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Chapter 5

General Discussion
BookStart has been developed to enhance parent-child verbal interactions in early childhood. Since the start of BookStart in 1992 in Birmingham (UK), the intervention has been implemented in the US, Australia, Japan and South Korea, as well as many European countries. Generally parents receive a BookStart package at home (e.g., BuchStart Sweiz) or from nurses at the child health care center (e.g., BuchStart Hamburg, Lesestart Germany) (Burnett, Daniels, & Bailey, 2014). In the Netherlands, parents receive a voucher from the local government for a sample baby book and a flyer with information about the importance of an early start with books at the local library. In addition, parents get a free library membership for their baby. BookStart libraries have rich collections of baby books and librarians can give advice about books and book sharing with very young children.

Previous studies explored effects of BookStart on frequency of book sharing (Tsuji, 2013; Wade & Moore, 1993; Wade & Moore, 1996), the attitude of parents towards reading with babies (Vanobbergen, Daems, & Tilburg, 2009), the child's interest in books (e.g., Demack & Stevens, 2013), parent-child library visits (e.g., Wade & Moore, 1993; Wade & Moore, 1996), and, most importantly, later academic knowledge (Wade & Moore, 1998). However, the methodology is often poor. Studies miss a control group (e.g., Hall, 2001; Hardman & Jones, 1999), are based on very small sample sizes (e.g., Hardman & Jones, 1999; Wade & Moore, 1993), and do not use standardized measures of language development and reading frequency (e.g., Wade & Moore, 1993; Wade & Moore, 1998). Even though there is an abundance of research proving that book sharing with young children is important for the promotion of language development, many people would, for various reasons, not make a bet on the efficacy of BookStart (Hofstee, 1980). Firstly, unlike most book reading interventions BookStart targets a very young age group and many parents do not believe that book sharing is possible at this early age. As a result, BookStart may not change book reading habits in the target group of families and may therefore fail to boost early language development. Secondly, it is questionable whether it makes sense to focus on all new-born parents as BookStart does. Many parents are known to be aware of the importance of verbal input for their baby's development and they may, therefore, share books with their baby. Thirdly, less educated parents may, in particular, be rather skeptical about sharing books and this raises the question of whether a low-dosage intervention without any personal coaching such as BookStart would appeal to these parents. Parents only receive sample materials and information leaflets, but no personal coaching to convince them of the need of an early start with book sharing.
**Does BookStart stimulate the language development of babies?**

Does BookStart cause changes in book sharing habits in families and do changes improve language development? To answer this question, parents were invited to complete questionnaires about parent-child reading frequency when the child was about eight months old. As we wanted to avoid socially desirable answers on questionnaires targeting reading frequency, we used a baby book exposure list modeled after the title or author recognition lists that Cunningham and Stanovich (1990) developed as an indicator of reading frequency. At 15 and 22 months parents completed a Dutch version of the McArthur-Bates Communicative Development Inventory (CDI) as an indicator of the child's language development. The results revealed strong evidence for a causal relationship between BookStart and language development in 15- and 22-month-old children. BookStart did increase early starts with book sharing, as was indicated by higher scores on the book exposure list at 8 months in the BookStart group. As a consequence of children being read to more often under the influence of BookStart, their scores on language development outperformed those of their peers in the control group. Book reading was a better predictor of language skills at 22 months than at 15 months, which may indicate a *snowball effect* (Raikes et al., 2006). That means, an early start with book sharing at eight months sets in motion a spiral of reciprocal influences that, taken together, affect the language and cognitive development of young children. Although previous studies have suggested that BookStart stimulates the development of language skills (Baily, Harrison, & Brooks, 2002; Hall, 2001; Moore & Wade, 2003; Wade & Moore, 1998), this study is the first quasi-experimental study from which appears that an early start with book sharing stimulated by BookStart affected children's language development when they were only 15 months old. Despite the fact that BookStart is a low-dosage intervention that does not include any direct guidance or coaching of parents, it is an effective intervention. Effect sizes were small probably due to the sample being rather homogenous in some respects: variation in educational background of parents was limited and, as language development was just starting, the range of CDI scores was, by definition, small.

