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The Role of Parental Self-Efficacy in Preschool Children's Home Learning Environment

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Summary

Parental self-efficacy is an essential predictor of beneficial parenting practices, parenting skills, and positive child development (Albanese et al., 2019; Ardelt & Eccles, 2001; P. K. Coleman & Karraker, 2000; T. L. Jones & Prinz, 2005; Schuengel & Oosterman, 2019; Stiévenart & Martinez Perez, 2020; Verhage et al., 2013; Wilson et al., 2014; Wittkowski et al., 2017). It describes the parents' belief in their efficaciousness in influencing the child and its environment in such a way that it supports child development (Ardelt & Eccles, 2001). Parental self-efficacy as a parental belief (Sigel & McGillicuddy–De Lisi, 2002) is part of the home learning environment. The home learning environment has proven to be an important factor for beneficial child development and later school performance (Kluczniok et al., 2013; Lehrl et al., 2012; Sammons et al., 2015; Tamis-LeMonda et al., 2017). Studies indicate that the home learning environment can be structured into structural family characteristics (e.g., socio-economic background or family language), beliefs (e.g., parental self-efficacy), and processes or process quality (e.g., parent-child activities), whereby the processes have a direct effect on child development (Anders et al., 2011; Kluczniok et al., 2013; NICHD Early Child Care Research Network, 2003). This thesis follows the structure of the home learning environment, called the home learning environment model, and presents its component's interrelationships.

In the first study, the construct of parental self-efficacy is investigated in more detail. The construct of parental self-efficacy and, in particular, its content-specificity is not well understood: Parental self-efficacy can either refer to parents' general perception of how well they judge themselves in their role as parents or refer to a specific parental task. To investigate this, it was

tested whether (a) general and task-related parental self-efficacy could be assessed separately or (b) be mapped in a hierarchical model. Results indicate that general and task-related parental self-efficacy are separate dimensions. Furthermore, general and task-related parental self-efficacy were tested for differences in family characteristics. Results suggested that parents with a non-German family language experienced lower general parental self-efficacy and perceived themselves to be less self-efficacious in caring for a sick child. Parents with a university degree felt more efficacious in communicating a responsible media use but less efficacious in caring for a sick child than parents who did not have a university degree.

The second study investigated the relationship of parental self-efficacy with family characteristics and home learning activities of native-born German parents and parents with a Turkish immigration background. Little is known (a) about the relationships between structural characteristics, parental self-efficacy, and home learning activities, especially for Turkish immigrant families with average educational levels and income, and (b) whether parental self-efficacy and home learning activities and their relationship are affected by the parents' immigration background. Results showed that parental self-efficacy and the educational level but not the immigration background were significant predictors of home learning activities. The immigration background was related to the number of home learning activities via parental self-efficacy. However, there was no direct relationship between the immigration background and the home learning activities. This indicates the importance of parental self-efficacy for home learning activities regardless of the immigration background. Surprisingly, parents with a Turkish immigration background felt significantly more self-efficacious than native-born German parents.

The third study investigated the relationship of parental self-efficacy and home learning activities with child outcomes at the children's transition from preschool to elementary school. The interplay between parental self-efficacy, home learning activities, and preschool children's socio-emotional and language skills has not yet been investigated. By linking these variables, this study went beyond previous research that concentrated on relationships between two factors.

Findings indicate that the more self-efficacious parents felt, the more home learning activities they offered, and the higher they rated their children's language skills at age 5. Moreover, parents who felt more efficacious in supporting their children's language skills also described their children as having fewer socio-emotional problems. Also, parents whose children were about to transition from preschool to elementary school did not significantly undertake more school-preparatory home learning activities than parents of children who were not to enter elementary school.

This thesis contributes to better understand the structure of parental self-efficacy in terms of the relationship between different levels of measurement. Furthermore, this thesis was able to show that parents with an immigration background do not generally perceive themselves as less self-efficacious in parenting their children, but that other family characteristics and the context are also decisive for this relationship. Finally, parental self-efficacy emerged as a significant predictor of the number of home learning activities, emphasizing the importance of parental self-efficacy for improving the home learning environment.

Zusammenfassung

Erziehungsselbstwirksamkeit ist ein wesentlicher Prädiktor für förderliche Erziehungspraktiken, elterliche Fähigkeiten und eine positive Entwicklung des Kindes (Albanese et al., 2019; Ardelt & Eccles, 2001; P. K. Coleman & Karraker, 2000; T. L. Jones & Prinz, 2005; Schuengel & Oosterman, 2019; Stiévenart & Martinez Perez, 2020; Verhage et al., 2013; Wilson et al., 2014; Wittkowski et al., 2017). Erziehungsselbstwirksamkeit umfasst das Vertrauen der Eltern in ihre Wirksamkeit, das Kind und seine Umwelt so beeinflussen zu können, dass es der kindlichen Entwicklung förderlich ist Ardelt2001. Elterliche Selbstwirksamkeit als elterliche Überzeugung (Sigel & McGillicuddy–De Lisi, 2002) ist Teil der häuslichen Lernumgebung. Die häusliche Lernumgebung hat sich als wichtiger Faktor für eine förderliche kindliche Entwicklung und spätere Schulleistungen erwiesen (Kluczniok et al., 2013; Lehrl et al., 2012; Sammons et al., 2015; Tamis-LeMonda et al., 2017). Studien weisen darauf hin, dass die häusliche Lernumgebung in strukturelle Familienmerkmale (z.B. sozioökonomischer Hintergrund oder die Familiensprache), Überzeugungen (z.B. Erziehungsselbstwirksamkeit) und Prozesse bzw. Prozessqualität (z.B. Eltern-Kind-Aktivitäten) gegliedert werden kann, wobei die Prozesse einen direkten Einfluss auf die kindliche Entwicklung haben (Anders et al., 2011; Kluczniok et al., 2013; NICHD Early Child Care Research Network, 2003). Diese Arbeit folgt der Struktur der häuslichen Lernumgebung, die als das Modell der häuslichen Lernumgebung bezeichnet wird, und stellt die Zusammenhänge ihrer Komponenten dar.

In der ersten Studie wird das Konstrukt der Erziehungsselbstwirksamkeit näher untersucht. Das Konstrukt und insbesondere seine inhaltliche Spezifität sind bisher nicht gut verstanden:

Erziehungsselbstwirksamkeit kann sich zum einen auf die allgemeine Wahrnehmung der Eltern beziehen, wie gut sie sich in ihrer Rolle als Eltern einschätzen, oder zum anderen auf eine spezifische Erziehungsaufgabe. Um das Verhältnis dieser beiden Ausprägungen zu untersuchen, wurde getestet, ob (a) allgemeine und aufgabenbezogene Erziehungsselbstwirksamkeit getrennt erfasst werden können oder (b) in einem hierarchischen Modell abgebildet werden können mit genereller Erziehungsselbstwirksamkeit an der Spitze. Die Ergebnisse deuten darauf hin, dass allgemeine und aufgabenbezogene Erziehungsselbstwirksamkeit getrennte Dimensionen sind. Weiterhin wurden allgemeine und aufgabenbezogene Erziehungsselbstwirksamkeit auf Unterschiede nach Familienmerkmalen untersucht. Die Ergebnisse deuten darauf hin, dass Eltern mit nicht-deutscher Familiensprache eine geringere allgemeine Erziehungsselbstwirksamkeit erlebten und sich selbst als weniger selbstwirksam in der Pflege eines kranken Kindes wahrnahmen. Eltern mit einem Hochschulabschluss fühlten sich wirksamer in der Vermittlung eines verantwortungsvollen Mediengebrauchs, aber weniger wirksam in der Betreuung eines kranken Kindes als Eltern ohne Hochschulabschluss.

Die zweite Studie untersuchte den Zusammenhang von Erziehungsselbstwirksamkeit mit Familienmerkmalen und häuslichen Lernaktivitäten von deutschen Eltern ohne Migrationshintergrund und Eltern mit türkischem Migrationshintergrund. Es gibt bisher wenig Erkenntnisse (a) über die Zusammenhänge zwischen Strukturmerkmalen, Erziehungsselbstwirksamkeit und häuslichen Lernaktivitäten, insbesondere für türkische Migrantenfamilien mit mittlerem Bildungsniveau und Einkommen, und (b) ob Erziehungsselbstwirksamkeit und häusliche Lernaktivitäten und ihr Zusammenhang durch den Migrationshintergrund der Eltern beeinflusst werden. Die Ergebnisse zeigten, dass Erziehungsselbstwirksamkeit und das Bildungsniveau, nicht aber der Migrationshintergrund, signifikante Prädiktoren für häuslichen Lernaktivitäten waren. Der Migrationshintergrund war über die Erziehungsselbstwirksamkeit mit der Anzahl der häuslichen Lernaktivitäten verbunden. Es gab jedoch keinen direkten Zusammenhang zwischen dem Migrationshintergrund und den häuslichen Lernaktivitäten. Dies weist auf die Bedeutung

von Erziehungsselbstwirksamkeit für die häuslichen Lernaktivitäten hin, unabhängig vom Migrationshintergrund. Überraschenderweise fühlten sich Eltern mit türkischem Migrationshintergrund signifikant selbstwirksamer als deutsche Eltern ohne Migrationshintergrund.

Die dritte Studie untersuchte den Zusammenhang von Erziehungsselbstwirksamkeit und häuslichen Lernaktivitäten mit den kindlichen Entwicklungsmaßen am Übergang von der Kindertagesbetreuung in die Grundschule. Das Zusammenspiel zwischen Erziehungsselbstwirksamkeit, häuslichen Lernaktivitäten und den sozio-emotionalen und sprachlichen Fähigkeiten von Vorschulkindern wurde bisher noch nicht untersucht. Durch die Verknüpfung dieser Variablen ging diese Studie über bisherige Forschungen hinaus, die sich auf Beziehungen zwischen zwei Faktoren konzentrierten. Die Ergebnisse deuten darauf hin, dass je selbstwirksamer sich die Eltern fühlten, desto mehr häusliche Lernaktivitäten boten sie an und desto höher schätzten sie die Sprachkenntnisse ihrer Kinder im Alter von 5 Jahren ein. Darüber hinaus berichteten Eltern, die sich bei der Förderung der sprachlichen Fähigkeiten ihrer Kinder wirksamer fühlten, dass ihre Kinder weniger sozio-emotionale Probleme hätten. Auch unternahmen Eltern, deren Kinder kurz vor dem Übergang von der Kindertagesbetreuung in die Grundschule standen, nicht signifikant mehr schulvorbereitende häusliche Lernaktivitäten als Eltern von Kindern, die nicht zeitnah in die Grundschule kommen sollten.

Diese Dissertation trägt dazu bei, die Struktur von Erziehungsselbstwirksamkeit besser zu verstehen. Weiterhin konnte diese Dissertation zeigen, dass Eltern mit Migrationshintergrund sich nicht generell als weniger selbstwirksam in der Erziehung ihrer Kinder wahrnehmen, sondern dass auch andere Familienmerkmale und der Kontext für diesen Zusammenhang entscheidend sind. Schließlich erwies sich die elterliche Selbstwirksamkeit als signifikanter Prädiktor für die Anzahl häuslicher Lernaktivitäten, was die Bedeutung der Erziehungsselbstwirksamkeit für die Verbesserung der häuslichen Lernumgebung unterstreicht.

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1. Introduction - Parenthood in Changing Times

The social and economic conditions for families today differ considerably from those of past decades, at least in western societies. For example, changes in the law promote joint childcare by parents, and occupational demands and emancipation movements have impacted mothers' increased employment. Being a parent is these days rather an option than a matter of course. For couples, especially those with an academic background, view this choice critically, because in addition to self-fulfillment, high professional demands, and having rarely support from their own families in the same place of residence, parenthood has become an increasingly difficult task with high expectations - high expectations of parents for themselves and of society for parents (Merkle & Wippermann, 2008). Many parents feel insecure, a third feel stressed in their everyday life, often almost daily, and half of them at least occasionally (Merkle & Wippermann, 2008). The increased flood of parenting guides and parenting magazines in the last two decades documents this uncertainty (Schmid, 2011; Stark Urrestarazu, 2018). Becoming a parent can be a very challenging and exhausting time, especially for people who are rather poorly prepared for the parenting role, whether through a lack of role models for parenting in their childhood or through uncertainty in the perception of their self-efficacy in being able to fulfill the now expanded family obligations (Bandura, 1997). Many studies addressed the area of parental self-efficacy: "After at least 800 scientific publications on the subject, it is relevant to ask whether the study of parenting self-efficacy has made the challenges parents face look a bit less daunting." (Schuengel & Oosterman, 2019, p. 654).

Parents have to deal with the ever-changing challenges of raising children and the interde-

pendent relationships within the family and the links and dependencies with many extra-familial systems, including educational and care facilities, recreational and medical facilities. Parents with a high level of parental self-efficacy guide their children more appropriately through the various development stages with fewer difficulties between partners or between parent and child (Bandura, 1997). However, it can be a more difficult time for parents with low parental self-efficacy to cope with extended family demands (Bandura, 1997). Research showed that parental self-efficacy is an essential factor influencing parental behavior. Parents who feel more efficacious are more likely to engage in supportive parenting and strategies that promote their children's social, emotional, and behavioral development (T. L. Jones & Prinz, 2005). A high level of parental self-efficacy is not only relevant for various measures at the child and parent level but is also significantly linked to the improvement in the quality and quantity of home learning activities (Bojczyk et al., 2018; T. L. Jones & Prinz, 2005; Peacock-Chambers et al., 2017; Vukovic et al., 2013). This thesis investigates parental self-efficacy in relation to family background characteristics, home learning activities, and child outcomes. The investigation of these relationships operates within the framework of the home learning environment model, with the environment playing a primary role in child outcomes (Anders et al., 2011; Kluczniok et al., 2013; Lehrl, 2018; NICHD Early Child Care Research Network, 2003; Tietze et al., 2005).

The first study of this doctoral thesis examines the construct of parental self-efficacy and, in particular, its content-specificity as it is not well understood. Answering this question is essential for the construct validity of parental self-efficacy. Parents with a low income, a low educational level, or an immigration background (Ardelt & Eccles, 2001; Wittkowski et al., 2016) have been found to experience low parental self-efficacy (Ardelt & Eccles, 2001; Elder et al., 1995; Peacock-Chambers et al., 2017). To adequately support these parents, it is essential to know whether differences in parental self-efficacy according to families' background characteristics occur in specific parenting tasks and – if so – which of these background characteristics evoke the strongest differences. The second study examines the relationships between parental self-efficacy

with families‘ background characteristics and home learning activities. While studies showed that low socioeconomic status is associated with both low parental self-efficacy (Ardelt & Eccles, 2001; Elder et al., 1995; Peacock-Chambers et al., 2017) and qualitatively and quantitatively poorer home learning activities (Kluczniok et al., 2013; Rodriguez & Tamis-Lemonda, 2011), little is known about the interplay between families' background characteristics, parental self-efficacy, and home learning activities for families with an immigration background. As families with a Turkish immigration background are often the most socioeconomically disadvantaged group in comparison to other immigration groups and families without an immigration background (Henkel et al., 2014; Leseman & Van Den Boom, 1999), we additionally want to look at whether these relationships differ between families with and without Turkish immigration background. The third study examines the interplay between parental self-efficacy, home learning activities, and the socio-emotional and language skills of preschool children, which has not yet been investigated (Stiévenart & Martinez Perez, 2020). Previous research has shown that parental self-efficacy is positively related to children's social skills and their language skills (Day et al., 1994; Junttila et al., 2007; Stiévenart & Martinez Perez, 2020). Also, there is evidence that home learning activities positively affect children's socio-emotional and language skills (Hartas, 2011a; Niklas & Schneider, 2017; Skwarchuk et al., 2014). Few studies investigated the link between home learning activities and children's socio-emotional skills (C. E. Baker, 2013). There are no studies on the link between parental self-efficacy, home learning activities, and child outcomes. This thesis addresses these questions in three studies.

The following chapters are intended to deepen and integrate the content of the three empirical studies. Chapter 2 is the theoretical background of this thesis and aims to extend the studies' theoretical background and thus embed them in a broader theoretical context. This chapter explores the home learning environment of families (section 2.2) and addresses the background of self-efficacy (section 2.3) and parental self-efficacy (section 2.4). Chapter 3 then presents research findings on the home learning environment of families (section 3.1) and shows findings

on the structure of parental self-efficacy (section 3.2) and links of parental self-efficacy with other components within the home learning environment model (Chapter 3.3).

After summarizing the theory and research findings and elaborating the research questions, follow three short overviews of this thesis‘ three studies. The general discussion summarizes conclusions that can be drawn from the three studies for the research questions and their significance in the context of further research. Finally, limitations and directions for future research will be discussed, and the implications for educational policy and practice should illustrate the applicability of the findings.

2. Theoretical Background

This chapter synthesizes the literature on the home learning environment, self-efficacy, and parental self-efficacy. First, three theories that touch on the home learning environment are explored. Following is a brief explanation of how research has approached some components and a model of the home learning environment over time. The model of the home learning environment is then described. The model forms the theoretical foundation of this thesis, and further links of components are explored using this model. Parental self-efficacy is at the center of the home learning environment model in this thesis. Subsequently, the theoretical background of self-efficacy and then parental self-efficacy is elaborated in detail, as links to other model components due to the relationship of parental self-efficacy to them are described in the further course.

2.1. Context of the Home Learning Environment and Child Development

People started thinking about child development very early on. They thought, for instance, about the predispositions a child comes into the world with and how one can influence the child's development. Aristotle and Plato wrote about child development, with Aristotle believing that children come into the world as a blank page and only learn through experience (Borstelmann, 1983). Many years later, Rousseau, Pestalozzi, and Fröbel were well-known examples of thinkers concerned with the appropriate education of (young) children and what means would be necessary to achieve this. Pestalozzi, for example, took a critical look at (school) education and presented a concept on childhood education in the context of school and family in his 1801 published book

”How Gertrude teaches her children”. However, from the title itself, it can be derived that it is aimed at people who teach children, and in particular mothers' educational actions and objectives (Kessl, 2016). This literature indicates that there has been early discussion of how the environment and social interaction with the child influence the child's development, and the question of which measures can lead to certain outcomes has been explored. Since the family is the primary and presumably most important socialization environment for most children, the family home has a decisive influence on child development (Tietze et al., 1998).

Over time, several research areas developed to study child development from different perspectives. In the 20th century, for example, theories in developmental psychology tried to explain how our genetic disposition (nature) interacts with our environment (nurture) and how human characteristics continue and change over the life span (Anastasi, 1958; Bronfenbrenner & Ceci, 1994; Rogoff, 1993). The question of genetic disposition is not addressed below, but the environmental influence on children's skill development is relevant. Regarding the environmental factor, literature on the family home as a home learning environment often referred to the following theories that, in brief, address child (cognitive) development through interaction with his or her environment: Bronfenbrenner's bioecological model (Bronfenbrenner, 1979, 1993) and Vygotsky's sociocultural approach (Vygotsky, 1978). In addition, the capital theory of (Bourdieu, 1983) is used in the context of the home learning environment, primarily to reveal and explain socioeconomic differences and their precursors and consequences between households. These three theories are addressed in more detail in the following sections. They share that they assign a central role in child development to the environment: The various contexts influence child development and vice versa. These theories provide different approaches to understanding why and how a child's environment is essential to its development and indicate why children develop differently depending on the interaction between a child and its environment.

2.1.1 Bronfenbrenner: The Bioecological Model

Bronfenbrenner's bioecological system of human development, where development is an

"evolving process of organism-environment interaction" (Bronfenbrenner, 1993, p. 4), is one of the most comprehensive theoretical frameworks. According to Bronfenbrenner and Morris (2006), human development occurs most effectively in interaction that occurs daily over a more extended period. Since young children spent most of their time with their families, families play a huge part in how they grow up. For younger children, parents are the first interaction partners. While the family is the first and most important context for child development in the early years, other people and contexts such as peers or school become increasingly important as children get older (Bronfenbrenner, 1986; Bronfenbrenner & Morris, 2006). According to the bioecological model, child development is set in an ever-changing environment consisting of nested, interactive, and interdependent systems that directly and indirectly influence children's developmental progress. The model focuses on the child with its characteristics and genetic makeup. The child's interactions with its immediate environment, called microsystems, include people and institutions with which the child has direct contact. These microsystems, such as the child-family microsystem, directly influence the child and shape the child's social and cognitive development. The mesosystem presents the interconnection among the microsystems. Beyond the immediate environment are the more distant, not directly tangible environments that also affect child development: Firstly, the exosystem affects the child indirectly (e.g., the parent's workplace). Further from the child is the macrosystem that encompasses societies' attitudes, the economic system, the media, the government, and the law. Over time, the child and the systems surrounding it change with mutual adjustments (chronosystem). In later publications, Bronfenbrenner identified four defining characteristics of the bioecological model: processes, people, context, and time (Bronfenbrenner & Morris, 2006). He also added to the bioecological model empirically measurable processes, called proximal processes, which are "the primary engines of development" (Bronfenbrenner & Morris, 2006, p. 798). Proximal processes posit that human development occurs through processes of increasingly complex mutual interactions between an active person and the persons and objects in her or his immediate environment

(Bronfenbrenner & Morris, 2006). Through them, genetic potentials for effective psychological functioning are updated, suggesting that the environment has an enormous influence on the amount of heredity, without knowing what the unrealized genetic potential even might be (Bronfenbrenner & Ceci, 1994). Accordingly, children develop their abilities through stimulation and interaction with areas or systems of their environment such as the family home, the (pre-)school, whereby these areas are different for each child, and each child also interacts with them differently.

2.1.2 Vygotsky: Child Development through Social Interaction

According to Vygotsky (1978), social interaction is crucial for the continuous process of children's cognitive development. He argued that the developmental process follows the learning process. This cycle of learning and development encompasses zones of proximal development. This means, for example, that the mastery of new words gives way to further developmental steps. Two aspects of his approach are mostly referred to: (a) the process of guiding a child through the "zone of proximal development", which is set between the current developmental, independently problem-solving state and the potential developmental state that the child cannot yet master independently, and (b) the parent's provision of a "scaffold" for their child, at the same time supporting and challenging the child's abilities for further development. Through this parent-child interaction, children might also internalize what expectations their parents have for their development and what activities parents value, which in turn shapes children's (academic) self-concept (Melhuish et al., 2008). Similar to this, Rogoff (1993) developed the concept of "guided participation" to describe how cognitive development occurs in a sociocultural context in the process of "apprenticeship". In guided participation, the children participate in qualified activities with other children and adults in routine and implicit collaboration. The children acquire the skills and understanding from their ongoing activities that they will use in future activities.

2.1.3 Bourdieu: Theory on Capital and Class Distinction

Bourdieu's theory attempts to explain the reproduction of social inequality and how being part of a social class shapes the physical and social (home) environment. This, in turn, might explain

differences in children's competencies. According to Bourdieu (1998), children experience an upbringing at home that is specific according to the (socioeconomic) background of the family, with certain child skills and attitudes being influenced by it. This is a child's primary habitus. Other environments, such as (pre)school, continue to develop children's socialization (their secondary habitus), but children's coming abilities and attitudes (and the selected environments) still depend on their primary habitus.

In principle, capital exists either in the form of material or in a form embodied in a person. According to Bourdieu (1983), capital can appear in three different forms: social, economic, and cultural capital. Capital accumulation takes time; it is inert, so to say, and is unequally distributed in society. Social capital is the overall sum of all social relationships that people have or the affiliation to a social group. The extent of people's social capital depends on their network of relationships and the relationship partners' economic and cultural capital. Cultural capital includes (a) all objects of generally accepted cultural value such as books or musical instruments (objectified cultural capital), (b) educational titles (institutionalized cultural capital), or (c) acquired skills or knowledge (embodied cultural capital).

Bourdieu (1983) argued that the accumulation of cultural capital is one explanation that children from different social classes are unequally successful in school. He pointed out that the most hidden and socially efficacious educational investment is the transmission of cultural capital in the family, which was often not considered in research of the time: Children's skills are often the result of invested time, the cultural and economic capital. Having time, in turn, is often only possible by sufficient economic capital (Bourdieu, 1983). This suggests that Bourdieu realized that not only the possession of objectified cultural capital was necessary for children's acquisition of cultural capital, but that activities with children are also required to teach them certain skills (incorporated cultural capital). Thus, differences in cultural practices between families are one reason for differences in children's skill development (Schlee et al., 2009).

The family's belonging to a social class also influences child development. Social classes

are characterized by their habitus and tastes (class habitus). Specific behavioral patterns and tastes (aesthetic choices) have established themselves. There are certain acquired skills and knowledge that are considered valuable and appropriate in diverse contexts and society (Bourdieu, 1998). Children are taught preferences for certain types of food, music, and art, and these class-specific tastes help guide children to their ”appropriate” social positions. A person's taste creates class differences. Bourdieu (1998) emphasized that class habitus is acquired primarily (through children's primary socialization). Furthermore, Bourdieu and Passeron (1977) stated that social inequality in educational participation arises from the school's middle-class values, language, and behavioral systems that systematically discriminate against children from socioeconomically disadvantaged backgrounds rather than from the differential endowment of families' cultural capital per se.

2.2. The Home Learning Environment Model

Early on, researchers found that different aspects of families' background characteristics, such as their socioeconomic status, influence child outcomes and, specifically, children's academic performance. J. S. Coleman (1968), for example, stated that even those children who attended the same school but came from different homes differed more in their performance than the average child in different schools. Therefore, researchers aimed to understand how children's home environment influences their learning and academic performance. For this, researchers developed models and procedures to evaluate children's home environment that referred, for example, to Murray's (1938) need-press theory or Bronfenbrenner's (1979) bioecological model. One approach by Bloom (1964) was a ”watershed” (Bradley & Caldwell, 1978, p. 117), both theoretically and empirically, in the research on the learning environment of children and laid the foundation for the so-called ”Chicago group”. In this work, Bloom (1964) pointed out that children from low-income households do not automatically receive little support and stimulation from their parents, just as children from higher-income households do not necessarily have

responsive and supportive parents. Thus, the Chicago group's attempts to determine the home learning environment focused more on the actual processes that happened in the children's homes. The Chicago group researchers assumed that processes are more sensitive to the child's environment and are, therefore, better predictors of child development than only families' background characteristics (Bradley & Caldwell, 1978; Bradley et al., 1988; Marjoribanks, 1976).

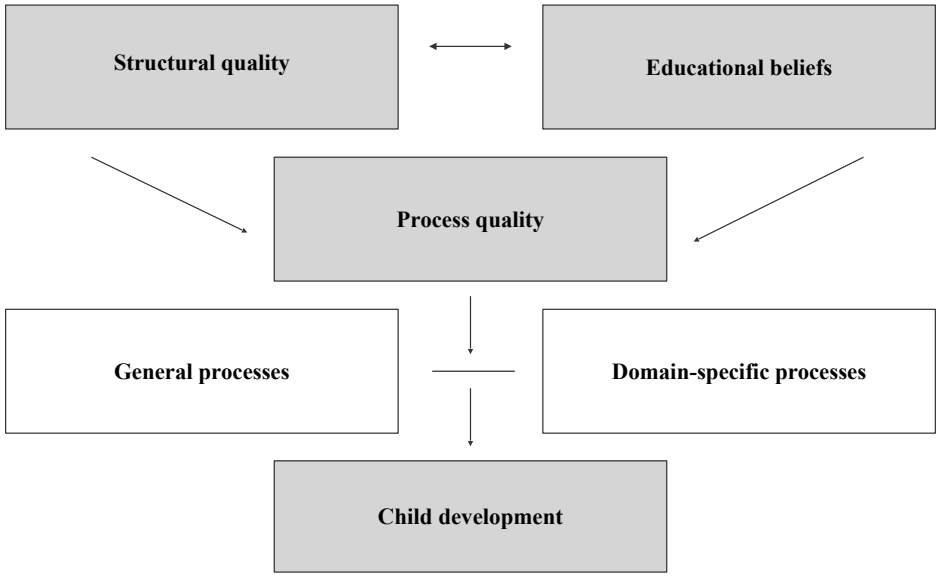
Later on, Bradley et al. (1990) presented a broader classification scheme for organizing aspects of children's environment intended to integrate previous research. This scheme tried to illustrate the interaction between a child and its environment and considers the functions of the child development environment. However, this approach has been little revisited in later research. Currently, there is no unified model but similar (measurement) approaches that address the links between environmental stimulation and child development. Those models often address specific areas of child development, such as reading and math skills: Examples are the home literacy model (Sénéchal, 2006; Sénéchal & Lefevre, 2002) and the home numeracy environment (Niklas & Schneider, 2012). Other approaches to capture the influencing elements in children's learning assessed the number of family activities, from numeracy and literacy activities to shopping or having daily routines (Melhuish et al., 2008). Interestingly, one approach by Rashid et al. (2005) covered not only families' background characteristics and home activities but also parents' educational beliefs, suggesting that the authors also considered these beliefs to play an essential role in the home learning environment's set-up.

The home learning environment model, on which this thesis is based, is, more specifically, a structure-process model of educational quality, which encompasses three different dimensions influencing child development: (a) parent's beliefs (quality of educational beliefs), (b) structural family characteristics (structural quality), and (c) home activities (quality of parenting or educational processes) (Tietze et al., 2005; Tietze et al., 1998). Thus, this model covers previous approaches to structuring a child's home environment, which pointed to family characteristics, activities, and even parental educational beliefs as significant predictors of child development. In

line with Bronfenbrenner (1979), Tietze et al. (1998) referred to the family as a microsystem that interacts with the preschool microsystem. This approach applies the same three aspects of quality mentioned above to capture the educational quality of a child's environment for preschool and the family. Thus, there are two environment models with the same quality dimensions, one covering the family environment and the other covering the preschool environment. The model for the home environment is relevant for this thesis. The perspective on the nature of the environment is that of the child - the question is what aspects of the family environment contribute to child development (Tietze et al., 1998).

Figure 1

The Home Learning Environment Model



Note. The model of the home learning environment is adapted from Kluczniok et al. (2013), Tietze et al. (1998).

In the family context, the model is referred to in previous research as the home learning

environment model. More specifically, the model encompasses the following dimensions (Tietze et al., 1998, see Figure 1):

The families' structural quality includes longer-term and less modifiable aspects, for example, the age and educational level of parents, the number of siblings, household income, employment, or housing conditions.

Educational beliefs refer to parents' general concept of parenting, their parenting values and goals, their ideas of appropriate educational activities, and their expectations of their child's development.

Process quality refers to the educational interactions and stimulation that the child experiences in interactions with its family, especially with its parents (or parental figures). This quality aspect of the model is considered the closest to the child's development (Tietze et al., 1998). Kuger and Kluczniok (2008) presented a further differentiation within process quality relevant to later consideration in this thesis. They differentiate between global and domain-specific process quality in answer to the previous disparate conceptualization of process quality. Global process quality focuses on the quality of care, warmth, the responsiveness of a parent, and general support aspects. Domain-specific process quality focuses on the support of domains such as literacy or numeracy. This distinction was applied to the preschool context (Kuger & Kluczniok, 2008), and later Kluczniok et al. (2013) extended the distinction to the family context as well.

According to Tietze et al. (1998), the home learning environment is integrated into a larger context in the sense of Bronfenbrenner's bioecological model. Process quality is at the center and is embedded in the structural quality and the quality of educational beliefs. Context factors constitute the following system level (e.g., the neighborhood) which influence the child's experiences. The top and last level is the macro level, which includes societal changes influencing, for example, the view on families and family members' interaction. After the last chapters addressed the family home's theoretical background and the home learning environment model, chapters on (parental) self-efficacy, the central construct of this thesis, follow.

2.3. Self-Efficacy

In addition to the home learning environment model, parents' self-efficacy is central to this thesis. Parental self-efficacy is based upon Bandura's understanding of self-efficacy: "Perceived self-efficacy refers to beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). This thesis' theoretical chapter extensively examines self-efficacy theory. This elaboration should contribute to clarifying later on how, for example, parental self-efficacy differs from similar constructs, how it is measured, and how parents can be supported to increase their parental self-efficacy. Initially, the self-efficacy theory stemmed from psychology or psychotherapy and was aiming to "analyzing changes achieved in fearful and avoidant behavior" (Bandura, 1977, p. 193). The field of self-efficacy research then expanded beyond the area of clinical behavior change (Cervone, 2000). Researchers recognized that self-efficacy assessments contributed to successful development in numerous contexts, e.g., performance in the work environment (Wood & Bandura, 1989), academic achievement (Bandura et al., 1996; Schunk, 1994; Schunk & Ertmer, 2000) and parenting (Johnston & Mash, 1989; Teti & Gelfand, 1991).

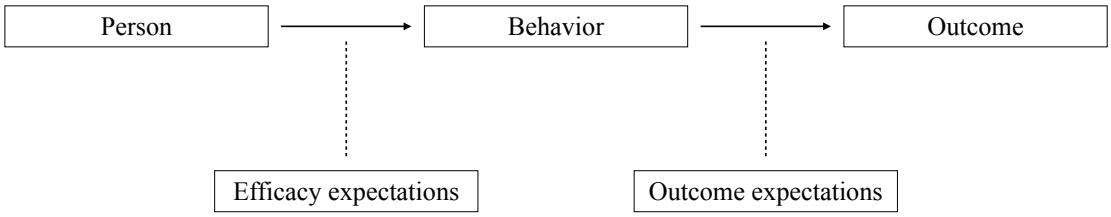
2.3.1 The Concept, Sources, and Process of Self-Efficacy

Self-efficacy theory examines the origin of self-efficacy beliefs, their structure and function, the processes through which self-efficacy beliefs operate, and their effects on both individual and collective levels (Bandura, 1997). People's self-efficacy degree is linked to the choice of activities, to the effort put into those activities, and to the perseverance in those activities (Bandura, 1977). Thus, self-efficacy influences both performance behavior and psychological functioning through its influence on behavioral choices, the level of effort, and perseverance during difficulties (Bandura, 1997).

