

THE INFLUENCES OF PARENTING STYLES ON THE EPISTEMIC AND  
INTERPERSONAL ASPECTS OF PARENTING

A Master's Thesis

by  
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Ankara  
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To my family for their precious scaffolding during each journey I decided to take.



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INTERPERSONAL ASPECTS OF PARENTING

The Graduate School of Economics and Social Sciences  
of  
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by

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I certify that I have read this thesis and have found that it is fully adequate, in scope and in quality, as a thesis for the degree of Master of Arts in Psychology.

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## ABSTRACT

### THE INFLUENCES OF PARENTING STYLES ON THE EPISTEMIC AND INTERPERSONAL ASPECTS OF PARENTING

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The aims of the current study are twofold. The main aim of the study was to examine the relationships between parenting styles, scaffolding behaviours and parenting by lying practices, the last two of which were operationalised as epistemic and interpersonal aspects of parenting, respectively. Since there was no measurement tool to assess parental scaffolding functions, the second purpose of the study was to develop a quantitative measurement tool to assess parental scaffolding practices. The current research consisted of two studies. In Study 1, parents with preschoolers ( $N = 258$ ) were recruited to determine the factor structure of the Parental Scaffolding within Cultural Learning Scale (PSCL). In Study 2, the relationships between epistemic and interpersonal aspects of parenting were investigated through the PSCL and the Instrumental Lie-telling Scale in a second independent sample ( $N = 153$ ). Furthermore, the associations between parenting styles and these two aspects were examined through the Parent Attitude Scale. According to the study findings, a statistically valid and reliable measurement tool to assess parental scaffolding

practices was contributed to the related literature. In addition, it was displayed that the relationships of different parenting styles with parental scaffolding and lie-telling behaviours show a variety. For example, while authoritative and overprotective parenting practices were related to the task persistence scaffolds, authoritarian and overprotective parenting styles were found to be related to higher use of threat lies. In conclusion, these results pointed out the important associations between different parenting factors that were thought to contribute to children's social learning.

Keywords: parenting, scaffolding, instrumental lie-telling, parenting practice, social learning

## ÖZET

### EBEVEYNLİK STİLLERİNİN EBEVEYNLIĞIN EPİSTEMİK VE KİŞİLERARASI YÖNLERİ ÜZERİNDEKİ ETKİSİ

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Mevcut çalışmanın iki temel amacı bulunmaktadır. Çalışmanın temel amacı, ebeveynlik stilleri, hedef odaklı duyarlı destek (*scaffolding*) davranışları ve yalan söyleyerek ebeveynlik uygulamaları arasındaki ilişkileri incelemektir, son ikisi sırasıyla ebeveynliğin epistemik ve kişilerarası yönleri olarak işlevselleştirilmiştir. Ebeveyn hedef odaklı duyarlı destek işlevlerini değerlendirecek bir ölçüm aracı bulunmadığından, çalışmanın ikinci amacı, ebeveyn hedef odaklı duyarlı destek uygulamalarını değerlendirmek üzere nicel bir ölçüm aracı geliştirmektir. Mevcut araştırma iki çalışmadan oluşmaktadır. Çalışma 1’de, Kültürel Öğrenme İçinde Ebeveyn Hedef Odaklı Duyarlı Destek Ölçeği’nin (KÖEHODD) faktör yapısını belirlemek amacıyla okul öncesi çocuğu olan ebeveynlerden ( $N = 258$ ) veri toplanmıştır. Çalışma 2’de, ebeveynliğin epistemik ve kişilerarası yönleri arasındaki ilişkiler, KÖEHODD ve Araçsal Yalan Söyleme Ölçeği aracılığıyla ikinci bir bağımsız örneklemde ( $N = 153$ ) araştırılmıştır. Ayrıca, ebeveynlik tutumlarının bu iki

boyutla ilişkileri Ebeveyn Tutum Ölçeği aracılığıyla incelenmiştir. Çalışma bulgularına göre ebeveyn hedef odaklı duyarlı destek pratiklerinin değerlendirilmesi için istatistiksel olarak geçerli ve güvenilir bir ölçüm aracı ilgili literatüre kazandırılmıştır. Ek olarak, farklı ebeveynlik stillerinin, ebeveyn hedef odaklı duyarlı destek ve yalan söyleme davranışlarıyla ilişkilerinin çeşitlilik gösterdiği ortaya konmuştur. Örneğin, demokratik ve aşırı koruyucu ebeveynlik uygulamaları görev devamlılığı hedef odaklı duyarlı destek yapılarıyla ilişkiliyken, otoriter ve aşırı koruyucu ebeveynlik stilleri tehdit yalanlarının daha fazla kullanımıyla ilişkili bulunmuştur. Sonuç olarak, bu sonuçlar çocukların sosyal öğrenmesine katkıda bulunduğu düşünülen farklı ebeveynlik faktörleri arasındaki önemli ilişkileri ortaya koymuştur.

Anahtar kelimeler: ebeveynlik, hedef odaklı duyarlı destek, araçsal yalan söyleme, ebeveynlik pratikleri, sosyal öğrenme

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## OVERVIEW

The main aim of this thesis is to investigate the relationships among parenting dimensions that were thought to be relevant to children's social learning. These dimensions were examined through parenting styles (i.e., general parenting practices), parental scaffolding (i.e., epistemic aspect of parenting) and parenting by lying (i.e., interpersonal aspect of parenting). Since there was no measurement tool in the existing literature to assess parental scaffolding strategies quantitatively, the second aim of the study was to develop a new scale. In this respect, the current research consisted of two studies. In the scope of Study 1, the nature of scaffolding, its importance in children's development, how it is measured in the literature, and the scaffolding scale development process were discussed. In the context of Study 2, individual differences between parents were explored through the parenting styles and the associations of these styles with the epistemic and interpersonal aspects of parents' role in social learning. These two aspects were operationalised through parental scaffolding and lie-telling, respectively.

