's EF development in the two socio-cultural contexts. Moreover, the dissertation aimed at investigating parents' views

about play and the goal of preschool education. The other purpose of the dissertation was to examine the cross-cultural variations in the frequency of preschoolers' home routines and EF skills.

This dissertation is prepared based on three studies jointly conducted with my supervisors. The dissertation is organized into five chapters. The first chapter is the general introduction that introduces the reader with important background information about the study. This part of the dissertation entertained contents such as meaning, components, and significance of EF; the influence of culture and other home experiences (both play and other home routines) in the development of children's EF. The introduction also shows the research/knowledge gap in the current literature that necessitates our investigations. The last part of the introduction addresses the purposes of the dissertation and the research questions answered by it.

Study 1 aimed at exploring the link between preschoolers' experiences at home (preschoolers' activities at home and their parents' play beliefs) and the development of their EFs with participants from Ethiopia. The result showed that parental play support and preschoolers' frequency of breakfast at home were found to be important predictors of children's inhibitory control skills, after controlling for their age and family SES. Besides, preschoolers' frequency of engagement in arts and crafts activities was found to be a small but significant predictor of their VSWM skills, after accounting for age and SES.

Study 2 was conducted to replicate and extend Study 1 findings with Hungarian participants. The result showed that, after controlling for children's age and SES, parental play support and preschoolers' frequency of participation in pretend play were found to be important home related variables associated with their inhibitory control skills. Moreover, preschoolers' frequency of participation in fine motor play was found to be an important predictor of their performance in the VSWM task, after accounting for age and SES. Study 2 also extended Study 1 by examining Hungarian parents' beliefs about the purpose of preschool education and the link it could have with their play beliefs. The result showed that Hungarian parents held the belief that social-emotional development and entertainment of preschoolers were the primary purposes of preschool education. However, no link was found between parental play and educational beliefs.

Study 3 was a cross cultural comparison between samples from Ethiopia and Hungary. The purposes of the study were to cross-culturally examine Ethiopian and Hungarian parents' beliefs about play and the purpose of preschool education, and preschoolers' home activities and EF skills, including inhibitory control, shifting, and visual-spatial working memory. The study was

also aimed at investigating cross-cultural variations in the links between preschoolers' home experiences and EF skills.

The result indicated that while Ethiopian parents viewed academic and cognitive development as the major goals of preschool education, Hungarians put social-emotional development and entertainment foremost instead. Also, preschoolers in Ethiopia engage in academic and arts and crafts activities after preschool significantly more often than their Hungarian counterparts. On the other hand, preschoolers in Hungary were found to participate in fine motor activities, solitary play, and sports and other physical activities significantly more often than their Ethiopian counterparts. We found no significant cross-cultural differences in EF skills between the two samples. The result also showed that preschoolers' frequency of participation in pretend play and parents' play support beliefs were found to be important predictors of children's inhibitory control skills in both samples, after accounting for their age and SES. However, preschoolers' frequency of breakfast at home was found to be an additional significant predictor of inhibitory control skills in the Ethiopian sample only. Preschoolers' frequency of engagement in arts and crafts and other fine motor activities were found to be significant predictors of their VSWM skills in the Ethiopian and the Hungarian samples respectively. The result also depicted that after controlling for SES, parental play support was an important factor predicting preschoolers' shifting skills only in the Hungarian sample.

All in all, this dissertation makes important contributions to the current literature on the cross-cultural investigation in the development of preschoolers EF, the role of children's home experience in the development of EF, and the beliefs parents hold about the importance of play in child development and the primary purposes of preschool programs. It focused on samples from two countries that are rarely researched in this field. Our results demonstrated that different experiences at home seem to have different effects on the components of EF. Moreover, there are common home experience related factors that influence the development of EF in different cross-cultural contexts, while the influence of some factors varies depending on a given socio-cultural context. This implies that the study of home experience related factors should always be conducted with the particular socio-cultural context in mind.