Central to people's self-efficacy is the emphasis on the expectation of effectiveness about one's behavior. Self-efficacy does not include the expectation that a particular behavior will

Figure 2

Scheme of the Difference between Efficacy and Outcome Expectations from Bandura (1977)



also lead to a particular outcome (Bandura, 1977): The difference is that while people assume that a particular behavior can lead to a specific result (their outcome expectation), they do not assume that they can carry out this behavior themselves (their efficacy expectation) (see Figure 2). Efficacy expectations are not the only determinant of human behavior. Suppose people have the appropriate skills and knowledge structure, the appropriate incentives, and the prospect of some form of reward. In that case, self-efficacy expectation is a significant determinant of the choice of actions (Bandura, 1977). Self-efficacy, being self-referent, is a mediator between knowledge and action (Bandura, 1982). People's competence patterns are the product of innate talents, sociocultural experiences, and given circumstances that can change development (Bandura, 1986). Self-efficacy theory recognizes the diversity of people's abilities and therefore distinguishes between different functioning areas – self-efficacy is not an "omnibus trait" (Bandura, 1997, p. 29) but related to specific activities. Self-efficacy theory further distinguishes between the source of the effectiveness assessment, i.e., a person, and the level of an assessment to a person or a group (Bandura, 1997). Collective self-efficacy takes place in the mind of each person in relation to the capability of that group.

According to Bandura (1977), people estimate their self-efficacy using four different information sources, whereby the first source has the most significant influence: (a) the interpretation of their performance to date (low performance often decreases self-efficacy, just as a successful performance increases self-efficacy), (b) the observation of others (similar to oneself) while they

carry out a task or activity, (c) the reaction to the verbal conviction of other people (support and praise promote self-efficacy whereas negative criticism lowers it), and (d) a person's emotional and physiological state, whereby, e.g., feelings of happiness increase self-efficacy. Building on these four sources, Gist and Mitchell (1992) added three core processes for determining the relationship between self-efficacy and performance: First, people assess task requirements, which encourages reflection on what skills they needed to complete the task. Second, an assessment of previous performance and its attribution takes place. Thirdly and finally, internal and external factors such as one's abilities or external obstacles are assessed to estimate resources and difficulties for completing the task. Thus, self-efficacy is a component of an emergent system that changes in response to a task's varying demands, situational conditions, and a person's individual factors (Bandura, 1989a).

In the initiation phase of action, self-efficacy causes the choice of behavior and environment. As the action progresses, self-efficacy encompasses the effort people make and maintain in the face of obstacles. The higher a person's self-efficacy is, the greater is their effort to cope (Bandura, 1977; Bandura & Adams, 1977). People with low self-efficacy, for example, are more vulnerable to emerging stress already at the beginning of an activity. Over time, low self-efficacy also increases the experience of stress. Individuals change from the motivational state of being challenged to states of increasing threat and even perceived loss of control. The actions are attributed to personal failures, which can confirm their inability and further decrease self-efficacy. This finally leads to a self-fulfilling prophecy in a series of decreasing self-efficacy, motivation, and performance (Schwarzer & Jerusalem, 2002).

Self-efficacy varies on several dimensions: its extent, universality, and strength (Bandura, 1977). When people assess a task by its difficulty, some people's self-efficacy beliefs are limited to simple tasks, while others aim for more difficult tasks. The extent of self-efficacy varies between people (interpersonal) and between tasks within a person (intrapersonal). Thus, people differ in the areas in which they feel self-efficacious and what levels they develop depending on what

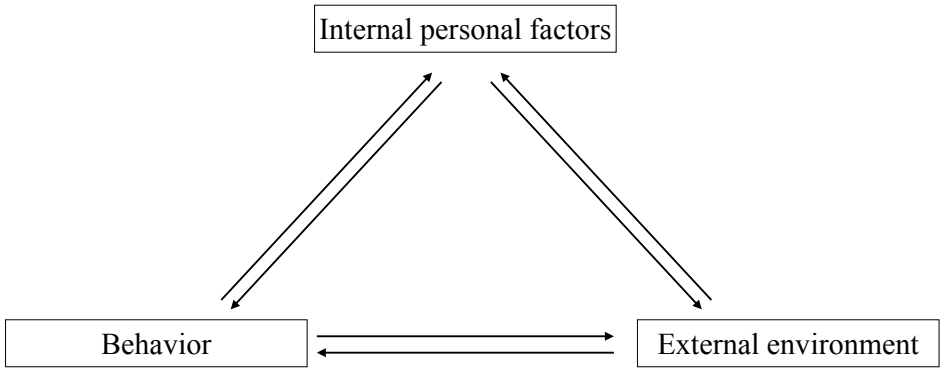
activities they (intend to) do. Efficacy beliefs are not supposed to be a universal trait: Some self-efficacy experiences create high self-efficacy in a limited area, while others can be transferred to other tasks. Self-efficacy beliefs also differ in their strength: People with a high degree of self-efficacy can cope with challenging tasks, even under adverse circumstances.

2.3.2 Self-Efficacy within Social Cognitive Theory

Self-efficacy is a central construct in social cognitive theory, which directs human motivation and action (Bandura, 1997). Social cognitive theory, the cognitive formulation of Bandura's social learning theory, states that human functioning is based upon personal factors (cognitive, affective, and biological factors), environmental influences, and behavior that interact continuously in a triadic reciprocal circle (Bandura, 1986; Schunk & DiBenedetto, 2020). For example, an environmental factor can influence a person's actions, which in turn affects the affective and cognitive state of a person. These three determinants differ in their strength, varying according to activity and circumstances (Bandura, 1997, see Figure 3). Also, mutual influences do not happen simultaneously and holistically but take time.

Figure 3

Scheme of Relations of the three main Determinant Classes in a Reciprocal Triad of Human Agency in Social-Cognitive Theory (from Bandura, 1997)



A key premise of the social-cognitive theory is that people are active beings who strive for a sense of agency. This sense of agency points to their belief that people can wield influence on events in their lives. People exercise their sense of agency by using their cognitive and self-regulating abilities, e.g., by setting appealing goals and using appropriate strategies to achieve them (Bandura, 1977; Schunk & DiBenedetto, 2020). At the center of the strive for agency is a person's self-efficacy, an internal motivation process in social-cognitive theory (Bandura, 1977).

Self-efficacy plays a central role in social-cognitive theory because it is the key aspect of people's sense of agency, which in turn is a central premise in social-cognitive theory (Schunk & DiBenedetto, 2020). Efficacious action is not merely a question of knowing what to do and the motivation to do it. Rather, self-efficacy beliefs organize cognitive, social, emotional, and behavioral sub-skills and effectively arrange them in order to fulfill goals. Even if people have these subskills to achieve a particular goal, it does not mean that they know how to put them in an effective combination, which can lead to people not performing properly (Schwartz & Gottman, 1976). This is where self-efficacy plays the central role: It directs the affective, cognitive, selection, and motivational processes into appropriate actions (Bandura, 1995). These different processes usually occur together. Ultimately, self-efficacy is the cognitive assessment of one's abilities about how all components can be brought together to cope with the task and environment's demands. The following short description shows the links between self-efficacy and the respective processes: Self-efficacy beliefs influence affective processes such as the perception of stress and negative emotions in stressful situations about coping with them. Self-efficacy influences cognitive processes, for example, by affecting the perception of future events, the selection of goals, and the perseverance to stick to the goals. In terms of selection processes, self-efficacy means selecting beneficial environments, social relationships, networks, and interests that people pursue. Self-efficacy is a factor that influences this selection by making people undertake a challenging situation that they think they can handle.

It is important to distinguish self-efficacy from similar constructs such as self-concept or

perception of competence, for example, because these constructs have different antecedents and consequences (Marsh et al., 2019). The elaboration on this distinction is addressed in the chapter on parental self-efficacy, the central construct of this thesis. Often, such similar constructs blur in the literature on parental self-efficacy, which is why researchers have already examined this issue specifically for parental self-efficacy. The distinction between constructs should ideally be drawn with the focus on parental self-efficacy.

2.3.3 Self-Efficacy Theory in Relation to other Motivation Theories

Self-efficacy theory is regarded by Eccles and Wigfield (2002) to be one of several theories that are central to people's motivational beliefs, and it shares some features with related theories such as attribution theory.

Eccles and Wigfield (2002) integrate Bandura's self-efficacy theory into a series of theories that focus on motivation. This series categorizes them into four areas according to their different focus. These are theories (a) with success expectancies (Can I do this task?), (b) that focus on the task value (Why should I do this task?), (c) that link success expectancies with a task's value, and (d) that focus on the association of motivation with cognition. Self-efficacy theory falls into the first category with its focus on success expectancies. Through this categorization, it becomes evident that self-efficacy theory is linked with other motivation-focused theories, such as attribution theory: People with high self-efficacy tend to attribute their setbacks to unfavorable external factors rather than their abilities (Bandura, 1995; Schwarzer & Jerusalem, 2002).

Furthermore, self-efficacy theory shares with attribution theory and expectancy-value theory the expectation of success (Eccles & Wigfield, 2002). People's causal attributions play an essential role in forming self-efficacy beliefs. It becomes a problem when a person wrongly attributes her or his success to external circumstances rather than their competence. Success leads to higher self-efficacy if success is attributed to one's abilities instead of circumstances (Bandura, 1977). Therefore, the cause of attribution (e.g., luck or effort) can be an essential determinant of future self-efficacy beliefs. Thus, it is also essential to distinguish that attributions are related to

the past, while efficacy beliefs are related to the future (Gist & Mitchell, 1992). Furthermore, both self-efficacy theory and expectancy-value theory focus on success expectations (Eccles & Wigfield, 2002). In expectancy-value theory, expectations refer to beliefs about how one will fulfill a task and what value that task has for a person, with task value and expectations being positively related in adolescents and adults (Eccles & Wigfield, 2002). Eccles and Wigfield (2002) and Bandura (1997) differ slightly but significantly in their understanding of expectancies: Eccles and Wigfield (2002) posited that success expectancies are measured in the same manner as self-efficacy beliefs while Bandura (1997) equated expectancies with outcome expectations. The difference between efficacy beliefs and outcome expectations, according to Bandura, has been addressed earlier in the chapter on the conceptualization of self-efficacy. Also, Marsh et al. (2019) pointed out several distinction criteria, e.g., success expectancies often refer to past experience of behavior, while self-efficacy assessment focuses on future potential behavior. However, in the expectancy-value model of achievement by Eccles and Wigfield (2002), the model's focus is on efficacy expectations.

In Bandura's understanding, people act both according to their beliefs about what they can do and according to their beliefs about the likely outcomes. Thus, the influence of outcome expectations is partly influenced by self-efficacy beliefs: People do not engage in every attractive and valuable task, partly because they do not believe they have the capabilities. The predictiveness of expectancy-value theory is considerably increased by including self-efficacy (Bandura, 1995).

2.4. Parental Self-Efficacy

Based on self-efficacy, parental self-efficacy describes the "parent's belief in his or her ability to influence the child and his or her environment to foster the child's development and success" (Ardelt & Eccles, 2001, p. 945). Parental self-efficacy is a parental cognition and a central factor in beneficial parenting practices (P. K. Coleman & Karraker, 1997; T. L. Jones & Prinz, 2005; Wittkowski et al., 2017). In this chapter, parental self-efficacy is first theoretically situated and

then distinguished from related constructs in the field of parental cognitions.

2.4.1 The Concept of Parental Self-Efficacy

P. K. Coleman and Karraker (1997) proposed that parental self-efficacy is interwoven with situational factors and parents' perceived skills. Thus, for parents to feel efficacious, they must have (a) the knowledge of how to respond to their child appropriately, (b) the belief that they can perform such tasks, (c) the belief that their children will respond contingently to their efforts, and (d) the belief that their social environment will support their efforts. Therefore, to feel efficacious, parents must believe in their ability to perform a specific behavior and possess certain knowledge. Efficacy expectations and outcome expectations are not the only determinants of behavior. Expectations alone do not lead to the desired outcome if the knowledge and skills are lacking. However, with appropriate capabilities and adequate incentives, efficacy beliefs are an important determinant of human behavior (Bandura, 1977). Parents do not necessarily need to know what parenting behavior is appropriate in a given situation to feel highly efficacious. Some research findings indicate that high self-efficacy does not necessarily go hand in hand with appropriate behavior in parent-child interaction (Wilson et al. (2014)).

Parents must continuously cope with changing situations. Parenthood can be satisfying and joyful, but it can also be the "most taxing social role encountered in young and middle adulthood" (P. K. Coleman & Karraker, 1997, p. 47), meaning that high expectations are placed on coping with the parenting role, in which efficacy can be crucial (Bandura, 1995). Furthermore, parental self-efficacy is part of a feedback loop: Prior mastery experiences, vicarious experiences, verbal persuasion, and arousal influence parental self-efficacy, which in turn influences outcome expectations and goal setting, which is followed by parental task behavior, which ultimately feeds again into mastery experiences (T. L. Jones & Prinz, 2005; Schuengel & Oosterman, 2019). Thus, parental behavior leads to perceived experiences of success or failure that influence parental self-efficacy. This feedback loop suggests that parental self-efficacy is a transactional factor that can serve as a precursor and outcome (T. L. Jones & Prinz, 2005). The influence of information

on self-efficacy development ultimately depends on how it is assessed cognitively (Bandura, 1989b). Several contextual factors play a role in this assessment, such as social and situational circumstances (Bandura, 1989b). This also applies to parental self-efficacy development: The parents' life circumstances influence their self-efficacy and, ultimately, their parenting practices. For this reason, it is essential to consider the living conditions and family characteristics when assessing and fostering parent's self-efficacy.

2.4.2 Model Integration of Parental Self-Efficacy

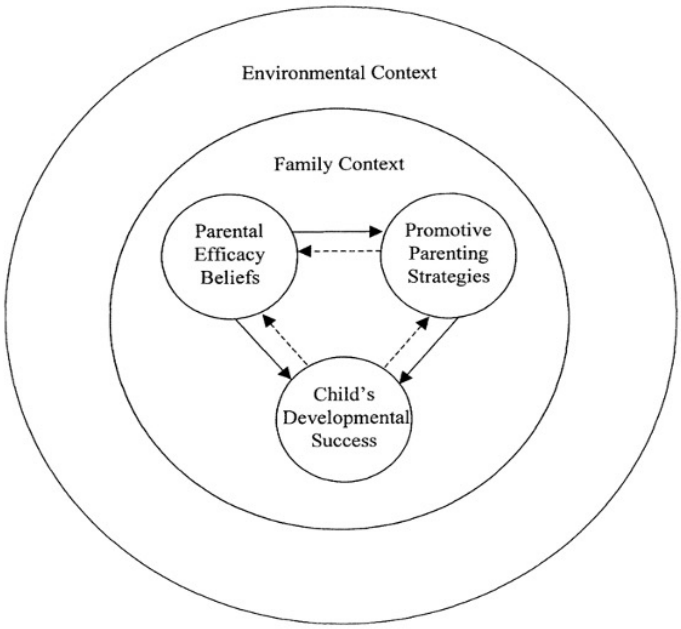
There are other models than the home learning environment model that link parental beliefs to parent-child interactions and child outcomes. Some of these models have a slightly different focus or are much more comprehensive than the home learning environment model on which this thesis is based. Two models that specifically include parental efficacy beliefs will be briefly introduced here. They provide examples of how other researchers place parental self-efficacy in the context of parenting and the (home) environment.

A conceptual model by Ardelt and Eccles (2001) sets parental self-efficacy in a reciprocal triad with relationships to beneficial parenting strategies and successful child development. All three components and their relationships operate in the family context, which is nested in the environmental context. The model structure is resembling the bioecological model by Bronfenbrenner (1979). In this model, the authors posit that parental self-efficacy positively influences parenting strategies and child development directly and that promotive parenting strategies directly influence child development (solid lines). Parents with high parental self-efficacy, for example, are more involved in promotive parenting strategies, which is likely to benefit children's psychosocial development (Elder et al., 1995; Teti & Gelfand, 1991). However, with the dashed lines in Figure 4, the authors wanted to indicate that these relationships might also be reversed, but there was less conclusive research on these relationships.

In a model of parents' socialization of motivation by Eccles and Wigfield (2020) (see Figure 5), parental self-efficacy as a parent's belief (box C) influences parents' behavior and the way

Figure 4

The Conceptual Model of Parental Self-Efficacy in Relationship with Promotive Parenting Strategies and a Child's Developmental Success (from Ardelt and Eccles, 2001)

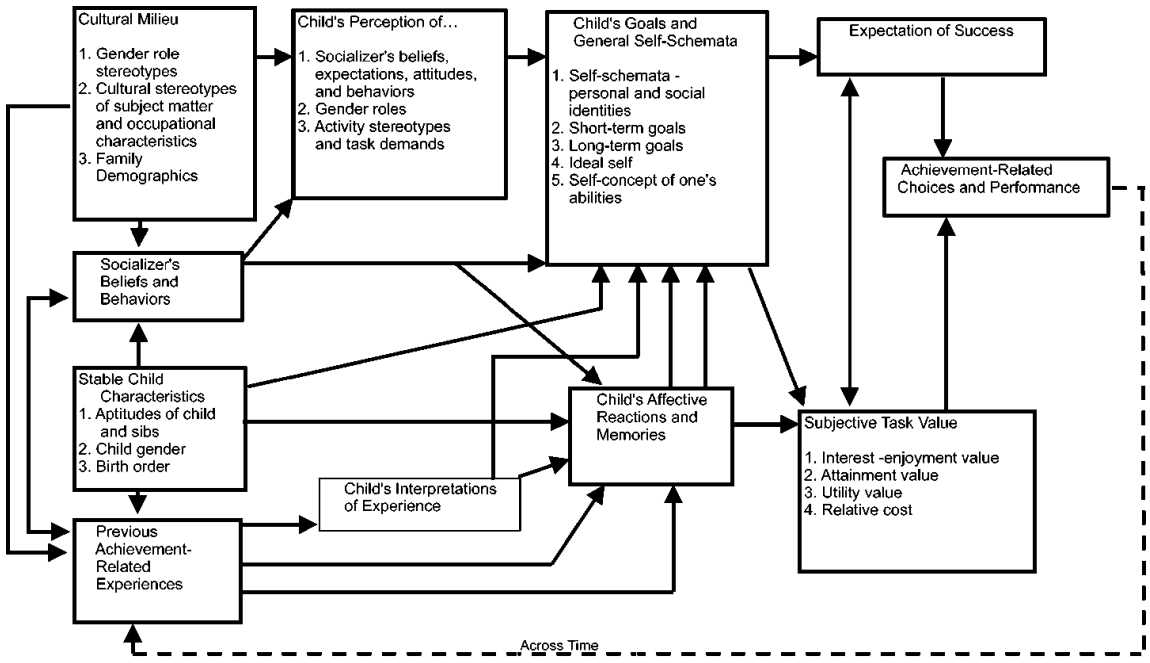


they shape the home environment, specifically the parenting style (Box E), their role model behavior (Box F), and the materials and activities that parents offer and the atmosphere as parents engage with their child in these activities (box G). These and the additional factors mentioned in the other boxes affect child outcomes, such as children's own efficacy beliefs. This model elaborates the socialization aspect children experience in their homes, and thus one aspect of the expectancy-value model of achievement behaviors (Eccles et al., 1983).

This model is similar to the home learning environment model, except for a few additions, such as the child characteristics (box B), the time component, parental role model behavior (box F), and parenting styles (box E). Otherwise, the parent and family characteristics (box A) could be regarded as part of the home learning environment model's structural characteristics, whereby parents' general beliefs (box C) and parents' child-specific beliefs (box D) could be perceived

Figure 5

The Model of Parents' Motivation Socialization (from Eccles and Wigfield, 2020)



as a split and more specific representation of parental beliefs. Furthermore, some components of the home learning environment model and the parent motivational socialization model are covered very similarly: While in the former, the process quality component comprises general and domain-specific activities, in the latter, these activities are similarly covered by the family's socioemotional climate (box E) and parents' activity-specific behaviors (box G).

2.4.3 Differentiation of Parental Self-Efficacy from similar Constructs

Several researchers have deviated from Bandura's self-efficacy concept and suggest that self-efficacy is rather a stable personality trait that is task-independent (e.g., Watt & Martin, 1994). Since researchers differ in their (interpretation of the) theoretical basis, the assessment of self-efficacy and parental self-efficacy also varies critically depending on this. This way, parental self-efficacy assessment sometimes interferes with other, similar constructs, which blurs the constructs and their different precursors, characteristics, and consequences. Therefore, in some

literature, parental self-efficacy is referred to or mixed up with parental self-confidence, parental self-esteem, or self-regulation, or these terms are used synonymously (P. K. Coleman & Karraker, 1997; Hess et al., 2004; Wittkowski et al., 2017). De Montigny and Lacharite (2005) did a concept analysis of the parental self-efficacy literature from 1980 to 2000. They found that the concepts mentioned above are different from each other and accordingly have different precursors and effects. In the following, concepts similar to parental self-efficacy will be described to illustrate these differences.

Self-Concept

Bong and Skaalvik (2003) distinguished self-efficacy and self-concept based on ten different dimensions. Here, self-efficacy is rather future-oriented and malleable, whereas self-concept is past-oriented and relatively stable in time. Besides, self-concept contains an affective component such as joy or satisfaction, whereas self-efficacy is a cognitive construct (Bandura, 1997; T. L. Jones & Prinz, 2005). Marsh et al. (2019) added that frame-of-reference effects, the effects of social and dimensional comparisons, do not play a prominent role in building self-efficacy but for self-concept.

Parental Self-Confidence

Bandura (1997) already made a distinction between the constructs of self-efficacy and self-confidence: Self-confidence refers only to the strength of conviction, while self-efficacy extends this assumption by the certainty of the ability to succeed or fail. In contrast to parental self-efficacy, self-confidence in parenting is described as stable over time and independent of situations (Glidewell & Livert, 1992). It is also often used as a colloquial term that cannot be assigned to a specific theory (Pennell et al., 2012).

Parental Competence

According to De Montigny and Lacharite (2005), parental competence refers to the "perceptions that the parent possesses the skills needed to care for their child" (p. 391). Accordingly, it makes a difference whether parents think they possess certain subskills (parental competence) or

whether parents see themselves as capable of integrating them into a larger sequence of actions (parental self-efficacy) (Bandura, 1997).

Parental Self-Esteem

Self-esteem is a "judgment of self-worth" (Bandura, 1997, p. 110), while perceived self-efficacy is a "judgment of personal ability" (Bandura, 1997, p. 11).

Self-Regulation in Parenting

Hamilton et al. (2015) described parental self-efficacy as a factor that, together with three other independent factors of parents' capacity to act, parent's autonomy, and self-management, represent the common underlying construct of parental self-regulation.

3. The Current State of Research

This chapter presents empirical findings on the home learning environment and parental self-efficacy. Furthermore, it aims to examine the links between aspects of the home learning environment and parental self-efficacy and how they influence child development.

3.1. The Home Learning Environment Model

The development of young children mainly happens in interaction with their families. Families can support child development in their homes in various ways, for example, through (a) providing stimulation and support for learning, (b) monitoring their activities and behavior, and (c) providing routines and guidance to structure their activities (Bradley, 2006). Research indicates comprehensively that the home learning environment plays a primary role for child developmental outcomes, both for its emotional and cognitive development (Baharudin & Luster, 1998; Kluczniok, 2017; Lehrl, 2018; Lehrl et al., 2020; Linver et al., 2002; Silinskas et al., 2010; Taylor et al., 2004; Toth et al., 2020). Specifically, the home learning environment plays an essential role in school performance, for example, in literacy and mathematics (Crane, 1996; Hood et al., 2008; Lehrl et al., 2020; Niklas et al., 2015; Sammons et al., 2015).

This doctoral thesis is based upon the home learning environment model by Tietze et al. (1998) that structures a child's home environment. Specifically, the model aims to bring the different aspects of the environment into coherent relationships, identifying the factors that influence child development. As previously mentioned, the home learning environment model divides itself into structural family characteristics, beliefs, and processes that are termed here as home learning

activities. Within this model, structural family characteristics and parental beliefs influence each other, and both affect home learning activities, which in turn influence child development (Kluczniok et al., 2013; NICHD Early Child Care Research Network, 2003; Tietze et al., 2005).

Multiple studies have shown that both family characteristics and parental beliefs are linked to the quantity and quality of learning activities (Giallo et al., 2013; Green et al., 2007; Missall et al., 2015), with beliefs partially mediating family characteristics (Deflorio & Beliakoff, 2015; Machida et al., 2002; Mcgillicuddy-De Lisi, 1980).

3.1.1 Family Characteristics and Parental Beliefs

Structural family characteristics and parental beliefs appear to influence each other. According to Lareau (2002), socioeconomic status and parental attitudes make a difference in how parents communicate with their children and what activities children engage in during their leisure time. She found that children from middle-class families were more likely to be involved in more structured learning-related activities, while working-class children usually had to take care of their activities. Also, middle-class children were more likely to encounter their parents in an argumentative manner, while middle-class children were more likely to receive directives. More so, parental beliefs about reading to their child were positively linked to children's interest in books and children's involvement in shared book-reading activities, even when parental education and income were controlled (Debaryshe & Binder, 1994).

3.1.2 Family Characteristics and Home Learning Activities

Parents with structural characteristics such as a higher income and educational level, being in a partnership, and having fewer children tend to engage with their children in more home learning activities (Kluczniok et al., 2013; Leseman & Van Den Boom, 1999; Votruba-Drzal, 2003). Early on in research, structural characteristics were assumed to be essential predictors of children's academic achievement (Bloom, 1966; Bradley & Caldwell, 1978). More recently, research has shown that low household income is linked to the level of stimulation in the home environment: Changes in income over four years positively affected, in particular, the level of

cognitively stimulating activities in low-income households in comparison to families with a median income level (Votruba-Drzal, 2003). Hart and Risley (1995) found that parents from a lower income group addressed fewer words to their children, which supposedly has contributed to the children's lower growth rate of their later vocabulary.

Furthermore, Eccles (1992) found that parent's educational level influences their educational aspiration for their child, the assessment of their child's abilities, and the parents' choice of supportive activities, thereby giving the child more diverse opportunities for experiences. In line with this, several studies found a significant relationship between the parental educational level and the home learning environment's quality (Biedinger, 2011; Totsika & Sylva, 2004; Votruba-Drzal, 2003). Smith et al. (1997) found that home learning activities mediated the relationship between the families' income and parental educational level with children's academic performance, which is in line with the home learning environment model. Interestingly, the effect was stronger for parental education than for income. The authors indicated that having a higher educational level might trigger specific educational behaviors.

The immigration background or ethnic background can influence what children possess, how parents interact with their children, and what interaction types occur between family members (Bornstein et al., 1992; Rodríguez et al., 2009). However, García Coll et al. (1996) argued that comparison by a family's ethnic background is problematic as there was no framework linking these differences to social, political, and economic factors. Garcia Coll and Pachter (2002) stated that also within an ethnic minority group, parents have different values, beliefs, and practices regarding the quality of their home environment and quantity of home activities. A majority of studies have not considered specific differences between families with different ethnic backgrounds, their adaptation of parenting to contextual aspects and therefore did not consider the differences when assessing the home learning environment (Bornstein, 1995; Bradley, Corwyn, McAdoo, et al., 2001). Consequently, new measures have been developed to adequately assess the home learning environment for diverse populations (Bradley, 2015; P. C. Jones et al., 2017).

With this background in mind, particular attention should be paid to families' comparability with and without immigration background. Study two in this thesis focuses on the home learning environment of families with a Turkish immigration background and native-born German families without immigration background. Studies suggest that families with an immigration background provide their children with fewer learning activities at home (Kluczniok et al., 2013; Leseman & Van Den Boom, 1999; Votruba-Drzal, 2003). Votruba-Drzal (2003) found that families with an immigration background offered fewer learning activities to both their 3-4-year-olds and their 7-8-year-olds even under control for income. However, while comparing the influence of ethnicity and poverty, (Bradley, Corwyn, McAdoo, et al., 2001), for example, reported that the average effect sizes for poverty were stronger than for ethnicity. Families with a Turkish immigration background in Germany are particularly likely to face this disadvantageous association: They are often the most socioeconomically disadvantaged group in comparison to other immigrant groups and families without an immigration background (Henkel et al., 2014; Leseman & Van Den Boom, 1999). This points to the fact that the factors income and immigration background are often confounded (Cauce et al., 1998), so it is crucial to combine them as covariates in analyses. The findings presented so far have concerned families with an immigration background, specifically families with a Turkish immigration background. What if families with a Turkish immigration background have an average income? What would this suggest for the relationships with their parental self-efficacy and home learning activities? These are questions that study two of this doctoral thesis attempts to answer.

3.1.3 Parental Beliefs and Home Learning Activities

Parental beliefs, such as their educational aspirations or child development beliefs, are linked to children's literacy and numeracy skills and child beliefs, such as children's self-concept (Debaryshe & Binder, 1994; Halle et al., 1997; Hindman & Morrison, 2012; Skwarchuk et al., 2014; Sonnenschein et al., 2012; Stephenson et al., 2008; Weigel et al., 2006). Green et al. (2007), for example, found that the role activity beliefs of parents with elementary school children were

positively related to parent's home involvement, even when the authors controlled for families' socioeconomic status. However, this thesis focuses on parental self-efficacy as a parental belief. The relationships of parental self-efficacy with other home learning environment components will be outlined in chapter 3.3..

3.1.4 Process Quality: Home Learning Activities

In terms of the activity or process types in children's home environment, several studies distinguished between domain-general and domain-specific activities and formal and informal activities (Kluczniok et al., 2013; Kuger & Kluczniok, 2008; Lehrl, 2018). Several studies suggest that domain-specific and domain-general processes are differently linked to child outcomes (e.g., Bradley, 2015; Bradley, Corwyn, Burchinal, et al., 2001; Skwarchuk et al., 2014).

Domain-general processes refer to everyday activities that are unrelated to learning domains and comprise activities such as eating together, visiting the playground or friends, or talking about family matters. This category aims to capture the family climate and the quality of interaction between child and parent and is often linked to the children's social and emotional functioning (reviewed by Bradley, 2015). Domain-general processes can include multiple content-specific skill domains or socio-emotional skills, depending on the measure (Kuger & Kluczniok, 2008; Lehrl, 2018). The HOME (Home Observation Measurement of the Environment), a widely used measure of the home learning environment, includes items designed to capture the socio-emotional aspects of parent-child interaction (parental responsiveness and warmth) in addition to items related to cognitive stimulation (Bradley, 2015). Accordingly, several studies showed links of the HOME's socio-emotional support items with children's social and emotional functioning (Bradley, Corwyn, Burchinal, et al., 2001) or emotion regulation (Vanderbilt-Adriance & Shaw, 2008).

Domain-specific processes include activities in a specific domain, such as numeracy or literacy (Kluczniok et al., 2013). Parent and child supposedly engage in two types of activities: in formal and informal activities (Sénéchal & Lefevre, 2002; Sénéchal et al., 1998; Skwarchuk et al., 2014). These activity types tend to invoke different child outcomes: Skwarchuk et al. (2014) found

that formal arithmetic practices at home (such as practicing simple summation) were related to children's knowledge of the symbolic number system, while informal exposure to games with numerical content predicted children's non-symbolic arithmetic skills. However, concerning literacy activities, Puglisi et al. (2017) found that informal activities such as shared book-reading were not related to children's literacy skills, taking into account the mother's language skills. Formal literacy instruction, however, was related to children's reading and spelling skills. For informal activities in the home literacy environment, parental language skills appear to be a determinant of children's literacy skills, along with interaction quality (Deckner et al., 2006; Hindman et al., 2014; Puglisi et al., 2017).

3.1.5 The Complete Home Learning Environment Model: Family Characteristics and Parental Beliefs, Home Learning Activities, and Child Outcomes

As the home learning environment model suggests, family characteristics play a role in child development. However, this link is not necessarily direct and causal but is mediated by parental beliefs and home learning activities, as the findings on the relationships between family characteristics and home learning activities already elaborated suggest. This is important to note because children of parents with, for example, relatively low educational levels do not automatically have lower educational outcomes. In the EPPE study, home learning activities as part of the home learning environment measures were only moderately linked to parent characteristics (Sylva et al., 2004). However, the frequency of activities was strongly linked to child outcomes. The quote "what parents do with their children is more important than who parents are" (Sylva et al., 2004, p. V) aptly sums this up. Family characteristics do not determine child outcomes because also parental beliefs, among other factors, play a role in parent-child interactions and ultimately child developmental outcomes (Belsky, 1984; Mcgillicuddy-De Lisi, 1980). Specifically, high parental self-efficacy may serve as an additional buffer against demanding life circumstances and positively influence the number of parent-child activities (Peacock-Chambers et al., 2017). Overall, studies found that (a) family characteristics are related (via activities) to children's

cognitive and socio-emotional outcomes (Bradley & Corwyn, 2002; Burris et al., 2019; Davis-Kean, 2005; Foster et al., 2005), and (b) parent's beliefs are related (via activities) to children's literacy, numeracy and socio-emotional skills (J. K. Baker et al., 2011; Debaryshe, 1995; Elias & Ubriaco, 1986; Halle et al., 1997; Hindman & Morrison, 2012; Ren & Pope Edwards, 2017; Sigel, 1994; Skwarchuk et al., 2014; Sonnenschein et al., 2012; Stephenson et al., 2008; Weigel et al., 2006).

