**How can parental self-efficacy support children’s early language development? Review of preliminary research and future perspectives**

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Abstract

Parental cognitions are considered to have a strong influence on parental behaviours that, in turn, shape children’s development. Among these parental cognitions, parental self-efficacy (PSE) represents the parents’ confidence about their ability to successfully raise their children. Although PSE can explain the quality of parent-child interactions and their impact on the children’s general development, the relations between PSE and children’s development of language has been rarely studied. In this paper, we review the studies that explore some facets of the relationships between parenting (parental cognition, PSE, and parental behaviours) and children’s early language development. Our main objective is to highlight the relevance of considering PSE in relation to children’s early language development. Consequently, we suggest several future research directions to explore the processes relating these two constructs and a model where the PSE is a *transactional* variable.

*Keywords*: Parental self-efficacy, children’s language development, parental practice

**How can parental self-efficacy support children’s early language development?**

**Review of preliminary research and future perspectives**

The importance of early language skills for later academic achievements has been well-established. In a recent longitudinal study on 211 participants, language performance at 5 years explained between 35% and 43% of the variability in scores on national academic tests until 10 years later (Einarsdóttir et al., 2016). Moreover, language is also important for social and professional inclusion. Compared to controls, participants with a history of developmental language disorder have greater challenges finding employment at 24 years old (Conti-Ramsden et al., 2018) and report higher levels of social interaction anxiety symptoms at 31 years old (Brownlie et al., 2016).

Because language is important for individuals across their life span, many studies have explored the mechanisms of acquisition during the first 3 years of life. Among these, much relevant evidence has indicate that parental behaviours during interaction with the child contribute to their early language development (Carta, 2018). These parental behaviours could be influenced by parent’s cognitions (Bornstein et al., 2018). Among these cognitions, the parental self-efficacy (PSE), which represents the parent’s feeling of influencing the child’s development (Mouton et al., 2018), is established to impact parental behaviours, as well as the children’s general development (Coleman & Karraker, 2003; Weber et al., 2019).

However, the relations between PSE and children’s *language* development is rarely studied. This paper aims to highlight the relevance of considering PSE in relation to children’s early language development through innovative designs. As a review, this paper will first introduce studies on the relationships between parental behaviours and children’s early language development. Next, we will develop the influence of parental cognitions on parental behaviours as well as the concept of PSE. Afterwards, few current studies focusing on the relations between PSE and early children’s language development will be reviewed. Finally, several future directions of research will be suggested to test a model where the PSE is a *transactional* variable.

**Parental behaviours as a predictor of early children’s language development**

Early language acquisition is a collaborative process in which infants construct meaning out of shared activities with members of their communities, most notably their parents (Bruner, 1985). More specifically, the ***parental behaviours*** during interactions with the child appear as a determining factor for the early development of language (e.g. Gilkerson et al., 2017; Golinkoff et al., 2019). One of these refers to the parental *responsiveness*: infants communicate their interests through gaze, object exploration, gestures, and vocalizations; parents respond to these signals with words and actions; and infants benefit from their parents’ responsiveness by learning words for the objects and activities that surround them (Benassi et al., 2018; Paavola et al., 2005; Tamis-LeMonda et al., 2014). On the contrary, some parental behaviours have negative associations with language outcomes. For example, maternal *directives* (utterance that aims to redirect the child away from the object or activity on which they are currently visually focused to something new or different) were associated with poorer concurrent and later language in slow-to-talk children (Conway et al., 2018; Paavola et al., 2005).

The contribution of the parent-child interaction on children’s early language development is also supported by intervention studies, which teach parents of children with language impairments behaviours and strategies to improve the children’s language. Multiple systematic reviews support the effectiveness of parent-implemented interventions (Heidlage et al., 2020; Roberts et al., 2019). A representative example of these interventions is proposed by Moore, Barton and Chironis (2014) for parents and their toddlers aged between 22 and 36 months with expressive communication delays. During these sessions, the speech-language therapist coached the parent to use naturalistic language strategies, such as responsivity (*Wait and respond*; wait for your child to communicate and then respond accordingly). Moore et al. (2014) found that parents increased their responsivity and used other language-enhancing behaviours while children improved their expressive language skills after parents had participated in the program. This study and others (e.g. Hatcher & Page, 2019) support the notion that changing parental behaviours has a positive impact on children’s early language development.

**Relationships between parental cognitions and parental behaviours**

As we have just illustrated, parental behaviours during parent-child interaction are determinant for the children’s early language development. But what can influence these parent’s behaviours? If parenting is multiply determined, one of these determinants is parental cognitions (for an overview of these relationships, see Johnston, Park and Miller, 2018). Among the studies that support a relation between ***parental cognitions*** and their behaviours (for example, Bornstein et al., 2018), several authors have specifically investigated the influence of parent’s beliefs and knowledge on their interactions with the child.