**Is it useful to offer BookStart to all families?**

Most early interventions target families with a low socioeconomic status because these families are known to be less supportive of children's language development (e.g., Boekenpret [Book Fun], Reach out and Read). In contrast to these interventions, BookStart targets all Dutch families. This may be a rational decision when other factors, independent of socio-economic status, affect the frequency of book sharing.
from an early age, for example, some highly educated parents may postpone an early start with book sharing because of their temperamentally reactive child. We hypothesized that in particular temperamentally reactive children - children who are more prone to anger and frustration during daily activities like feeding, bathing, and when being put to bed – may not be read to by their parents even though parents are aware of the importance of verbal input from an early age. Due to the negative responses of temperamentally reactive children, parents may postpone book sharing until a later age. In such cases, BookStart could be particularly effective because the program reminds parents of the importance of reading to a young child despite the negative responses of the child. BookStart might help in that these parents would be less inclined to postpone book sharing. To test this hypothesis, we asked parents to complete several items of the Infant Behavior Questionnaire (Rothbart, 1981) that are supposed to indicate temperamental reactivity. This was done when the child was about eight months old. The outcomes of the analyses support the hypothesis that temperamentally reactive children are particularly receptive to BookStart. Reactive children in the control group lagged behind in their language skills. But with BookStart, temperamentally reactive children even scored higher on the language measure than their easy-going peers. Within the group with a reactive temperament, BookStart children scored, on average, half a standard deviation higher than the control group on the language measure. In contrast, the group with less temperamentally reactive children showed no difference between BookStart and non-BookStart children. In other words, in a group with mainly moderately and highly educated parents, about 70-80% of the reactive children in the BookStart group benefited from the intervention whereas less reactive children did not benefit (Carr, 2000). In Chapter 3 we reported differences with language scores at 15 months as an outcome measure but the results were similar when we measured the language scores at 22 months. In other words, the findings indicated that BookStart could also be used to benefit the language development of reactive children where the parents are already aware of the need for stimulation. These parents need an incentive to make an early start with book sharing when their child is inclined to respond negatively. The most surprising outcome was that temperamentally reactive children even outperformed their less reactive peers with BookStart due to a verbally more stimulating environment. The temperamentally reactive children seem to be the more talented children who, with the aid of BookStart, perform more in accordance with their abilities.

In line with the second study, we found in a third study that, when parents describe their child as being more difficult due to their baby’s reactive behavior,
they are more likely to participate in BookStart. This suggests that parents, who are aware of less optimal interactions with their child, look for educational advice by participating in BookStart. They may expect to receive tips and tricks for solving problems that they experience during daily interactions with the child. In line with the finding that parents of temperamentally reactive children participated more in BookStart, we found in a subsample of 38 parent-child pairs that the actual quality of verbal interaction with the child predicted participation in BookStart. When scores on verbal interaction were extremely high or low as is typical for temperamentally reactive children, parents were more motivated to participate in BookStart. In families with highly reactive children, we found that scores on verbal interaction were either low because parents ignored the child or high because they tried to comfort their child, often without success. In all, these findings suggest that parents notice that the nature of the interaction with the child is not optimal and they are then more likely to make use of programs that can offer advice and help.

**Do less educated parents participate in BookStart?**

The results of this third study confirm that parents from a low educational background are less inclined to accept the invitation to participate in BookStart. Highly educated parents were ten times more likely to pick up a BookStart case at the library than less educated parents. Although BookStart appeals to parents of middle-/high-educational levels when their interactions with the baby are unsatisfactory, parents with a low educational background were not attracted by the intervention even when their interaction with their child was problematic. Parents with a low education level may generally be less aware of the need for verbal interaction with babies and not feel an urgent need to look for tips and tricks to increase interaction via participation in BookStart.

**Recommendations**

1. **Optimizing advices to parents.** Parents are particularly motivated to participate in BookStart when they experience problems in daily interactions with their baby. In particular parents of temperamentally highly reactive children look for advice and these parents participate more than other parents in BookStart. It is important that librarians anticipate requests for support in handling negative responses of the child. Only 5% of the parents participated in the workshops offered by the library. The attractiveness of these meetings may be enhanced when the content anticipates the needs of parents of temperamentally reactive children.
2. **Motivating less educated parents to participate in BookStart.** Parents with a low educational background appeared to be less attracted to the BookStart project, probably because they do not realize the importance of an early start with book sharing. The outcomes of the third study indicate that less educated parents participate less in BookStart compared with highly educated parents even when they notice that the verbal interaction with their child is not optimal. Less educated parents may not realize the importance of an early start with activities like book sharing. We need to explore new ways to make parents aware of the importance of reading to their young child. In a project in Chicago, Providence Talks, the LENA device (described in Chapter 4) has been used to make parents aware of poor verbal input at home. Children wear the device during a whole day, once a week, and the outcomes are discussed with the parents in respect of whether the language input in the family is sufficient or not and whether there is a serious risk for a disrupted or delayed language development. Engaging low-income parents more frequently in parent-child interactions during a six-week intervention following this procedure with the LENA device can result in a 32% increase in word exposure (www.tmw.org). Summing up, we can conclude that providing parents with information about the language input in their home may be an incentive for them to enhance verbal interaction with the baby. Insight into the verbal input in their family compared with other families may motivate parents to participate in BookStart and spend more time with sharing books with babies.

3. **Intensity of BookStart.** In the Netherlands, parents are only invited once to pick up the BookStart case at the library. In the United Kingdom parents receive the BookStart package at two points in time before the child’s fourth birthday (Wade & Moore, 1998). The advantage of this approach may be that parents receive a reminder about the importance of reading for the development and that they see which materials are suitable for different ages. When offering a package multiple times, we can increase the chance that parents respond to one of the calls and receiving multiple packages might strengthen the effects of BookStart on language development over time.
References