3.2. Parental Self-Efficacy

A transmission of self-efficacy theory from psychotherapy into other domains was anticipated by Bandura (1977), who stated that "the theoretical framework [...] is generalizable beyond the psychotherapy domain to other psychological phenomena involving behavioral choices and regulation of effort in activities that can have adverse effects" (Bandura, 1977, p. 204). Thus, parental self-efficacy is part of parenting support programs in related attempts as were initially made to change phobic behavior with support and gradual self-efficacy activation.

Parental self-efficacy is directly related to family characteristics, parental behavior, and emotional states but also serves as a mediator between family characteristics and parental behavior and involvement (reviewed by Albanese et al., 2019; P. K. Coleman & Karraker, 1997; T. L. Jones & Prinz, 2005). Several studies indicated that parental self-efficacy is related to several parenting competence indicators. For example, parental self-efficacy was found the be positively linked to supportive parenting strategies such as encouragement and involvement (Ardelt & Eccles, 2001; Roskam & Meunier, 2012), to the assignment of high importance to child development goals (Brody et al., 1999), to mothers‘ sensitivity in infant-mother interactions (Bohlin & Hagekull, 1987), to parental limit-setting (Macphee et al., 1996), to marital satisfaction (Sevigny & Loutzenhiser, 2010) and parenting satisfaction (Hudson et al., 2001), to parental warmth and the use of social support (Izzo et al., 2000) and parental self-efficacy was positively related to the child's temperament being perceived as less challenging (Gross et al., 1994; Halpern et al., 1994; Verhage

et al., 2013). Parental self-efficacy was found to be negatively related to controlling parenting and harsh punishment (Macphee et al., 1996; Roskam & Meunier, 2012), more parental stress (Sevigny & Loutzenhiser, 2010), over-reactive parenting (Bor & Sanders, 2004). Further relationships with family characteristics and home learning activities will be specified in the upcoming chapter in which parental self-efficacy is reviewed within the home learning environment model. Moreover, parental self-efficacy was found to be related to parent-reported measures as well as measures of observed parental behavior (Mouton & Roskam, 2015; Wilson et al., 2014).

The mentioned positive relationships and the changeability of parental self-efficacy are reasons why it is both part of parenting programs and used as an outcome of parenting program evaluations (e.g., Mouton & Roskam, 2015; Prinz, 2019; Wittkowski et al., 2016). However, it is essential to note that increased parental self-efficacy does not automatically lead to more competent parenting behavior in parent-child activities. Self-efficacy is necessary for successful task performance in parenting. However, parents also require knowledge about the necessary actions (e.g., about child development or adequate (re)actions in parent-child interactions) for beneficial parenting behavior (Bandura, 1989b; Benasich & Brooks-Gunn, 1996; Hess et al., 2004; Leerkes & Crockenberg, 2002; Wilson et al., 2014).

Conrad et al. (1992), for example, found no significant main effect between parental self-efficacy and the observed quality of mother-toddler interactions. However, when knowledge on child development was added to this relationship, the following interaction effect emerged: Mothers with the highest levels of knowledge and the highest levels of parental self-efficacy had the highest quality mother-toddler interactions. In contrast, mothers with the lowest levels of knowledge with concurrent high parental self-efficacy had the lowest quality mother-toddler interactions. According to this study, to create high-quality parent-child interactions, a parent needs a high level of self-efficacy and knowledge on child development. Another more recent study by Wilson et al. (2014) indicated that the relationship between parental sensitivity, as an indicator of parental competence, and parental self-efficacy is curvilinear: Parental self-

efficacy had a small positive relationship with observed parental sensitivity in mother-child play situations from low to moderate parental self-efficacy levels but was inversely related with parental sensitivity from moderate to high parental self-efficacy levels. Overall, these findings suggest that only high parental self-efficacy without adequate knowledge is insufficient for positive child development. This is compatible with the self-efficacy theory by Bandura (1989b) that posits that people draw on their previous knowledge and skills for their outcome and efficacy expectations to achieve their goals. These skills and knowledge are not necessarily sufficient to achieve a certain goal. Bandura (1986) acknowledged that self-efficacy assessments are not positively associated with goal-directed behavior under certain conditions, for example, when people make deficient self-assessments due to insufficient experience in a domain. He also pointed out that a person's initial concept of action very rarely leads instantly to appropriate behavior and success (Bandura, 1989b). Therefore, supervised practice is necessary to transform acquired knowledge into qualified action whereby parents are encouraged in these actions. This points to the need for parent support programs that strengthen knowledge of positive parenting strategies and promote parental self-efficacy in applying them.

Another essential issue for understanding parental self-efficacy in the context of parent-child interactions is the direction of effects between parental self-efficacy and the perception of a child's temperament. Several studies reported that children's perceived difficult temperament accompanies lower parental self-efficacy (T. L. Jones & Prinz, 2005; Lipscomb et al., 2011; Porter & Hsu, 2003), but what is the relationship's direction: Is it because of the child's difficult temperament that parents reported lower parental self-efficacy levels or do parents with lower parental self-efficacy perceived their children's temperament as more difficult? Verhage et al. (2013) assessed parental self-efficacy at three measurement points, with one measurement point before childbirth. Within a cross-lagged path model, parental self-efficacy before childbirth predicted infant negative reactivity and soothability three months after birth. Parental self-efficacy at three months after birth predicted infant negative reactivity at 12 months after birth. Verhage

et al. (2013) concluded that a feedback loop might develop between children's perceived difficult temperament and parenting behavior and strategies that reinforce one another in the course of parenthood. The results suggest that the parent's perception of their child's temperament might start this feedback loop. As indicated in theory, parental self-efficacy is directed towards the future and is informed by experiences from the past, creating a feedback loop. Parents who have successfully supported their children in the past developed a greater sense of self-efficacy in this area of supporting their children (Hoover-Dempsey & Sandler, 1997). When parents do not have or seldom have successful parenting experiences, they often begin to question and doubt their ability to parent their child (Van Hook, 2008). If parents feel that they lack the skills and resources to support their child's development, their self-efficacy is compromised, and they are likely to become less engaged in interaction with their child.

So far, little research has been done on parental self-efficacy in German-speaking countries compared to other countries such as Belgium, the Netherlands or English-speaking countries. Key studies from these countries, such as Mouton et al. (2018), are frequently cited in this thesis. Some examples of studies from Germany are Graf et al. (2012), Kliem et al. (2014), Saile and Kühnemund (2001) or Gärtner et al. (2018), whereby these studies provide a measure for the German context or also describe the link between parental self-efficacy, parenting behavior, and child behavior, however not all of them are set in the context of early childhood education. This is reflected in the measures of parental self-efficacy. Just one of these studies include a domain-specific parental self-efficacy measurement in addition to domain-general parental self-efficacy measurements as the other studies do. The upcoming section elaborates on the differences between the measurement options.

3.2.1 Parental Self-Efficacy Measurement

Just as self-efficacy theory is essential for understanding parental self-efficacy, Bandura's rationale for measuring self-efficacy is central to measuring parental self-efficacy. In some instances, researchers deviated from Bandura's specification to measure self-efficacy (Marsh et al.,

2019; Watt & Martin, 1994). Thus, for some measures, it is questionable whether they assess self-efficacy or whether these rather touch on other constructs such as self-concept (Reynolds & Miller, 2003). A theory-based distinction of self-efficacy with similar constructs has already been made in the theory chapter. Many researchers examined how to properly assess parental self-efficacy, let alone developing a valid self-efficacy measure. The following describes the criteria according to which self-efficacy is to be measured in Bandura's understanding. Central in this regard is the question of the generalizability of self-efficacy, which consequently affects the assessment of parental self-efficacy. The subsequent chapter presents different approaches on how to measure parental self-efficacy and raises a gap in the literature. The first study of this thesis aims to contribute to addressing this gap.

Self-Efficacy Measurement as the Basis of Parental Self-Efficacy Measurement

The task-related nature of self-efficacy beliefs is central to Bandura's understanding of self-efficacy: "Self-efficacy beliefs should be measured in terms of particularized judgements of capability that may vary across realms of activity, different levels of task demands within an given activity domain, and under different situational circumstances." (Bandura, 1997, p. 34). Thus, self-efficacy beliefs differ according to the task domain, a tasks difficulty and its situational context and is, therefore, not a static construct. However, some researchers developed measures of general self-efficacy, e.g., with items such as "I feel insecure about my ability to do things" (Sherer et al., 1982) and even referring to Bandura with stating that "there is evidence that the experiences of personal mastery that contribute to efficacy expectations generalize to actions other that the target behavior (Bandura et al., 1977)" (Sherer et al., 1982, p. 664) and subsequently developed a measure of general self-efficacy. However, in the cited paper by Bandura et al. (1977), the used measures referred to the measurement of self-efficacy in dealing with anxiety-provoking situations of phobics - the instruments varied between several anxiety-provoking stimuli: "To provide an index of the generality of self-efficacy, subjects rated the level and strength of their expectations in coping successfully with an unfamiliar snake as well as a boa constrictor similar to the one used

in the treatment. [. . .] Besides, they rated self-efficacy in coping with other animals they feared and difficult social situations". (Bandura, 1997, p. 128). Going from this narrow item selection of anxiety-provoking situations for phobics to the general self-efficacy items by Sherer et al. (1982) is a stretch. Furthermore, measures that assess general self-efficacy tend to be difficult to distinguish from similar constructs. In a more recent study, Marsh et al. (2019) found that general math self-efficacy is indistinguishable from math self-concept and math outcome expectations. Nevertheless, math self-concept was found to be distinct from task-specific math self-efficacy. The item wording was different between the two self-efficacy measures: generalized math self-efficacy with the item example "I am convinced that I can perform well on math tasks and in math homework"; and task-specific math self-efficacy with the item example "How confident are you to be able to work out the price of a t-shirt when getting 20% off" (Marsh et al., 2019). This hints to the point that general math self-efficacy is not originally self-efficacy but much closer to self-concept, as Marsh et al. (2019) then referred to the three indistinguishable constructs as "self-concept-like constructs" (p. 331). The authors conclude that general self-efficacy measures are not self-efficacy measures because they lack the task specificity and are more likely to be subjected to frame-of-reference effects that compare one's performance with others or with one's performance in a different domain. Thus, general self-efficacy measures seem to be indistinguishable from self-concept measures.

However, self-efficacy can be applied in a generalized way for similar tasks that belong to the same domain. Bandura (1997) has been critical of general self-efficacy measures because they interfere with predicting behavior in specific situations - high self-efficacy in one task activity is not necessarily accompanied by high self-efficacy in another. Thus, Bandura (1989a) proposed measuring different levels of task demands with a random or ascending order of item difficulty and a multifaceted measure to assess self-efficacy concerning several other and specific task behaviors. This way, different self-efficacy measures can tap into the same self-efficacy domain but represent various aspects of a domain. These aspects or domains within a domain differ empirically. They

are differentially linked to other constructs, as (Bandura et al., 1996) demonstrated for the domains of children's social efficacy, academic efficacy, and self-regulatory efficacy.

This is supposed to support the point that self-efficacy is a task-specific measure and task-related items primarily operate within one domain. In parenting, there are also different aspects or domains within the parenting domain, such as promoting a child's academic development or caring for a sick child. However, even within the area of parental self-efficacy, there are different approaches to measuring parental self-efficacy. Here, too, attention must be paid to which measures are used, whether they differ empirically, and whether they rely on constructs of parental self-efficacy.

Approaches of Parental Self-Efficacy Measurement

The literature describes various approaches of measuring parental self-efficacy (P. K. Coleman & Karraker, 1997, 2000; T. L. Jones & Prinz, 2005; Wittkowski et al., 2017). First of all, the item levels of parental self-efficacy measures differ: There are generally phrased items (domain-general items) or task-specific items (domain-specific items) (Črnčec et al., 2010; Moran et al., 2016). Generally phrased items do not specify the task or the child's age, e.g., "What I do has little effect on my child's behaviour [sic]." (Campis et al., 1986). In contrast, task-specific items refer to a specific parenting task, often associated with the indication of the child's age, e.g., "I have been able to establish a daily routine with my toddler that feels comfortable to both of us." (P. K. Coleman & Karraker, 2003).

Two widely used conceptualizations from two different studies are presented below. It is essential to note the specificity of the item wording when examining the concepts.

T. L. Jones and Prinz (2005) derived three levels of assessing parental self-efficacy by parental self-report in their review:

(a) General parental self-efficacy aims at a general assessment of parental self-efficacy, and the items do not ask about parenting tasks or areas,

(b) task-related parental self-efficacy aims to capture parental self-efficacy broadly, but the

items focus on parenting tasks,

(c) narrow-domain parental self-efficacy is narrowed down to only one parenting domain and uses task-specific items.

The task-related self-efficacy measurement is similar to the general parental self-efficacy assessment, but the item wording is task-specific. This way, the items cover different parenting domains to achieve a construct summary of parental self-efficacy.

P. K. Coleman and Karraker (2000) derived a similar subdivision of the measurement of parental self-efficacy, initially according to domain-general, domain-specific, and task-specific parental self-efficacy:

(a) In the domain-general assessment, parenting should be conceptually distinguishable from other domains of self-efficacy by asking for the general assessment of parental self-efficacy, such as "I have the feeling that I am doing a good job as a parent" (Freiberg et al., 2014), which is similar to general parental self-efficacy of T. L. Jones and Prinz (2005) above,

(b) domain-specific parental self-efficacy is derived by aggregating data from task-specific items, resulting in a multidimensional index (Bandura et al., 1996), which is similar to the task-related index of T. L. Jones and Prinz (2005) above,

(c) task-specific parental self-efficacy is used to measure self-efficacy in certain parenting domains utilizing single task-specific items or a set of items on parenting tasks.

Finally, P. K. Coleman and Karraker (2000) mentioned a fourth possibility in assessing parental self-efficacy: Self-efficacy is considered here as a relatively stable character trait and applied to various human activity domains; parenting is one. This deviates from Bandura's self-efficacy concept (Bandura, 1989a), as discussed in the previous chapter on assessing self-efficacy. Advantages of assessing domain- and task-specific parental self-efficacy over more generally phrased measures are higher significance (Bandura, 1989a) and predictive validity (Črnčec et al., 2010): Measures that define domain-specific and task-specific self-efficacy are better suited to reflect inevitable changes in parenting because of their sensitivity to parenting tasks (Wittkowski

et al., 2017).

The item specificity is linked with the stability of parental self-efficacy over time. As mentioned before, Bandura (1997), Bandura et al. (1977) described self-efficacy as a dynamic construct. Accordingly, as parenting tasks change over time with a child's development, the more specific the assessment is, the more likely parental self-efficacy assessments need to change. Measures and item wording ought to be altered because, for example, changing diapers or helping with homework is not part of childcare in the long term. However, when parental self-efficacy is assessed at a general level, such as "Being a parent is manageable, and any problems are easily solved." (Johnston & Mash, 1989), it is a more stable construct in the sense that this measure can be used over several measurement points (P. K. Coleman & Karraker, 2000; Črnčec et al., 2010). Thus, these measures are suitable for a range of child ages but are less sensitive to, for example, parenting tasks with children of a certain age (Črnčec et al., 2010). With general parental self-efficacy, it is again questionable whether parental self-efficacy is really assessed. Since it is in the design of parental self-efficacy to relate to task behavior, researchers might choose a construct similar to self-efficacy if they want an instrument on hand that might be more stable over time (Marsh et al., 2019).

However, studies that used task-related or domain-general parental self-efficacy items have shown that, on average, parental self-efficacy increases over time. Gross et al. (1994) reported that maternal self-efficacy increased significantly between toddlers ages 12 and 24 months but did not change when toddlers were 24 to 36 months old. The parental self-efficacy items were related to tasks and situations relevant to the toddler's age, such as toilet training. The initial increase is interpreted as expected, as mothers gain experience caring for their child over time and then remain at higher levels. In a study by Weaver et al. (2008), parental self-efficacy (e.g., "I now realize the problems of taking care of a child are easy to solve once you know how your actions affect you child.") significantly increased over time between child's age two to four. They also explained the increase by the fact that mothers gain more experience in parenting tasks.

Under the assumption that a more specific definition of parental self-efficacy is likely to show more precise links with actual behavior, P. K. Coleman and Karraker (2003) compared a domain-general measure and a domain-specific measure. The domain-specific measure was linked to several child behavior measures, such as affection for the mother. For the domain-general measure, however, no such links were found. Furthermore, the authors distinguished seven dimensions or sub-measures of parental self-efficacy, such as emotional availability and child protection. This suggests that different measures of parental self-efficacy's task dimensions are empirically distinguishable, which is supported by several other studies on measures of task-related parental self-efficacy (e.g., Ardelt & Eccles, 2001; Bohman et al., 2013; Črnčec et al., 2010; Dennis & Faux, 1999). However, no study has examined how measures of general and task-related parental self-efficacy relate to each other. This raises the question of whether the two assessment approaches are equal but different or whether general parental self-efficacy measures act as a superordinate factor that could encompass task-related self-efficacy measures. The result would enhance the construct validity of parental self-efficacy. However, no study has attempted to relate measures of task-related parental self-efficacy to a general parental self-efficacy measure. This is a research gap that the first study in this thesis aims to address.

3.2.2 Parental Self-Efficacy in Family Support Programs

Since self-efficacy is influenced by task and situational conditions and changing individual factors (Bandura, 1997), (parental) self-efficacy beliefs are potentially modifiable. Briefly recapped from the theory chapter, the sources of information that shape people's self-efficacy are (a) perception of self-experienced mastery experiences, (b) observation of people who are similar to oneself at being successful at a task, (c) social persuasion that one has the abilities to succeed, and (d) perception of physiological and emotional states (Bandura, 1989a; Wittkowski et al., 2017). These sources provide a guide on how to change parental self-efficacy beliefs, which have also been adopted by several family and parent support programs (e.g., Amin et al., 2018; Mouton et al., 2018; Sanders & Woolley, 2005; Wittkowski et al., 2016). Some parenting support programs

target parents who are already receiving treatment for depression, for example (T. L. Jones & Prinz, 2005). Since several studies reported that these conditions were significantly positively linked to low parental self-efficacy (e.g., Cutrona & Troutman, 1986; Leahy-Warren et al., 2011) and parents with depression tend to benefit from additional support than parents without a clinical diagnosis, only programs for parents without pre-existing conditions are considered in the following.

The review by Amin et al. (2018) on increasing parental self-efficacy through universal parent education interventions for first-time parents showed that interventions resulted in significant increases in parental self-efficacy at post-intervention and short-term follow-up compared to the control group regardless of their duration (two weeks to 15 weeks) and delivery methods. However, more extended programs (ten weeks or more) showed higher parental self-efficacy increases than shorter programs. Parental self-efficacy was either a program's target indicator (Freiberg et al., 2014; Mouton et al., 2018; Svensson et al., 2009; Tucker et al., 1998) or it was a key factor that would lead to other program success indicators such as an increase in parenting satisfaction or a decrease in a harsh discipline (T. L. Jones & Prinz, 2005; Miller-Heyl et al., 1998; Sanders et al., 2014; Sanders et al., 2000; Spoth et al., 1995; Wolfson et al., 1992) . Parenting support programs achieved parental self-efficacy changes primarily through mastery experiences and through sharing with and observing people similar to oneself (e.g., Gross et al., 1994; McConnell et al., 2012; Sanders et al., 2000).

One example is the parenting program *Confident Parents*, which Mouton et al. (2018) examined. This program aimed to increase parental self-efficacy and thereby improve children's externalizing behavior based on weekly parent group meetings and personalized video feedback. They found that the treatment group parents' self-efficacy improved significantly compared to the control group parents in the post-test. At a four-month follow-up, children showed less externalizing behavior with a moderate to small effect size. Most importantly, Mouton et al. (2018) found that higher parental self-efficacy was the critical factor for the parental perception of their children's

externalizing behavior. The researchers discussed these findings in the context of other parenting support programs that often provide knowledge on child development and positive parenting strategies. However, often parents still feel unable to implement them in varied everyday situations. Therefore, Mouton et al. (2018) assumed that increasing parental self-efficacy would enable parents to implement their knowledge. This is in line with (a) Bandura (1989a) assumption on the need for efficacy beliefs on top of outcome expectations and knowledge and with (b) previous findings suggesting that sufficient knowledge and parenting skills do not automatically coincide with high parental self-efficacy, but a combination may constitute high-quality parent-child interactions (Conrad et al., 1992; Hess et al., 2004). Thus, parents may need extra support for improving their self-efficacy. These findings are intended to stress the importance of parental self-efficacy for positive parenting practices and, ultimately, child development. With respect to the home learning environment model, parental self-efficacy, along with family characteristics, influences parent-child interactions. The findings showed that parental self-efficacy is manipulable, especially compared to the modifiability of family characteristics. Therefore, in the home learning environment model's logic, parental self-efficacy appears to be a useful target to improve parent-child interactions.

3.3. Parental Self-Efficacy as a Component of the Home Learning Environment Model

Parental self-efficacy is considered in this thesis as a domain of self-efficacy beliefs. Consequently, parental self-efficacy beliefs are ascribed to the component of parental beliefs in the home learning environment model. Parental self-efficacy is an "important category of praxis beliefs" (Sigel & McGillicuddy–De Lisi, 2002, p. 499), which "is a subset of beliefs derived from core beliefs as to how and under what conditions to instantiate actions to express the core beliefs" (p. 499). This thesis's three studies progressively navigate the home learning environment model, focusing on parental self-efficacy as the parental belief's component of this model. Therefore, the relationships between parental self-efficacy to the other model components are already de-

scribed in the three studies. However, to provide an overview, the relationships between parental self-efficacy with the other model components are reviewed in the following.

3.3.1 Parental Self-Efficacy in Relation to Family Characteristics

Different family characteristics, such as the parents' level of education, income, the family's ethnicity, or immigration background, are linked differently to parental self-efficacy.

Economic hardship, as an example of structural parental self-efficacy characteristics, is often associated with deprived life circumstances. Studies indicated that high parental self-efficacy appears to be a protective factor for beneficial parenting practices under these circumstances (Bandura, 1995; Cutrona & Troutman, 1986; Peacock-Chambers et al., 2017). However, the relationship between deprived life circumstances and parental self-efficacy seems to be influenced for some parents by other factors. Elder et al. (1995) found that economic hardship itself does not inevitably alter parental self-efficacy, but the psychosocial response to economic hardship did: Emotional stress and depressive feelings led to decreased parental self-efficacy and less supportive parenting strategies of the study's parent group of White parents in the US. The researchers also found that financial strain further enforced partnership conflicts, which in turn weakened parental self-efficacy. However, economic hardship did not reduce parental self-efficacy when parents lived in a supportive partnership, indicating the protective aspect of a strong partnership under these challenging circumstances.

In recent years, more research has appeared on self-efficacy linked to ethnicity and different cultural backgrounds (Kiang et al., 2017; Mendez et al., 2013; Schunk & DiBenedetto, 2020). The study just mentioned by Elder et al. (1995) is an enlightening example of differences in parental self-efficacy according to ethnic background. Indeed, Black parents' self-efficacy in this study was directly affected by economic hardship, whereas for White parents, this link was mediated by their depressed mood. The significantly lower socioeconomic status of the Black families in this study, probably partly caused by the significantly higher likelihood of being single parents, could explain these different relationships. In addition to economic hardship, being

a single parent brings its challenges and can contribute to less beneficial parenting practices (McLoyd, 1998). However, in the study by Elder et al. (1995), Black families already started with lower incomes and lived in more impoverished and problematic neighborhoods than White families. Any additional loss could have been a hard blow to their parental efficacy beliefs in having a margin for stimulating their children's learning and development. Another study of low-income parents in the US found that immigrant status was a strong predictor of parental self-efficacy: English-speaking and US-born parents felt significantly more self-efficacious in parenting than immigrants or Spanish-speaking parents (Peacock-Chambers et al., 2017). A more recent review by Boruszak-Kiziukiewicz and Kmita (2020) on immigrant parents' self-efficacy beliefs pointed out the dichotomy immigrant parents experience in adapting to mainstream culture and preserving their culture of origin. This acculturation process influences parental self-efficacy in partly contradictory directions, as study findings showed. Higher orientation to mainstream culture was associated with higher parental self-efficacy in some studies and lower self-efficacy in others (Boruszak-Kiziukiewicz & Kmita, 2020). Furthermore, a study by Ali (2008) found that parents who were recent immigrants initially reported lower self-efficacy, influenced by limitations in their social, cultural, and financial resources. Cultural background also influences how parental self-efficacy is self-reported by parents. A study on Japanese mothers' self-efficacy reported that although they were rated as competent with high sensitivity and involvement in parent-child interaction, the mothers seemed to lack parental self-efficacy (Holloway et al., 2005). This is explained in several self-efficacy studies by the more collective orientation of Eastern cultures rather than an individualistic orientation (Schunk & DiBenedetto, 2020). Concerning academic self-efficacy, for example, students from non-Western cultures (e.g., China) tended to report lower self-efficacy levels than students from Western cultures with a greater alignment between self-efficacy and achievement of the non-Western cultures (Chen & Zimmerman, 2007; Chiu & Klassen, 2010). For parental self-efficacy, study results pointed to the importance of the family and especially of the husbands for high maternal self-efficacy, indicating that comparative

research should pay more attention to intra-societal differences (Holloway et al., 2005). Thus, not just the immigration process experience but also parents‘ ethnicity or cultural background seems to influence parental self-efficacy.

Finally, another much-referenced factor for parental self-efficacy is parental education. According to Elder et al. (1995), more highly educated parents tended to be more actively involved in their children's development. These parents were more adept at finding programs and activities that support child development. Further studies indicated that mothers with higher education levels feel more self-efficacious in parenting (Biehle & Mickelson, 2011; P. K. Coleman & Karraker, 2000; Machida et al., 2002; Meunier & Roskam, 2008). For example, one study showed that parents with at least a high school diploma felt significantly more efficacious in parenting than parents without a high school diploma (Peacock-Chambers et al., 2017). Another study showed that less-educated parents reported knowing that there are efficacious parenting actions (outcome expectancy), which is a necessary precursor to self-efficacy. However, these parents were significantly less likely than better-educated parents to feel efficacious in their efforts to pursue these parenting actions (Meunier & Roskam, 2008).

3.3.2 Parental Self-Efficacy in Relation to Home Learning Activities

Parental behavior in parent-child interactions is not just influenced by child and family characteristics but also by parental personality characteristics and beliefs (Abidin, 1992; Belsky, 1984; Green et al., 2007; Machida et al., 2002; Mash & Johnston, 1983). The assumption, thereby, is that parental perception of their role and agency affects parental interaction behavior. To promote child development, parents need knowledge and efficacy beliefs to identify or create learning opportunities (Bojczyk et al., 2018). Self-efficacy beliefs empower parents to interact with their children: Parents with higher parental self-efficacy tend to engage in more parent-child interactions and are more involved in learning activities (Ardelt & Eccles, 2001; Bojczyk et al., 2018; Jackson & Scheines, 2005; Vukovic et al., 2013). For example, Bojczyk et al. (2018) and Machida et al. (2002) found that parental self-efficacy is positively related to both formal and

informal literacy activities and family practices (e.g., talking about intra-family relationships). Furthermore, Machida et al. (2002) found that parental self-efficacy mediated the relationship of family stress with home learning activities. However, studies of parental self-efficacy concerning processes in the home rarely target parents of preschool-age children (Giallo et al., 2013; Peacock-Chambers et al., 2017).

Study two of this thesis examines the relationship between parental self-efficacy and home learning activities for parents with preschool-aged children. Furthermore, little is known about the relationships between parental self-efficacy and home learning activities. This study responds to this gap and additionally examines whether this relationship differs by parents' immigration background.

3.3.3 Parental self-efficacy, home learning activities, and child outcomes

The home learning environment model assumes that parental beliefs are linked to parenting practices in parent-child interactions, affecting child outcomes (Kluczniok et al., 2013; Lehrl, 2018). Bornstein et al. (2018) examined these links with related constructs using the so-called standard model, linking parenting cognitions with parenting practices and child adjustment. With longitudinal data, they were able to confirm the stepwise links between parenting cognitions (e.g., parent attributions), observed supportive parenting behavior, and teacher-reported externalizing behavior in the classroom: Cognitions such as knowledge and satisfaction in mothers of 20-month-old children were related to their supportive parenting behavior in activities with their four-year-old children and externalizing behavior problems in ten-year-old children in the classroom. This large-scale study is a further indication that the assumed cascade of the home learning environment model on the links between parental beliefs, parenting practices, and child development corresponds to parenting reality.

Concerning parental self-efficacy as a parenting cognition, as outlined in the previous paragraph, parents with high parental self-efficacy tend to engage with their children more and in a more nurturing way, which is positively linked to various areas of child development. Through

parent-child interactions, parental self-efficacy is positively associated with several child outcomes (reviewed by Albanese et al., 2019; Stiévenart & Martinez Perez, 2020). More specifically, parental self-efficacy was found to relate positively to toddler's language development (Albarran & Reich, 2014), children's literacy and numeracy skills (Seefeldt et al., 1999), children's social competence (Junttila & Vauras, 2014; Junttila et al., 2007), toddler's developmental status (P. K. Coleman et al., 2002) and negatively to behavioral problems (Day et al., 1994; Saile & Kühnemund, 2001; Weaver et al., 2008), children's externalizing behavior (Roskam et al., 2016) but positively to children's positive behavior (Mouton & Roskam, 2015). Interestingly, children's social skills mediated the relationship between parental self-efficacy and elementary children's reading and numeracy skills (Junttila et al., 2007), indicating the significance of social skills for academic performance. However, the interplay between parental self-efficacy, children's socio-emotional and language skills, and home learning activities has not yet been investigated (Stiévenart & Martinez Perez, 2020). Several studies showed that children's socio-emotional and language skills are central to their school readiness and later reading skills (Denham, 2006; Lehrl et al., 2013). The transition from preschool to elementary school is often seen as a sensitive phase in children's school career that is intensively accompanied by parents and their attitudes towards school and learning (Faust et al., 2012). Parents who reported engaging in more educational activities with their children at the start of preschool were more positive about their children's transition to elementary school in terms of cognitive and social demands at the start of elementary school (Kluczniok et al., 2015). Giallo et al. (2008) showed that higher parental self-efficacy was related to children's better social adjustment in elementary school. Nevertheless, there is very little research on parental self-efficacy in managing the transition to elementary school (Giallo et al., 2008). Overall, there has been no research on how parental self-efficacy in transition is linked to home learning activities and children's socio-emotional and language skills. Therefore, these relationships are examined in the third study of this thesis.

4. Summary of the Theory and the State of Research

The previous chapters provided an overview of the theory and the empirical findings of the home learning environment model and parental self-efficacy, as well as the respective aspects and their interrelationships.

The theory chapter is supposed to be the basis of this thesis. It first introduced three essential theories that are repeatedly mentioned in the context of the home learning environment model. Bronfenbrenner's bioecological model embeds the home learning environment in the broader context of society. It identifies which sites, concepts, and interaction partners influence the family and their home learning environment. Vygotsky's theory focuses more closely on the child. According to this theory, it can be derived how the child may be best supported in his development in his first learning environment, the home learning environment. This has significance for home learning activities, where parents accompany their children in the zone of proximal development. Bourdieu's capital theory, applied to the home learning environment model, offers insights into the influences that family characteristics and the often corresponding (but not deterministically) parental beliefs can have on parent-child interactions. Depending on the family's level of capital resources, parents may have higher (realistic) educational aspirations and parental self-efficacy and are financially able to provide various educational opportunities for their children. Overall, this could increase the extent to which both parent-child interactions and the chosen environments (e.g., private school, extracurricular activities) are more beneficial to children's education than is the case for families with relatively low capital resources. The elaboration on the theory of capital followed a chapter on the home learning environment model and its components. Subsequently,

the construct of self-efficacy was introduced, which serves as the basis for the construct of parental self-efficacy that is central to this thesis. First, the concept of self-efficacy was described, then it was illustrated how self-efficacy beliefs develop, and finally, the broader theoretical framework in which self-efficacy beliefs are embedded was explained. Lastly, the construct of parental self-efficacy was addressed and how it differs from similar constructs, and finally, its integration with other models linking parental beliefs to parenting behaviors and child outcomes.

Having provided the theoretical foundation, the empirical chapter aimed to (a) support the assumptions of the home learning environment model with empirical findings, (b) illustrate the importance of parental self-efficacy and the challenge to assess it, and (c) present the extent to which parental self-efficacy, as a parental belief a component itself, is relevant to the other components of the home learning environment model. In elaborating the home learning environment model, the links between two of the components were first examined step by step. In the end, findings were presented that relate to several components of the model in order to demonstrate that the model is empirically valid. In presenting the findings on parental self-efficacy, the importance of parental self-efficacy for beneficial parent-child interactions was first pointed out. It was also noted that self-efficacy, together with parental knowledge, are two central factors in parenting, which is consistent with self-efficacy theory. The challenge of assessing parental self-efficacy was then discussed in more detail. Since self-efficacy itself comes from the psychotherapeutic context and parental self-efficacy is often mentioned in relation to improved parenting behavior, its implementation in family support programs was briefly explained. The practical relevance will also become apparent again in the coming section of the discussion. Finally, parental self-efficacy was considered a component of the home learning environment model, and, accordingly, each relationship's results to the other components of the model were presented. With the overview of the thesis thus far, the research questions are now presented. These are followed by summaries of the three studies in this thesis, concluding with a discussion.

5. Research Gaps and Resulting Questions

The previous chapters provided an overview of the theory and the empirical findings of the home learning environment model and parental self-efficacy, as well as the respective aspects of the model and their interrelationships. The following section derives and explicitly states the research questions that emerge from the reviewed literature.