For example, Huang and colleagues (2005) observed an effect of maternal underestimation of child development on the quality of parenting during a teaching task: mothers who underestimated child’s abilities interacted less sensitive to cues of their child. Moreover, the degree to which mothers believe that children’s development can be facilitated by their environment and their optimism about their child’s future school performance are also positively correlated with the amount and type of language that mothers use during mother-child interactions (Donahue et al., 1997). In the same way, Rowe (2008) showed that parents who hold adequate beliefs about child development (such as on the age that children reach certain developmental milestones, the behaviours that support language development) talk more, use more diverse vocabulary and longer utterances. They also produce a smaller proportion of directive behaviour during their interactions with their children, than parents who do not hold these beliefs. In summary, these studies confirm that parental cognitions influence parental behaviours during parent-child interaction, and consequently the children’s early language development. Actually, it was mainly the parent’s knowledge of the child (language) development that has been investigated. However, among the parental cognitions, PSE is often a focus of interest in developmental psychology. Furthermore, a recent study highlighted the relevance to study the PSE independently of the parent’s knowledge (Suskind et al., 2018), suggesting the independence between these both cognitions. As concluded by Morawska, Winter, and Sanders (2009), “naively confident” parents might feel very confident in their parenting role, having a high PSE, but they do not have adequate knowledge about child development.

***Parental self-efficacy (PSE)*.** In the field of parenting, PSE can be defined as the parents’ confidence about their ability to successfully raise their children (Jones & Prinz, 2005). As the PSE are the beliefs about ability to successfully achieve parenting, this parental cognition is typically evaluated with self-report instruments (Wittkowski et al., 2017). In a recent review of PSE assessments (Wittkowski et al., 2017), 21 of the 34 measures were domain-specific measures, as the parental beliefs in their ability to complete specific tasks, for example: “I am feeling confident to take care of my child when he/she is sick”. Several authors (Črnčec et al., 2008; Marsh et al., 2002) argued that these kinds of measures are more sensitive and have greater predictive validity than a general measure of PSE with items not related to specific domains or parenting tasks, for example, “My behaviour has an impact on my child”.

According to Bandura’s theory (1977), PSE is an important motivational variable (Coleman & Karraker, 2003) because it has an impact on the parent’s choice of goals, their emotional reactions, and the adaptations and the persistence of their parental behaviours: the more the parent feels competent in parenting (and so, has a high PSE), the more they engage in positive and supportive parental behaviours with their child (e.g. Mouton et al., 2018). In line with this parental process, a recent meta-meta-analysis focusing on the effectiveness of parent-based interventions (Weber et al., 2019) concluded that improved PSE would foster the use of effective parenting behaviours, which in turn might have a positive influence on child behaviour. The robustness of this association has been demonstrated in several domains (e.g. Johnston et al., 2018; Jones & Prinz, 2005) but as we will develop it, few studies have been focused on language domain-specific.

**Relationships between parental self-efficacy and early children’s language development**

If the influence of parental behaviours on children’s language has been widely demonstrated, until now, very few studies have focused on the link between PSE, parental behaviours and children’s early language development. Furthermore, their results have been divergent. On the one hand, no relationship was found. Using a transversal design, Harty, Alant, and Uys (2007) revealed no significant associations between mothers’ PSE and communication skills of children with communication disabilities. Similarly, Dulay, Cheung, and McBride (2018) found no direct association between PSE and the vocabulary of typically-developing children at 3, 4, or 5 years old.

On the other hand, two longitudinal studies revealed significant associations between PSE and early language of typically-developing children. According to Coleman and Karraker (2003), a high level of domain-specific PSE is associated with the typical development of children from the age of 2 years, including their language development. Recently, Albarran and Reich (2014) observed that the PSE [assessed both in general and specific (e.g. feeding, bathing and soothing)] at 2 months was related to children’s expressive and receptive language at 18 months.

Three important methodological limitations could be identified in these reviewed studies and urge caution with respect to the results obtained. First, the PSE has rarely been evaluated with a standardised instrument. Each study used its own “made home” measure of PSE with sometimes very few items, raising doubt about the validity of these measures. For example, Dulay et al. (2018) used PSE questionnaires with three to five statements, resulting in a ceiling effect and low variability, which can explain the absence of significant correlations. Moreover, in these four reviewed studies, the PSE assessments were focused on the general domain of parenting or on a specific domain that is not the children’s early language development. Indeed, the specific domains selected were typically discipline and limit settings, play, emotional availability, and nurturing (Coleman & Karraker, 2003; Harty et al., 2007); feeding, bathing, and soothing (Albarran & Reich, 2014); or teaching literacy (Dulay et al., 2018). In contrast, the use of a PSE measure focused on the language domain would allow researchers to obtain more precise results on the relation between PSE (language domain-specific) and children’s early language development. This suggestion is support by Borstein et al. (2018, p.13), who argued “the strength of associations in parents’ cognitions and practices and child adjustment appears to depend, at least in part, on specific and aligned conceptual relations in the contents of each”.