# CHAPTER I

## INTRODUCTION I

### 1.1. Social Learning

Social learning is a phenomenon that defines the acquisition of knowledge from others through processes such as observation (Allen, 2012) and testimony (Harris & Koenig, 2006). Like humans, some non-human species exhibit social learning interactions (Heyes, 2012; Legare, 2017). As a form of social learning, there is some evidence of teaching in non-human animals; for instance, meerkats are known for decreasing the frequency of defanging scorpions before giving them to young meerkats as they age (Thornton & McAuliffe, 2006). On the other hand, however, certain cognitive processes are uniquely human. Tomasello (1999) explains the uniquely human forms of social learning by stressing the importance of sociality for human infants, which is the vital need to be cared for by others during the relatively prolonged immaturity period compared to non-human animals. This immaturity results in an increased period of adult-child social interaction. Presumably, intensive social exchanges during this period helped humans to construct advanced forms of social learning, that sometimes include the intention to teach others (O'Madagain & Tomasello, 2021). Intentional teaching defines interactive processes where the tutor expends their time and energy to teach the novice skill or knowledge.

Social learning in daily activities defines a learning experience rooted mostly in the practical purposes of *tutors* outside of a school-based context (e.g., helping with household chores, Rogoff, 2003). Learning by involving children in the sociocultural

endeavours of everyday life concerns a natural process involving fluid responsibilities and interchangeable roles (Rogoff, 1990, 2014; Rogoff et al., 2003). Rogoff (1990) introduced the term *guided participation* as a learning process embedded in sociocultural activities with more skilled companions who support and broaden children's comprehension of knowledge. Nevertheless, it is important to underline that learning in guided participation can be experienced through observation of a master simply carrying out a daily task without an intention to instruct the learner regarding the task's nature (Rogoff, 2003, 2014), unlike a process of an adult-led intentional teaching process (Rogoff, 1990).

## 1.2. Scaffolding Phenomenon

The term scaffolding introduced by Wood et al. (1976) is defined based on Vygotsky's Zone of Proximal Development (ZPD) theory. ZPD explains the "distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978). However, the constructivist model of scaffolding posits a broader definition. Learning is a variation and selection process, and scaffolding is the blocking (or reducing) selection pressures on the child's process of constructing new knowledge (Allen & Bickhard, 2016; Bickhard, 2005). This blocking, in turn, allows "intermediate constructions" in learning that would be otherwise impossible within the learners' current competencies (Bickhard, 2005). Within this framework, scaffolding is the basis of all learning—"learning is a scaffolded construction" (Allen & Bickhard, 2016). This functional definition incorporates daily life instances and is broader than classic definitions that involve *well-defined problems* and a *teacher*

(e.g., Wood et al., 1976; Wood & Middleton, 1975). It suggests learning experiences can be scaffolded by others in any context, such as gaining cultural affordances through observation. One implication of this functional definition is that teaching does not necessarily include an intention to teach. That is to say, the learning process can be experienced without the tutor's explicit intention to transmit the knowledge to the novice. The outcome of this process, though, can still represent an example of scaffolded construction, and it aligns with the term *guided participation* (Rogoff, 1990).

When scaffolding does involve an expert, part of reaching task competence includes the transfer of the responsibility from the tutor to the learner (Wood & Wood, 1996), which is defined as “gradual release of responsibility” (Pearson & Gallagher, 1983), “fading” (van de Pol et al., 2010) or “descaffolding” (Wood, 1980). It indicates the tutor's competence and active role in a teaching-learning interaction by monitoring the learner's current level (Wood, 1980). In this regard, scaffolding is an autonomy-granting process that ultimately aims for the learner to be self-reliant and proceed with the task by themselves without the need for muting selection pressures provided externally (i.e., transition from *other-assistance* to *self-assistance*, Tharp & Gallimore, 1998). The increasing agency of children in learning articulates their abilities to use scaffolding strategies by themselves to mute the selection pressures, which represents the second implication of the functional model, stretching the classic definitions from *adult guidance* to *self-scaffolding* (e.g., breaking a problem down into subproblems, Bickhard, 2005).

In a broad sense, scaffolding strategies provided by more competent individuals have been shown to make significant contributions to children's development in many aspects, through improvements in their cognitive abilities (e.g., reasoning skills, Stright et al., 2009; attention regulation skills, Robinson et al., 2009), autonomy (e.g., self-regulatory competence, Neitzel & Stright, 2003; self-regulated learning strategic behaviours, Zhang & Whitebread, 2017), literacy (e.g., verbal ability, Hammond et al., 2012; language and nonverbal skills, Landry et al., 2002), math (e.g., math achievement, Mattanah et al., 2005) and cultural affordance learning (e.g., learning conventional actions, Brezack et al., 2021; imitation, Clegg & Legare, 2017).

### 1.3. Prior Scaffolding Research

To our knowledge, most of the existing scaffolding research aiming to assess learning support was conducted observationally within learning-based, problem-solving situations. Many of these observational studies were grounded in Wood and Middleton's study (1975) which was subjected to highlighting the social and interactive nature of child development. This pioneering study was conducted with children (age range = 3.2 – 4.2) and their mothers. In the study, scaffolding means were investigated through the levels of support based on the clarity to perform the target action (i.e., grading from 1 to 5), giving instructions within the zone facilitating the most efficient learning outcomes, sensitivity to the child's success or failure and adjusting their level of support accordingly (i.e., either increasing or decreasing it).

The subsequent foundational research in the scaffolding literature was conducted by Wood et al. (1976). In the research, six scaffolding functions were identified:

recruitment, reduction in degrees of freedom, direction maintenance, marking of critical features, frustration control, and demonstration (see Tables 2 and 3 for detailed information). These means were delineated through observations of learning support provided by mothers to their children aged 3 to 5 during an “entertaining and challenging” block task.

Although this research has made important contributions to the literature, it involves a relatively narrow context in terms of how scaffolding is defined (i.e., intentional teaching for well-defined problems by an *expert*). Thus, the canonical nature of the scaffolding tasks has been described as gamified (e.g., ring puzzle, Hammond et al., 2012; block toys, Brezack et al., 2021). With advances in technology, this task structure has begun to incorporate electronic formats (e.g., Bourbour et al., 2020; Schnieders & Schuh, 2022; Wood et al., 2016), which are defined as technical scaffolding (Yelland & Masters, 2007), but maintain the narrow definition.