The empirical findings chapter in section 3.2.1 on self-efficacy indicated that its assessment and the associated differentiation from related constructs are an ongoing discussion. Parental self-efficacy as a self-efficacy domain has gained certain specificity, shifting it closer to Bandura's intention of the construct. Though it is evident from various studies and reviews that there are different approaches to assessing parental self-efficacy, it remains unclear how these measures relate to each other. Up until now, a distinction has been made between general parental self-efficacy and task-specific (or task-related) parental self-efficacy, whereby these measures have different item wordings. However, it has not yet been clarified how these measures relate to each other. Besides, there has been little research in the German-speaking context on parental self-efficacy and how parents differ concerning their general and task-specific parental self-efficacy.

Chapter 3.3 presented findings on the relationships between family characteristics and parental self-efficacy. Studies indicated that parental self-efficacy differs according to parental or family characteristics, for example, parents‘ ethnic or immigration background. However, these family characteristics do not stand alone but interact with other family characteristics, such as socioeconomic status, and thus substantially influencing the families' environment and their scope for activities. Many studies have shown that immigrant families often have lower socioeconomic

resources than families without an immigration background. In addition, it was pointed out low socioeconomic resources and immigrant status are often intertwined and negatively linked to parental self-efficacy. However, it is not yet understood how parental self-efficacy of immigrants with moderate income and education levels compares to non-immigrant families with low to moderate income and education levels. Furthermore, concerning process quality, described here as the number of home learning activities, little is known about the relationships between structural characteristics, parental self-efficacy, and home learning activities, particularly among Turkish immigrant families with moderate income and education levels. This would be a relevant insight for the German context since people with a Turkish immigration background are the largest immigrant group (Federal Statistical Office of Germany, 2019).

In the home learning environment model, child development is assumed to be predicted by home learning activities (Tietze et al., 2005). More specifically, studies showed that home learning activities can be differentiated into domain-general and domain-specific learning activities and that these are linked to different child competencies (Bradley, 2015; Kluczniok et al., 2013; Kuger & Kluczniok, 2008). Home learning activities are assumed to be influenced by family characteristics and parental beliefs. Sections 3.1.2 and 3.1.3 elaborated on these relationships. While there are some studies on parental self-efficacy beliefs in relation to home learning activities (section 3.3.2) (Bojczyk et al., 2018; Machida et al., 2002; Peacock-Chambers et al., 2017), there seems to be no study yet, according to Stiévenart and Martinez Perez (2020), that relates both parental self-efficacy and home learning activities domains to children's socio-emotional and language skills . In particular, no study to date has investigated how general and task-specific parental self-efficacy is linked to domain-general and domain-specific home learning activities and to children's socio-emotional and language skills.

Those gaps in the research literature suggest the following questions, which the three studies in this doctoral thesis address:

Study 1: (a) How can the structure of parental self-efficacy be mapped? (b) Do parents differ

in their general and task-related self-efficacy according to specific family characteristics?

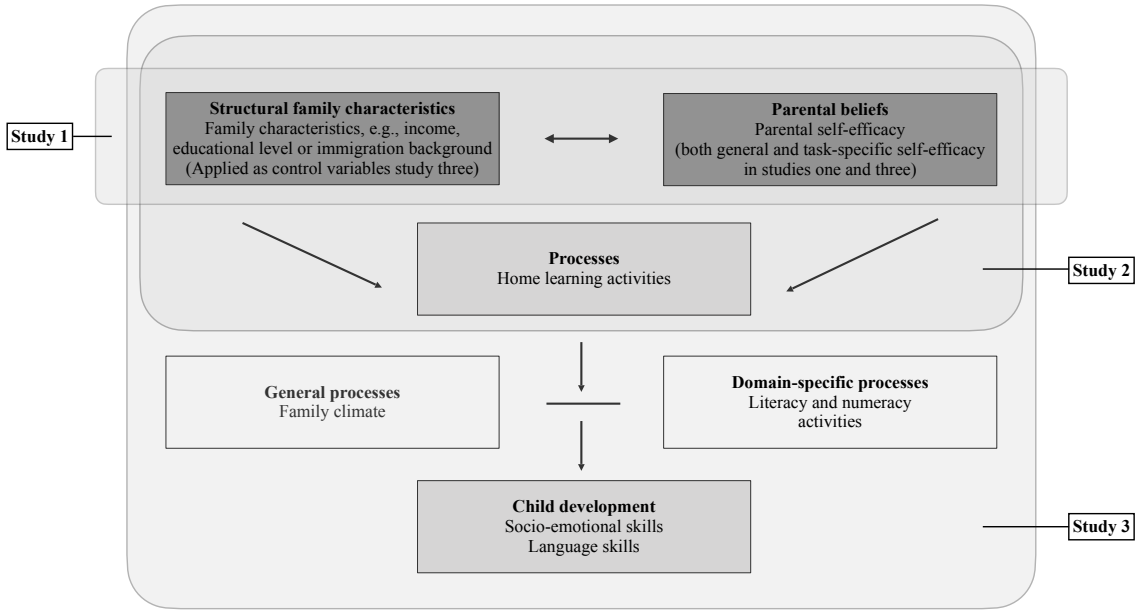
Study 2: (a) How are family characteristics and home learning activities related in Turkish immigrant families and non-immigrant German families? (b) How are family characteristics and parental self-efficacy related in Turkish immigrant families and non-immigrant German families, and do the relationships differ? (c) How are family characteristics, parental self-efficacy, and home learning activities interrelated in Turkish immigrant families and non-immigrant German families, and do the relationships differ?

Study 3: (a) How are general parental self-efficacy and parental self-efficacy regarding the support of children's language skills related to home learning activities and children's socio-emotional and language skills? (b) How are parental self-efficacy regarding children's transition and parental self-efficacy regarding the support of children's language skills linked to home learning activities and children's socio-emotional and language skills?

Since all three studies operate within the home learning environment model, Figure 1 attempts to place these three studies within the model.

Figure 1

Simplified Representation that Integrates this Thesis' Studies in the Home Learning Environment Model



Note. The model of the home learning environment is adapted from Kluczniok et al. (2013), Tietze et al. (1998).

6. Overview of this Thesis' three Studies

6.1. Study I: The Construct of Parental Self-Efficacy and its Relation to Family Characteristics

This study examines the construct of parental self-efficacy and its different measurement methods and examines its links with family characteristics. The construct of parental self-efficacy and, in particular, its content-specificity is not well understood: Parental self-efficacy can either refer to parents' general perception of how well they judge themselves in their parental role (Gärtner et al., 2018; Wittkowski et al., 2017), or it can refer to a specific parental task such as breastfeeding (Dennis & Faux, 1999). The first measurement approach assesses general parental self-efficacy, the second relates to a more task-related measurement approach. Previous studies frequently have been based on either general parental self-efficacy or task-related parental self-efficacy (Bohman et al., 2013; P. K. Coleman & Karraker, 1997; Wittkowski et al., 2017). Most importantly, these studies have not examined the relationship between these two parental self-efficacy measures. Thus, we do not know how both constructs are related. Answering this question is essential for the construct validity of parental self-efficacy. Furthermore, little is known about German parents' parental self-efficacy. So far, there are only a few studies from Germany (Graf et al., 2012; Kliem et al., 2014; Saile & Kühnemund, 2001; Sarimski et al., 2012). Most of the studies were conducted in in English-speaking countries and suggested that parents with low incomes, immigrant parents, or parents with lower educational status experience lower parental self-efficacy (P. K. Coleman & Karraker, 1997; Keels, 2009; Kiang et al., 2017; Peacock-Chambers et al., 2017). However, parental self-efficacy differs according to family characteristics,

which also shape the environment in a mutually influencing circle between characteristics, beliefs, and environmental factors. Accordingly, experiencing socioeconomic hardship or immigrating to the United States or Germany can have very different effects on parental self-efficacy, especially since families most likely differ in their immigrant backgrounds.

Analyses were performed based on data from the AQuaFam study that followed families who participated in the family support program 'Chancenreich' in Herford. Predominantly, mothers completed the study questionnaires (N = 249). We used two different analysis approaches to examine the structure of parental self-efficacy and group differences by family characteristics in parental self-efficacy. Regarding self-efficacy, a distinction was made between general parental self-efficacy and parental self-efficacy in four parenting tasks: (1) parental self-efficacy in caring for a sick child, (2) parental self-efficacy in promoting healthy eating, (3) parental self-efficacy in supporting exercising, and (4) parental self-efficacy in teaching responsible media use. Multiple regression analyses were used to investigate group differences between families (1) who lived below or above the poverty line, (2) whose child was a girl or a boy, (3) who spoke German at home or not, or (4) whose parent that answered the questionnaire had a university degree. Furthermore, to investigate the structure of parental self-efficacy, four different models were compared using confirmatory factor analyses. One measure of general parenting self-efficacy and the four task-related parenting self-efficacy measures were used to build and compare the models.

With regard to differences in parental self-efficacy according to family characteristics, we found that parents with a non-German family language reported having lower parental self-efficacy ($\beta = -.19,\ SE = .07,\ p = .008$) and also perceived themselves to be less self-efficacious in caring for a sick child ($\beta = -.17,\ SE = .07,\ p = .011$). Parents with a university degree felt more efficacious in communicating a responsible media use ($\beta = .15,\ SE = .06,\ p = .007$) but less efficacious in caring for a sick child ($\beta = -.14,\ SE = .07,\ p = .040$) than participants without a university degree. Parents with a family language other than German perceived themselves as less self-efficacious in communicating responsible media use ($\beta = -.29,\ SE = .07,\ p = .000$).

If families had a boy or a girl or lived below or above the poverty line made no difference to their parental self-efficacy.

Four models were created using confirmatory factorial analyses to investigate the structure and link between the two measurement approaches: Model a is a one-factor model on which all task-related and general items map on a parental self-efficacy factor, Model b is a two-factor model in which the items of general parental self-efficacy represent a factor and all items of the four tasks represent a common factor, Model c is a second-order factor model in which the g-factor is derived from the four task-related factors of parental self-efficacy (task-related items form one factor for each task), and Model d is a hierarchical model: a factor is represented by all items of task-specific and general parental self-efficacy, where the task-specific items, in turn, represent further four factors for each parenting task. The main question was whether (a) task-related and general parental self-efficacy could be assessed separately or (b) whether they are better represented in a hierarchical model with several task-related parental self-efficacy factors and one superordinate factor of general parental self-efficacy. Of the four models, models c and d addressed the main question. Thereby, model c assumed that general parental self-efficacy and task-related parental self-efficacy are two equal but different approaches. Model d assumed that general parental self-efficacy functions as a superordinate factor and encompassed task-related parental self-efficacy. A Chi-square showed no significant model improvement from c to d ($\chi^2 = 17.057,\ p = .197$), indicating that general and task-related parental self-efficacy are separate dimensions. This result is in line with the theoretical assumption that general and task-related parental self-efficacy are two separate dimensions.

6.2. Study II: The Relation of Family Characteristics and Parental Self-Efficacy with Children's Home Learning Activities

This study went a step further within the home learning environment model: It expanded the focus from family characteristics and parental self-efficacy (study one) to include the processes, namely home learning activities. Home learning activities play the central role for child development in the home learning environment model. Structural family characteristics and parent's beliefs influence these home learning activities (Kluczniok et al., 2013; NICHD Early Child Care Research Network, 2003). Previous research found that parents with structural characteristics such as a higher income and educational level, being in a partnership, and having fewer children engage with their children in more home learning activities and therefore enhance their home learning environment (Kluczniok et al., 2013; Leseman & Van Den Boom, 1999; Votruba-Drzal, 2003). However, families' immigration background, often combined with low socioeconomic status, seems to be associated with lower-quality and lower-quantity home learning activities (Kluczniok et al., 2013; Rodriguez & Tamis-Lemonda, 2011). Families with a Turkish immigration background are particularly likely to face this disadvantageous association: they are often the most socioeconomically disadvantaged group in comparison to other immigrant groups and families without an immigration background (Henkel et al., 2014; Leseman & Van Den Boom, 1999). However, home activities are influenced not only by structural characteristics but also by parental beliefs, such as parental self-efficacy (Peacock-Chambers et al., 2017). Parents who feel self-efficacious offer their children more home activities (Bojczyk et al., 2018; Peacock-Chambers et al., 2017). Studies showed that parents with an immigration background, who are in studies often disadvantaged and have a low level of education and income, reported having lower parental self-efficacy than parents without an immigration background (Ardelt & Eccles, 2001; Elder et al., 1995; Peacock-Chambers et al., 2017). However, little is known about the relationships between structural characteristics, parental self-efficacy, and home learning activities, especially

for families with a Turkish immigration background with average education levels and income. This study asks whether their parental self-efficacy is still low compared to families without an immigration background or whether Turkish immigrant parents' self-efficacy is equal to or higher than their comparison group. Overall, little is known about (a) the role of parental self-efficacy in the relationship between family characteristics and home learning activities and (b) whether parental self-efficacy and home learning activities and their relationship are affected by parents' immigration background.

This study investigates these questions based on data from 224 standardized interviews within the EU-funded project ISOTIS. Those interviews were conducted with native-born German parents and with parents with a Turkish immigration background in Berlin, Bremen, and Mannheim. It is important to note that the sample is not representative of the German population. First, multiple regression analyses were performed for the full sample, and then multiple-group analyses were performed to consider the Turkish and native-born German groups' differences separately. Furthermore, we conducted path analyses to test the role of parental self-efficacy in the relationship between structural family characteristics and home learning activities with parental self-efficacy as the mediator.

Results showed that parents with a Turkish immigration background reported being materially less deprived ($t(209) = 5.89,\ p = .000$) and felt more self-efficacious ($t(219) = -5.94,\ p = .000$) than the non-immigrant German parents. When we conducted multiple group analyses comparing groups by immigration background (non-immigrant German parents versus parents with a Turkish immigration background) regarding the link between family characteristics and home learning activities, parental education level emerged as the only significant variable and only for the families with a Turkish immigration background, ($\beta = .27,\ SE = .00,\ p = .001$). Thus, the higher parent's education level, the more likely they engaged in more home learning activities. Joint multiple regression analyses for both groups revealed that parents with a Turkish immigration background felt significantly more self-efficacious than parents without a Turkish immigration

background,($\beta = .33,\ SE = .07,\ p = .000$). Surprisingly, among Turkish immigrant parents, single-parent status was positively related to parental self-efficacy, ($\beta = .14,\ SE = .05,\ p = .006$). Path analyses indicated that parental self-efficacy did not mediate the relationship of family characteristics with home learning activities. However, we found an indirect effect between the immigration background and home learning activities via parental self-efficacy, ($\beta = .06,\ SE = .02,\ p = .015$). As previously assumed, parental self-efficacy is significantly linked to home learning activities in the joint sample of families with and without a Turkish immigrant background, ($\beta = .18,\ SE = .06,\ p = .005$). This highlights the importance of parental self-efficacy for home learning activities regardless of the immigration background.

6.3. Study III: The Interplay between Parental Self-Efficacy, Home Learning Activities, and Child Outcomes

The third article includes a selection of variables that, together, represent all components of the home learning environment model. Research findings and the second study in this thesis indicate that parental self-efficacy is an essential parental precursor for home learning activities (Ardelt & Eccles, 2001; Peacock-Chambers et al., 2017). Further, several studies suggest that home learning activities are linked to children's skills, such as children's socio-emotional and language skills (Hartas, 2011b; Hoff, 2006; Krijnen et al., 2020; Niklas & Schneider, 2017; Skwarchuk et al., 2014; Watamura et al., 2011). Children's socio-emotional and language skills are critical factors for their academic achievement and maintain their mental health (Duncan et al., 2007; Durlak et al., 2015; Zins et al., 2004). Both socio-emotional and early language skills are essential for children's school readiness and later literacy skills in elementary school (Denham, 2006; Lehrl et al., 2013). An important parental precursor for home learning activities and child outcomes is parental self-efficacy (Ardelt & Eccles, 2001; Peacock-Chambers et al., 2017). More specifically, parental self-efficacy is a beneficial predictor for both children's well-being and social skills as well as their language skills (Day et al., 1994; T. L. Jones & Prinz, 2005; Junttila et al., 2007;

Lynch, 2002; Stiévenart & Martinez Perez, 2020; Weaver et al., 2008). Therefore, it is essential to examine how children's skills, home learning activities, and parental self-efficacy are linked when children start school. However, according to the review by Stiévenart and Martinez Perez (2020), the interplay between parental self-efficacy, home learning activities, and preschool children's socio-emotional and language skills has not yet been investigated.

This study investigated these relationships based on a sample of 727 parents of preschool children who attended 162 preschools. The data comes from the evaluation study of the federal program 'Language daycare centers' evaluation study: because language is the key to the world' using an online questionnaire. A subgroup was selected from the total sample using a filter question to examine the transition from preschool to elementary school. This subgroup consisted of parents whose children would be transitioning from preschool to elementary school as the next step. Therefore, parents of preschool children were divided by whether the child is about to transition to elementary school (sample two, N = 727)) or not (sample one/full sample, n = 108). To determine whether the two groups are similar, we compared the full sample (sample one) and the subsample (sample two) for significant differences in our measures of parental self-efficacy, home learning activities, and child outcomes. We found no significant differences between both groups, indicating that parents whose children are about to enter elementary school do not significantly undertake more school-preparatory home learning activities. Based on this finding, we were able in the following analysis to develop use a more parsimonious model, where we only added certain control variables to our measures, which were already significant predictors in the full sample. This was possible because we investigated in advance whether there were significant differences in our measurements between the two samples and found no such differences. For assessing parental self-efficacy, we used three measures: (1) a measure for general parental self-efficacy, (2) a measure for parental self-efficacy in supporting a child's transition from preschool to elementary school, and (3) a measure for parental self-efficacy on supporting children's language skills. All three measures are self-developed based on existing measures.

In assessing home learning activities, we distinguished school-related activities and activities that focus on the family climate. For assessing child outcomes, we used (a) parental reports on children's socio-emotional skills by using the "Strengths and Difficulties Questionnaire" (SDQ) and (b) parental ratings of their child's vocabulary and language skills according to her/his age to assess children's language skills. Path analyses were conducted to test the interrelations between parental self-efficacy measures, home learning activities, and children's outcomes based on the home learning environment model. These path models were controlled for family characteristics: children's age and gender, family language, net equivalent income, and parent's education level.

The path model on the interplay between general parental self-efficacy and parental self-efficacy on language support with home learning activities and with children's outcomes revealed that (a) general parental self-efficacy was significantly related to home learning activities that help to prepare for school ($\beta = .14,\ SE = .05,\ p = .005$) and to children's language skills ($\beta = .11, SE = .05, p = .021$), (b) parental self-efficacy in supporting children's language skills was significantly related with home learning activities that foster the family climate ($\beta = .24,\ SE = .05,\ p = .000$), and also with home learning activities that help to prepare for school ($\beta = .20,\ SE = .05,\ p = .000$), and (c) that none of the home learning activities measures were significantly related to parental ratings of child outcomes. Further, a second path model was applied to additionally investigate whether parental self-efficacy in supporting their child's transition from preschool to elementary school was significantly linked to home learning activities. The underlying assumption is that parents who felt more efficacious in supporting their child's transition will offer them more activities. The measure of parental self-efficacy in supporting children's language skills remained in this second model, but the measure of general parental self-efficacy was removed from this model. This model showed that parental self-efficacy in supporting children's language skills was significantly related with home learning activities that foster the family climate ($\beta = .30,\ SE = .10,\ p = .001$), and with children's socio-emotional skills ($\beta = -.19,\ SE = .08,\ p = .021$). The latter relationship indicates that parents who felt more

efficacious in supporting their children's language skills also described their children as having fewer socio-emotional problems. We found no other significant relationships. We concluded that parents engaged in activities regardless of their self-efficacy level concerning their children's transition. Findings indicate that the more self-efficacious parents felt, the more home learning activities they offered, and the higher they rated their children's language skills at age 5. Moreover, lower parental self-efficacy was linked to children's socio-emotional problems.

7. General Discussion

7.1. Measurement Issues of Parental Self-Efficacy

The first study examined whether task-related parental self-efficacy measures that differ in tasks can be empirically distinguished from each other. Previous studies provide evidence for this differentiation (e.g., Ardelt & Eccles, 2001; Bohman et al., 2014; Črnčec et al., 2008). Furthermore, the question of how task-related and general parenting self-efficacy measures relate to each other was investigated in study one. Previous studies and reviews assessed parental self-efficacy with either rather general or rather task-related items, thus creating different parental self-efficacy measures (e.g., P. K. Coleman & Karraker, 2000; T. L. Jones & Prinz, 2005; Wittkowski et al., 2017). However, it is unknown how these different types of measures, specifically general and task-related parental self-efficacy, relate to each other. Study one of this paper examined the relationship between these measures using four different models applying confirmatory factor analysis. In study one, models b and c were designed to examine whether model fit indices improved when (model b) all parental self-efficacy items loaded onto a common factor or (model c) all items could be assigned to three specific parenting tasks. The model fit improvement suggests that a distinction between the four task-related parental self-efficacy measures represent the data better, which has also been shown in previous studies (e.g., Ardelt & Eccles, 2001; Bohman et al., 2014; Črnčec et al., 2008). Bohman et al. (2016), for example, established a measure for parental self-efficacy in healthy dietary and physical activity behaviors in preschool children. They distinguished between four different factors that cover different tasks in this domain, for example, (a) parental self-efficacy to promote children's healthy eating behaviors or (b) parental

self-efficacy to hinder children's unhealthy eating behaviors. The parenting tasks of study one in this thesis were much further apart in content than the tasks that Bohman et al. (2016) were able to distinguish in their study empirically. This finding supports the task-based approach, which was also essential in the theory of self-efficacy. The task can be refined almost indefinitely, as long as it still makes sense theoretically (and practically). On this, Bandura stated that self-efficacy should refer to a sufficiently complex task that exceeds motor skills, i.e., individuals are not just asked "whether they can turn the ignition key" Bandura, 1997, p. 32, but that they combine a set of subskills.

Furthermore, study one compared two models that relate general and task-related parental self-efficacy in different ways: model c puts general parental self-efficacy on the same level as the g-factor of four parental self-efficacy tasks, whereas model d is a hierarchical model with a factor that represents all task-related and general parental self-efficacy items. The application of a g-factor as an overall index factor in model c is consistent with the measurement approach by Bandura et al. (1996), in which domain-specific self-efficacy is derived by aggregating data from task-specific items, resulting in a multidimensional index. This approach is mentioned in reviews by P. K. Coleman and Karraker (2000) as 'domain-specific parental self-efficacy' and by T. L. Jones and Prinz (2005) as the 'task-related parental self-efficacy index'. The good model fit indices of models c and d indicate that both models fit the data well, and there was no model improvement from model c to model d. Since there was no model improvement, we remained with the theory's assumed separation of general and task-related parental self-efficacy (P. K. Coleman & Karraker, 2000; T. L. Jones & Prinz, 2005; Wittkowski et al., 2017). This is the first study to examine this empirically.

These results lead to two conclusions. First, the data seem to support a differentiation of general parental self-efficacy from task-related parental self-efficacy and the development of an index following the approach by Bandura et al. (1996). This assumption would also correspond to previous theoretical assumptions and the implementation in numerous studies that general

and task-related parental self-efficacy is assessed (P. K. Coleman & Karraker, 2000; Wittkowski et al., 2017). This is done on the assumption that one does not automatically include the other; otherwise, only general parental self-efficacy could be measured. Therefore, these results indicate that parental self-efficacy should be assessed at a task level and a general level. The second conclusion is that because there was no model improvement and both models fitted the data well, general parental self-efficacy might lay on a higher level and comprise task-related parental self-efficacy. However, the general parental self-efficacy items might assess parents' parenting concept rather than their self-efficacy. A person's self-efficacy refers to the performance of a task or activity (Bandura, 1977). An item of general parental self-efficacy such as "I feel competent in parenting my child." might reflect a parent's self-concept rather than their self-efficacy. The assessment of general parental self-efficacy might correspond better to parental self-concept that than with actual self-efficacy. This idea heads in a similar direction as the argument by Marsh et al. (2019) that general self-efficacy measures are not self-efficacy measures because, for example, they lack specific task reference. Thus, general self-efficacy measures seem to be indistinguishable from self-concept measures and are rather a "self-concept-like construct" Marsh et al., 2019, p. 349. Self-concept refers to people's rather global perception of themselves and is influences by their environment (Bong & Skaalvik, 2003). In their study on differences between academic self-concept and self-efficacy, Bong and Skaalvik (2003) proposed that self-efficacy acts as an antecedent in the development of self-concept. This assumption could also be applied to the domain of parenting. Accordingly, general parental self-efficacy as a parental self-concept could conceptually head task-related measures and be influenced by task-related parental self-efficacy.

7.2. Parental Self-Efficacy in Relation to Family Characteristics

Both study one and study two of this thesis examined relationships of family characteristics with parental self-efficacy. In particular, with regard to immigration background in relation to parental self-efficacy, they interestingly arrived at different results.

Previous studies suggest that parents with an immigration background, with lower economic resources, and a lower education level often reported experiencing lower parental self-efficacy than parents with higher socioeconomic resources and without an immigration background (e.g., Ardelt & Eccles, 2001; Elder et al., 1995; Peacock-Chambers et al., 2017). However, these studies were primarily conducted in English-speaking countries, where parents' environment and expectations may well differ from those for parents in German-speaking countries. Specifically, those families and their environmental characteristics often differ from those of families in Germany regarding, for example, labor market conditions, immigration background, and health care system (Esping-Andersen, 1990). Also, family characteristics influence each other, e.g., depending on state immigration restrictions. Some immigrants may have low incomes and low educational backgrounds when they immigrate. Therefore, it is necessary to study these relationships on a country- or culture-specific basis. Findings in study one revealed that parents with a university degree felt more efficacious in communicating a responsible media use but less efficacious in caring for a sick child than parents without a university degree. This is in line with the assumption that higher socioeconomic status is accompanied by higher parental self-efficacy. It could be assumed that parents with a higher level of education are more familiar with the possibilities of providing their children with media education and possibly have more time to do so than families with a lower educational level. Lower self-efficacy in caring for a sick child could indicate less experience or less social support, as these families may lack the support of tightly knit family ties or close friends who live in the same city. Previous studies have found that higher social support is linked with higher parental self-efficacy (Izzo et al., 2000; Leahy-Warren et al., 2011; Leerkes & Burney, 2007; Love & Knott, 2018). Furthermore, experiencing poverty was not related to parental self-efficacy in study one, which contradicts previous findings (Elder et al., 1995). As noted earlier, the families in the study by Elder et al. (1995) were likely to be fundamentally poorer regarding their neighborhoods, income levels, or insurance status, for example, than the families in study one of this thesis. In addition, the

link between economic hardship and parental self-efficacy was mediated for White families, but a direct link was found for Black families. Black families experienced much more economic hardship than White families, which might indicate that the depths of poverty, probably less social support, and the corresponding challenging environment might be the decisive factors for the negative relationship to parental self-efficacy.

Finally, findings from study one revealed that parents with a non-German family language (a) felt less self-efficacious in general, (b) felt less self-efficacious in caring for a sick child, and (c) they felt less self-efficacious in communicating a responsible media use to their child. Thus, these parents felt less self-efficacious regarding their general and task-related self-efficacy. In study two, parents with a Turkish immigration background felt significantly more self-efficacious than German parents without a Turkish immigration background. This finding contrasts the findings of the first study. Besides, single-parent status was significantly positively linked to parental self-efficacy among families with Turkish immigrant backgrounds. This also contrasts previous research literature findings since single-parent status is often accompanied by less financial resources, which, in turn, negatively affects parental self-efficacy (Bartfeld & Meyer, 1994; Elder et al., 1995). There are two possible explanations for these initially counterintuitive findings. First, the parents in the second study were recruited from three urban regions in Germany, Berlin, Mannheim. There are likely well-connected Turkish communities and city services where families can seek support. The positive factor of social support could therefore play a role in this finding. Second, a previous study showed that the parental self-efficacy of Black mothers, who lived in difficult neighborhoods and had fewer socioeconomic resources, played a significant positive role in their positive parenting practices (Ardelt & Eccles, 2001). White mothers' parental self-efficacy did not play a significant role in their positive parenting practices. This link's explanation was that Black mothers actively had to muster more self-efficacy to foster their children's development because of their more difficult neighborhoods and living conditions, especially when they are mostly single parents and lack spousal support. In contrast, White

families‘ children’s circumstances were not critical to the extent that mothers had to increase their parental self-efficacy or needed to do more to support them. These links could be similar for parents in the second study of this thesis. These parents (primarily mothers) might have to become more self-efficacious in order to be able to support their children adequately. The findings of Ardelt and Eccles (2001) are also consistent with the second study’s findings: Turkish immigrant single parents rated themselves significantly more self-efficacious than Turkish immigrant parents who lived in a partnership. Single parents are a minority in the group of parents with a Turkish immigration background. Possibly, these parents must be exceptionally committed and self-efficacious precisely because they are single parents. However, high parental self-efficacy could also indicate a personality with high self-esteem and toughness, which is not afraid to separate from a partner. However, living conditions for immigrant families in Germany can vary greatly depending, for example, (a) on which immigrant generation and immigrant group people belong to and (b) what level of education and financial and social resources their (grand-)parents had, and (c) what level of education and income people achieve in this generation and if they feel well supported and appreciated in their family and community (Diehl et al., 2016; Henkel et al., 2014; Kaas & Manger, 2010; Schührer, 2018). Therefore, parents’ life circumstances, such as socioeconomic factors, social networks, and support options, or their experience of discrimination (Diehl & Fick, 2016; Horr, 2016) could influence their parental self-efficacy.

7.3. Parental Self-Efficacy in Relation to Home Learning Activities and Child Outcomes

Studies two and three in this thesis addressed relationships between parental self-efficacy and home learning activities. Both studies found positive relationships between parental self-efficacy and home learning activities, e.g., parental self-efficacy in supporting children’s language skills was significantly linked to home learning activities that support preparation for school. In contrast, some prior hypotheses were not supported, such as the link of parental self-efficacy in supporting children’s transition from preschool to elementary school with home learning activities that

support preparation for school.

In study two, path analysis models were used to examine whether parental self-efficacy is linked to the number of home learning activities; one path model used the total number of parents. The other model was a multiple group path model that distinguished between parents with and without a Turkish immigration background. There was a significant positive link between parental self-efficacy and home learning activities for the total number of parents, confirming previous findings (Bojczyk et al., 2018; Giallo et al., 2013; Machida et al., 2002). However, we found no significant relationship between parental self-efficacy and home learning activities when parents were grouped according to their (non-) immigration background. However, this could be due to the smaller sample size in each group. Another assumption was that parental self-efficacy acts as a mediator between family characteristics and home learning activities, as in Peacock-Chambers et al. (2017). This path would also fit the structure of the home learning environment model. Contrary to previous findings, parental self-efficacy was not a mediator between structural family characteristics and home learning activities. However, we found a significant indirect effect of a Turkish immigration background on home learning activities via parental self-efficacy. The direct path of immigration background on home activities, though, was not significant. This suggests that parents with a Turkish immigration background who perceived themselves as significantly more self-efficacious also engaged in more learning activities. The non-significant direct relationship between immigration background and home learning activities indicates that parents with a Turkish immigration background did not engage in more learning activities inherently - higher parental self-efficacy seems to make the difference. Overall, these results indicate that parental self-efficacy and family characteristics are key factors influencing home learning activities. Furthermore, these results are an important indication that an immigration background is not associated with fewer home learning activities per se, but that other factors such as their socioeconomic background and probably also parents‘ social environments play a role in the number of parent-child activities (Koury & Votruba-Drzal, 2014; Leseman & Van Den Boom, 1999).

Study three expanded on study two by examining relationships between several parental self-efficacy measures to different home learning activities and parent-reported socio-emotional and language skills of children. By combining these three components, this study went beyond previous studies that had focused only on two components (Albanese et al., 2019; Giallo et al., 2013; Stiévenart & Martinez Perez, 2020). Besides, this study focused on the phase of children's transition from preschool to elementary school as this is often perceived as a delicate phase in which parents take a close interest. Therefore, study three drew on data from parents with a preschool child (sample one) as well as from parents whose child will soon be transitioning to elementary school (sample two).

In study three, the first path model showed that general parental self-efficacy was significantly positively related to school-related home learning activities (literacy and numeracy activities) but not to home activities that reflect the family climate. This indicates that parents who felt more competent in their parenting role were also more likely to report engaging in more literacy and numeracy activities with their children, which is in line with previous studies (Bojczyk et al., 2018; Giallo et al., 2013; Peacock-Chambers et al., 2017). However, the number of activities that could potentially improve family climate was independent of parents' general self-efficacy. This might be due to the lower predictive value of general self-efficacy measures, shown already in previous studies (P. K. Coleman & Karraker, 2003; Črnčec et al., 2008; Wittkowski et al., 2017). Furthermore, parents were questioned about their efficacy in supporting their children's language skills since more specific measures are considered more predictive (Črnčec et al., 2008). So far, previous studies have only used either general parental self-efficacy measures, indices across multiple domains, or non-congruent task-related measures (e.g., the task of language support) to test the relationship with home activities (Bojczyk et al., 2018; Giallo et al., 2013; Peacock-Chambers et al., 2017). Parental self-efficacy in supporting their children's language skills was significantly positively related to both home activity measures. These links indicate that parents who felt more self-efficacious in supporting children's language skills engaged in

more school-related activities as well as more family climate-enhancing activities. Regarding the number of home learning activities, the path model showed no links to the parental assessment of children's skills which is unexpected, as previous studies have shown these links (e.g., C. E. Baker, 2013; Sylva et al., 2004). The descriptive results indicated a significant negative link between family climate-enhancing activities and parental assessment of children's socio-emotional skills. However, the path model could not confirm this link. These findings indicate that home learning activities' frequency for enhancing the family climate did not influence how parents rated their children's socio-emotional and language skills (and vice versa).

