

Introduction

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Over the last few decades, there has been a flourishing of research demonstrating the strong relationship between a child's environment and their language development (e.g., Hoff, 2006; Grüter & Paradis, 2014; Schwab & Lew-Williams, 2016). This body of work was arguably spurred on by the seminal work by Hart and Risley (1995), who recorded and analyzed parent–child interaction between ages 7 months and 3 years in families across the socioeconomic spectrum. Since then the relevance of socioeconomic status (SES) has been replicated in numerous studies (cf. Fernald, Marchman, & Weisleder, 2013; Gilkerson *et al.*, 2017; Hoff, 2003; Huttenlocher, Waterfall, Vasilyeva, Vevea, & Hedges, 2010; Rowe, 2008), although huge variation exists in parental input within SES classes and across cultural contexts (Cristia, Dupoux, Gurven, & Stieglitz, 2019; Pan, Rowe, Singer, & Snow, 2005; Sperry, Sperry, & Miller, 2019; Weisleder & Fernald, 2013). Another source of variation is the experiences of bilingual children, who often show different rates of development in their two languages. This research shows that the percentage of words that bilingual children know in one of their languages correlates with the amount of input received in that language (Pearson, Fernández, Lewedeg, & Oller, 1997). Later work replicated this finding, and demonstrates that correlations between amount of input and children's language outcome in each language also holds for grammatical skill (Hoff, Core, Place, Rumiche, Señor, & Parra, 2012).

While studies on the influence of the input on language development have often focused on the quantity of input, there is a growing recognition of the importance of qualitative aspects of the input and the characteristics of communicative interaction. Input quantity can be operationalized in several ways, but the conceptualization and operationalization of qualitative aspects of input and interaction is even more challenging. Researchers have, for example, pointed to phonological characteristics as present in motherese (for reviews: Cristia, 2013; Soderstrom, 2007), the role of responsiveness and parenting style in interaction (Paavola-Ruotsalainen, Lehtosaari, Palomäki, & Tervo, 2018; Tamis-LeMonda, Kuchirko, & Song, 2014), and how input source matters as shown in studies comparing input through television versus book-reading (Patterson, 2002) or live interactions (Kuhl, Tsao, & Liu, 2003). This special issue, or rather THESE SPECIAL ISSUES, bring these important topics together. In response to our call, we received a large number of submissions reflecting the timeliness of the topic, and allowing us to publish not one but two special issues.

This first special issue opens with an overview article by **Rowe and Snow** that discusses the different dimensions of input quality in relation to infants, toddlers, and preschoolers. This is followed by 12 empirical studies. The first eight studies discuss properties of infant-directed (IDS) and child-directed speech (CDS) in the context of typical development under age five years ordered by child age. **Genovese, Aureli, Romero Lauro, Spinelli, Castelletti, and Fasolo** focused on the first year. **Gampe, Hartmann, and Daum** investigated input to 14-month-old infants, while

Kuchirko, Schatz, Fletcher, and Tamis-LeMonda and **Han, de Jong, and Kager** studied input to one- and two-year-old children. Three studies looked at the input to two-year-olds (**During, Schluter, & Von Suchodoletz; Hoff, Core, & Shanks; Quigley & Nixon**). **Davies, Lingwood, and Arunchalam** focused on input to three- to four-year-old children. The last four studies of this special issue discuss input quality and characteristics of communicative interaction in relation to child outcomes in special populations: toddlers with moderate hearing loss (**Dirks, Stevens, Kok, Frijns, & Rieffe**), children diagnosed with Autism Spectrum Disorder (**Yoshida, Cirino, Mire, Burling, & Lee**), children with Down Syndrome (DS) (**Lorang, Venker, & Sterling**), and children with severe motor speech disabilities (**Soto, Clarke, Nelson, Starowicz, & Savaldi-Harussi**).

In our call for the special issue we mentioned four areas of particular interest. The first area is input quality: communicative interaction in relation to language development. Relationships with children's communicative and language outcomes will be the focal point of the second special issue. In this first issue, these relationships are most prominently discussed in the four contributions about special populations. The second area of interest is input quality and communicative interaction in relation to socioeconomic, cultural, and linguistic diversity. **Han et al.** investigate pitch properties of IDS and examine whether familiarity of words, children's age, and language (Mandarin-Chinese or Dutch) are related to pitch in IDS. **During et al.** compare mother-toddler interactions in Germany and the United States across toy play and book-reading, which are two different situational settings. **Kuchirko and colleagues** investigate functions of maternal language based on mother-child interaction during play and book-sharing, focusing on low-income and ethnically diverse groups (Mexican, Dominican, African American). A range of socioeconomic and interactional contexts is targeted in the research of **Davies et al.**, who investigate forms and functions of adjectives in CDS in a new corpus of British English. Coordination of behaviors and dynamic interaction and modulating effect of language and culture are studied by **Gampe et al.**, who include in their study monolingual and bilingual caregiver-child pairs.

The third area of interest is input quality and communicative interaction effects in relation to sources of individual differences in child and/or caregiver, such as age or linguistic proficiency. That child age plays a role is demonstrated by **Genovese and colleagues**, who followed Italian IDS over time in the first year of children's lives, at ages 3, 6, 9, and 12 months. They conclude that IDS is a simplified, but not a simple, register, and observe that Italian IDS becomes less simplified as children grow older. While most studies on IDS focus on mothers, the study of **Quigley and Nixon** highlights lexical diversity in the speech of fathers, in relation to a range of child characteristics such as age, gender, language, executive function, or temperament. Individual differences in caregivers' speech are addressed by **Hoff et al.**, in particular how proficiency in non-native speakers of English affects lexical and grammatical properties of their speech to children.

The fourth area of interest concerns qualitative aspects of the input in the context of children with language and communication disorders. **Dirks et al.** examined the quantity and quality of parental linguistic input to toddlers with moderate hearing loss (MHL) compared with toddlers with normal hearing (NH) based on a 10-minute free-play activity in the home setting. **Yoshida et al.** compared parent-child dyads with children who were either typically developing (TD) or were diagnosed with Autism Spectrum Disorder (ASD) in order to investigate parent's

use of social cues to in relation to their children's attention. **Lorang and colleagues** set out to investigate maternal language use with children with Down Syndrome. In their research, they ask whether mothers of children with DS tend to use simplified telegraphic speech, and if this is related to their child's language abilities. Finally, **Soto et al.** focused on children with severe motor speech disabilities who used speech-generating technologies to communicate, and investigated the effect of recasts and prompts on the rate of repair and spontaneous use of novel vocabulary.

We were impressed with both the quality and the quantity of the response to our call for papers. It would be challenging to distill these diverse findings into a single clear theme other than the one we started with – experience matters. We look forward to the coming decades of further research in this important topic.

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