Following Wood et al.’s study (1976), a broader notion of scaffolding was adopted, and research expanded the repertoire of scaffolding functions with new operational definitions. Mutual enjoyment (i.e., watching and laughing together, Bourbour et al., 2020), co-participation in the activity (i.e., performing the activity together with children, Pentimonti & Justice, 2010), and physical control (i.e., parent’s intervention to do the target action instead of providing guidance, Schnieders & Schuh, 2022) could be given as examples among many others (see Tables 2 and 3 for further details). In addition, the scaffolding functions introduced by Wood et al. (1976) have been further enriched by adding subfunctions into the original six scaffolding means. For instance, in Bourbour et al.’s study (2020), the function of demonstration, which

Wood et al. (1976) simply described as “modelling,” has been further detailed into the subfunctions, namely displaying, explaining the solution, and referring.

The categorisation of the scaffolding means, in terms of their intentional and operational use within learning interactions, displays a rich variation as well as commonalities, depending on scholars’ theoretical frameworks. For example, Stright et al. (2009) examined scaffolding interactions within three groups: cognitive support, which refers to the provision of information and reducing difficulty; mothers’ directiveness, defined based on the differences between giving exact instructions versus using indirect guidance such as hints; and praise and criticism regarding children’s performance. In another instance, Carr and Pike (2012) defined six maternal scaffolds as simple feedback, orienting suggestions, suggestions, solutions, physical help and demonstration (ranging from 0 to 5, respectively). They examined these means within two subcategories, contingent shifting and fixed failure feedback, represented as efficient and inefficient scaffolding strategies, respectively. Wood et al. (2016) clustered parental scaffolding strategies used within a technical context into four subcategories, namely: physical support, defining tutors’ bodily involvement in assistance; verbal support, defining through the provision of instructions, hints, examples or other forms of oral guidance; emotional-verbal, and emotional- physical support, promoting positive mood of children through verbal (e.g., praise) and physical (e.g., thumbs-up) scaffolds. Overall, each framework provides a unique approach to examining the scaffolding phenomenon while still sharing some common ground.

Furthermore, in the existing literature, the same scaffolding means can be categorised differently across studies. For example, while some researchers define calibrating task difficulty as a component of cognitive scaffolding (e.g., Neitzel & Stright, 2003), others categorise this function under contingent scaffolding (e.g., Zhang & Whitebread, 2017). In addition, parents' scaffolding performances are scored based on scaffolding functions they provide during learning interactions, generally divided into intervals in observational research. The scoring systems for assessing adult-led scaffolds vary between studies.

Intentional scaffolding research has been conducted with different types of tutors providing necessary learning support to novices, including caregivers (e.g., Clegg & Legare, 2017; Hammond et al., 2012) and teachers (e.g., Bourbour et al., 2020; Pentimonti & Justice, 2010). These contexts can range from naturalistic environments, such as home settings (e.g., Neitzel & Stright, 2003), preschools (e.g., Bourbour et al., 2020; Zhang & Whitebread, 2017), and museums (e.g., Bayındır & Cengiz, 2023), to artificial laboratory settings (e.g., Pratt et al., 1988; Stern & Hertel, 2022). In addition, research on the scaffolding phenomenon spans a broad range of developmental periods from infancy (e.g., Brezack et al., 2021) to emerging adulthood (e.g., Boyer et al., 2008), with a particular focus on the preschool period.

One of the scaffolding perspectives in the literature focused on learning about cultural affordances comes from Clegg and Legare's research (2017). This study explored parental influences on children's social learning-operationalised through imitative fidelity-. The researchers examined parental scaffolding's impact on children's imitation behaviours by observing the interactions between the parent-

child dyads during a necklace-making task. The scaffolding means provided by parents were identified through encouragement, demonstration, and monitoring. Encouragement was defined as motivating the child to replicate the same action shown by the model (e.g., “Do you remember what she did?”) or to perform the target action (e.g., “Can you put the string on the table?”). The demonstration function was explained by parental engagement with certain steps in the necklace-making (e.g., “bead on forehead touch”). Last, monitoring was referred to the parental intervention to prevent the child from performing a particular action (e.g., “No, first touch it to your head.”). The findings revealed that only the parental monitoring function positively affected children’s learning of the cultural affordances (i.e., imitation). This research is also pivotal in pointing out the context-dependent nature of scaffolding influences.

#### 1.4. Limitations of Observational Scaffolding Research and the Contributions of Quantitative Measurement Approaches

Even though observational studies capture the dynamic nature of parent-child interactions in learning contexts and partially mitigate social desirability bias, they still have limitations. For example, they are task-dependent and mostly limited to a few contexts of interaction.

Most scaffolding studies in the existing literature are limited to a few learning-based interactive tasks with a well-defined problem space. Accordingly, the present study was designed to broaden the understanding of scaffolding by assessing the informal learning interactions between parents and children within everyday routines through a scaffolding scale. Thus, the scaffolding scale aimed to extend the context specific

examinations to a more generic knowledge of the scaffolding patterns employed by parents for the enculturation process of children. Since cultural affordances are learned from others, scaffolding can be characterised as capturing the epistemic aspect of the social-learning relationship.

Questionnaire-based studies are more practical and accessible to a larger variety of researchers. Furthermore, a quantitative scaffolding scale can provide general information about scaffolding practices as a component of the parenting domain.

Thus, the development of a parental scaffolding scale would help investigate a part of parenting akin to any other parenting scale that exists. In addition, it enables self-report measurement so parents can evaluate their own learning support practices, which fills another limitation of the prior observational research.

Furthermore, attachment assessments in the literature exemplify both observational and quantitative measurements. Similar to the attachment literature, the scaffolding phenomenon has been quantitatively assessed in this research, in addition to its prior measurement through observations as represented in existing studies. In this respect, this study is expected to make a significant contribution to the relevant field of research.

