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# Home-based literacy activities and children's cognitive outcomes: A comparison between Australia and Germany



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## ABSTRACT

Home-based literacy activities (HBLA) such as reading with a child and their impact on cognitive competencies have been widely investigated. However, few comparison studies between different countries have been conducted. This study compares HBLA in Germany and Australia, and their associations with different control and outcome variables using longitudinal data of some 900/2500 children. More than two-thirds of the parents in both samples engaged in literacy interactions with their children more or less daily. Parents in both countries who reported more HBLA had higher levels of education, were less likely to speak another language than German or English (respectively) at home, and their children performed better in cognitive outcomes. These differences proved to be stable for the whole preschool period.

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## 1. Introduction

Early verbal abilities and intelligence develop early in life, and these competencies and their precursors can be measured long before children enter formal schooling (Bowman, Donovan, & Burns, 2003). Innate child characteristics and environmental influences contribute to the development of child competencies. This is also true of the years before school entry when the home learning environment (HLE) plays a major role (e.g. Hood, Conlon, & Andrews, 2008; Niklas & Schneider, 2013). However, the influence HLE has on the development of literacy and cognitive abilities has often been neglected in research (Halladay et al., 2007), and most studies in this context have been conducted in North America (e.g. Aikens & Barbarin, 2008; Roberts, Jurgens, & Burchinal, 2005; Sénéchal & LeFevre, 2002).

Poorer literacy is associated with lower income, increased risk of unemployment, more mental health issues, and poorer health in general (Fawcett, 2003). Higher intelligence is positively correlated with academic success; very close interrelations are found with education and, to a lesser but still significant and meaningful extent, with occupational prestige and income (Strenze, 2007). These findings indicate the important role of verbal abilities and intelligence for later academic

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success, and success in life after graduating from school or university (cf. Dugdale & Clark, 2008; Sternberg, Grigorenko, & Bundy, 2001).

This paper explores first the relationship between home-based literacy activities (HBLA) and child and family characteristics, and second the development of children's verbal and cognitive development in Australia and Germany over the year prior to school entry.

### 1.1. Home-based literacy activities

The family plays an important role in the development of early child competencies (Wasik & van Horn, 2012). As children spend most of their time during their early years of life in the company of their primary caregivers, it is unsurprising that interactions between parents and children influence children's cognitive and behavioural abilities in both German and English contexts (e.g. Schmiedeler, Niklas, & Schneider, 2014; Sylva, Melhuish, Sammons, Siraj-Blatchford, & Taggart, 2008).

For decades, the main focus of research on HBLA has been parents' reading to their children. Meta-analyses show that reading to children explains about 8% of the variance in children's linguistic competencies (Bus, van Ijzendoorn, & Pellegrini, 1995; Scarborough & Dobrich, 1994), indicating that merely reading to children is sufficient to make a difference. Parental education and income are variables that predict children's competencies (e.g. Artelt et al., 2001), but the frequency and quality of parents reading to children can be more readily increased. In addition, it is likely that initial advantages created by better quality and more frequent reading may accumulate over time (cf. Mol, Bus, De Jong, & Smeets, 2008; Sénéchal & LeFevre, 2001).

Additional elements of the HLE associated with children's literacy development include the number of books in the home, parents' reading behaviour, the frequency of library visits and the teaching of letters by the parents (e.g. Niklas & Schneider, 2013; Sénéchal & LeFevre, 2001). Despite the many studies that have analysed the HLE in recent years, there is still no generally accepted definition for this construct and different studies focus on different elements of the HLE and different aspects of the family such as reading behaviour, literacy attitudes or number of books at home. In addition, the home literacy environment can be operationalized in several ways, such as direct observations in the family (e.g. Roberts et al., 2005), diary entries (e.g. Ennemoser, Schiffer, Reinsch, & Schneider, 2003), targeted questionnaires on children books and authors (e.g. Hood et al., 2008), and most commonly, general questionnaires on HBLA and family characteristics (e.g. Niklas & Schneider, 2013).

Whereas a comprehensive assessment of the HLE such as it is done with the "Home Observation for Measurement of the Environment" (e.g. Linver, Brooks-Gunn, & Carbera, 2004) would be preferable, using expansive observation schedules often is too labour intensive for large-scale research and short self-report measures are applied frequently (e.g. Niklas & Schneider, 2013; Sylva et al., 2008). As a result, comparisons between different studies often are difficult and in order to compare different studies it becomes necessary to limit the focus of the comparison to aspects of the HLE most commonly assessed in studies, such as reading to a child. Still, such comparisons are needed to test whether the same associations of the HLE with child and family characteristics exist in contexts that differ in regard to language, school system or cultural background.

### 1.2. The home learning environment and children's abilities

Most studies on HBLA have been conducted in North America and the UK (e.g. Sénéchal & LeFevre, 2002; Sylva et al., 2008). However, some few studies have been conducted in Australia and Germany, and their findings show the same associations of HBLA with both family characteristics and children's linguistic abilities (e.g. Hood et al., 2008; Niklas, Möllers, & Schneider, 2013). Consequently, the role of HBLA seems to be at least partly comparable for all these contexts (cf. Niklas & Schneider, 2013).

Longitudinal studies have demonstrated that early HBLA predict both early linguistic competencies such as vocabulary as well as later reading and spelling competencies (e.g. Molfese, Modglin, & Molfese, 2003; NICHD Early Child Care Research Network, 2006; Niklas & Schneider, 2013; Sylva et al., 2008). However, HBLA are mainly linked to later literacy competencies by strengthening the precursors of reading and writing in a learning environment with more frequent and higher quality HBLA (cf. de Jong & Leseman, 2001; Robert et al., 2005; Whitehurst & Lonigan, 1998). For instance, Sénéchal and LeFevre (2002) found that the home learning environment predicted reading skills in primary school only when children's vocabulary, phonological awareness and listening comprehension in preschool were not controlled for.

Consequently, precursors of reading and writing act as a mediator between HBLA and later literacy competencies. In turn, HBLA act as mediator between family characteristics such as socio-economic status or migration background, and precursors of reading and writing, leading to a cascading model (Niklas, 2015; Niklas et al., 2013).

One implication of the association between HBLA and children's linguistic abilities is that interventions targeting HBLA should result in better literacy competencies. In fact, meta-analyses on this topic have found small to medium effects for family literacy programs on children abilities (e.g. Mol et al., 2008; van Steensel, McElvany, Kurvers, & Herppich, 2011; see also Niklas & Schneider, 2015, for a German example). In addition, correlations between children's intelligence and the HBLA that they experience tend to be moderate to high (e.g. Niklas & Schneider, 2010). Consequently, HBLA play an important role in child development as their frequency and quality is more readily targeted than enhancements of, for example, the socio-economic status of a family.

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