Surprisingly, the path model revealed a substantially positive direct relationship between general parental self-efficacy with children's language skills, indicating that more self-efficacious parents rated their children's language skills better. This direct link is unexpected but could be explained by the fact that both measures were parent-reported. If children's skills were not parental ratings, the direct link might indicate a link between parental self-efficacy and children's self-efficacy (e.g., Bandura et al., 1996). It is also surprising that this link was found with general parental self-efficacy and not with parental self-efficacy in supporting children's language skills, which would have been expected due to the domain-specific close relationship. The descriptive results indicated a significant positive link between parental self-efficacy in supporting language skills and children's language skills. To test whether this link would prevail in the path model, general parental self-efficacy was excluded from the model. As a result, a significant positive link between parental self-efficacy in supporting language skills and children's language skills was found. The correlation of both parental self-efficacy measures indicated their shared variance. Further, both self-efficacy measures correlated at the same level with the measure of children's language skills. These results suggest a common variance in both self-efficacy measures, but overall parental self-efficacy appears to be more strongly linked to children's language skills. Another assumption would be that some parents report the highest levels for general parental self-efficacy and the assessment of their children's language skills and that these statements

are actually exaggerated. It is possible that measures that differentiate more distinctly between situation and difficulty level, as in the case of parental self-efficacy in supporting children's language skills, are closer to parents' real parental self-efficacy levels.

The aim of the second path model in study three was (a) to investigate the relationships mentioned above for parents whose children are about to transition from preschool to elementary school and, therefore, (b) to replace general parenting self-efficacy with parental self-efficacy in relation to this transition. The other variables remained in the path model due to their relevance to the transition. The assumed significant links from a previous study between transition-related parental self-efficacy to measures of home learning activities did not emerge (Giallo et al., 2010). This finding suggests that it might not make a difference for the number of home learning activities how self-efficacious parents felt about their child's transition. As parents have reported that they already interact a lot with their child, this might indicate that parents are in general active at home regardless of how efficacious they felt in supporting their children in the transition to elementary school. The lack of significant relationships might indicate that the transition from preschool to elementary school is not perceived as a critical phase by parents, as the transition approach assumes. Another approach, the 'paradoxical theory of personality coherence' by Caspi and Moffitt (1993), could be the underlying mechanism explaining the lack of significant relationships. This theory postulates that person-specific changes and new behavioral patterns are unlikely to occur during transitional periods, and instead, existing and familiar behavior traits remain. According to these pre-existing behavioral traits, adjustment problems were already evident at preschool (Kluczniok et al., 2015). However, the path model showed a significant positive relationship of parental self-efficacy in supporting children's language skills with home learning activities that are supposed to enhance the family climate. This link suggests that parents who felt efficacious in supporting their children's language skills reported engaging in more activities that benefited the family climate. Although counterintuitive initially, it seems reasonable since activities to improve family climate can involve much talking and more extended conversations, such as those that take place

over a shared dinner. Again, no significant relationships emerged between the measures of home learning activities and children's skills. Ceiling effects and parental bias may play a role in the home learning activity measures and children's skills measures (Bennetts et al., 2016). Again, there was a direct link between parental self-efficacy and children's skills. This time, higher parental self-efficacy in supporting children's language skills was associated with the parental assessment of fewer children's socio-emotional problems. This is surprising on two levels since (a) there should be no direct links between beliefs and child outcomes according to the home learning environment model, and (b) the targeted parental self-efficacy task was not related to the corresponding child outcome. However, previous studies found that home literacy activities were positively associated with children's socio-emotional competencies, which hints slightly at this relationship (C. E. Baker, 2013; Rose et al., 2018). However, the activities themselves were not significant predictors in this model, probably due to ceiling effects and parental bias. In addition, factors may be at play that the home learning environment model and this study's path model did not represent. Overall, studies two and three suggest that self-efficacy is an influential factor in parental engagement in home learning activities. It is known from previous research that these activities are positively associated with cognitive and socio-emotional child competencies (C. E. Baker, 2013; Rose et al., 2018; Stephenson et al., 2008; Tamis-LeMonda et al., 2017). Besides, the path models in study three even suggest a direct link between parental self-efficacy and child skills. However, the significant positive links strongly suggest that parental self-efficacy is a factor worth promoting and should be part of parenting support programs. Concerning parenting support programs, the characteristics and related needs of the target group deserve close attention. Socioeconomic background rather than immigration background (or their combination) could be considered, as the mixed findings on the link between immigration background and parental self-efficacy indicate.

7.4. Limitations and Directions for Future Research

This chapter presents four main limitations that the three studies share. Further study-specific limitations can be found in the respective discussion chapters of the three studies. The directions for future research follow the limitations.

7.4.1 Limitations

Generalizability

First of all, this thesis‘ three samples are not representative of the German population and encompass parents with comparably high educational levels and incomes. For example, in study three in our sample, 59.3% had a higher secondary certificate or university entrance qualification (Abitur). By contrast, on average, only 42.6% of 35- to 45-year-olds in Germany had a higher secondary certificate or university entrance qualification (Statistisches Bundesamt, 2019). That the three studies are based on different samples is at the same time a weakness and a strength of this thesis: a weakness, because the samples and results are partly inconsistent and contradictions arise; a strength, however, precisely because contradictions in need of explanation arise. Thus, the thesis is a reflection of ongoing research. Even though they do not represent the German population and the results are, therefore, not generalizable, the samples provide insight into specific groups of the German population. For example, the sample of study two is not representative of the respective groups of parents with a Turkish immigration background and native-born German parents. Parents with a Turkish immigration background are, on average, socioeconomically disadvantaged compared to native-born German parents without immigration background. In fact, many Turkish immigrants in Germany live under rather deprived circumstances. With 30.1%, the at-risk-of-poverty rate of Turkish immigrants is twice as high as that of the total population (Federal Statistical Office of Germany, 2019). In 2012, the average monthly net income of families with a Turkish immigration background was 28% lower than that of families without an immigration background (Henkel et al., 2014). This disadvantage is not reflected in the two

groups of parents in study two. Here, the Turkish immigrant parent group was even significantly less materially deprived than the native-born German parent group. Accordingly, native-born German parents are, on average, not as disadvantaged as in this study. Also, attention should be given to the distinct difference in single-parent status between parents with and without a Turkish immigration background: in this sample, 9% of the Turkish immigrant parents were single parents, while the number of single parents among German parents was 26.7%. For the total population in Germany, the number of immigrant single parents was 15% in 2018 (Bundesministerium für Familie Senioren Frauen und Jugend, 2020), which is much higher than in the study three sample. Similar statistics are likely to be found for families with a Turkish immigration background. As indicated in the discussion, the low number of Turkish immigrant single parents could be associated with personality characteristics such as markedly high self-esteem and determination toward independence, which also manifests in higher parental self-efficacy or a strong parenting self-concept. This probably does not correspond to the average population. Of all native-born (non-immigrant) parents in Germany, about 22% percent were single parents (Bundesministerium für Familie Senioren Frauen und Jugend, 2020), which is slightly lower than the 26.7% of native-born German parents in the third study. The higher number of single-parent families among native-born German parents may contribute to the finding that they are more likely to be affected by material deprivation. Single parent status is often associated with lower income: in 2019, 42.7% of single-parent households were at risk of poverty compared to 11% in households with two adults and two children (Statistisches Bundesamt, 2020). The differences between the two parent groups in study two are likely the result of sampling bias. In an attempt to reach Turkish immigrant parents, the recruitment relied on social networks. Thus, it could be assumed that the recruited parents were already very active in their community and had a prior interest or higher involvement in their parenting role. Due to a low response rate, native-born German parents with higher educational degrees and income were also recruited. Families with high educational levels are over-represented due to our recruitment in both our parent groups. The sample composition

in study three is similarly problematic. This sample consisted of middle-class families with a relatively high educational level regarding their education level and income. For comparison: On average, 42.6% of people aged 35-45 years had a higher secondary certificate or university entrance qualification in Germany (Statistisches Bundesamt, 2019). In this sample, 59.3% had a higher secondary certificate or university entrance qualification.

Item Wording

As already indicated in the discussion, the wording of the items used to measure parental self-efficacy is open for improvement. General parental self-efficacy measures may be more indicative of a parenting self-concept-like construct than of self-efficacy. In study two, parental self-efficacy was assessed only on a general level. However, this kind of assessment deviates from Bandura's self-efficacy concept, where self-efficacy is a task-related construct (Bandura, 1989b). The advantage of using task-related parental self-efficacy over general parental self-efficacy is better predictive validity (Črnčec et al., 2008). Besides, P. K. Coleman and Karraker (1997) argued that measures should contain items on parental tasks that correspond to the children's' age at a more specific level, increasing the predictive power of the measurement. Presumably, a task-related measure of parental self-efficacy would have been more highly linked to home learning activities in study two. Also, the item wording in study one could have been more specific, adjusting for child age, for example: instead of "I am confident that I know when my child is sick and should stay at home", it is then, "I am confident that I know what to do when my baby has a high fever". This adjustment would also introduce more variability into the measure. This variability would be useful because parental self-efficacy measures sometimes struggle with ceiling effects, as observed in the third study.

Sample Size

Relatively small sample sizes were most likely a reason why some relationships were not significant. In study two, for example, the correlations were moderate to high but not yet significant. The sample size of the native-born German parent group was small (n = 90). However,

the relationships' strength indicates their practical significance. Study three showed a similar difficulty: Although the total sample of parents in study three was large (N = 726), the subsample for the research questions on children's transition from preschool to elementary school had a sample of n = 108. Thus, relationships with medium to high effect sizes were not significant in this subsample's path model. These relationships were not reported because of their lack of statistical significance. However, the strength of the relationships indicates their potential importance. Further research studies with larger samples are needed to re-evaluate these suggested relationships.

Cross-Sectional Data

None of these three studies was based on longitudinal data. Ultimately, no prediction can be made about the causal direction of the links. This would have been particularly valuable for the relationships between parental self-efficacy and home learning activities and determining the direction of effects concerning parental characteristics. The question here would also be whether it works so smoothly to increase self-efficacy in initiating and engaging in learning activities or whether different parent characteristics influence these links differently. Similar studies already exist for the relationship between parental self-efficacy and the assessment of child temperament (Porter & Hsu, 2003; Verhage et al., 2013) or the influence of parenting programs that aim to improve parental self-efficacy (Mouton et al., 2018; Mouton & Roskam, 2015; Sanders & Woolley, 2005).

7.4.2 Directions for Future Research

As already mentioned in the limitations section, several research questions remain from this thesis‘ three studies. These are presented in the following.

First, the use of longitudinal data with ideally three time points (in a cross-lagged path model) would be most interesting for the complete home learning environment model with family characteristics, parental self-efficacy, home learning activities, and standardized (non-parental) ratings of child skills. Such a model would allow us to investigate the relationship's directions over

time, including questions on whether parental self-efficacy and parental behavior in home learning activities influence each other. The theory posits that behavior in parent-child interactions, or the perceived (failure) success of actions, affects parental self-efficacy (Bandura, 1977; T. L. Jones & Prinz, 2005; Schuengel & Oosterman, 2019). The underlying assumption is that by increasing parental self-efficacy, parents will perceive interactions with their child as more successful, which will further boost their parental self-efficacy. This can be called a feedback loop, as mentioned earlier in the thesis. However, the magnitude and direction of the effects, probably dependent on parental and environmental characteristics, are not entirely apparent and require longitudinal research. This research would also help improve family support programs that already aim to increase parental self-efficacy (Mouton et al., 2018; Mouton & Roskam, 2015; Sanders & Woolley, 2005).

The second line of future research concerns the search for factors underlying the different levels of parental self-efficacy in this thesis. In studies two and three, parents with an immigration background felt substantially more self-efficacious in their overall parental self-efficacy than parents without an immigrant background in studies two and three. In study one, however, these parents felt less self-efficacious than parents without an immigrant background. Furthermore, study three showed that parents with an immigration background felt substantially less self-efficacious in their task-related parenting self-efficacy than parents without an immigration background. Accordingly, there are differences in parental self-efficacy depending on the measure or concept of general and task-related parental self-efficacy.

These different findings may indicate that general parental self-efficacy is more likely to correspond to idealized perceptions of parenting and, in this respect, might be related to idealistic and realistic educational aspirations. In the German context, the analyses of Becker (2010) that are based on PISA data showed that the idealistic educational aspirations of parents with a Turkish immigrant background were above average, even though their children had the lowest academic performance compared to other immigrant groups. This phenomenon is referred to as

the “aspiration-achievement paradox” (Becker & Gresch, 2016). In this explanatory approach, parental characteristics such as income, educational level, but also parenting goals, general and task-specific parental self-efficacy, parental stress, parenting knowledge (child development and positive parenting behavior), and social support could be assessed in the future. These characteristics could be used to search for patterns that distinguish parents with (idealized) high general and task-specific parenting self-efficacy.

These different findings might also indicate that general parental self-efficacy is closer to parental self-concept than anticipated and might exhibit similar behavior patterns as, for example, academic self-concepts. Keller et al. (2020) found that the relationships between achievement and the corresponding self-concepts were weaker for lower-performing students than for higher-performing students. This finding suggests that lower-performing students may use self-protective strategies to maintain a favorable academic self-concept when evaluating their academic abilities. This coincides with the observation that higher parental self-efficacy is not linearly positively related to parental sensitivity (as an achievement) in play interactions (Wilson et al., 2014). It is possible that parents with a (Turkish) immigrant background and low socioeconomic status report feeling particularly self-efficacious in surveys out of self-protection. Research on the relationship between parental self-efficacy and parental knowledge with observed parental behavior in terms of achievement is particularly limited (Conrad et al., 1992; Hess et al., 2004; Wilson et al., 2014) and requires further research.

The third line of future research is to better understand home learning activities in relation to parental self-efficacy of immigrant families from high and low socioeconomic backgrounds and by immigrant generation. In several studies on parental self-efficacy in relation to parent-child activities and the parents‘ immigration or ethnic background, immigrant parents were the most disadvantaged parents, who had the lower socioeconomic status (e.g., Peacock-Chambers et al., 2017; Votruba-Drzal, 2003). In a more nuanced study by Leseman and Van Den Boom (1999) with two immigrant groups, the most disadvantaged group was families with a Turkish immigrant

background. For example, their literacy activities were meager compared to the other immigrant group and native-born Dutch lower-class families. This thesis's second study showed that parents with a Turkish immigration background and comparatively high educational levels and incomes reported higher parental self-efficacy than native-born German parents. The number of home learning activities did not differ between the two parent groups. However, the level of parental education was a significant predictor of these activities in the group of Turkish immigrant parents. Overall, these findings indicate that future research may focus more on background differences within an immigrant group and examine links with parental self-efficacy and home learning activities for each of these groups within an immigrant group.

The fourth line of future research concerns a small extension to the home learning environment model focusing on parenting self-efficacy as a parental belief. Although this thesis provides valuable information about the relationship between parental self-efficacy and home learning activities, the models‘ explained variance in study two was modest at best. The addition of potential predictor variables is necessary. Factors such as stress and depression decrease parental self-efficacy and diminish positive parenting strategies (Conger et al., 2000; Crnic & Ross, 2017; Weaver et al., 2008) and might be valuable additions to future path models. However, parenting knowledge was an influential factor, in part through interaction effects with parental self-efficacy, on parenting behavior in parent-child interactions (Benasich & Brooks-Gunn, 1996; Conrad et al., 1992; Hess et al., 2004; Huang et al., 2005; Morawska et al., 2009; Rowe et al., 2016; Wilson et al., 2014). Therefore, it can be assumed that parental knowledge may be a part of the home learning environment that affects child development. For example, Morawska et al. (2009) found that parents with greater knowledge of effective parenting strategies tended to use fewer dysfunctional parenting practices. Huang et al. (2005) found a significant interaction of maternal knowledge and ethnic background in relation to the quality and appropriateness of parental involvement in a play session. However, most important for model development in adding a new component, parenting knowledge about child development and beneficial parenting strategies could serve as a corrective

variable for very high, idealized parental self-efficacy as indicated by Conrad et al. (1992) and Wilson et al. (2014). Therefore, parents should be asked about their knowledge in corresponding knowledge dimensions, probably depending on the domain of home learning activities and child outcomes.

The fifth line of future research concerns the parental self-efficacy of mothers and fathers. The vast majority of research on parenting and family support programs relates to mothers' participation and much less to fathers. Even in the three studies in this paper, most participating parents were female, at least 85 percent. However, paternal parenting behaviors play an essential role in child development (e.g., Keown et al., 2018; Rominov et al., 2016), even independent of mothers (Sarkadi et al., 2008). Research indicates that fathers and mothers perform or consider different child-rearing tasks as important (McBride & Mills, 1993; Rollè et al., 2019; Tamis-Lemonda, 2004). This distinction would have corresponding implications for the measurement of task-related parental self-efficacy of mothers and fathers. However, the gap concerning paternal self-efficacy is gradually closing in recent years, and more studies are published (Junttila et al., 2015; Murdock, 2013; Sevigny et al., 2016; Trahan, 2018), which may also be related to society's image and value (change) of fatherhood (Lamb, 2000). Studies on maternal and paternal self-efficacy showed different findings: some studies found similar links of maternal and paternal self-efficacy with parenting behavior, whereas other studies found differences. For example, Murdock (2013) reported that whereas maternal self-efficacy was related to hostile or coercive parenting behaviors, paternal self-efficacy was related to supportive or engaged parenting behaviors. van Eldik et al. (2017), however, found similar relations with marital stress and ratings of child externalizing behavior for mothers and fathers. These mixed findings suggest that a distinction between maternal and paternal parental self-efficacy within the home learning environment model would help identify possible differences in their relations. Accordingly, consideration would need to be given to an appropriate proportion of fathers when recruiting parents to be interviewed in the future.

7.5. Implications for Educational Policy and Practice

The three studies showed that all parents, regardless of background characteristics, reported high levels of parental self-efficacy, i.e., overall, parents see themselves as being able to influence child development positively. This also applies to the number of home learning activities, which was very high on average. However, at a high level of parental self-efficacy, differences between parents emerge: Some results indicated that parents who do not speak German (or the majority and official language in their country of residence) as their family language or have a lower educational level need support concerning their self-efficacy in specific parenting tasks. This could be improved through family support programs. For example, (Mouton et al., 2018) reported for the parental self-efficacy program 'Confident mothers for easier children' that (a) parental self-efficacy significantly improved through program participation and (b) even children's externalizing behavior improved both as reported by parents and, although to a lesser degree when observed in parent-child interactions. These findings indicate that family support programs can influence parental self-efficacy and even child behavior. The results and links shown between parental self-efficacy and home learning activities in this thesis indicate that parental self-efficacy is important for parents' interactions with their child and thus for child development. Parents may need not only practical support close to everyday life but also the empowerment that goes with it.

Further, findings from this thesis suggest that caution should be taken when concluding a parent's immigration background about required parental empowerment: Parents with a Turkish immigration background felt more efficacious in parenting than parents without immigration background. The explanatory factor for this difference is most likely that German families without an immigration background were more materially deprived than families with a Turkish immigration background. Thus, it shows that not (only) the immigration background affects parental self-efficacy, but first of all, the socioeconomic status. Moreover, this finding indicates that families with an immigration background are a heterogeneous group. Families react differently

to (structural) difficulties given their high parental self-efficacy, educational level, and income. In practice, this means that the focus should be on supporting socioeconomically disadvantaged families, regardless of immigrant background. In order to identify parents‘ needs for support, it would be helpful if practitioners could more concretely ask parents about their ideas on how to perform certain parenting tasks. More general questions by the practitioner, possibly similar to general parental self-efficacy, could lead to parental expressions of idealized perceptions of their parenting competence.

In addition, more specific requests for parental needs and beliefs could explore parents' knowledge of positive parenting practices and child development. As several studies have pointed out, parental knowledge is valuable (Conrad et al., 1992; Hess et al., 2004; Wilson et al., 2014), which is why a program component on child development knowledge would be helpful for beneficial parent-child interactions. In this context, video-based training sessions could also be useful, as is already the practice of the STEEP intervention program (Erickson & Egelan, 2014).

Furthermore, there is a possibility that parents with high and unrealistic parental self-efficacy and at the same time low knowledge levels are not aware that a support program could or should help them. Herein lies the challenge of engaging these parents, referred to Conrad et al. (1992) and Hess et al. (2004) as "naively confident", in support programs. Universal programs that are open to all parents could be an option. However, idealized parental self-efficacy might prevent parents from (a) participating in support programs at all and (b) recognizing, when participating, how modules or specific tasks might help address some of their parenting issues without undermining their credibility as a parent (Wilson et al., 2014). Therefore, practitioners should be aware of idealized parental self-efficacy and accurate perceptions.

Parenting programs have shown that hands-on training with activities, group discussions with other parents, and feedback improved parental self-efficacy (Mouton et al., 2018; Sanders, 1999). It is crucial for family support programs and parenting programs to be tailored to the families' needs and their living conditions to be successfully implemented (Anders et al., 2019;

Broekhuizen et al., 2018). Bandura (1995) already described this quite specifically: “Successful efficacy builders do more than convey positive appraisals. In addition to raising people’s beliefs in their capabilities, they structure situations for them in ways that bring success and avoid placing people in situations prematurely where they are likely to fail often.” (p. 4). For example, Sanders and Woolley (2005) assessed (domain-)general parental self-efficacy and task-related self-efficacy among mothers (a) referred for parent training due to child disruptive behavior (clinical group) and (b) mothers from the general population. Mothers from the clinical group reported feeling less self-efficacious in task-related self-efficacy than mothers of the control group. There were no group differences in general parental self-efficacy. SandSanders and Woolley (2005) stated that parents of children with behavior problems may have low self-efficacy in certain parenting tasks. Parents do not appear to need support in feeling efficacious in their parenting role in general. Accordingly, parenting support programs should revisit and daily practice challenging parenting situations with parents (and their child). Over time and through the positive encouragement of practitioners, parents develop a sense of accomplishment, potentially leading to higher parental self-efficacy. Thus, parenting programs aimed at increasing parental self-efficacy offer parents the opportunity to strengthen their skills and promote their children’s development.

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Study I

The Construct of Parental Self-Efficacy and its Relation to Family Characteristics

Gessulat, J.,Oppermann, E., Cohen, F., & Anders, Y. (submitted). The Construct of Parental Self-Efficacy and its Relation to Family Characteristics.

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Abstract

Parental self-efficacy (PSE) is an essential predictor of parenting practices and child development. The content-specificity of PSE is not well understood: Previous studies are based on either measure of general parental self-efficacy or task-specific parental self-efficacy but not measures of both constructs. Thus, we do not know how both constructs are related. With data from the 'AQuaFam' study (N) = 249, we compared four-factor models to investigate the structure of PSE. It was a priority whether (1) task-specific and general PSE could be assessed separately or (2) be mapped in a hierarchical model with task-specific PSE factors and a superordinate factor of general PSE. A Chi-square test shows no significant model improvement, which indicates general and task-specific PSE being separate dimensions. US studies suggest that low-income parents, migrants, or parents with a lower educational status experience lower PSE. To adequately support these parents, we need to know whether differences according to families' background characteristics occur in task-specific and general PSE beliefs. We tested general PSE and PSE in four parenting tasks for differences according to families' background characteristics. Parents with a university degree felt more self-efficacious in communicating responsible media use than parents without a university degree. Parents with a non-German family language felt less self-efficacious in communicating a responsible media use, caring for a sick child, and in their general PSE compared to parents with German as a family language. The results of the group differences are discussed in the context of how to support different parent groups.

Keywords: Early education, family, beliefs, parental self-efficacy, family support program

Parental self-efficacy is an essential predictor of parenting practices and child development (Ardelt & Eccles, 2001; Jones & Prinz, 2005; Wittkowski et al., 2017). Specifically, parents with higher parental self-efficacy engage more frequently in home learning activities and show more appreciation and warmth in parent-child interactions (Bojczyk et al., 2018; Glatz & Trifan, 2019; Jones & Prinz, 2005). However, the construct of parental self-efficacy and, in particular, its content-specificity is not well understood: Parental self-efficacy can either refer to parents' general perception of how well they judge themselves in their role as parents (Gärtner et al., 2018), or it can refer to a specific parental task such as breastfeeding (Dennis and Faux, 1999). Previous studies are mostly based on either measure of general parental self-efficacy or task-specific parental self-efficacy but not measures of both constructs. These studies do not attempt to put the two constructs into relation to each other. Thus, we do not know how both constructs are related. Answering this question is essential for the construct validity of parental-self-efficacy. The comprehension of parental self-efficacy is not only important for research but also relevant for educational practice. Therefore, this information might also be relevant for family support programs, which often aim at improving parental self-efficacy (Freiberg et al., 2014; Mouton et al., 2018; Sanders, 1999; Sanders & Woolley, 2005). Often, parents with a low educational level, a low income, or an immigration background have low parental self-efficacy (Ardelt & Eccles, 2001; Elder et al., 1995; Peacock-Chambers et al., 2017), which is also why many programs focus on these parents (Ardelt & Eccles, 2001; Wittkowski et al., 2016). To adequately support these parents, we need to know whether differences according to families' background characteristics also occur in task-specific parental self-efficacy beliefs and – if so – in which of these parenting tasks background characteristics matter the most. Therefore, this article addresses these research gaps and focuses on two questions: (1) How can the structure of parental self-efficacy be mapped? (2) Do parents differ in their general and task-specific self-efficacy according to specific background characteristics?

We did secondary analyses using data from the study 'AQuaFam' that followed the family

support program ‘Chancenreich‘. Thus, the given study design of ‘AQuaFam‘ limits the selection of the task-specific parental self-efficacy measures.

Literature Review

Parental Self-Efficacy

Parental self-efficacy describes the parental belief of one’s efficaciousness to influence their child and its environment in such a way that it promotes child development (Ardelt & Eccles, 2001). The construct is based on Bandura’s understanding of self-efficacy, which describes it as the confidence in one’s ability to execute certain behaviors successfully (Bandura, 1977). According to social cognitive learning theory, self-efficacy is decisive for human motivation and action (Bandura, 1997). With a high amount of self-efficacy, people tend to see difficult situations as challenges and show more stamina and less negative emotional arousal in the face of stress (Jerusalem & Mittag, 1995). Empirical findings also show positive relations of parental self-efficacy with parenting competence, children’s adaptation, and negative relationships with children’s problem behavior (Bandura, 1997; Jones & Prinz, 2005).

Parental self-efficacy is often referred to as parental self-regulation, parental competence, parental self-concept, self-confidence or self-esteem, or concepts are used synonymously (Coleman & Karraker, 1997; De Montigny & Lacharite, 2005; Hamilton et al., 2015; Hess et al., 2004; Wittkowski et al., 2017). However, a conceptual analysis of the literature from 1980 to 2000 showed that these concepts describe different constructs and have different precursors and effects (De Montigny & Lacharite, 2005). For example, parental competence is a precursor of parental self-efficacy (Coleman & Karraker, 2000; De Montigny & Lacharite, 2005). Self-confidence is compared to self-efficacy more stable over time and situation-independent (Glidewell & Livert, 1992). Self-efficacy is further distinguished from the more general construct of self-concept, which is more past-oriented and stable over time (Bong & Skaalvik, 2003).

Research on parental self-efficacy for parents of preschool children is mainly conducted in

English-speaking countries (Coleman & Karraker, 1997), both for the development of measures and research on the relation to families' background characteristics (Albanese et al., 2019; Ardelt & Eccles, 2001; De Montigny & Lacharite, 2005; Elder et al., 1995; Jones & Prinz, 2005; Peacock-Chambers et al., 2017; Sanders & Woolley, 2005; Wittkowski et al., 2017). In German-speaking countries, there have been few empirical studies specifically on parental self-efficacy. Examples for these few are the works of Kliem et al. (2014) and Gärtner et al. (2018). However, educational goals - and beliefs - differ from country to country and from culture to culture (Chao & Kanatsu, 2008; Gerhards & Hölscher, 2003; Herwartz-Emden, 2003). According to the eco-social model of development (Keller & Kärtner, 2013), parental perceptions of adequate child development, parenting behavior, and socialization goals vary according to cultural mindset, which depends on the eco-social context. For example, European American parents exhibited less behavioral control behavior than other groups, such as Latinos (Chao & Kanatsu, 2008). Within Germany, too, culture-specific differences in parenting beliefs are found, for example, for families with a Turkish immigration background and those without an immigration background (Döge, 2015). Additionally, demands on children's upbringing and education have increased, and parents face high expectations (Merkle & Wippermann, 2008). Due to the important role of parental self-efficacy with educational behavior and goals, which are context-dependent, further research on parental self-efficacy is also needed in Germany.

The Structure of Parental Self-Efficacy

Due to various theoretical approaches, some of which are inconsistent, the structure of parental self-efficacy has not been finally clarified (Coleman & Karraker, 2000; Jones & Prinz, 2005). Parental self-efficacy is seen here as self-efficacy in the domain of parenting. Theoretically, two specificity levels can be distinguished: (1) general parental self-efficacy and (2) task-specific parental self-efficacy. There are different approaches to the measurement of general parental self-efficacy and task-specific parent self-efficacy. General parental self-efficacy is assessed either through measuring parent's global assessment of their efficacy expectations to parent children

(e.g., ”What I do has little influence on the behavior of my child”, Campis et al. (1986)), whereby this can also be referred to as domain-general parental self-efficacy. Another approach to assessing general parental self-efficacy stems from the summary of task-specific measurements resulting in a multidimensional index (Bandura, 1986). This is also referred to as domain-specific parental self-efficacy. Task-specific parental self-efficacy can be assessed either by using individual questions to a specific parenting task (e.g., ”I feel comfortable with my ability to respond well when an emergency occurs in which my child’s physical well-being is at risk”, Coleman and Karraker (2003)) or through a set of questions on a parenting task, for example in caring for a sick child. The advantage of using task-specific items over generally formulated items is a higher informative value (Bandura, 1989), predictive validity (Črnčec et al., 2008; Wittkowski et al., 2017), and higher sensitivity to specific parental tasks and the children’s age (Marsh et al., 2002). Even when comparing domain-general with domain-specific parental self-efficacy, Coleman and Karraker (2003) found that only the domain-specific scale was related to several child behavior outcomes, such as affection for the mother. Furthermore, the results indicated that the domains of the domain-specific scale are empirically distinguishable. Concerning task-specific parental self-efficacy, there are also findings which indicate that efficacy beliefs in different parenting tasks are empirically distinguishable (e.g., Ardelt & Eccles, 2001; Bohman et al., 2013; Bohman et al., 2014; Črnčec et al., 2008; Dennis & Faux, 1999). If parents are to be strengthened in their self-efficacy in specific parenting tasks, then these tasks should also be theoretically distinguishable from each other and general parental self-efficacy. It can be concluded that a distinction between parental self-efficacy on a general or task-specific level is essential for construct validity. So far, no study has tested (a) if the construct of general parental self-efficacy is empirically distinguishable from task-specific parental self-efficacy and (b) how the constructs of general and task-specific parental self-efficacy are related.

The present article intends to address this by comparing four different models: we examine (a) whether general and task-specific parental self-efficacy are distinguishable, (b) whether the factors

of task-specific parental self-efficacy are empirically distinguishable, and (c) the relationship between general and task-specific parental self-efficacy. We also applied (d) a nested factor model for the latter: we assume that task-specific parental self-efficacy factors are nested within a higher-order factor of general parental self-efficacy. Thus, the higher-order factor covers both general and task-specific parental self-efficacy. This would allow conclusions drawn from general parental self-efficacy to task-specific parental self-efficacy since general parental self-efficacy would also represent task-specific parental self-efficacy.

Differences in Parental Self-Efficacy According to Family Characteristics

Parental self-efficacy is one crucial aspect that several family support programs focus on (Freiberg et al., 2014; Mouton et al., 2018; Sanders, 1999; Sanders & Woolley, 2005). To strengthen parental self-efficacy, parenting support programs developed various concepts. To adapt these programs to families' different needs, it is necessary to generate more knowledge about which family characteristics are related to parental self-efficacy to respond better to parents. Previous evidence suggests that parents' educational level, parents' income, family language, and the child's gender are linked to parental self-efficacy. We will discuss this in more detail in the following.

Education

Coleman and Karraker (2000) reported that mothers with a higher education level feel more self-efficacious in raising their children than mothers with a lower educational level. More specifically, parents with at least a high school degree felt significantly more efficacious in parenting their child than parents without a high school degree (Peacock-Chambers et al., 2017).

Immigration Background

Many studies found differences in parental self-efficacy among parents with different immigration backgrounds (Boruszak-Kiziukiewicz & Kmita, 2020; Dumka et al., 1996; Holloway et al., 2005; Jackson & Scheines, 2005; Keels, 2009; Kiang et al., 2017; Macphee et al., 1996; Mendez et al., 2013). In a study by Peacock-Chambers et al. (2017), English-speaking and US-born

parents reported significantly higher self-efficacy than immigrants or Spanish-speaking parents in the US. Another US study revealed that European-American mothers showed higher maternal self-efficacy than Afro-American mothers (Hill & Bush, 2001). In their study, Hill and Bush (2001) explicitly distinguished between migration background and socioeconomic status since they are often confounded Cauce et al. (1998).