## CHAPTER II

### METHOD I

#### 2.1. Participants

The total number of individuals who clicked the study link was 414. One hundred twenty-six participants were excluded from the analyses for failing to complete 70% of the Parental Scaffolding within Cultural Learning Scale (PSCL). Additionally, four participants with older children and eleven with younger children were excluded for not meeting the age criterion, set between 2.75 (2-year and 9-month-old) and 6.95 years (2-year and 11-month-old). As a result, the final sample comprised data collected from mothers of children within the target age range. Twelve participants who either did not answer or responded wrong to two or more control questions were excluded. One participant's second submission was also excluded as they had filled out the forms twice. Last, two participants were excluded from the analyses because a substantial number of responses were missing on the scale items.

The final sample size was 258 mothers ( $M_{age} = 35.8$  years,  $SD = 4.68$  years; age range = 26 – 50 years) with 2.75- to 6.95-year-old preschoolers ( $M_{age} = 3.9$ ,  $SD = .98$ ; age range = 33 – 83 months). Participants were mainly from the large cities of Türkiye (e.g., Ankara, Istanbul and Izmir). In addition, 10 people from abroad (e.g., Belgium and Germany) participated in the study, all of whom were native Turkish speakers. The majority of the sample consisted of people with middle-to-upper socio-economic backgrounds; 81.3% of the participants ( $N = 226$ ) had undergraduate degrees or higher (i.e., Master's or doctoral degrees) and 68.1% of the participants ( $N$

= 176) had at least 50.000 Turkish Liras monthly income or more). The marital status of the sample was predominantly stated as married (95.7%). Half of the mothers participating in the current study have one child (51%), 36% of the participants have two children, and mothers having three or four children made up 11% of the sample (see Table 1 for detailed information).

Table 1. Demographics of the participants in Study 1 ( $N = 258$ )

| <b>Variables</b>                                                | <b>Category</b>         | <b>f</b> | <b>%</b> |
|-----------------------------------------------------------------|-------------------------|----------|----------|
| Marital Status                                                  | Married                 | 247      | 95.7     |
|                                                                 | Single                  | 1        | 0.4      |
|                                                                 | Divorced                | 8        | 3.1      |
|                                                                 | Widow                   | -        | -        |
|                                                                 | Other                   | 1        | 0.4      |
| Residing Place Where the Participants Lived Most Of Their Lives | Metropolis              | 185      | 71.7     |
|                                                                 | City                    | 46       | 17.8     |
|                                                                 | District                | 19       | 7.4      |
|                                                                 | Village                 | 8        | 3.1      |
| The Number Of Children                                          | 1                       | 134      | 51.9     |
|                                                                 | 2                       | 94       | 36.4     |
|                                                                 | 3                       | 26       | 10.1     |
|                                                                 | 4                       | 4        | 1.6      |
| Parents Receiving Childcare Support                             | Yes                     | 167      | 64.7     |
|                                                                 | No                      | 91       | 35.3     |
| Who Providing Childcare Support                                 | Other Parent            | 59       | 22.9     |
|                                                                 | Babysitter              | 20       | 7.8      |
|                                                                 | Grandparent             | 64       | 24.8     |
|                                                                 | Other                   | 28       | 10.9     |
| Mother's Education                                              | Just Literate           | -        | -        |
|                                                                 | Primary School Degree   | 1        | 0.4      |
|                                                                 | Secondary School Degree | 3        | 1.2      |
|                                                                 | High School Degree      | 26       | 10.1     |
|                                                                 | Bachelor's Degree       | 135      | 52.3     |
|                                                                 | Post Graduate Degree    | 93       | 36       |
| Other Parent's Education                                        | Just Literate           | -        | -        |
|                                                                 | Primary School Degree   | 6        | 2.3      |
|                                                                 | Secondary School Degree | 9        | 3.5      |
|                                                                 | High School Degree      | 27       | 10.5     |
|                                                                 | Bachelor's Degree       | 142      | 55       |
|                                                                 | Post Graduate Degree    | 70       | 27.1     |

Table 1 (cont'd)

|                   |                    |     |      |
|-------------------|--------------------|-----|------|
| Household Number  | 2                  | 9   | 3.5  |
|                   | 3                  | 117 | 45.3 |
|                   | 4                  | 96  | 37.2 |
|                   | More than 4        | 36  | 14   |
| Monthly Income    | 17.002 ₺ or below  | 8   | 3.1  |
|                   | 17.002 - 34.999 ₺  | 36  | 14   |
|                   | 35.000 - 49.999 ₺  | 38  | 14.7 |
|                   | 50.000 - 69.999 ₺  | 45  | 17.4 |
|                   | 70.000 - 99.999 ₺  | 60  | 23.3 |
|                   | 100.000 ₺ or above | 71  | 27.5 |
| Income Evaluation | Lower              | 17  | 6.6  |
|                   | Middle             | 146 | 56.6 |
|                   | Middle to Upper    | 87  | 33.7 |
|                   | Upper              | 8   | 3.1  |

## 2.2. Procedure

### 2.2.1. The Development of the PSCL

The scaffolding scale was developed in the current study to assess the types and prevalence of scaffolding functions provided by parents to their preschool-aged children. The item generation process employed a deductive method grounded in a comprehensive literature review. Some scale items were generated based on Wood et al.'s (1976) theoretical framework that included six scaffolding functions: recruitment, reduction in degrees of freedom, direction maintenance, marking of critical features, frustration control, and demonstration. The subsequent item development was completed based on a literature review of relevant observational studies on adult-led scaffolding within task-based interactions. This process resulted in a final set of 42 items.

The a priori structure of the items was developed as an inclusive synthesis of the predominant conceptualisations of scaffolding means in the relevant literature. For example, Zhang and Whitebread (2017) examined scaffolding functions across three categories: cognitive support, which involves the provision of metacognitive

information about the task nature (e.g., explanations); emotional support, which includes encouragement (e.g., positive reactions to the child's effort) and rejection (e.g., criticism); and contingency defined through increases and decreases in the level of learning support depending on the child's task performance.