Second, few of these studies specifically focus on the children’s early language development, and these assessments of the language skills thereby lacked precision. For example, Coleman and Karraker (2003) correlated PSE with a measure of infant development [the Mental Scale of the Bayley Scales of Infant Development (Bailey, 1993)] that included items on memory, problem-solving, numerical concepts, generalisation, classification, social skills, and expressive and receptive language. The language skills are, therefore, embedded in the general measure of development, and not assessed specifically. In the same limit, Harty et al. (2007) used a self-administered questionnaire for parents to specifically assess the expressive and receptive language of the children, but items were too vague (such as *“use gestures or words to name things”* and *“recognise common objects when shown”*). In terms of alternative, a questionnaire [e.g., the MacArthur-Bates Communication Development Inventory (Fenson, 2006)] where the parent marks each lexical word and syntactic form they have head their child use, has been shown to be a valid tool to assess early language skills in childhood (Berkman et al., 2015). This would provide a more discriminating measure of language development.

Third, among the reviewed studies, none of them considered the assessment of parental behaviours that can support the children’s early language development. Consequently, in these studies, PSE is directly related to children’s language development without considering parental behaviours by which children’s language development is impacted. As suggested earlier, parental cognitions, such as PSE, influence parental behaviours, and consequently the early language development of children. This consideration highlights the relevance of considering parental behaviours as having a main function in the process relating PSE and children’s early language development.

**Futures directions**

Based on the different limitations reviewed above, we could suggest some innovative ways to improve studies addressing the relationship between PSE and children’s early language development where PSE may operate as a transactional variable.

***At the assessment level***. There is a lack of a specific instrument for assessing the PSE for language domains, as highlighted by the recent meta-analysis of PSE assessments (Wittkowski et al., 2017). Therefore, it would be necessary to develop a specific assessment of PSE for the language domain. This could include items such as “I feel that I can effectively help my child develop his language”, “I think I can follow my child's communication initiatives”, “I feel like I can use various words when I talk to my child”. A new standardised instrument could be relevant to explore the specific processes linking PSE on language domain-specific with children’s early language development.

***At the conceptual level.*** Deeper investigations are needed to clarify the role of PSE between parental behaviours and children’s early language development (Albarran & Reich, 2014; Jones & Prinz, 2005). To our knowledge, no single study has addressed these three variables. The current state of our knowledge is (Figure 1): (a) parental behaviours contribute to the children’s early language development (Carta, 2018); (b) even though we have not addressed it in this article but frequently demonstrated in current literature, children’s language skills can also influence the parental behaviours (Bingham et al., 2013). So, for instance, when faced with a late-talking toddler, the parent will tend to reduce the quantity and/or quality of his directed-speech (Vigil et al., 2005); (c) the PSE has an effect on the parental behaviours (e.g. Weber et al., 2019) but this relationship has not yet been studied, specifically, in the domain of language (hence the dotted arrow in Figure 1); (d) finally, some studies (see our previous section “ *Relations between parental self-efficacy and early children’s language development*”) have detected a link between the PSE and the children’s early language development, but other studies have not found this relationship. Moreover, various limitations in these studies have been identified (hence the dotted line in Figure 1).

< INSERT FIGURE 1 >

Consequently, these three variables in the same study design and with specific instruments could be tested in a model where the PSE is a *transactional* variable. The transactional model assumes that the child and the caregiving environment tend to alter each other mutually (Sameroff, 2009). Bandura (1977) suggested that self-efficacy is a key concept to understand the transaction between an individual and his environment. In this sense, PSE has been shown as an antecedent (PSE impacts parental behaviours) but also as a consequence (child’s outcomes can influence PSE). According to Jones and Prinz (2005), this multiple role of PSE occurring simultaneously « tends to suggest that a transactional relationship might be the most fruitful one to pursue » (p. 358). In this case (Figure 2), (a) the PSE influences parental behaviour, (b) contributing to children’s early language development, (c) which in turn modulate the PSE in a feedback loop. In terms of implications, if the child has a low language level, then the parent could be not confident in his ability (so, a low level of PSE) to influence his child’s language development. So, the quality of the parental behaviour will be reduced. On the contrary, if the child has a high level of language development, then the parent could feel competent (so, a high level of PSE) about his abilities, and so will have more adequate parental behaviours. In the same way, if the parent has initially unsupportive behaviours for the development of his child’s language, the child might not develop language as effectively as expected. This risks reducing the level of PSE and, therefore, reinforces the inappropriate behaviour of the parent.