Income

In a study by Coleman and Karraker (2000), mothers with higher incomes reported higher parental self-efficacy than mothers with lower incomes. In a Japanese-Korean comparative study, Korean mothers' and not Japanese mothers' parental self-efficacy was significantly positively associated with household income (Holloway et al., 2016). Elder et al. (1995) found that economic burdens lead to perceived economic pressure, resulting in emotional stress and depressive feelings. This contributed to decreased parental self-efficacy and less beneficial parenting strategies (Elder et al., 1995).

Children's Gender

Studies from the US show various findings concerning the relationship between children's gender and parental self-efficacy. Coleman and Karraker (2000) found no statistically significant relationship between children's gender and parental self-efficacy. In contrast, Wilson et al. (2014) found that children's gender is marginally associated with parental self-efficacy, suggesting that parents of girls have slightly higher self-efficacy than parents of boys.

In summary, the findings show that parental self-efficacy differs according to families' characteristics. Concerning the relationships between parental self-efficacy and parenting practices described at the beginning of this paper, it becomes clear that strengthening parental self-efficacy, e.g., through family support programs, can mitigate direct effects of unfavorable family characteristics, such as low socioeconomic status, on parenting practices (Coleman & Karraker, 1997; Wittkowski et al., 2016). However, most of these studies were conducted in English-speaking countries (Ardelt & Eccles, 2001; Elder et al., 1995; Peacock-Chambers et al., 2017). Families

and their environment's characteristics often differ from those of parents in Germany regarding income, immigration background, and health care system. There is a lack of research on the relationships between family characteristics and parental self-efficacy for families in the German context. Therefore it is vital to assess parental self-efficacy on a country-or culture-specific basis. In 2018, around 25% of Germany's population had an immigration background, with Turkish immigrants being the largest group (Federal Statistical Office of Germany, 2019). Also, these groups differ, for example, in their parenting style (Döge, 2015).

As pictured above, families' characteristics play a significant role in their parental self-efficacy and for the design of family support programs. For the further development of local family support programs, evidence from Germany regarding parental self-efficacy differences according to the families' characteristics is required.

Method

Study Design and Sampling

This study draws on data from the study 'AQuaFam' (Anders et al., 2017). AquaFam followed families who participated in the family support program 'Chancenreich' and compared attending families to families who did not participate in the support program. The program was established by the Carina Foundation and the city of Herford. Chancenreich is a still ongoing, regional program implemented in the German town Herford. Any family with a newborn child in Herford can participate in this program for free. The program aims to generally promote parenting skills and child development and offers, e.g., parenting and parent-child courses. In the present study, we draw on the entire sample of families regardless of whether they attended the support program. We include group affiliation (whether families participated in the support program or not) as a control variable in the analyses to control group differences. The data collection for the study AQuaFam took place during the program from November 2013 to May 2014. The families' data were collected by trained research assistants using a standardized family interview and a parent

questionnaire. Families were recruited through the Chancenreich program or leaflets in childcare facilities, family education centers, pediatricians, and newsletters. The sample consists of 249 families.

Instruments

For the present study, four scales were applied to measure task-specific parental self-efficacy. Additionally, one scale measured general parental self-efficacy.

General Parental Self-Efficacy

The items are based on the instruments "Parenting Sense of Competence Scale" (PSOC) by Gibaud-Wallston and Wandersman (1978) (Johnston & Mash, 1989) and the "Self-Efficacy for Parenting Tasks Index - Toddler Scale" (SEPTI-TS) by Coleman and Karraker (2003). A sample item is: "I feel competent in dealing with conflicts with my child". The scale consists of four items (Cronbach's α = .74). The item's response possibilities ranged from 0 ('does not apply at all') to 5 ('applies completely').

Task-Specific Parental Self-Efficacy

Parental Self-Efficacy in Caring for a Sick Child. The items are self-developed. An item example for this scale is "I am confident that I know when my child is sick and should stay at home". The scale consists of three items (Cronbach's α = .57). The item's response possibilities ranged from 0 ('does not apply at all') to 5 ('applies completely').

Parental Self-Efficacy for a Healthy Diet and Exercising. The 'Parental Self-Efficacy for Promoting Healthy Physical Activity and Dietary Behaviors in Children Scale' by Bohman et al. (2013), which measures parental self-efficacy establishing healthy living and eating habits for their children, was adapted to the study. Specifically, we translated the items into German, two items were added that are very similar in content, and one item was slightly changed. The new scale consists of ten items. An example item is: "I am sure that I can support my child to play physically active". In line with Bohman et al. (2013), we differentiated two subscales, the first focusing on a healthy diet (four items, Cronbach's α = .67) and the second on exercising (three

items, Cronbach's α = .74). The item's response options ranged from 0 ('does not apply at all') to 5 ('applies completely').

Parental Self-Efficacy for a Responsible Use of Media. This scale was developed for the AQuaFam Study. An item example is "I am confident that I can resist the requests of my child if he/she wants to watch television or play computer games". The scale consists of two items (Cronbach's α = .56) The item's response options ranged from 0 ('does not apply at all') to 5 ('applies completely').

Families' Background Characteristics

In a standardized family interview and a parent questionnaire, the socioeconomic characteristics of the families were assessed. The following data were relevant for this article: gender and age of the child, gender and age of the parent, the family language spoken at home as a proxy for families' immigration background, the participants' university degree, and whether families lived in poverty at the point of the assessment. The participants' university degree was created based on the person's educational qualification who answered the questionnaires. 88% of the participants who answered the questionnaires were mothers, 5.2% were fathers, and in 2.8% of the cases, both parents answered the questionnaires. In the latter case, missings were assigned for the educational qualification and parents' age and gender because we could not assign them afterward. The family language background was assessed to determine whether the family language was German or not (0 = German, 1 = another language than German). In line with a previous study (Kluczniok et al., 2013), we used family language as a proxy for immigration background. The variable for assessing poverty (0 = not poor, 1 = poor) was derived from family income. The poverty line is given a basic value of 1033 euros per month for a one-person household in 2015 (Statistisches Bundesamt, 2019).

Analyses

The Structure of Parental Self-Efficacy

To investigate the structure of parental self-efficacy, we compared four different models using

confirmatory factor analyses:

(a) a one-factor model on which all task-specific and general items map on a parental self-efficacy factor (see Figure 1);

(b) a two-factor model in which the items of general parental self-efficacy represent a factor and all items of the four tasks represent a common factor (see Figure 2);

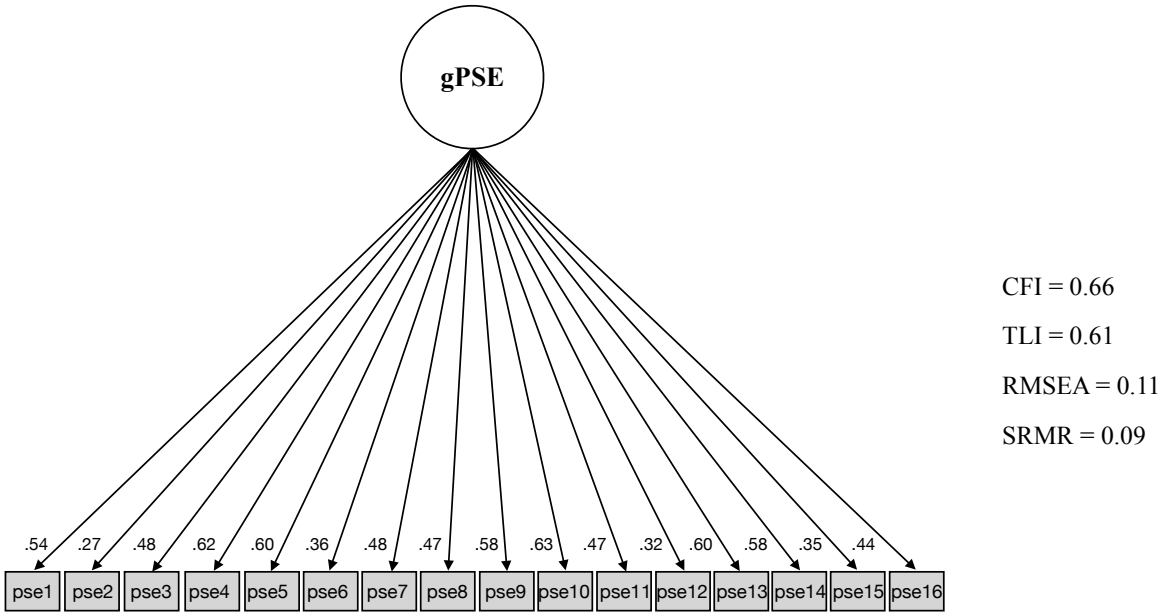
(c) a second-order factor model in which the g-factor is derived from the four task-specific factors of parental self-efficacy (see Figure 3);

(d) a hierarchical model: a factor is represented by all items of task-specific and general parental self-efficacy, where the task-specific items, in turn, represent further four factors (see Figure 4).

The figures show factors as circles and manifest variables as rectangles.

Figure 1

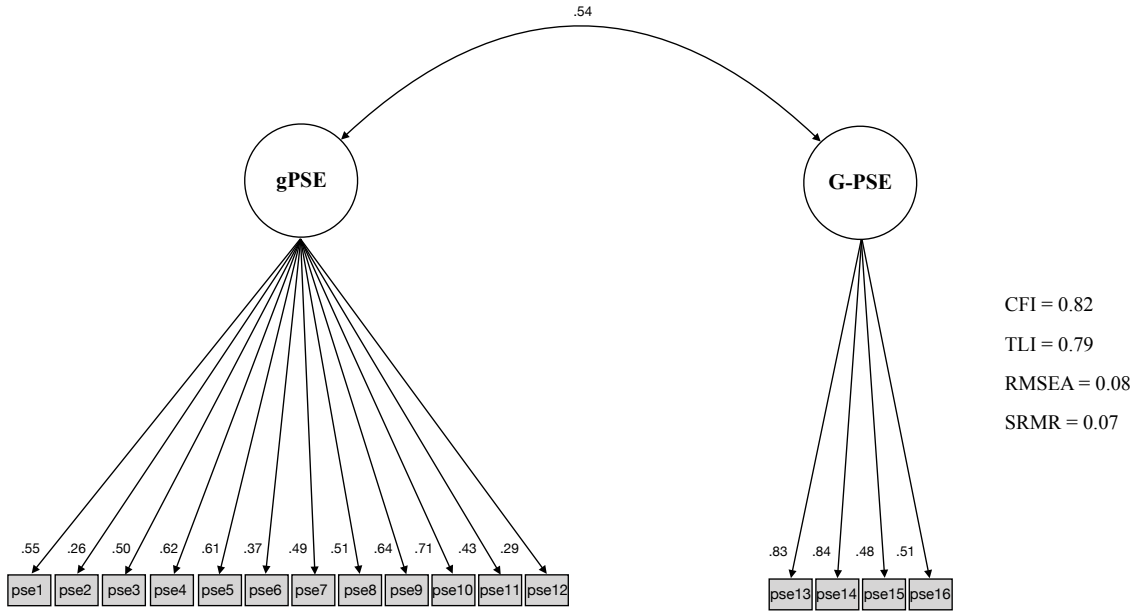
Model a of the Structure of Parental Self-Efficacy



Note. PSE = Parental self-efficacy, gPSE = Second order factor of PSE

Figure 2

Model b of the Structure of Parental Self-Efficacy



Note. PSE = Parental self-efficacy, gPSE = Second order factor of PSE, G-PSE = Scale for measuring general PSE. Displayed paths are standardized. Solid lines represent significant coefficients ($p < .05$).

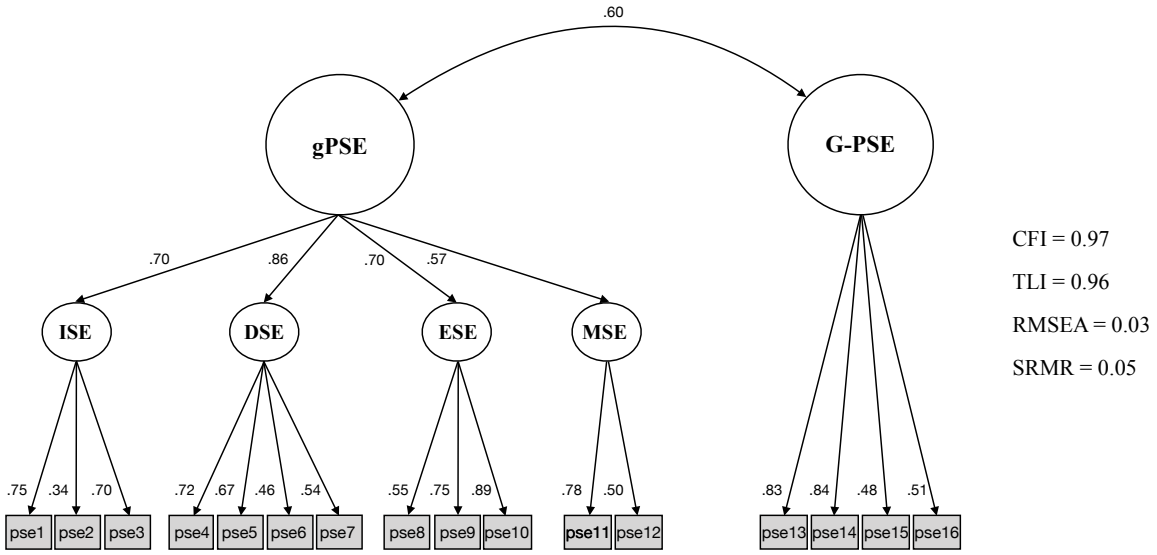
For comparing the model fit, the χ^2-test, the RMSEA (Root mean square error of approximation: Brown & Cudeck, 1993), and the CFI (Comparative fit index: Bentler, 1990) were applied. CFI values close to .95 or higher, RMSEA values close to .06 or lower, and SRMR values close to .08 or lower are indicators for a good model fit (Hu & Bentler, 1999). We used the MLR estimator because it is robust to a violation of the normality assumption (Christ & Schlüter, 2012). All regression analyses and confirmatory factor analyses were performed with Mplus (Version 7.4, Muthén, L. K., & Muthén, B. O., 1998-2015). SPSS was used for descriptive analyses (Version 25.0, IBM SPSS Statistics for Windows, 2017).

Differences in Parental Self-Efficacy According to Family Characteristics

According to the family characteristics, parental self-efficacy differences were analyzed for

Figure 3

Model c of the Structure of Parental Self-Efficacy

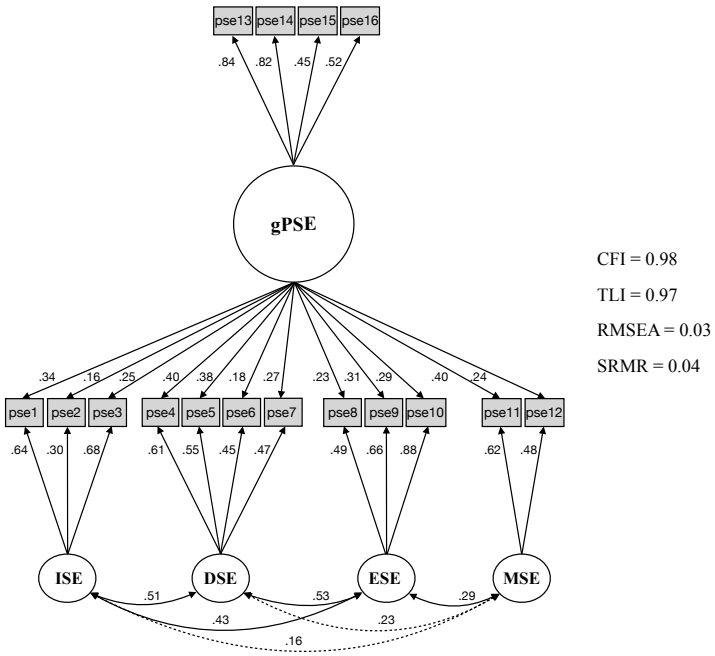


Note. PSE = Parental self-efficacy, ISE = PSE for dealing with child‘s illness, DSE = PSE for dealing with a healthy diet, ESE = PSE for dealing with exercising, MSE = PSE for communicating a responsible media use, gPSE = Second order factor for measuring PSE, G-PSE = Scale for measuring general PSE. Displayed paths are standardized. Solid lines represent significant coefficients ($p < .05$).

general parental self-efficacy measures and the four measures of task-specific parental self-efficacy. Multiple regression analyses were used to investigate group differences between families (1) who live below or above the poverty line, (2) whose child is a girl or a boy, (3) who do not speak German or speak German at home, or (4) whose parent that answered the questionnaire had a university degree. The three other background characteristics and the families‘ group affiliation (Family support program participation: 0 = no, 1 = yes) were included as control variables in the separate regressions. Besides, children’s age and gender and parent’s age and gender were included as control variables in all regressions.

Figure 4

Model d of the Structure of Parental Self-Efficacy



Note. PSE = Parental self-efficacy, ISE = PSE for dealing with child‘s illness, DSE = PSE for dealing with a healthy diet, ESE = PSE for dealing with exercising, MSE = PSE for communicating a responsible media use, gPSE = Second order factor for measuring PSE. Displayed paths are standardized. Solid lines represent significant coefficients ($p < .05$).

Results

Descriptive Results

Table 1 shows the child's and family's characteristics of this sample. Table 2 provides an overview of descriptive statistics on the parental self-efficacy measures. On average, parents felt very self-efficacious in all tasks. Only in handling responsible media use, the parents felt less self-efficacious. Table 2 also depicts the correlations of the measures of parental self-efficacy. All correlations were positive and significant.

Table 1

Descriptives of families' background characteristics

	N	*% / M (SD)*
Characteristics of the child		
Age in month	239	40.77 (6.72)
Female	242	45.9
Characteristics of the family		
Family language[a]	241	295
Net equivalent income	153	1513.76 (532.70)
University degree parent[b]	230	40.9
Poverty[c]	237	21.1

Note. [a]0 = German, 1 = not German, [b]0 = not graduated, 1 = graduated, [c]Income under $<$ 1,033 €.

Table 2

Descriptives of the parental self-efficacy measures

Measures	*N*	*M (SD)*
PSE General	238	3.14 (.60)
PSE in caring for a sick child	238	4.03 (.66)
PSE for a healthy diet	239	4.14 (.65)
PSE in supporting a child to exercise	238	4.30 (.59)
PSE in teaching a responsible media use	238	3.89 (.88)

Note. PSE = Parental self-efficacy.

The Structure of Parental Self-Efficacy

Table 4 shows the fit indices of the four models compared using confirmatory factor analyses. The first two models do not fit the data well: the CFI values are far lower than the limit of .95, and the values for the RMSEA are higher than .06. The second-order factor model (model c) and the hierarchical model (d) seem to fit the data well. A model comparison using the Chi-square

Table 3

Intercorrelations of the parental self-efficacy measures

Measures	1	2	3	4	5
1. PSE General	1	.28**	.35**	.28**	.40**
2. PSE Dealing with child's sickness		1	.34**	.35**	.24**
3. PSE Nutrition			1	.45**	.27**
4. PSE Exercise				1	.29**
5. PSE Dealing with media use					1

Note. PSE = Parental self-efficacy.
** $p < .01$.

test shows no significant improvement of the models c to d ($\Delta\chi^2$ = 17.057, p = .197). Model c is favored because it is in line with the theoretical assumption that general and task-related parental self-efficacy are two separate dimensions.

Table 4

Fit indices of confirmatory factor analyses for models a - d

Fit-Indices	Model a	Model b	Model c	Model d
χ^2	387.500	251.375	123.993	106.942
CFI	.658	.821	.970	.975
RMSEA	.107	.077	.032	.032
SRMR	.085	.070	.052	.044

Note. N = 240.

Differences in Parental Self-Efficacy According to Families' Background Characteristics

Parents with a non-German family language experienced a lower general parental self-efficacy (β = -.19, SE = .07 , p = .008) and also perceived themselves to be less self-efficacious in caring for a sick child (β = -.17, SE = .07, p = .011). Participants with a university degree felt more efficacious in communicating a responsible media use (β = .15, SE = .06, p = .007) but less

efficacious in caring for a sick child (β = -.14, *SE* = .07, p = .040) than participants without a university degree. Parents with a family language other than German perceived themselves as less self-efficacious in communicating responsible media use (β = -.29, *SE* = .07, p = .000). We found no differences according to the children's sex or according to poverty.

Discussion

We pursued two objectives in this study: (1) we examined the structure of parental self-efficacy, (2) we tested for differences in parental self-efficacy depending on families' background characteristics.

The Structure of Parental Self-Efficacy

We found that task-specific and general parental self-efficacy can be empirically distinguished. Additionally, we found that different parental self-efficacy tasks can be empirically distinguished from each other since model fit improves across these models (models b and c). This is in line with other findings (e.g., Ardelt & Eccles, 2001; Bohman et al., 2014; Črnčec et al., 2008). Furthermore, this study compared two models that relate general and task-specific parental self-efficacy in different ways: model c puts general parental self-efficacy on the same level as the g-factor of four tasks of parental self-efficacy. Model d places a factor at the head of the model, represented by general and task-specific parental self-efficacy items. We found no significant improvement from model c to model d which corresponds to previous approaches (e.g., Coleman & Karraker, 2000; Wittkowski et al., 2017). This is the first study to examine this empirically and to show the different dimensions. These results indicate that parental self-efficacy should continue to be assessed at a task-specific and a general level.

Differences in Parental Self-Efficacy According to Families' Background Characteristics

Results suggest that parents differ in their parental self-efficacy only according to their university degree and the family's language. One reason parents might feel less self-efficacious in their parenting could be a low German language level, which complicates their daily lives, e.g.,

interaction with preschool teachers. These parents might experience that they sometimes cannot fulfill the responsibilities and expectations placed on them. Since a family language different from the national language is often seen as a difficulty rather than a resource, this could contribute to a decreased parental self-efficacy (Cornelli et al., 2013; Jambunathan et al., 2000). Furthermore, the variety of educational beliefs and goals could be an explanation. The experience of having different educational styles and beliefs (Döge, 2015) and the expectations of oneself and the German majority population could lead to or be associated with lower parental self-efficacy.

Parents living in poverty did not differ significantly in parental self-efficacy from parents who do not live in poverty. This contradicts previous assumptions that material deprivation is negatively related to parental self-efficacy (Coleman & Karraker, 2000; Elder et al., 1995). First, we suspected multicollinearity and therefore tested the link between family language and poverty. Since the correlation was $r(234) = .33$, $p = .000$. we rejected this assumption. Elder et al. (1995) showed that emotional stress and depressive feelings are mediators between poverty and parental self-efficacy. Many families in the sample come from a rather rural area, in which, for example, social support from one's family is more readily available. This might reduce the feeling of stress, which in turn reduces effects on parental self-efficacy. Comparing the circumstances of the families of our sample with families who live in poverty in other countries with different social systems may be difficult, as the support options and living conditions are too diverse for comparison.

We found no differences in parental self-efficacy according to the gender of the child. Here, too, the family's living circumstances could play a role since it can be more difficult under certain circumstances to raise a girl or a boy. A previous study Ardelt and Eccles (2001) showed that parental self-efficacy was positively associated with supportive parenting strategies that mothers used significantly more often for their sons than their daughters. These mothers were living in poor and criminal inner-city districts of a big American city marked by violence, drugs, and gangs. These circumstances probably made it particularly necessary for them to have high self-

efficacy and support their sons while keeping them away from their dangerous neighborhood. The families in our sample do not live under these very severe conditions, so they do not have to be self-efficacious specifically towards their sons.

Limitations

We must first mention that this sample is not representative, which limits the generalization of the results. Future studies should adjust the instruments more closely to the child's age concerning the measure of task-specific parental self-efficacy. Specifically, the items used in the present study were task-related. However, their wording could be more specific; for example, instead of "I am confident that I know when my child is sick and should stay at home", then it says, "I am confident that I know what to do when my baby has a high fever". Coleman and Karraker (1997) pointed out that measures should contain questions on parental tasks that correspond to the children's' age at a more specific level. Since (parental) self-efficacy in Bandura's sense is task-related and parental tasks change with the child's age (Coleman & Karraker, 2003), it is evident that the assessment of task-specific parental self-efficacy also changes with the course of child development. Having more age-specific measures could improve the predictive power of the measurement. Additionally, the internal consistency of some measures of task-specific parental self-efficacy was rather low probably because of the limited number of items.

Implications

The present study provides important insights into the structure of parental self-efficacy. From our findings, we can conclude that general and task-specific parental self-efficacy reflect two different self-efficacy dimensions. The empirical confirmation of the distinction between these two dimensions is an essential step for construct validity. This could provide an impulse to consciously decide on a dimension in future studies, depending on the relationships one wants to investigate. For example, child development results in a change of parental tasks. Consequently, it is interesting to examine the relationships between task-specific PSE (e.g., doing potty training with children) and children's development in those specific tasks. However, when choosing and

formulating the items, attention should be paid to whether they are culturally specific and how the parents' response behavior could vary accordingly. For example, potty training is still handled differently in Germany and the US.

The results further showed that parents who do not speak German as their family language or have a lower educational level need support concerning their self-efficacy in specific parenting tasks. This could be improved through family support programs. For example, Mouton and Roskam (2015) reported that mothers who received positive feedback for strengthening their self-efficacy showed more positive parenting behavior in parent-child interactions than mothers who did not. This indicates that family support programs can influence parental self-efficacy.

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Study II

The Relation of Family Characteristics and Parental Self-Efficacy with Preschool Children's Home Learning Activities

Schünke, J., Wolf, K. M., Oppermann, E., & Anders, Y. (to be submitted). The Relation of Family Characteristics and Parental Self-Efficacy with Preschool Children's Home Learning Activities.

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Abstract

Home learning activities in the families‘ home learning environment are a central predictor of child development. Structural family characteristics and parental self-efficacy affect these learning activities. Studies showed that families with a low income, a low educational level, and immigrant families often engage in less home learning activities and report lower parental self-efficacy. However, little is known about (a) the role of parental self-efficacy in the relationship between structural family characteristics and home learning activities, and (b) whether parental self-efficacy and home learning activities and their relationship are affected by the parents' immigration background. This study investigates these questions based on data from 224 standardized interviews with native-born parents and parents with a Turkish immigration background. Results showed that parental self-efficacy and the educational level but not the immigration background were significant predictors of home learning activities. We found a relationship between the immigration background and home learning activities via parental self-efficacy. However, we found no direct effect from the immigration background to the home learning activities. This indicates the importance of parental self-efficacy for home learning activities regardless of the immigration background.

Keywords: Beliefs, parental self-efficacy, home learning environment, immigration background, home learning activities

Child development largely depends on innate child predispositions and their environment (Niklas et al., 2015). The home learning environment has repeatedly proven to be a central predictor of child development and later school achievement (Melhuish et al., 2008; Sammons et al., 2015). In the home learning environment model, the processes, i.e., the activities between parents and children, play a central role in child development. Structural family characteristics and parent's beliefs affect these home learning activities (Anders et al., 2011; Kluczniok et al., 2013; NICHD Early Child Care Research Network, 2003). Previous research found that parents with structural characteristics such as a higher income and educational level, being in a partnership, and having fewer children engage with their children in more home learning activities and therefore enhance their home learning environment (Kluczniok et al., 2013; Leseman & Van Den Boom, 1999; Votruba-Drzal, 2003). However, the immigration background, often combined with low socioeconomic status, is associated with a lower-quality and lower-quantity home learning environment (Kluczniok et al., 2013; Rodriguez & Tamis-Lemonda, 2011). This is particularly often the case for families with a Turkish immigration background: they are often the most socioeconomically disadvantaged group in comparison to other immigration groups and families without an immigration background (Henkel et al., 2014; Leseman & Van Den Boom, 1999). Activities in the home depend on structural characteristics and parent's beliefs, such as parental self-efficacy (Kluczniok et al., 2013; Peacock-Chambers et al., 2017). Parents who feel self-efficacious offer their children more home activities (Bojczyk et al., 2018; Peacock-Chambers et al., 2017). Studies showed that parents with an immigration background, who are often also disadvantaged and have a low level of education and income, reported having low parental self-efficacy (Ardelt & Eccles, 2001; Elder et al., 1995; Peacock-Chambers et al., 2017). However, little is known about the relationships between structural characteristics, parental self-efficacy, and home learning activities, especially for Turkish immigrant families with average educational levels and income. This study responds to this gap. Additionally, we want to examine whether these relationships differ between families with and without Turkish immigration background.

Home Learning Environment

The child's environment influences its development. Within the bioecological model of Bronfenbrenner (1979), the child-family microsystem is essential for child development. More specifically, proximal processes, which are the child's interaction with its immediate environment, are the driving force of child development (Bronfenbrenner & Morris, 2006). For young children, most proximal processes take place at the families' homes. The home learning environment plays the primary role in child developmental outcomes, both for cognitive and emotional development (Kluczniok, 2017; Linver et al., 2002; Taylor et al., 2004). Home learning activities play a central role in the home learning environment model, which links home learning activities (so-called processes) directly to child development (Anders et al., 2011; NICHD Early Child Care Research Network, 2003; Tietze et al., 2005).

The Relationship Between Family Characteristics and Home Learning Activities

Specific family characteristics are mentioned in studies as essential factors influencing home learning activities. We will discuss these in more detail in the following.

Income is a significant predictor of what activities children experience in the home. For example, Hart and Risley (1995) found that parents with a lower income addressed fewer words to their children, which they assumed has contributed to children's later vocabulary's lower growth rate. Different theories explain the association between income and home learning activities. The 'Investment Theory', for example, states that the parents' investment in their children influences the children's environment: the families' environment (e.g., neighborhood), material resources as well as activities (Haveman & Wolfe, 1994). Much of the link between income and children's cognitive and social development has been mediated by the family's ability to invest in a stimulating learning environment (Yeung et al., 2002). Parental education influences parents' educational aspirations, the assessment of their children's abilities, and the parents' choice of supportive activities, thereby giving children more diverse experience opportunities (Eccles, 1992). In line with this, several studies found a significantly positive relationship between parental educational levels and the

home learning environment's quality (Biedinger, 2011; Totsika & Sylva, 2004; Votruba-Drzal, 2003). One study found that the effect of parental educational level on home learning activities was higher than the effect of income, with the authors indicating that education might trigger specific educational behaviors at home (Smith et al., 1997). In addition to income and education, ethnicity shapes what materials children have at home; it shapes parental behavior and also interactions, e.g., mother-child interactions (Bornstein et al., 1992; Bradley et al., 2001; Leseman & Van Den Boom, 1999). Cultural background influences immigrant parents' experience as a minority in society (Garcia Coll & Pachter, 2002). Also, income and immigration background are often confounded (Cauce et al., 1998), with a low income, often absorbing ethnic group differences (Bradley et al., 2001). A model by Garcia Coll and Pachter (2002) includes variables that affect all parents, yet migrant parents in a different way, such as social class, proximal environments (e.g., neighborhoods), or family factors (e.g., roles and family values). All these factors influence parenting and, therefore, the set-up of home learning activities. Several studies suggest that some families with an immigration background engage less in particular learning activities for children than families without an immigration background Kluczniok et al. (2013), Votruba-Drzal (2003) even when controlled for the socioeconomic status and parents‘ educational background. Based on (Belsky, 1984) process model on the determinants of parenting, the relationship with a spouse or partner living in the same home is the first support system for parents, and, hence, affecting parenting. Children's home learning environment with a single parent tends to be less stimulating than in two-parent families, even after controlling for income (Rodriguez & Tamis-Lemonda, 2011; Votruba-Drzal, 2003). Also, having many siblings might lower the stimulation for a child on the assumption that the more children parents have, the less they can invest money and time for each child (Kluczniok, 2017; Votruba-Drzal, 2003).

Parental Self-Efficacy

Parental self-efficacy is based on the construct self-efficacy, which describes the confidence in

the ability to perform certain behaviors successfully(Bandura et al., 1977). Parental self-efficacy is the parental belief that they can influence one's children and their environment in a way that promotes child development (Ardelt & Eccles, 2001). Research synthesis shows that parental self-efficacy is an essential factor influencing parental behavior. Parents who feel more efficacious are more likely to engage in supportive parenting and strategies that promote their children's social, emotional, and behavioral development (Jones & Prinz, 2005).

The Relation Between Family Characteristics and Parental Self-Efficacy

Studies indicated that mothers with a higher educational level felt more self-efficacious in parenting (Coleman & Karraker, 2000; Machida et al., 2002). Furthermore, parents with at least a high school degree felt significantly more efficacious in parenting than parents without a high school degree (Peacock-Chambers et al., 2017). Several studies reported that parental self-efficacy varies according to the immigration background (Holloway et al., 2016; Kiang et al., 2017). For example, in a US-study by Peacock-Chambers et al. (2017), English-speaking and US-born parents felt significantly more self-efficacious in parenting than immigrants or Spanish-speaking parents. Income and parental self-efficacy tend to be positively linked. According to Coleman and Karraker (2000), mothers with a higher income reported higher parental self-efficacy than mothers with a lower income. However, financial problems do not automatically reduce parental self-efficacy if a parent has a supportive partnership to cope with this situation (Elder et al., 1995). This indicates that a supportive partnership helps to maintain parental self-efficacy in the face of economic hardship. It is often twice as difficult for single parents, as single parenthood is often associated with the risk of poverty (Bartfeld & Meyer, 1994) and the lack of support by a spouse or partner. Thus, two background characteristics, partnership, and income intertwine. Furthermore, we assume that parents who have many children may feel less self-efficacious: Parents with many children may feel that they do not have enough time to care for each child sufficiently. Therefore, as the number of children increases, the parents may feel less self-efficacious in raising them.