Neitzel and Stright (2003, see also 2004) examined scaffolding functions in three categories: cognitive support, emotional support, and transfer of responsibility. Cognitive support was characterised as the provision of information cultivating metacognitive strategies of children about the task and altering demand based on the child level (i.e., contingency). Emotional scaffolding was investigated through encouragement as a positive aspect and rejection as a negative aspect. Last, transfer of responsibility was examined through overcontrol and autonomy-granting assistance dually.

As a difference from Neitzel and Stright's study (2003, 2004), contingency was named as sensitive scaffolding and introduced as another subcategory, like in Zhang and Whitebread's (2017) study. All other three scaffolding dimensions were aligned in terms of the gist of the categories (i.e., cognitive support, emotional support, and transfer of responsibility). However, the cognitive and emotional aspects of the PSCL included a wider repertoire (see Tables 2 and 3).

As the last canonical example used to develop the current scale structure, Stern and Hertel's (2022) study examined scaffolding means through three dimensions: cognitive, metacognitive and autonomy support. The cognitive dimension was defined through the learning support for learning strategies, such as demonstration

and reduction in degrees of freedom. Metacognitive support was defined as providing task-related instructions that facilitate children's metacognitive strategies (i.e., planning, monitoring and evaluation) to proceed with the problem-solving tasks. Last, autonomy support was characterised by encouraging children's agency to progress on the task independently.

Similarly, the 42-item PSCL encompassed cognitive and autonomy support subdimensions and exhibited considerable alignment with the content of items in the corresponding categories of Stern and Hertel's (2022) study. However, in the present study, scaffolding strategies involving a metacognitive component were incorporated into the cognitive subscale rather than being considered a separate subcategory.

Consequently, the scale items were grouped into four subcategories based on their types of intentional use and functional definitions as established in the relevant prior research: cognitive scaffolding, emotional scaffolding, autonomy support, and sensitive scaffolding.

First, the cognitive subcategory was characterised as providing instructive scaffolds to children to help them accomplish tasks when they cannot complete or struggle to make progress by themselves. The provision of cognitive support elucidates the process of making salient the solution of a problem or providing instructive information that reduces the cognitive demands of tasks for children and, in turn, advances their understanding of subjects or tasks (Neitzel & Stright, 2003). This subcategory consisted of the following scaffolding means defined below (see Table 2).

Table 2. Descriptions and example sources utilised for the canonical descriptions of cognitive scaffolding functions

| <b>Scaffolding Function</b>     | <b>Description</b>                                                                                                           | <b>Examples Utilised for Description</b>                 |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| Demonstration                   | Showing actions to the child to illustrate how to perform them, either with or without a verbal explanation                  | Carr & Pike, 2012; Clegg & Legare, 2017                  |
| Providing Explanation           | Provision of narrative or descriptive information about a task or subject                                                    | Bayındır & Cengiz, 2023; Schnieders & Schuh, 2022        |
| Providing Feedback              | Informative evaluation of the child's task-related performance to advance their learning                                     | Bayındır & Cengiz, 2023; Boyer et al., 2008              |
| Providing Hints                 | Giving clues to the child to reach a solution                                                                                | Pratt et al., 1988; Stern & Hertel, 2022                 |
| Direction Maintenance           | Retaining the child's focus on the task objectives                                                                           | Bourbour et al., 2020; Wood et al., 1976                 |
| Recruitment                     | Capturing the child's attention or interest to initiate the task                                                             | Hammond et al., 2012; Wood et al., 1976                  |
| Verbal Instruction              | Verbally guiding the child on how to progress in a task                                                                      | Wood & Middleton, 1975; Zhang & Whitebread, 2021         |
| Active Participation            | Carrying out an activity with the child                                                                                      | Pentimonti & Justice, 2010; Zukow-Goldring & Arbib, 2007 |
| Marking of Critical Features    | Decreasing the cognitive demand of a task or subject by highlighting the key features to ease the understanding of the child | Bourbour et al., 2020; Wood et al., 1976                 |
| Asking Questions                | Raising constructive questions to guide the child in improving their understanding of the task                               | Bayındır & Cengiz, 2023; Yelland & Masters, 2007         |
| Reduction in Degrees of Freedom | Simplification of a task by reducing the number of actions to make the child progress                                        | Bourbour et al., 2020; Wood et al., 1976                 |

The emotional subcategory focused on parents' affective support to promote children's motivation to engage in activities (e.g., through supportive comments, Zhang & Whitebread, 2017) and to encourage them by emphasising their abilities to accomplish the current task (Neitzel & Stright, 2004). Facilitating children's interest and motivation increases persistence in tackling demanding tasks (Mackiewicz & Thompson, 2014; Stright et al., 2009). This subcategory included the scaffolding strategies defined below (see Table 3).

Table 3. Descriptions and example sources utilised for the canonical descriptions of emotional scaffolding functions

| <b>Scaffolding Function</b> | <b>Description</b>                                                                                        | <b>Examples Utilised for Description</b>       |
|-----------------------------|-----------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Verbal Encouragement        | Fostering the child's belief in their ability to initiate or persist in a task                            | Wood et al., 1978; Wood et al., 2016           |
| Frustration Control         | Alleviating the child's stress during a challenging task through the tutor's physical presence            | Bourbour et al., 2020; Wood et al., 1976       |
| Providing Motivation        | Promoting the child's motivation to progress in a task                                                    | Moè et al., 2018; Stright et al., 2009         |
| Rejection                   | Expression of negative affect and criticism about the child's failure                                     | Stright et al., 2009; Zhang & Whitebread, 2017 |
| Verbal Praise               | Verbal expression of appreciation for the child's effort or success                                       | Brezack et al., 2021; Neitzel & Stright, 2004  |
| Physical Praise             | Expressing appreciation for the child's effort or success through physical gestures or facial expressions | Stern & Hertel, 2022; Wood et al., 2016        |

The autonomy support subcategory assessed the extent to which parents allow their children to perform tasks or solve problems independently (Moè et al., 2018; Stern & Hertel, 2022). Autonomy-supportive scaffolding was characterised by parents' acceptance of their children's active agency and the subsequent provision of opportunities for self-regulated learning (see Pino-Pasternak & Whitebread, 2010). This subcategory was examined through two dimensions: autonomy-granting strategies, which involve transferring responsibility to the child for maintaining the task independently, and, contrastingly, intrusive parental involvement, which refers to excessive intervention even when children do not need expert assistance or coercive guidance to complete the task in a specific manner (Zhang & Whitebread, 2021).