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***At the methodological level.*** To test these different relationships between PSE, parental behaviours, and children’s early language development, different study designs could be considered.

As a first step, a transversal design could have been used to reproduce something similar to previous studies (e.g. Albarran & Reich, 2014; Dulay et al., 2018) but taking into account the limits mentioned, such as specific assessment of PSE on the language domain and precise measurements of the children’s early language skills (e.g. the amount and diversity of lexical words and syntactic forms, both in receptive and expressive language). However, longitudinal designs might be more relevant to test transactional processes (Jones & Prinz, 2005) since it suits the best to capture the impact on children’s early language development which requires time. For instance, a follow-up study of normally-developing children from 1- to 4-years-old and their parents could be appropriate to explore the processes between PSE on language domain-specific and specific parental behaviours (i.e., parental responsiveness) impacting children’s early language development.

In a second step, it might be relevant to use micro-trials, defined as “randomized experiments testing the effects of relatively brief and focused environmental manipulations designed to suppress specific risk mechanisms or enhance specific protective mechanisms, but not to bring about full treatment or prevention effects in distal outcomes” (Howe et al., 2010, p. 343). Few micro-trials have been reported in the parenting literature (Leijten et al., 2015), even if several current studies provide evidence of the relevance of this quasi-experimental method (Brassart et al., 2017; Mouton et al., 2018). For instance, a recent and innovative study of Mouton and Roskam (2015) showed that it is possible to modify PSE in lab settings. The content of their study, *Confident Parent*, is based on the Bandura’s social learning theory assuming that self-efficacy is not a personality trait, but rather as context-dependent (Bandura, 1977). Consequently, PSE could be manipulated. Furthermore, social learning theory holds that self-efficacy is rooted in individual factors (e.g., personal history of accomplishment, emotional arousal and its physiological impact) as well as in contextual factors (e.g., verbal feedback from others, social comparisons) (Meunier & Roskam, 2009). PSE is therefore expected to depend on parents’ past and actual experience (successes and failures) with their children and on the emotional arousal relating to parenting, as individual factors. As contextual factors, feedback from others (in particular comments from relatives, teachers, etc.) and social comparison with other parents are also major contributors to PSE (Mouton et al., 2018). In this study, mothers’ PSE were manipulated and improved since, in the experimental conditions, mothers received individual false positive feedback concerning both their child and their parenting skills. This positive modification of PSE had an immediate and positive effect on both mothers’ and children’s behaviours. So, these results supported the idea of the transactional model between PSE, parental and children’s behaviours. Similarly, in our innovative and experimental design, the improvement of PSE through the false positive feedback technique focusing on children’s early language development could be hypothesised to have an immediate effect on specific parenting behaviours with the child during the interaction, including parental responsiveness. No effect is expected for children’s early language development since this kind of change needs more time.

In a third step, similarly to Suskind et al. (2016), a comparison of two parent-implemented programs in slow-to-talk children could shed some light on the hypothetical transactional model, : on the one hand, a first classic program focusing on behaviours that support children’ language development; on the other hand, a second program offering additional PSE support.. Based on the transactional model of PSE, we can hypothesise that the second program should allow for faster changes in a parent’s behaviour, impacting the children’s language delay positively.

***Perspectives.*** Among the clinical perspectives for speech and language therapists, if this hypothesis of the transactional model of PSE is confirmed, these data would highlight the usefulness of considering PSE in parent-implemented programs to support children’s language development. Finally, future studies should examine how these relations play out in cultures with radically different cultural patterns of child rearing and communicative repertoires. Number of studies suggests that the direction or strength of associations between parental behaviours and children language outcomes may differ by cultural group (e.g. Dyer et al., 2014; Rispoli et al., 2019). For example, the negative association between maternal directives and children’s language development has been previously described, established in cohorts that are predominantly European-American (Paavola et al., 2005) or Australian (Conway et al., 2018). By contrast, a positive association has been found between directive parenting and language in cohorts of African-American children (Shimpi et al., 2012). In the same way, parental cognitions can vary by ethnic group (e.g. Bornstein et al., 2019). Then, this latest set of research on the cultural difference could qualify the relations between PSE on language domain-specific, specific parental behaviours and children’s early language development.

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*Figure 1.* The current state of knowledge about parental self-efficacy.

*Figure 2.* A hypothetical transactional model of parental self-efficacy.