The Relation Between Parental Self-Efficacy and Home Learning Activities

Parents who feel more self-efficacious are more likely to engage in home learning activities. Parental self-efficacy is positively related to parent-child interactions and parent involvement in learning activities (Bojczyk et al., 2018; Peacock-Chambers et al., 2017). For example, Bojczyk et al. (2018) and Machida et al. (2002) found that parental self-efficacy is positively related to home learning activities. Although some studies focus on the positive relationship between home activities and parental self-efficacy (Bojczyk et al., 2018), these studies are especially scarce for preschool children (Giallo et al., 2013; Peacock-Chambers et al., 2017).

Families with a Turkish Immigration Background in Germany

In 2018, around 25% of Germany's population had an immigration background, with Turkish migrants being the largest group (Federal Statistical Office of Germany, 2019). Many Turkish immigrants live under relatively deprived circumstances in Germany. With 30.1%, the at-risk-of-poverty rate of Turkish immigrants is twice as high as that of the total population (Federal Statistical Office of Germany, 2019). According to a German study, home learning environments differ due to families' immigration backgrounds (Tietze et al., 2013). Overall, families with and without an immigration background provided a high-quality home learning environment. However, families with a Turkish immigration background provided a significantly less stimulating learning environment than families with a Russian immigration background or families without an immigration background in that study even when controlling for family characteristics (e.g., SES). At the end of primary school, significant differences in children's literacy competence become apparent even when the families' socioeconomic status is controlled for (Wendt & Schwippert, 2017). In PISA 2009, the disadvantages of students with a Turkish immigration background, e.g., in reading skills, are still significant, although the parents' educational and occupational status was controlled. Substantial differences can also be observed after taking into account the language spoken at home (Stanat et al., 2010). Overall, these results indicate that the population with a

Turkish immigration background in Germany faces disadvantages. The disadvantage already starts at a young age in the home, whereby the activities and encouragement in the home are an essential factor for later success at school.

The Present Study

There have been just a few studies on parental self-efficacy and home learning activities. These have been conducted rather with homogeneous groups, mostly from the US, regarding socioeconomic and immigration background. Additionally, little is known about the relationships between structural characteristics, parental self-efficacy, and home learning activities, especially for Turkish immigrant families with average educational levels and income. This study responds to this gap. The research questions are: (1) How are family characteristics and home learning activities related in Turkish immigrant families and non-immigrant German families? (2) How are family characteristics and parental self-efficacy related in Turkish immigrant families and non-immigrant German families? (3) How are family characteristics, parental self-efficacy, and home learning activities interrelated in Turkish immigrant families and non-immigrant German families?

Method

Data Source and Participants

This study draws on data from computer-assisted, structured interviews with 224 parents from three urban regions in Germany. The data collection was embedded in an EU-funded project (details removed for review). In Germany, sample recruitment focused on two parent groups. On the one hand, we aimed at recruiting native-born German parents with a low socioeconomic status. On the other hand, we focused on parents with a Turkish immigration background regardless of their socioeconomic status. We want to note that 50.7% of families with a Turkish immigration background were first-generation immigrants who are slightly more disadvantaged

than second-generation immigrants. Due to a low response rate, we also recruited native-born German parents with higher educational degrees and income. Our sample is not representative of the German population. Families were approached in the cities Berlin, Bremen, and Mannheim through preschools, providers of early childhood education and care, sports clubs, mosques, or the interviewer's networks and data collection coordinators. For ethical reasons, participation in the study was completely voluntary. All interviewers for interviewing parents with a Turkish immigration background were also native Turkish speakers so that the interviews could be conducted in Turkish and German. 60% of the participating parents had a Turkish immigration background, and 40% had no immigration background. The majority of the parents were female (91%). The parent's mean age was 35.01 years (SD = 6.07), ranging between 22 to 51 years. The children's mean age was 55.84 months (SD = 13.74), ranging between 25 to 87 months.

Measures

Structural Family Characteristics

The European Union's indicator of material deprivation has been applied to assess the level of financial hardship. Parents were also asked whether they had a paid job (0 = no, 1 = yes) to record their employment status. To differentiate between educational levels, the International Standard Classification of Education levels of education codes (UNESCO, 2011) was used with these cut-off points: Low for ISCED 0, 1, 2, medium for ISCED 3, 4, 5, and high for ISCED 6, 7. It was assessed whether the parent was a single parent (0 = no, 1 = yes). Moreover, parents were asked how many children under the age of 18 lived in their household.

Parental Self-Efficacy

We adapted the items from the 'Parenting Self-Agency Measure' (Dumka et al., 1996). Parents rated themselves on a 5-point Likert scale with response options ranging from *disagree* (1) to *agree* (5). The scale consisted initially of 5 items, but one was not included to improve Cronbach's Alpha (Cronbach's α = .73; an item example is: 'I feel sure of myself as a parent').

Home Learning Activities

Parents were asked how often they engage in home learning activities with their children, ranging between *(almost) never* (1) to *every day* (6). The items were designed for the current study, although they are mainly based on the items of other studies, such as the Millennium Cohort Study (Londra et al., 2017; National Centre for Social Research (NatCen), 2006) (wave 2 and 3; for children aged 3-5 years) and the Dutch DASH study (Scheele, 2010). The measure consists of 15 items (Cronbach's $\alpha = .73$), representing numeracy, reading, storytelling, conversation, and creative and practical activities.

Procedure

An interviewer read the questions aloud to the parent to prevent comprehension difficulties and entered the responses into the online software program LimeSurvey. However, for sensitive questions, parents could enter the answer themselves. The parents could choose between German and Turkish as interview language. The survey lasted between 45 and 60 minutes. All parents received an incentive afterward to improve the data collection response (voucher of 10 € for a bookstore). The data collection ran from November 2017 to August 2018.

Statistical Analyses

Before performing the analyses, the data were checked for normality, missing data, outliers, and distributions' skewness. The analyses showed that skewness was between -1.65 and 1.43. Multiple outlier analyses indicated that one case had to be removed. The percentage of missing data for most variables was between 0.4 and 5.4%. However, in association with MLR, FIML has proven to be an unbiased parameter estimate, even with a higher percentage of missing data (C. K. Enders, 2001). To answer the first and second research questions, we first performed multiple regression analyses and then multi-group analyses to consider the differences between Turkish immigrant and native-born German groups separately. To answer the third research question, we conducted path analyses to test the role of parental self-efficacy in the relationship between family characteristics and home learning activities with parental self-efficacy as the mediator.

The mediation was conducted using the bootstrap sampling method to test the indirect path's significance (Preacher et al., 2008). The MLR estimator was used because it is robust against a normality assumption breach (Kline, 2011). Missing data were handled using the FIML method (C. Enders, 2010). All analyses were performed with Mplus (Version 7.4, Muthén, L. K., & Muthén, B. O., 1998-2015).

Results

Descriptive Results

Table 1 shows the child and family characteristics of both Turkish immigrant and German parents. Comparing both groups, we found that German parents were significantly more likely to be single parents than Turkish immigrant parents, χ^2 (1, N = 223) = 12.34, p = .000. Turkish immigrant parents did not significantly differ in their educational level from non-immigrant German parents, U = 5356.50, p = .23. Also, we found no significant group differences regarding the families' employment status, U = 5776, p = .82. Furthermore, Turkish immigrant parents were materially less deprived (t(209) = 5.89, p = .000) and felt more self-efficacious (t(219) = -5.94, p = .000) than German parents.

The Relation Between Family Characteristics and Home Learning Activities

Regarding the regression on the joint sample's home learning activities, results showed that parents' educational level was a significant predictor (β = .21, SE = .07, p = .003, table 2). Multiple group analysis showed that parent's educational level in the Turkish immigrant subsample was positively related to home learning activities (β = .27, SE = .00, p = .001). Thus, the higher the parent's educational level, the more likely they offered more home learning activities.

The Relation Between Family Characteristics and Parental Self-Efficacy

Joint multiple regression analysis for both groups revealed that Turkish immigrant parents felt significantly more self-efficacious than German parents (β = .33, SE = .07, p = .000, table 3). We looked at differences regarding family characteristics between families with and without Turkish immigration background with a multiple group analysis. For non-immigrant German

Table 1

Descriptives of families' background characteristics

	Turkish		German	
	n	*% / M / (SD)*	*n*	*% /M / (SD)*
Child characteristics				
Child age in month	130	57.07 (14.12)	88	53.98 (13.09)
Female child	133	48.9%	90	57.8%
Family characteristics				
Single parent status	133		90	
Yes		9.0%		26.7%
No		91.0%		73.3%
Education parent	132		89	
Low[a]		27.3%		13.5%
Intermediate[b]		38.6%		52.8%
High[c]		34.1%		33.7%
Material deprivation	132	1.09 (1.51)	79	2.78 (2.67)
Number of children	132	2.22 (1.07)	89	2.16 (1.38)
Employment family	123		89	
Both unemployed		12.1%		21.3%
One-earner		51.5%		33.7%
Dual-earner		36.4%		44.9%
Parental self-efficacy	132	4.67 (0.49)	89	4.28 (0.48)
Home learning activities	133	4.23 (0.61)	89	4.23 (0.63)

Note. [a]ISCED 0, 1, 2,; [b]ISCED 3, 4, 5,; [c]ISCED 6,7.
$^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

parents, we found no significant relationship between any of the family characteristics and parental self-efficacy. Turkish immigrant single parents felt more self-efficacious than Turkish immigrant parents with a partner (β = .14, *SE* = .05, p = .006). The coefficient differs significantly between

Table 2

Multiple Regression Analysis and Multiple Group Analysis Predicting Home Learning Activities

	Joint sample		Subsamples			
	Turkish and German		Turkish		German	
	β	*SE*	β	*SE*	β	*SE*
Single parent status	.08	.08	.17	.09	-.03	.12
Parent's education level	.21*	.07	.27**	.08	.08	.13
Material deprivation index	.01	.08	.09	.08	-.10	.14
Parent's employment status[a]	.10	.07	.07	.08	.07	.12
Number of children	-.09	.07	-.05	.09	-.19	.14
Immigration background	.09	.07	-	-	-	-
R^2	.13**	.05	.19***	.06	.13	.09
N/n	223		113		90	

Note. Children's age and gender were included as control variables in the models. [a]0 = unemployed.
*$p < .05$, **$p < .01$, ***$p < .001$.

the groups ($p = .049$).

The Interrelation Between Family Characteristics and Home Learning Activities with Parental Self-Efficacy as a Mediator

Path models were tested for the relationship between structural family characteristics and home learning activities with parental self-efficacy as a mediator for the subsamples and the overall sample. The models had a perfect fit as they were saturated models. Parental self-efficacy did not serve as a mediator for any of the structural characteristics concerning home learning activities. However, we found an indirect effect between the immigration background and home learning activities via parental self-efficacy, $\beta = .06$, $SE = .02$, $p = .015$. As previously assumed, parental self-efficacy is significantly related to home learning activities in the joint sample ($\beta = .18$, $SE = .06$, $p = .005$; Figure 1). Also, there was a significant positive relationship between the

Table 3

Multiple Regression Analysis and Multiple Group Analysis Predicting Parental Self-Efficacy

	Joint sample		Subsamples			
	Turkish and German		Turkish		German	
	β	*SE*	β	*SE*	β	*SE*
Single parent status	.03	.06	.14**	.05	-.06	.12
Parent's education level	-.05	.06	-.12	.09	.05	.11
Material deprivation index	-.06	.06	.01	.07	-.19	.11
Parent's employment status[a]	-.07	.07	-.04	.09	-.21	.12
Number of children	.04	.07	.09	.09	-.11	.13
Immigration background	.33***	.07	-	-	-	-
R^2	.17**	.05	.10*	.05	.06	.05
N/n	223		113		90	

Note. Children's age and gender were included as control variables in the models. [a]0 = unemployed.
*$p < .05$, **$p < .01$, ***$p < .001$.

parents' educational level and home learning activities (β = .22, *SE* = .07, *p* = .002).

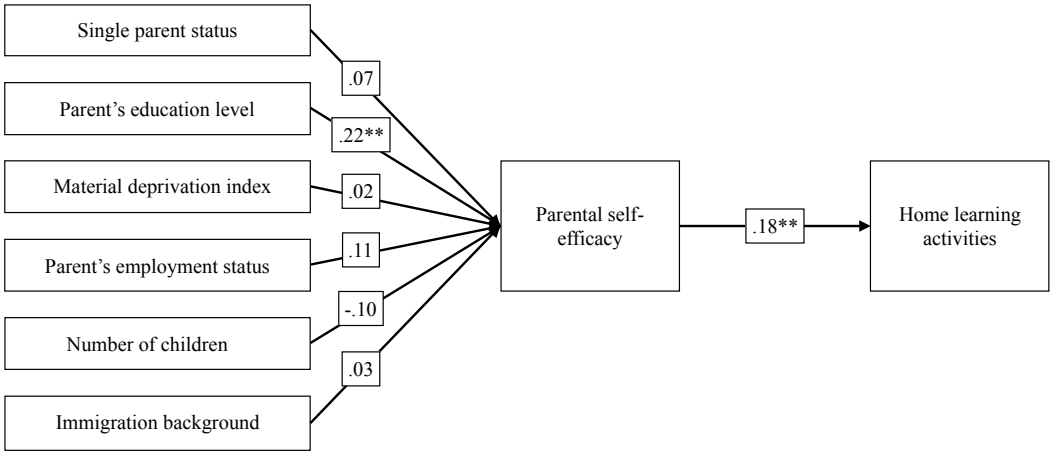
Then we conducted a path model that analyzed the Turkish and German parents separately (Figure 2). The Turkish parent's educational level was significantly positively related to home learning activities (β = .29, *SE* = .08, *p* = .001). We found no significant relationship between any of the predictors and home learning activities for German parents.

Discussion

This study investigated the interrelation of structural family characteristics, parental self-efficacy, and home learning activities for families with and without a Turkish immigration background in Germany. We found that (a) parental self-efficacy is positively related to home learning activities, that (b) parent's educational level is positively related to home learning

Figure 1

Path Analysis Model of Relationships Between Structural Family Characteristics, Parental Self-efficacy, and Home Learning Activities



Note. Path analysis model for joint sample. Children's age and gender were included as control variables in the analysis. R^2 = .16**, *SE* = .05.

$p < .05$, $^{**}p < .01$, $^{***}p < .001$.

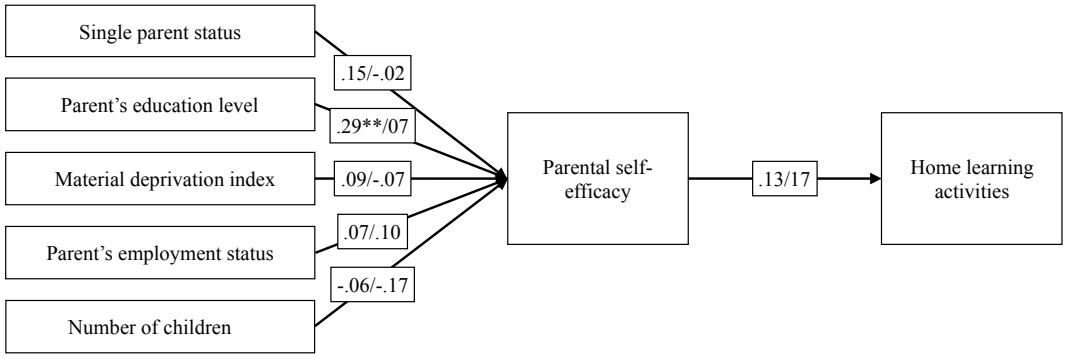
activities, and that (c) the Turkish immigration background is positively related to parental self-efficacy.

The Relation Between Structural Family Characteristics and Parental Self-Efficacy

Previous studies showed that parents with a low educational level, single parents, and parents with a low socioeconomic status often reported low parental self-efficacy (Coleman & Karraker, 2000; Machida et al., 2002; Peacock-Chambers et al., 2017). In our study, we found no differences between the parent's self-efficacy according to these family characteristics. However, parents with and without a Turkish immigration background differed significantly in their parental self-efficacy. Interestingly, parents with a Turkish immigration background felt more efficacious in raising their children even under the control of other family characteristics. This is somewhat

Figure 2

Multiple Group Path Analysis Model of Relationships Between Structural Family Characteristics, Parental Self-Efficacy, and Home Learning Activities



Note. Multiple Group Path Model for both families with and without a Turkish immigration background. The value before the slash refers to families with a Turkish immigration background, the value after the slash to families without a Turkish immigration background. Children's age and gender were included as control variables in the analysis. Explained variance for path analysis of families with/without a Turkish immigration background: R^2 = .21**, *SE* = .06; R^2 = .15, *SE* = .09.

*$p < .05$, **$p < .01$, *** $p < .001$.

contrary to previous findings, which suggested that parents with an immigration background reported having lower parental self-efficacy than parents without an immigration background (Peacock-Chambers et al., 2017). However, immigrant parents experience material deprivation in many cases, especially parents with a Turkish immigration background (Federal Statistical Office of Germany, 2019; Leseman & Van Den Boom, 1999). In this study, however, Turkish immigrant families were significantly less affected by material deprivation than non-immigrant German parents. This is due to our sample collection since we also recruited parents with a Turkish immigration background who had higher educational levels and income. The present results could

ultimately indicate that it is not the immigration background that affects parental self-efficacy, but rather structural problems such as poverty and unemployment with which immigrant families often struggle. Surprisingly, we found a positive relationship between single-parent status and parental self-efficacy among parents with a Turkish immigration background. The descriptive results showed that single parents are the minority compared to parents in a partnership within the Turkish immigrant parents' group. A possible explanation for the positive relationship could be that precisely because there are so few single parents, these single parents are very committed parents and confident in their role. The distinctly high parental self-efficacy could indicate a personality, which is generally characterized by high self-confidence and toughness. These Turkish immigrant single parents are more likely to have a medium to high educational level than Turkish non-single parents. Otherwise, it could also be a sampling effect in that single parents with low parental self-efficacy did not participate in this study because of their low self-efficacy. Therefore, we found this positive relationship.

The Relation Between Family Characteristics and Home Learning Activities

Research has shown that families with a higher socioeconomic status, a high educational level, and non-single parents tend to offer their children more home learning activities (Biedinger, 2011; Rodriguez & Tamis-Lemonda, 2011; Votruba-Drzal, 2003). In the present study, however, only the parent's educational background is related to the number of home learning activities. Both parent groups in our sample are equally involved in home learning activities. However, for parents with a Turkish immigration background, there is a clear relationship between the frequency of joint activities and their educational background. This result points to the importance of parental education for home learning activities for these Turkish immigrant parents. Other studies have already shown that immigrant groups with better education and higher income could provide a better learning environment than immigrant groups with low education and income (Koury & Votruba-Drzal, 2014; Leseman & Van Den Boom, 1999).

The Interrelation Between Family Characteristics and Home Learning Activities with Parental Self-Efficacy as a Mediator

This study investigated how several structural family characteristics and parental self-efficacy are related to home learning activities. As in other studies, e.g., Giallo et al. (2013), we found that parental self-efficacy is related to home learning activities. When we added parental self-efficacy to family characteristics in the model, the explained variance increased from 13% to 16%, indicating an essential factor. Also, the parental educational level was significantly related to parental self-efficacy. Contrary to previous findings, parental self-efficacy was not a mediator between any family characteristic and home learning activities (Peacock-Chambers et al., 2017). However, we found an indirect effect of the Turkish immigration background via parental self-efficacy on home learning activities even though the immigration background's direct path on the activities was not significant. In this study, parents with a Turkish immigration background and high parental self-efficacy carried out more learning activities with their children than non-immigrant parents. This suggests that parental beliefs are central to doing activities in the home and that parental self-efficacy contributes to an increase in learning activities.

Limitations and Future Directions

The first limitation of the study relates to a sampling bias. We relied on social networks during our recruitment, so we assume we reached out to parents who are similarly dedicated to parenting and are active in their community. Also, families with high educational backgrounds are over-represented due to our recruitment in both our parent groups. Therefore, our sample is not representative of families with a Turkish immigration background as well as of non-immigrant parents in Germany. Additionally, we assessed parental self-efficacy on a general level. This deviates from Bandura's self-efficacy concept, where self-efficacy is a task-specific construct that only refers to the task and is not transferable (Bandura, 1989). The advantage of using task-specific parental self-efficacy over general parental self-efficacy is better predictive validity (Črnčec et al., 2008). With this, the relationship to home learning activities could be correlatively

apparent, and in the later model, the size of the relationship could be larger. The explained variance of multiple regressions and multiple group analyses is relatively small. This indicates that other factors for home learning activities and parental self-efficacy should be included in the analyses.

The analyses show that several rather high relationships were not significant, probably due to the small sample size. The relationships' strength indicates the practical significance of the relationships. These analyses would have to be replicated in future research with a larger sample to establish possible relationships. The non-significant results indicate, for example, that non-immigrant German families with fewer employed parents reported feeling more parental self-efficacy. This may be counterintuitive initially but could indicate families with one earner, with the mother probably at home. This accounts for more than half of the German families in our sample.

Implications for Practice

This study gives a new perspective on parents with a Turkish immigration background in Germany because they felt more efficacious in parenting their children than parents without immigration background. The explanatory factor for this difference is most likely that German families without an immigration background were more materially deprived than families with a Turkish immigration background. Thus, it shows that not (only) the immigration background affects parental self-efficacy, but above all, the socioeconomic status. In practice, this means that socioeconomically disadvantaged families' support should be a priority, regardless of an immigration background. The results suggest that immigrant families are also a heterogeneous group from a socioeconomic perspective and need different kinds of support. Parent programs have shown that hands-on training with activities, group discussions with other parents, and feedback improve parental self-efficacy (Mouton et al., 2018; Sanders, 1999). For family support programs, it is crucial to be tailored to the families' needs and their living conditions to be successfully implemented (Anders et al., 2011; Broekhuizen et al., 2018). Parenting programs,

aimed at increasing parental self-efficacy and improving the home learning environment, offer parents the opportunity to strengthen their skills and promote their children's development.

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Study III

The Relationships Between Parental Self-Efficacy, Home Learning Activities, and Child Outcomes

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Abstract

Previous research has shown that parental self-efficacy is a beneficial predictor for both children's socio-emotional and language skills. Also, high parental self-efficacy is associated with more home learning activities. However, the relationships between parental self-efficacy, home learning activities, and preschool children's socio-emotional and language skills have not yet been investigated. The present study investigates these relationships based on a sample of 727 parents of preschool children who attended 162 preschools. The self-report data that come from an online survey is derived from a German federal evaluation study. Using path analyses, we found significant links to parental self-efficacy with home learning activities and children's socio-emotional and language skills. Findings indicate that the more self-efficacious the parents felt, the more home learning activities they offered, and the higher they rated their children's language skills at age 5. Moreover, lower parental self-efficacy was linked to children's socio-emotional problems.

Keywords: Parental self-efficacy, home learning environment, child outcomes, transition, preschool

Children's socio-emotional and language skills are critical factors for their academic achievement and in maintaining their mental health (Duncan et al., 2007; Durlak et al., 2015; Zins et al., 2004). The influence of children's families explains a significant part of these skills: on the one hand by the family climate (e. g., a warm and supportive atmosphere within the family) and on the other hand by specific parent-child home learning activities (e.g., shared book reading, playing board games) (Baker, 2013; Binz et al., 2010; Foster et al., 2005). There is evidence that those home learning activities are positively related to children's socio-emotional and language skills (Burgess et al., 2002; Hartas, 2011; Niklas & Schneider, 2017; Rose et al., 2018; Skwarchuk et al., 2014; Tamis-LeMonda et al., 2017), although there are only a few studies on the relationship between home-based learning activities and socio-emotional skills (Baker, 2013). However, these few studies point to a positive link between both variables (Farver et al., 2006; Rose et al., 2018). An essential parental precursor for home learning activities and child outcomes is parental self-efficacy, which is the parent‘s belief in their ability to influence their child and its environment in a way that promotes child development (Ardelt & Eccles, 2001; Peacock-Chambers et al., 2017). Previous research has shown that parental self-efficacy is a beneficial predictor for both children's well-being and social skills as well as their language skills (Day et al., 1994; Jones & Prinz, 2005; Junttila et al., 2007; Lynch, 2002; Stiévenart & Martinez Perez, 2020; Weaver et al., 2008). However, the relationships between parental self-efficacy, home learning activities, and preschool children's socio-emotional and language skills have not yet been investigated (Stiévenart & Martinez Perez, 2020).

This is the starting point of the present study. In detail, we want to investigate how three different dimensions of parental self-efficacy, namely (a) parent's general perception as being a competent parent, (b) parental self-efficacy in supporting children's language skills, and (c) parental self-efficacy in supporting children's transition from preschool to elementary school are related to home learning activities and children's socio-emotional and language skills.

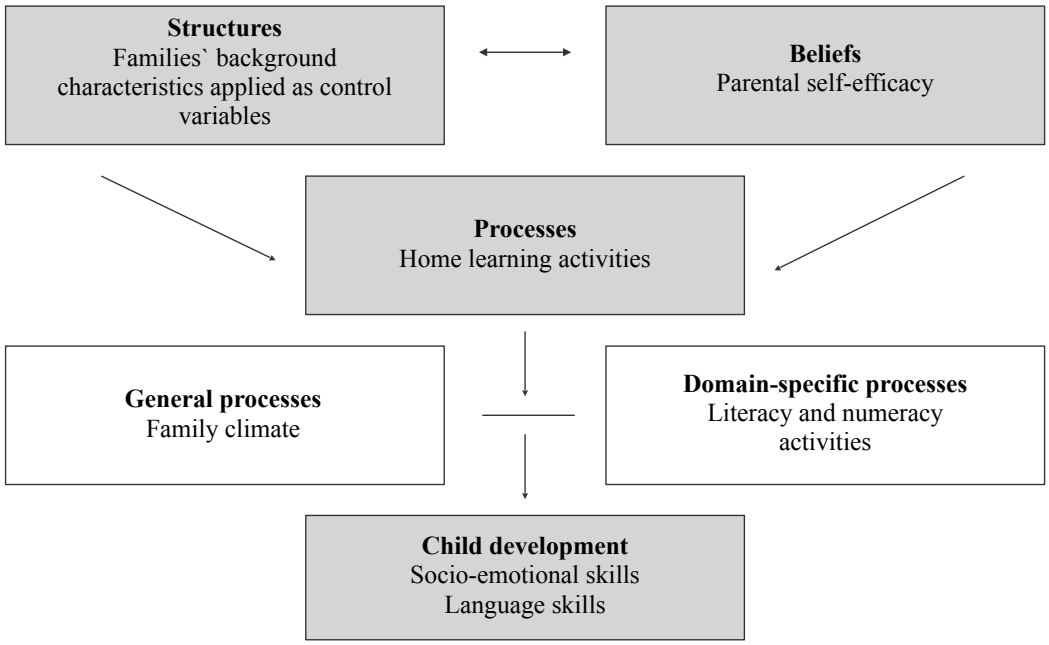
Furthermore, we want to examine parental self-efficacy at children‘s transition from preschool

to elementary school and its link to home learning activities and child outcomes. Both socio-emotional and early language skills are essential for children's school readiness and later reading literacy in elementary school (Denham, 2006; Lehrl et al., 2013). Children's successful transition to elementary school is linked to stable friendships and later school success (Duncan et al., 2007). However, the transition from preschool to elementary school is often perceived as a critical phase in children's educational careers. This phase is considerably accompanied by parents and their attitudes towards school and learning influence the transition phase (Faust et al., 2012). Some studies have already examined family factors (e.g., a higher educational level) as predictors of a successful transition reported by the parents (Dockett & Perry, 1999; Faust et al., 2012; Kluczniok et al., 2015). Moreover, parents who engaged in more home learning activities perceived their children as better socially prepared to enter elementary school. As another family factor, higher parental self-efficacy is related to children's better adjustment in elementary school (Giallo et al., 2008). High parental self-efficacy is also associated with more home learning activities (Peacock-Chambers et al., 2017). However, there is very little research on parental self-efficacy that focuses on the transition to elementary school (Giallo et al., 2008). Overall, it has not been investigated how parental self-efficacy during the transition phase is related to home learning activities and children's socio-emotional and language competencies.

The home learning environment model provides a suitable framework for the relationships between the variables mentioned above (Anders et al., 2011, Kluczniok et al., 2013, NICHD Early Child Care Research Network, 2003, Tietze et al., 2005, see Figure 1). In the present study, we map this model with families' background characteristics as control variables, parental self-efficacy as a parents' belief, and home learning activities as processes that influence children's socio-emotional and language skills. The following sections focus first on the model itself and then on its respective variables' links.

Figure 1

Model of the Home Learning Environment with the Variables used in this Study



Note. The model of the home learning environment is adapted from Kluczniok et al. (2013), Tietze et al. (1998).

The Home Learning Environment Model

Children's home learning environment influences child development. Children's interactions with their immediate environment, called proximal processes, are the driving force of child development (Bronfenbrenner & Morris, 2006). With young children, most interactions take place within their family home. The home learning environment plays a primary role in children's developmental outcomes (Lehrl, 2018; Tietze et al., 2005). For instance, parent-child home learning activities are essential for children's school performance (Crane, 1996; Niklas & Schneider, 2015; Sammons et al., 2015) and their socio-emotional skills and development

(Denham, 2006; Raver, 2002). A widely used home learning environment model distributes itself into structural family characteristics, beliefs, and processes (Anders et al., 2011; Kluczniok et al., 2013; NICHD Early Child Care Research Network, 2003; Tietze et al., 2005; Tietze et al., 1998). Thereby, structural family characteristics and beliefs mutually influence each other, and both affect processes in the home that, in turn, affect children's development. Structural family characteristics are rather stable, long-term family characteristics, such as the parent's educational level, marital status, or immigration background. Beliefs refer to the parent's values and attitudes towards parenting, education, and their children's development, e.g., parental self-efficacy. Processes are characterized by either general aspects of parent-child interactions (e.g., a parent supports her/his child) or domain-specific activities (e.g., shared book reading) (Lehrl, 2018). Finally, these processes directly influence child development, e.g., children's socio-emotional and language skills.

Apart from children's temperament, the most crucial factor influencing children's socio-emotional skills is the family: children who show less social skills and more emotional difficulties are more likely to (a) experience interparental conflicts, (b) have parents who do not support children in dealing with their feelings, and (c) have parents who engage in fewer home learning activities (Denham, 2006; Eisenberg & Fabes, 1994; Gottman et al., 1996; Niklas & Schneider, 2017). Parent-child activities at home, such as shared book reading, have a positive influence on children's language skills (Davidse et al., 2011; Niklas & Schneider, 2015). Socio-emotional and language skills seem to be intertwined: For example, Petersen et al. (2013) found for primary school children over five years that even after controlling for earlier behavioral problems, language ability predicted the children's later behavioral problems. There is substantial evidence of the importance of socio-emotional and language skills for academic achievement and mental health in childhood and adolescence (Duncan et al., 2007; Durlak et al., 2015; Malti & Noam, 2016). Children's socio-emotional skills affect how their teachers and peers perceive them, can serve as protective factors, reduce psychological and contextual difficulties, and stimulate both motivation

and positive behavioral changes (Denham, 2006; Raver, 2002; Zins et al., 2004). This points to the importance of a nurturing family climate and parents being role models and support sources.

In the following sections, we will take a closer look at the interactions between the respective constructs of parental self-efficacy, home learning activities, and the children's socio-emotional and language skills.

The Relationships Between Parental Self-Efficacy and Home Learning Activities

Parental self-efficacy is an essential parental belief that influences parent-child interactions and parent involvement in learning activities, and therefore affects child development (Bojczyk et al., 2018; Jackson & Scheines, 2005; Jones & Prinz, 2005; Peacock-Chambers et al., 2017). Parental self-efficacy is derived from the construct self-efficacy and describes the parents' belief in their ability to influence their child positively, and its environment, promoting children's development (Ardelt & Eccles, 2001; Bandura, 1977). Parental self-efficacy should be assessed within a domain or task (e.g., parental academic efficacy), as efficacy beliefs vary from task to task (Bandura et al., 1996). Further, Bandura et al. (1996) assumed that the more relevant the self-efficacy measures are for the respective tasks, the higher are the links between self-efficacy measures and activities. Parents with high self-efficacy tend to have a strong intrinsic interest in parent-child activities and personal involvement in the parenting process (Bandura, 1995). Two studies found that parental self-efficacy is related to both literacy and numeracy activities that promote the transition to school (e.g., teaching letters, read to child) and family practices (e.g., the relationship of family members) (Bojczyk et al., 2018; Machida et al., 2002). Although some studies have investigated the positive relationship between home activities and parental self-efficacy (Bojczyk et al., 2018; Grolnick et al., 1997), these studies rarely relate to the preschool age range (Giallo et al., 2013; Peacock-Chambers et al., 2017).