The sensitive scaffolding subcategory was conceptualised through parents' monitoring ability to gauge their children's current needs and shift the scaffolding level they provide accordingly. This adjustment is known as the contingency rule (Wood, 1980; Wood et al., 1978), which refers to "tailored, adjusted, differentiated, titrated, or calibrated support" (van de Pol et al., 2010). In the current research, contingent parental interventions were defined through *sensitivity* from a developmental perspective (see Meins, 1997). Within this subcategory, adaptive scaffolding was defined as fading the level of support and transferring of responsibility as children become competent on a task (van de Pol et al., 2010) and, in contrast, elevating the support, simplifying the task, or guiding them to easier tasks when necessary. Conversely, fixed scaffolding referred to the failure to provide adequate support by not shifting it based on children's levels, either when the current task does not yield any further learning outcomes or when children cannot make progress even with expert guidance (Carr & Pike, 2012) (i.e., not addressing the recognition-production gap, Wood & Middleton, 1975).

Prior to the administration of the PSCL, evaluations from six experts (i.e., six academics, three of them were developmental psychologists, and three of them were psychometric psychologists) were obtained, as recommended in the literature (e.g., Boateng et al., 2018). Based on the experts' feedback, necessary edits were applied to the content and structure of the scale. Following this, a pilot test was conducted with approximately 10 parents of preschool-aged children to obtain verbal feedback on the scale content from the target population before its administration.

Last, the PSCL did not encompass behavioural scaffolding instances, such as assisting a child in climbing stairs. The scoring of items did not differentiate based on the specific types of scaffolding functions they represented; all items were scored uniformly.

### 2.2.2. Data Collection

Permission to collect data from parents was obtained from the Bilkent University Ethics Board. Each participant was required to sign the consent form indicating their acceptance of participation in the current study. Participants were informed that their participation was voluntary and that they had the right to withdraw from the research at any time. The data collection process occurred between 7<sup>th</sup> February and 9<sup>th</sup> March 2024 online through the scales on the Qualtrics Survey Software. The final data was recruited from 258 mothers for Study 1. In Study 1, mothers filled out a demographic form and the PSCL. Answering the forms took approximately 10 minutes.

## 3.1. Measures

### 3.1.1. Demographic Form

The demographic form consisted of 15 questions about families' basic demographic information. The questions asked about the parental age, marital status, city of residence, where parents spent most of their life (e.g., city or village), the number of children, children's age, if there is another adult who cares for the children, how many hours that parents spend time with their child, parental education level, the number of persons living in the household, monthly income, and income evaluation.

### 3.1.2. Parental Scaffolding within Cultural Learning Scale (PSCL)

The PSCL was developed as a new self-report scale to measure the type and prevalence of parental scaffolding in the current research. The PSCL was used to assess parental learning support provided to preschoolers aged between 3 and 6 years. The PSCL specifically contained behavioural practices of informal learning support. It was a 5-point Likert-type ranging from 0 to 4 (0: Never, 1: Rarely, 2: Sometimes, 3: Often, 4: Always). The final item pool included 45 items, with three control questions.

The cognitive scaffolding subscale consisted of 17 items that describe providing necessary cognitive input to children to accomplish a task. The subscale items were characterised by demonstration (e.g., “While my child is going to do something they have not done before, I show them how to do it by doing it by myself first.”), providing explanations (e.g., “When my child encounters a problem, I make necessary explanations that will help them come to a solution.”), feedback (e.g., “When my child accomplishes a task, I give them feedback (e.g., “I tell my child about well-drawn areas and deficiencies in their colouring).”) and hints (e.g. “I give my child clues to help them find a solution to a difficult activity (e.g., “I tell them which step they can start with first).”), direction maintenance (e.g., “When I notice that my child is distracted while doing a task, I redirect their attention to what they are doing.”), recruitment (e.g., “I help my child to start the activity by directing their attention to the activity they will be doing (e.g., Look what we have here?).”), verbal instruction (e.g., “When my child is doing a daily task, I guide them on how to do it. (e.g., “I tell them how to brush their teeth.).”), active participation (e.g., “We do some activities with my child together to be more instructive (e.g. making shapes out

of play dough together.”), marking of critical features (e.g., “When I explain a topic to my child, I point out the important points of the topic to facilitate their understanding.”), asking questions (e.g., “When my child faces a problem, I ask them thought-provoking questions like “What do you think you should do now?” to help them find a solution.”), and reduction in degrees of freedom functions (e.g., “I expect my child to figure out by themselves how to proceed in a difficult activity they are doing for the first time.”: reverse-coded item).

The emotional subscale consisted of nine items defining parents’ provision of affective support to elevate their children’s motivation to engage in a task or encourage them to solve a problem. Based on the literature review, the emotional scaffolding subscale items were defined by verbal encouragement (e.g., “When my child is doing an activity, I motivate them by saying “You are doing very well, keep going!”), frustration control (e.g., “I help my child progress in a stressful activity by being there for them.”), providing motivation (e.g., “When my child fails in a task, I encourage them for their future attempts (e.g., “You will get better as you keep trying, do not give up.”), rejection (e.g., “When my child fails in a task, I criticise them (e.g., You failed because you did not listen to me well).”: reverse-coded item), verbal praise (e.g., “When my child accomplishes a task, I praise them (e.g. Well done!).”), and physical praise (e.g., “When my child succeeds in a task, I congratulate them with my body language (e.g., I give a high five/clapping.).”).

The autonomy support subscale included nine items. This subscale assessed the extent to which children are allowed by their parents to do a task or solve a problem autonomously (Stern & Hertel, 2022) (e.g., “I wait to see if my child can do daily tasks by themselves before I intervene.”). This subscale explained parents’

acceptance of their children's agency and, in turn, the provision of greater opportunities for self-regulated learning. For the construction of the autonomy support subscale's content, the risk tolerance subscale of The Parent Supervision Attributes Profile Questionnaire (PSAPQ) developed by Morrongiello and Corbett (2006; for Turkish adaptation, see Özdemir et al., 2020) was utilised.

Last, the sensitive scaffolding subscale consisted of seven items. The subscale items examined parents' monitoring abilities to gauge their children's current needs and shift the scaffolding level they provide to them accordingly (e.g., "When my child succeeds in a task, I make the task one level harder to support their learning."). This adjustment in scaffolding is called "the contingency rule" in the related literature (Wood, 1980; Wood et al., 1978).

## CHAPTER III

### RESULTS I

Data analysis utilised IBM Statistical Package for the Social Sciences (SPSS) 27.0.1 (2020). There was missing data in four participants' answers, causing a problem for factor analysis. Thus, they were replaced with the mean values to avoid losing data. First, according to the Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity results, the KMO value was .784, and Bartlett's test of sphericity results were significant ( $\chi^2 = 3223.358$ ;  $p < .001$ ). Corresponding to the results, the sample consisting of 258 mothers with preschoolers aged between 2.75 and 6.95 years was adequate for performing exploratory factor analysis (EFA).

Item analyses were conducted for four subscales that theoretically developed: cognitive (17 items), emotional (nine items), autonomy support (nine items), and sensitive scaffolding (seven items). All items created to represent unsuccessful scaffolding content were coded reversely. First, scale items were analysed within the subscale to which they belong. In the cognitive subscale, item 7 showed a negative correlation with other subscale items (i.e.,  $-.104$ ). The item was then coded reversely. After this step, items 5, 7, 12, 17, 39 and 41 showed correlations below .20. Since they did not meet the criterion to display a correlation higher than .20, they were excluded from the subscale.

In the emotional subscale, item 16 negatively correlated with other subscale items (i.e.,  $-.019$ ). Correspondingly, it was coded reversely. This process was repeated for

items 40 (i.e., -.250) and 30 (i.e., -.031) in the stated order. Item 30 was excluded because of the lower correlation value (i.e.,  $< .20$ ) with other subscale items (i.e., .031). Finally, since the given Cronbach's  $\alpha$  values of the subscale were relatively higher without items 16 and 40, they were excluded (i.e., .698 and .743, respectively).

In the autonomy support subscale, items 8, 23 and 28 were excluded because of their lower correlations with the other subscale items (i.e., .196, .183 and .190, in that order). The same procedure was applied in the sensitive scaffolding subscale for items 4, 9, 19 and 33 (i.e., .124, .091, .133 and .139, respectively).

After applying all exclusions, Cronbach's alpha ( $\alpha$ ) values for each subscale were: cognitive: .764 (11 items); emotional: .743 (six items); autonomy support: .630 (six items); sensitive scaffolding: .512 (four items). The first three subcategories displayed acceptable reliability; however, the last subdomain did not meet the acceptable range for the reliability criterion (i.e.,  $> .60$ ).

Following this step, as a method of orthogonal rotation, varimax rotation and principal component analysis (PCA) were performed to determine the factor numbers of the PSCL. The iteration number for convergence was increased from 25 to 50, and the smallest loading value was set to .30 before the analyses. The number of factors was fixed to four, concerning the a priori theoretical ground regarding the scale construction. After EFA, items have been grouped into new four factors. In this step, items 34 and 20 were excluded from the scale because they showed cross-loading (i.e., .400 for Factor 1, .364 for Factor 2, and .304 for Factor 4; .332 for Factor 1 and .369 for Factor 2, respectively). The inter-item correlation of the 24 items was tested

within each new subscale for the second time. Corresponding to the reliability results, items 37 and 3 in Factor 3 have been excluded from the subscale because of the low total-item correlation values (i.e., -.011 and -.221, respectively). Item 13 was coded reversely because of the negative item-total score correlation. Last, the structure of item 42 was changed from reverse to direct coding since it was the only remaining reverse-coded item. That is, this no longer served the primary purpose of using reverse-coded items targeted to elevate the respondents' attention to the scale in the flow. Consequently, the new total item number was 22, grouped into new four subscales. Factor 1 was labelled as *task persistence*, Factor 2 as *responsive teaching*, Factor 3 as *reducing task difficulty*, and Factor 4 as *autonomy for learning*.

The four factors explained 43.9% of the total variance. Task persistence (*eigenvalue* = 5.557), explaining 13.76%, included items 2, 10, 11, 21, 26, 27, 35 (seven items). Responsive teaching (*eigenvalue* = 2.793), explaining 11.62%, included items 1, 6, 15, 25, 29, 31, 36 (seven items). Reducing task difficulty (*eigenvalue* = 1.708), explaining 9.62%, included items 13, 22, 24, and 38 (four items). Autonomy for learning (*eigenvalue* = 1.347), explaining 8.87%, included items 14, 18, 32, 42 (four items).

For the task persistence factor, the loadings ranged from .488 to .790; in responsive teaching, the factor loadings ranged from a minimum of .420 to .692; in reducing task difficulty, the factor loadings ranged from -.600 to .709; within autonomy for learning, the lowest factor loading was .458, and the highest was .755 (see Table 4 for detailed information).

Cronbach's  $\alpha$  reliability coefficient for task persistence was .783, .670 for responsive teaching, and .669 for reducing task difficulty, which all indicate acceptable reliability. However, Cronbach's  $\alpha$  value for autonomy for learning was .520, which was lower than the acceptable criterion. The Cronbach's  $\alpha$  coefficient for the full 22-item PSCL was .774, indicating an acceptable reliability value for the overall scale. The lowest item-total correlation value was .210 (item 14), and the highest correlation was .619 (item 35) (see Table 4 for detailed information).