The Relationships Between Parental Self-Efficacy with Children's Socio-Emotional and Language Skills

Parental self-efficacy is often associated with different aspects of child outcomes, with higher

parental self-efficacy generally indicating more favorable child outcomes (Junttila & Vauras, 2014; Junttila et al., 2007; McDonald et al., 2016; Weaver et al., 2008). Research synthesis has shown that parental self-efficacy as a precursor significantly influences parenting behavior: parents who feel more efficacious are more likely to use supportive strategies that promote cognitive, behavioral, and socio-emotional skills of their children (Coleman & Karraker, 1997; Jones & Prinz, 2005; Macphee et al., 1996). Distressing subjective perceptions of competence in parenthood and the resulting psychological unavailability of parents influences their behavior and, therefore, the child. Thus, it affects the degree of well-being and stimulation children experience in their homes and impacts their emotional and cognitive development (Coleman & Karraker, 1997). Thus, high parental self-efficacy is positively related, for example, to children's social competence (Junttila et al., 2007) and toddler's behavior regarding compliance and affection towards the mother (Coleman & Karraker, 2003). Also, some studies suggest a positive relationship between high parental self-efficacy and children's language skills (Albarran & Reich, 2014; Seefeldt et al., 1999), though some studies have found no direct link between the two variables (Dulay et al., 2018). Interestingly, another study showed that children's social skills mediated the relationship between parental self-efficacy and elementary children's reading and numeracy skills (Junttila et al., 2007), indicating the importance of social skills for academic achievement. However, high parental self-efficacy can serve as a protective buffer for children socio-emotional skills: McDonald et al. (2016) found a significant decrease in the risk of developmental delays in children who were exposed to socio-demographic risk and the mother's poor mental health, but whose mothers had high parental self-efficacy. This points to the importance of parental self-efficacy for children's social-emotional skills.

The Relationships Between Home Learning Activities with Children's Socio-Emotional and Language Skills

Many studies found that parent-child literacy activities, such as shared book reading, influence children's early literacy skills (e.g., Burgess et al., 2002; Niklas & Schneider, 2017; Rodriguez

et al., 2009) and their later reading literacy in primary school (Lehrl et al., 2013). Some studies also found a relationship between home learning activities and children's socio-emotional skills: the quality and quantity of home literacy activities in three-year-olds were linked to language skills in five-year-olds, which in turn predicted emotional self-regulatory skills in eight-year-olds (Rose et al., 2018). Similarly, with an ethnically diverse sample, Baker (2013) showed a relationship between home literacy activities and their children's socio-emotional skills.

Parents who provide developmentally appropriate learning opportunities that touch the child's proximal development zone help children develop their skills (Bronfenbrenner & Morris, 2006; Vyotsky, 2012). This indicates that shared parent-child activities (e.g., literacy or numeracy activities) are proximal processes. Ideally, the knowledge level is just beyond the children's current abilities, and children internalize language directed at themselves (Vyotsky, 2012). As a result, children internalize their parent's language, behavior, and social skills that influence their cognitive and socio-emotional development. Many studies examined the relationships between parent-child activities with children's emergent literacy and numeracy skills (Hart & Risley, 1995; Kluczniok, 2017; Sénéchal & Lefevre, 2002; Skwarchuk et al., 2014). Regarding numeracy skills, Skwarchuk et al. (2014) found that formal arithmetic practices at home (such as practicing simple summation) were related to children's knowledge of the symbolic number system, while informal exposure to games with numerical content predicted children's non-symbolic arithmetic. Regarding literacy skills, Niklas and Schneider (2017) found in a longitudinal study that parent-child activities focused on literacy predicted both emerging reading skills of children in preschool and reading and spelling at the end of elementary school.

Shared activities with parents provide an example of how to interact with other people and the environment. This way, the family climate (e.g., warmth) and home learning activities (e.g., shared book reading) could help children to improve their socio-emotional and language skills (Rose et al., 2018) (Rose et al., 2018).

However, Baker (2013) stated that few studies investigated how children's socio-emotional

outcomes are influenced by parental involvement in home literacy activities. These studies indicate a positive relationship between learning stimulation with social functioning and a negative relationship with problem behavior (Baker, 2013; Bradley & Corwyn, 2001; Farver et al., 2006). However, to the best of the authors' knowledge, the relationships between parental self-efficacy, home learning activities, and preschool children's socio-emotional and language skills has not yet been investigated (Stiévenart & Martinez Perez, 2020).

The Transition to Elementary School

The framework of the transition approach is one concept regarding transitional phases. It states that the transition from preschool to elementary school is perceived as a vulnerable phase both for parents and children (Dunlop & Fabian, 2007; Faust et al., 2012; Griebel & Niesel, 2011; Yeboah, 2002). This theoretical approach integrates the ecological approach by Bronfenbrenner (1992) as well as approaches of stress research (Lazarus, 1995) and considers changes from the perspective of critical life events (Filipp, 1995), which can be both burdens and developmental challenges (Griebel & Niesel, 2011). HHowever, the results of several empirical studies indicate that only a small proportion of children have problems in the transition from preschool to elementary school (Beelmann, 2000; Faust et al., 2012; Kluczniok et al., 2015; Rimm-Kaufman et al., 2000). The high stress load during the transition may, therefore, be overemphasized by the transition approach.

Nevertheless, school entry is the beginning of a new life phase for children, which the parents must deal with for themselves and support their children. For example, parents who engaged in more home learning activities with their children also perceived their children to be socially better prepared for entering elementary school (Kluczniok et al., 2015). However, few studies examined family factors as predictors of a successful transition (Dockett & Perry, 1999). Parental beliefs, such as parental self-efficacy, play an essential role in parental competence and parental behavior (Jones & Prinz, 2005). Thus, Giallo et al. (2010) showed that higher parental self-

efficacy was related to greater parent involvement throughout children‘s first term at elementary school. However, there is very little research on parental self-efficacy in managing the transition to elementary school, especially in relation to child outcomes (Giallo et al., 2008). That is why we want to investigate how parental self-efficacy at children's transition from preschool to elementary school is related to home learning activities and parents' perception of their children's socio-emotional and language skills.

The Present Study

Little is known about parental self-efficacy in children's transition from preschool to elementary school. Additionally, there are no studies on the relationships between parental self-efficacy, home learning activities, and children's outcomes. This study responds to this gap and focuses on the following research questions: (a) How are general parental self-efficacy and parental self-efficacy on language support related to home learning activities and children's socio-emotional and language skills? (b) How are parental self-efficacy on the transition to elementary school and parental self-efficacy on language support related to home learning activities and children's socio-emotional and language skills? Thereby, research question a refers to the full sample of parents (N = 727), whereas research question b refers to the subsample of parents (n = 108).

Methods

Data and Participants

This study is based on data from 727 parents of children who attended 162 public preschools in Germany. In the German early education and care system, children attend preschool until the age of six and then move on to elementary school. This means that kindergarten in Germany is part of the preschool. Preschool children mostly attend mixed-age groups. On average, 4.49 (SD = 1.64) families per preschool took part in the survey. Data collection took place from September 2019 to February 2020 within the evaluation study of the German federal program ‘Language

day care centers' evaluation study: because language is the key to the world‘ using an online questionnaire. The program aims to support preschools in implementing language education and effective parent-preschool partnerships. The program-accompanying evaluation examines how the program is implemented by the participants and what effects arise in the process. The evaluation includes all key stakeholders, including the providers, the preschools participating in the federal program with their additional specialized staff, other educators in the preschools, the additional (language) specialized consultants, and families whose children attend a language daycare center.

The preschools' selection process was initially characterized by which preschools have participated in previous observational studies and team surveys in the context of the evaluation program. Due to a low response rate, additional preschools of the evaluation study were contacted where no previous observations and team surveys had been conducted. For ethical reasons, participation in the study was completely voluntary. Only parents' data was used who have signed an informed consent form complying with the current European and German data protection guidelines that the parents signed before starting the questionnaire. The participating families received a small incentive (voucher for toys).

For this study, we also use a subsample of 108 parents from a total sample of 727 parents. Children of those parents started elementary school in the same year: parents answered additional questions on their parental self-efficacy during the transition from preschool to elementary school. In all, we have a total sample of 727 families, and 108 of these parents answered additional questions on parental self-efficacy at the transition.

At 85.1%, the majority of the participating parents were female. The parent's mean age was 36.83 years (SD = 6.60), ranging between 19.12 and 62.5 years. Foster parents, some of whom were also the children's grandparents, also took part in this study. Since these participants take on a parental role for the children, they are also referred to as parents in this paper. The children's mean age was 63.62 months (SD = 10.52). The mean age of the children who went to elementary school in the same year was 78.31 months (SD = 6.48). The participating parents stated to have

two children on average (*SD* = 0.95). Of the parents, 59.3% passed the A-levels, and 22.4% had a net equivalent household income of 1726.68 Euro (*SD* = 740.42). The net equivalent income was calculated from categories of the family‘s monthly income. It should be noted that the highest income category was open at the highest level. However, the net equivalent income calculation was set at 6500 Euros, which cannot cover all higher incomes and might slightly decrease the calculated net equivalent income. Of the participating parents, 24.8% stated that they speak at least an equal proportion of a language other than German at home.

Measures

Parental Self-Efficacy

All parental self-efficacy measures are 5-point Likert-scales. The response options ranged from *fully disagree* (1) to *fully agree* (5).

The items for general parental self-efficacy are based on Kliem et al. (2014) and Johnston and Mash (1989). In addition, slight changes were made so that ”I think I can...” became ”I am sure I can...” to further emphasize the perceived efficaciousness Bandura (2006). Our measure consists of 5 items (Full sample: Cronbach’s α = .81; subsample: Cronbach’s α = .82). One item example is: “I am sure that I can do everything a mother or father should be able to do.

The measure for parental self-efficacy on the transition from preschool to elementary school is based on Giallo et al. (2008). As previously mentioned, we asked these parents whose children transition to elementary school in the survey years 2019. This measure consists of 6 items (Subsample: Cronbach’s α = .90). One item example is: “I am sure that I support my child well in the transition to elementary school.

The measure for parental self-efficacy on supporting children’s language skills is based on measures by DesJardin (2003) and Coleman and Karraker (2003). The measure by DesJardin (2003) relates to parental self-efficacy in supporting the language development of children with hearing loss, which is a special target group. Since the item wording still covers language development in terms of content, the SEPTI-TS (Coleman & Karraker, 2003) was used to adapt

the items and they were additionally translated into German. Our measure consists of 5 items (Full sample: Cronbach's α = .89; subsample: Cronbach's α = .90). One item example is: "It is easy for me to support the language development of my child daily.".

Home Learning Activities

Parents were asked how often they engage in home learning activities with their children, ranging between *never* (0) to *several times a day* (8). The items are based on works by Anders et al. (2015) and Melhuish et al. (2008). Theoretically guided, we developed subscales on promoting the family climate and school-related activities that may help children in their transition to elementary school.

The measure for school-related activities consists of 9 items focusing on literacy and numeracy activities (Full sample: Cronbach's α = .80, subsample: Cronbach's α = .82). One example item is: "enable numerous contacts to letters and writing in everyday life". The measure on the family climate consists of 4 items (Full sample: Cronbach's α = .66; subsample Cronbach's α = .72). One item example is: "Talk to your child about conflicts or problems, e.g., when there is a conflict".

Children's Outcomes

Using the "Strengths and Difficulties Questionnaire" (SDQ), parents were asked to report on their children's socio-emotional competencies on a 3-point Likert-scale, choosing between the options "Not true", "Somewhat true", or "Certainly true". For the following models, we used a measure with 15 items that comprise children's emotional problems, conduct problems, and problems with peers (Full sample Cronbach's α = .69; subsample Cronbach's α = .70). The subscale of hyperactivity did not fit into the context of the evaluation study as it should focus more on children's socio-emotional behaviors. One item example for children's emotional problems is: "has many fears, easily afraid".

To assess children's language skills, we asked parents to rate their children's vocabulary and language skills for her/his age. We used a 5-point Likert-scale with response options ranging

between *does not apply at all* to *applies entirely*. Items were already used in the longitudinal BiKS-study and proven reliable (Weinert et al., 2013). The instrument originally had six items. We decided not to use three items for the measure applied in this study, as they focus on the written language area, which is not in line with our measure of parental self-efficacy on supporting children's language skills. So, our measure consists of three items (Full sample Cronbach's α = .88; subsample Cronbach's α = .88). One item example is: "My child has a very large vocabulary considering his or her age.".

Background Characteristics

To assess income, parents were asked to group themselves into categories of net income ranges (e.g., '1000 to less than 1500 Euro'). With this, we have estimated the net equivalent income. To assess parents' educational school level, we differentiated between parents with no secondary certificate, a lower secondary certificate, a higher secondary certificate, and a degree entitling students to attend university ('Abitur', comparable to A-levels). Parents were asked about their family language spoken at home (0 = 'Mostly German', 1 = 'At least in equal parts a language other than German').

Procedure

Each head of the selected preschools received letters of information on the survey and was asked to give the letters of information to the parents. Each letter of information to the parents had a code once generated for one family. The code allowed the parents to fill out the questionnaire. Two support options were given to reach parents with different language backgrounds and parents with difficulties in reading and writing: (a) the questionnaire was available in six languages (German, Turkish, Russian, Arabic, English, Spanish), (b) multilingual interviewers with different cultural background were available in person or via telephone to help the parents to navigate the questionnaire.

Statistical Analyses

Before performing the analyses to answer the research questions, data were checked for

normality, missing data, and outliers. Since variables were not normally distributed, we used the MLR estimator because it is robust against a breach of the normality assumption (Kline, 2011). The percentage of missing data for the variables was between 0.6 and 17.4%. We used FIML, which has proven to be an unbiased parameter estimate in studies, even with a higher percentage of missing data (Enders, 2001). We calculated the p-values of the Mahalanobis distance for multiple outlier analyses that indicated we had to remove 11 cases. Due to considerable variance between the groups (ICC ranged between .031 for SDQ up to .075 for parental self-efficacy in supporting the transition to elementary school), we used type =complex to control the difference.

To answer both research questions, we conducted path analyses to test the interrelations between parental self-efficacy measures, home learning activities, and children's outcomes using the home learning environment model. We added a direct path between parental self-efficacy and children's outcomes to test the direct link between these two variables. To answer the first research question, we used a path model with the full sample. To answer the second question, we used a path model with the subsample of the 108 parents whose children were about to enter elementary school. All path models were performed with Mplus (Version 7.4, Muthén, L. K., & Muthén, B. O., 1998-2015). SPSS was used for descriptive analyses (Version 25.0, IBM SPSS Statistics for Windows, 2017).

Results

Descriptive Results

In the first step of the further analyses, we compared the full sample and the subsample for significant differences in our parental self-efficacy measures, home learning activities, and children's outcomes (see Table 1). Thus, the full sample and the subsample did not differ on any of the assessed variables, e.g., parents whose children transition from preschool to elementary school did not significantly undertake more school-preparatory home learning activities than parents of non-transitioning preschool children.

We found no significant differences between both groups, indicating that parents whose children are about to enter elementary school do not significantly undertake more school-preparatory home learning activities.

Table 1

Differences between dependent and independent variables between families with children at the end of preschool (n = 108) and families with children during preschool (n = 619)

Variable	Group 1 with *n* = 108		Group 2 with *n* = 619					
	M / %	*SD*	*M / %*	*SD*	*F*	Beta	OR	*p*
Net equivalent income	1656.10	750.25	1739.65	738.61	1.00			.32
Family language mostly German	25.2		24.7			.03	1.03	.90
Parent's educational level[a]	3.44	0.74	3.47	0.74	0.08			.79
SDQ overall problem behavior	1.05	0.29	1.03	0.19	0.66			.42
Children's language skills	4.12	0.81	4.00	0.86	1.80			.18
PSE general	4.03	0.62	4.00	0.60	0.33			.57
PSE language support	4.40	0.66	4.27	0.67	3.42			.07
HLA family climate	6.44	0.97	6.41	0.94	.010			.76
HLA school preparatory activities	5.57	1.01	5.37	1.06	3.00			.08

Note. OR = Odds Ratio; PSE = Parental self-efficacy; HLA = Home learning activities; SDQ = Strength and Difficulties Questionnaire. [a]1 = no high school diploma, 2 = lower higher secondary certificate, 3 = higher secondary certificate, 4 = A-levels ('Abitur').

Furthermore, we checked our measures for correlative interrelations (see Table 2). The results indicate relationships between our measures of parental self-efficacy and home learning activities. Furthermore, the SDQ is negatively linked to two parental self-efficacy measures: this suggests that parents with lower self-efficacy in supporting their children's language skills and supporting

their children's transition to elementary school reported more socio-emotional problems in their children.

Table 2

Bivariate correlations for this study's measures

Measures	1	2	3	4	5	6
1 SDQ overall problem behavior	1					
2 Children's language skills	-.05	1				
3 PSE general	-.03	.12**	1			
4 PSE language support	-.13**	.12**	.44**	1		
5 PSE transition	-.27**	.09	.47**	.60**	1	
6 HLA school preparatory activities	-.02	.05	.23**	.29**	.27**	1
7 HLA family climate	-.08*	.02	.14**	.33**	.36**	.49**

Note. N = 727. PSE = Parental self-efficacy; HLA = Home learning activities; SDQ = Strengths and Difficulties Questionnaire.
* $p < .05$, ** $p < .01$.

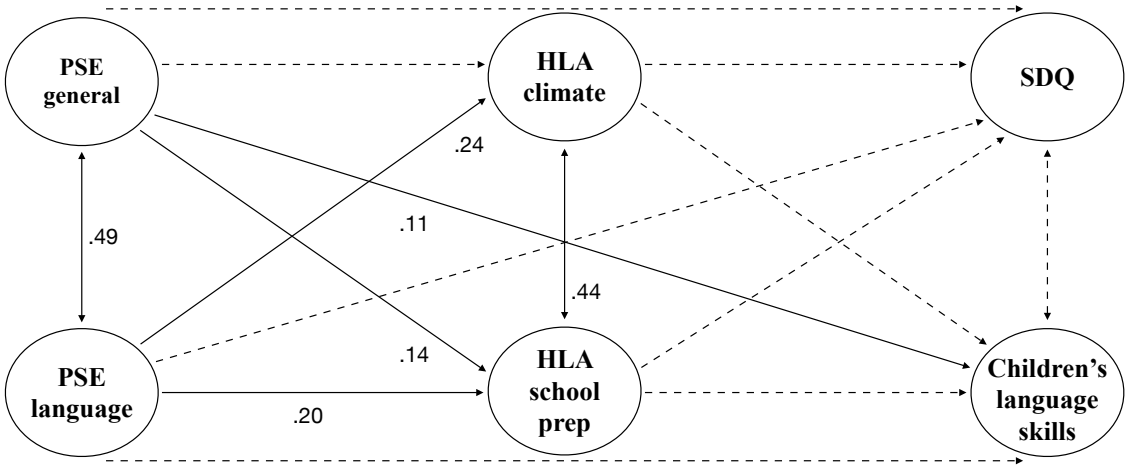
Relationships Between General Parental Self-Efficacy and Parental Self-Efficacy on Language Support with Home Learning Activities and With Children's Outcomes

A path model with the full sample tested the relationship between parental self-efficacy measures, home learning activities, and children's outcomes (Figure 2). The model had a perfect fit as it was a saturated model. To avoid any distortion, The model was controlled for children's age and gender, family language, net equivalent income, and parents' educational level. General parental self-efficacy was significantly related to home learning activities that help preparing for school (β = .14, *SE* = .05, *p* = .005) and to children's language skills (β = .11, *SE* = .05, *p* = .021). Parental self-efficacy in supporting children's language skills was significantly related with home learning activities that foster the family climate (β = .24, *SE* = .05, *p* = .000), and also with home learning activities that help preparing for school (β = .20, *SE* = .05, *p* = .000). None of the home learning activities measures were significantly related to children's outcomes. Expected links

were found to background characteristics. However, we found interesting findings for parents with an additional family language: they indicated that they generally felt more self-efficacious in their parenting than monolingual German families (β = .13, *SE* = .04, *p* = .002). Regarding their parental self-efficacy in supporting children's language skills, the parents stated that they felt less self-efficacious than monolingual German parents (β = -.17, *SE* = .04, *p* = .000).

Figure 2

Path Analysis Model of the Relationships between General Parental Self-Efficacy, Home Learning Activities, and Children's Outcomes



Note. Path analysis model with the full sample. *N* = 726. PSE = Parental self-efficacy; HLA = Home learning activities; SDQ = Strengths and Difficulties Questionnaire. Displayed paths are standardized. Solid lines represent significant coefficients ($p < .05$); dashed lines represent non-significant coefficients. The model was controlled for children's age and gender, family language, net equivalent income, and parents' educational level.

Relationships Between Parental Self-Efficacy on Supporting the Transition and Parental Self-Efficacy on Language Support with Home Learning Activities, and with Children's Outcomes

A path model with the subsample tested the relationship between parental self-efficacy measures, home learning activities, and children's outcomes (Figure 3). Due to the sample size, we had to use a more parsimonious model. Therefore, we only added certain control variables to our measures, which were already significant predictors in the full sample. The model was controlled for children's age, family language, net equivalent income, and parents' educational level. This was possible because we investigated in advance whether there were significant differences in our measurements between the two samples and found no such differences (see Table 1). Parental self-efficacy in supporting children's language skills was significantly related with home learning activities that foster the family climate (β = .30, *SE* = .10, p = .001), and also with children's socio-emotional skills (β = -.19, *SE* = .08, p = .021). The latter relationship indicates that parents who felt more efficacious in supporting their children's language skills also described their children as having fewer socio-emotional problems. We found no other significant relationships.

Discussion

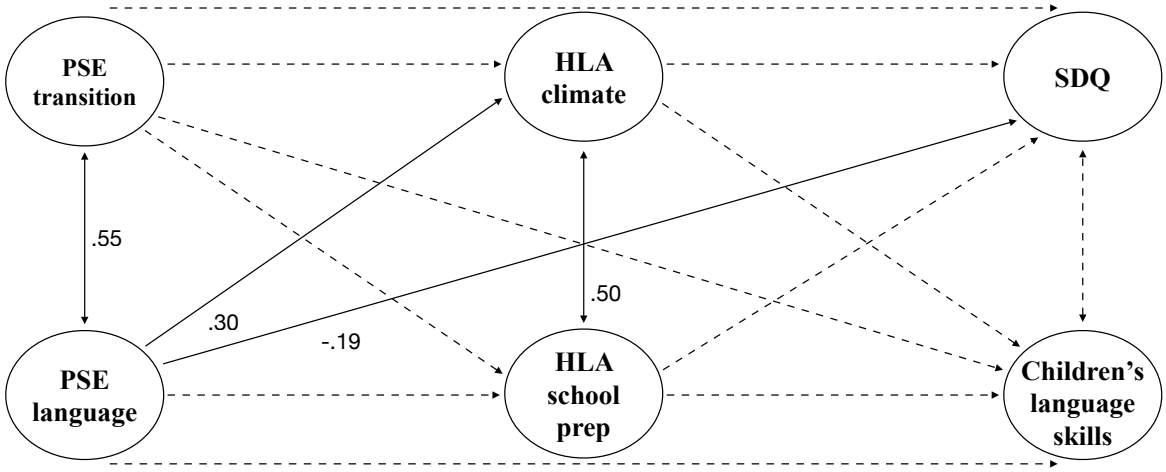
This study's primary goal was to examine the relationships between parental-efficacy, home learning activities, and child outcomes using the home learning environment model. By linking these variables, this study went beyond previous research (Stiévenart & Martinez Perez, 2020) that did not differentiate between domains of parental self-efficacy and between social-emotional and cognitive child outcomes.

Relationships Between General Parental Self-Efficacy and Parental Self-Efficacy on Language Support with Home Learning Activities and With Children's Outcomes

Despite previous research that suggests a strong link between Despite previous research that suggests a strong link between young children‘s emotional and academic skills (Ponitz &

Figure 3

Path Analysis Model of the Relationships between Parental Self-Efficacy, Home Learning Activities, and Children's Outcomes at the Transition from Preschool to Elementary School



Note. Path analysis model with the subsample. n = 108. PSE = Parental self-efficacy; HLA = Home learning activities; SDQ = Strengths and Difficulties Questionnaire. Displayed paths are standardized. Solid lines represent significant coefficients ($p < .05$); dashed lines represent non-significant coefficients. The model was controlled for children's age, family language, net equivalent income, and parents' educational level.

Rimm-Kaufman, 2011), we found no such link: neither within the path model (with the control of background characteristics) nor within the bivariate correlations. It may be that these skills are not linked due to parental assessment. However, in line with previous research (Giallo et al., 2013; Peacock-Chambers et al., 2017), our study revealed significant links between measures of parental self-efficacy and home learning activities. Parental self-efficacy in supporting language skills was significantly positively associated with both family climate and school preparation activities. In contrast, general parental self-efficacy was only significantly associated with school preparation

activities and not with activities that enhance the family climate. One possible explanation would be that general parental self-efficacy has a lower predictive value than task-specific parental self-efficacy (Črnčec et al., 2008; Wittkowski et al., 2017). A previous study has shown links to children's outcomes with task-related parental self-efficacy rather than general parental self-efficacy (Coleman & Karraker, 2003). Therefore, it is interesting that we found a significant relationship of children's language skills with general parental self-efficacy rather than with (task-related) parental self-efficacy in supporting language skills. This may be explained by the intercorrelation of both parental self-efficacy measures and the addition of control variables in the path model. Parental self-efficacy in supporting language skills was positively correlated with children's language skills (see Table 2). Moreover, when we excluded general parental self-efficacy from the model, we found a significant link between parental self-efficacy in supporting language skills and children's language skills. The bivariate correlation of both measures of parental self-efficacy in table 2 indicates their shared variance. Both measurements also correlate to the same degree with children's language skills. Overall, this points to a shared variance, but general parental self-efficacy has a stronger relationship to children's language skills.

Furthermore, we found no significant relationships between home learning activities and the parental assessment of children's language or socio-emotional skills. These results showed that, at least for this study, the frequency of home learning activities did not affect how parents rated their children's socio-emotional and language skills. For example, parents who reported engaging in many literacy and numeracy activities with their children rated their children's language skills as highly as parents who reported engaging in fewer literacy activities and numeracy activities with their children. This could be a bias on parents' part, since their assessment of their children's age-appropriate language skills, whose abilities are within the norm, may differ from the standardized assessments (Bennetts et al., 2016). Research suggests that parental self-efficacy affects how parents perceive their children, e.g., it affects children's mother-rated emotional and behavioral regulation problems (Jusiene et al., 2015). Verhage et al. (2013) could even show the direction

of the link with cross-lagged path analysis: Parental self-efficacy predicted the perception of a negative temperament of the child and not the other way around. To assess children's abilities, it might be useful to have additional standardized assessments for a more objective view. Finally, we found a positive direct relationship between general parental self-efficacy and children's language skills: parents who felt overall more efficacious reported that their children have better language skills than parents who felt less efficacious in their parenting role. Even though the assessment of children's language skills is a parent-reported measure, it indicates the importance of increasing parental self-efficacy, for example, via parenting support programs, additionally because parental self-efficacy relates to home learning activities.

Relationships Between Parental Self-Efficacy on Supporting the Transition and Parental Self-Efficacy on Language Support with Home Learning Activities, and With Children's Outcomes

For this path model, we used a subsample of 108 parents with children about to start elementary school. As in the previous model with the total sample, we found significant relationships first, between the two measures of parental self-efficacy and, second, between the two measures of the home learning activities. The relationship between the children's socio-emotional skills and language skills was again not significant. However, we found significant relationships between parental self-efficacy in supporting language skills to (a) the family climate and (b) children's socio-emotional skills. This suggests that parents who felt efficacious in promoting their children's language skills reported that (a) they did more activities that promote their family climate, (b) their children had fewer socio-emotional problems, according to the parents. Both relationships are surprising since one could assume that this measure of parental self-efficacy is more likely to be linked to school-preparatory activities and children's language skills. To put this into context, we would like to take a step back into theory. Parental self-efficacy is a construct that should be assessed within a domain or task (e.g., parental academic efficacy), as efficacy beliefs vary from task to task (Bandura et al., 1996). Furthermore, Bandura et al. (1996) assumed that the more

relevant the self-efficacy measures are for the respective tasks, the higher are the links between self-efficacy measures and activities. Therefore, we have assessed parental self-efficacy on a task-specific level and linked the measures with the respective tasks. To the best of the author's knowledge, this is the first study that linked several parental self-efficacy measures with several measures of home learning activities. However, we found that parental self-efficacy in supporting language skills was significantly negatively related to children's socio-emotional problems and not their language skills. This indicates that parents who felt more efficacious in supporting their children's language skills engaged in more activities to improve the family climate and perceived their children to have fewer socio-emotional problems. This points in the direction that home literacy activities are associated with children's socio-emotional competencies (Baker, 2013; Rose et al., 2018). However, the activities themselves were not significant predictors in this model. Ceiling effects may play a role regarding the measures of children's language skills and parental self-efficacy. Moreover, in this model, the assessment of children's outcomes is made via the parents that could be biased. Parental self-efficacy in supporting their children's transition did not affect (a) how many activities, neither regarding the family climate nor for school preparation, parents did with their children, and (b) how parents assessed children's language and socio-emotional skills. As parents have reported that they already interact a lot with their child, this could indicate that parents are in general active at home regardless of how efficacious they felt themselves in supporting their children in their transition to primary school. However, since parents with a low educational level and immigration background experience the transition as a stressful time in which they are more likely to face problems than other parents (Malti & Noam, 2016), the same path models as applied in this study with these immigrant groups would be interesting.

Limitations

We want to mention several limitations of this study. Our sample consists of middle-class families with a relatively high educational level regarding their schooling and income and is

therefore biased. For comparison: On average, 42.6% of people aged 35-45 years had a higher secondary certificate or the A-levels in Germany (Statistisches Bundesamt, 2019). In our sample, 59.3% had a higher secondary certificate or the A-levels. Also, we have ceiling effects in several measures of parental self-efficacy, home learning activities, and children's outcomes. All measures rely on parental reports. Parental self-report is ideal for measuring self-efficacy, as it should reflect the own parental belief (Wittkowski et al., 2017). However, concerning children's outcomes, standardized assessments of children's language and socio-emotional skills may be more accurate. A previous study reported relationships between several parental report measures and the standardized assessment of children's language skills (Bennetts et al., 2016). Their findings on relationships between parent-reported measures and standardized direct measures suggest that parent-reported measures are most accurate for children who exhibit either language difficulties or extraordinary language skills. For children between these two ends of the spectrum, direct measures would be needed to assess their language abilities. In this study, we found links between several measures that rely on parental reports, e.g., between general parental self-efficacy and children's language skills. However, in future studies, both parental reports and standardized assessments of children's language skills should be applied, and future validation of the assessment via parental reports. Furthermore, the relatively small sample size could be problematic for the second model. For instance, relationships with medium to high effect sizes were not significant, probably due to the small sample size. We did not report these relationships because of their lack of statistical significance. However, the strength of the relationships indicates the potential importance of these relationships. Further research with a larger sample is thus necessary.

Implications for Science and Practice

This is the first study on the relationship between parental self-efficacy, home learning activities, and children's socio-emotional and language skills. Moreover, we were able to examine these relations for different aspects of parental self-efficacy, i.e., general parental self-efficacy and self-efficacy in supporting the transition. We found no link between the frequency of home

learning activities and (the parental assessment of) children's skills, which contradicts previous research (Baker, 2013; Foster et al., 2005). This could be due to the way the data was collected and the ceiling effects of several measures. Therefore, further research is needed to re-examine these links with other measures. However, results revealed positive direct relationships between parental self-efficacy and child outcomes: parents who felt more efficacious did more home learning activities (for the family climate, literacy, and numeracy) and reported that their children had better language skills than parents who felt less efficacious in their parenting role. This indicates that it is sensible to support parental self-efficacy through parent programs with hands-on activities, group discussions with other parents, and feedback to improve parental self-efficacy (Mouton et al., 2018; Sanders, 1999). Such programs should ensure that they cover the four sources of self-efficacy: the experience of own accomplishments, observations of how others succeed, verbal conviction (e.g., encouragement), and physiological arousal (e.g., the experience of joy) (Bandura & Adams, 1977).

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Erklärung

Hiermit versichere ich, die vorliegende Arbeit mit dem Titel „The role of parental self-efficacy in preschool children's home learning environment“ selbstständig angefertigt zu haben. Sämtliche Hilfsmittel, die ich verwendet habe, sind angegeben. Die Arbeit ist in keinem früheren Promotionsverfahren angenommen oder abgelehnt worden.

Berlin, Oktober 2021

Eigenanteil und Veröffentlichung

Die folgende Übersicht zeigt den Eigenanteil an den zur Veröffentlichung eingereichten wissenschaftlichen Schriften innerhalb der vorliegenden Dissertationsschrift.

Study I Titel: The Construct of Parental Self-Efficacy and its Relation to Family Characteristics

Autorinnen: Gessulat, J.,Oppermann, E., Cohen, F., & Anders, Y.

Status: eingereicht beim 'Journal of Early Childhood Research'

Eigenanteil:

Konzeption der Fragestellung (überwiegend)

Aufarbeitung der Literatur und des theoretischen Hintergrunds

Datenaufbereitung/ Datenanalyse (überwiegend)

Federführung bei der Verfassung des Manuskriptes

Study II Titel: The Relation of Family Characteristics and Parental Self-Efficacy with Preschool Children's Home Learning Activities

Autorinnen: Schünke, J., Wolf, K. M., Oppermann, E., & Anders, Y.

Status: in Vorbereitung

Eigenanteil:

Konzeption der Fragestellung (überwiegend)

Aufarbeitung der Literatur und des theoretischen Hintergrunds

Datenaufbereitung/ Datenanalyse

Federführung bei der Verfassung des Manuskriptes

Study III Titel: The relationships between parental self-efficacy, home learning activities, and child outcomes

Autorinnen: Gessulat, J., Kluczniok, K., Oppermann, E., & Anders, Y.

Status: in Vorbereitung

Eigenanteil:

Konzeption der Fragestellung (überwiegend)

Aufarbeitung der Literatur und des theoretischen Hintergrunds

Datenaufbereitung/ Datenanalyse

Federführung bei der Verfassung des Manuskriptes

Lebenslauf

Der Lebenslauf ist in der Online-Version aus Gründen des Datenschutzes nicht enthalten.