Last, inter-factor correlations were analysed. The results showed that there are significant correlations between task persistence and responsive teaching ( $r = .574, p < .01$ ) and reducing task difficulty ( $r = .291, p < .01$ ) and between responsive teaching and reducing task difficulty ( $r = .259, p < .01$ ). The autonomy for learning factor was not found to be significantly associated with any other factors (see Table 5).

Table 4. Item analysis of the 22-item PSCL for exploratory factor analysis

| <b>Factor 1:</b><br>Task<br>Persistence | <i>Factor<br/>Loading</i> | <i>M</i> | <i>SD</i> | <i>Item Total<br/>Correlation</i> | <i>Alpha if<br/>Item<br/>Deleted</i> |
|-----------------------------------------|---------------------------|----------|-----------|-----------------------------------|--------------------------------------|
| Item 2                                  | <b>0.760</b>              | 3.49     | 0.625     | 0.485                             | 0.760                                |
| Item 10                                 | <b>0.558</b>              | 3.52     | 0.667     | 0.519                             | 0.754                                |
| Item 11                                 | <b>0.488</b>              | 3.67     | 0.526     | 0.440                             | 0.769                                |
| Item 21                                 | <b>0.670</b>              | 3.45     | 0.683     | 0.591                             | 0.739                                |
| Item 26                                 | <b>0.749</b>              | 3.66     | 0.642     | 0.547                             | 0.748                                |
| Item 27                                 | <b>0.784</b>              | 3.18     | 0.833     | 0.412                             | 0.784                                |
| Item 35                                 | <b>0.790</b>              | 3.59     | 0.599     | 0.619                             | 0.736                                |

Note. M: Mean, SD: Standard Deviation

Table 4 (cont'd)

| <b>Factor 2:</b><br>Responsive Teaching      | <i>Factor Loading</i> | <i>M</i> | <i>SD</i> | <i>Item Total Correlation</i> | <i>Alpha if Item Deleted</i> |
|----------------------------------------------|-----------------------|----------|-----------|-------------------------------|------------------------------|
| Item 1                                       | <b>0.484</b>          | 2.94     | 0.889     | 0.395                         | 0.630                        |
| Item 6                                       | <b>0.420</b>          | 3.09     | 0.820     | 0.399                         | 0.629                        |
| Item 15                                      | <b>0.455</b>          | 2.86     | 0.966     | 0.367                         | 0.640                        |
| Item 25                                      | <b>0.692</b>          | 2.69     | 0.786     | 0.481                         | 0.607                        |
| Item 29                                      | <b>0.598</b>          | 2.95     | 0.726     | 0.446                         | 0.619                        |
| Item 31                                      | <b>0.537</b>          | 2.37     | 0.947     | 0.266                         | 0.671                        |
| Item 36                                      | <b>0.464</b>          | 3.09     | 0.737     | 0.336                         | 0.646                        |
| <b>Factor 3:</b><br>Reducing Task Difficulty | <i>Factor Loading</i> | <i>M</i> | <i>SD</i> | <i>Item Total Correlation</i> | <i>Alpha if Item Deleted</i> |
| Item 13*                                     | <b>-0.600</b>         | 1.47     | 0.938     | 0.378                         | 0.652                        |
| Item 22                                      | <b>0.590</b>          | 2.70     | 0.843     | 0.510                         | 0.565                        |
| Item 24                                      | <b>0.678</b>          | 2.24     | 0.919     | 0.517                         | 0.556                        |
| Item 38                                      | <b>0.709</b>          | 1.88     | 0.898     | 0.405                         | 0.632                        |
| <b>Factor 4:</b><br>Autonomy for Learning    | <i>Factor Loading</i> | <i>M</i> | <i>SD</i> | <i>Item Total Correlation</i> | <i>Alpha if Item Deleted</i> |
| Item 14                                      | <b>0.458</b>          | 2.16     | 1.009     | 0.210                         | 0.544                        |
| Item 18                                      | <b>0.691</b>          | 3.26     | 0.867     | 0.404                         | 0.369                        |
| Item 32                                      | <b>0.755</b>          | 3.07     | 0.763     | 0.451                         | 0.350                        |
| Item 42**                                    | <b>0.469</b>          | 2.58     | 1.034     | 0.232                         | 0.528                        |

Note. M: Mean, SD: Standard Deviation

\*The item was then coded reversely and adjusted. \*\*The item was adjusted.

Table 5. Correlations between the scale factors

|                             | 1             | 2             | 3     | 4     |
|-----------------------------|---------------|---------------|-------|-------|
| 1. Task Persistence         | 1             |               |       |       |
| 2. Responsive Teaching      | <b>.574**</b> | 1             |       |       |
| 3. Reducing Task Difficulty | <b>.291**</b> | <b>.259**</b> | 1     |       |
| 4. Autonomy for learning    | .081          | .090          | -.040 | 1     |
| M                           | 24.56         | 19.99         | 8.29  | 11.06 |
| SD                          | 3.04          | 3.41          | 2.55  | 2.36  |

Note. M: Mean, SD: Standard deviation

\*\* $p < .01$

## CHAPTER IV

### DISCUSSION I

Considering the existing literature, the new subscales of the 22-item PSCL were characterised based on the main scaffolding functions they contain. The core content of the a priori factors created conceptually related factor structures after the EFA.

Factor 1 items were aligned with the emotional subscale, elevating children's interest and attention for task consistency and consolidation in the case of either difficulty or failure (Hsin & Wu, 2011). Factor 2 closely relates to the a priori cognitive subscale functions. The current and the a priori subscales contain scaffolds facilitating the children's understanding of the current task. Factor 3 examines the tutor's guidance for easing the task demand for children to accomplish or progress in a task, aligning partially with the prime tenet of the contingency rule defining shifts in the provided scaffolding based on the child's needs, which was defined by the sensitive scaffolding subscale previously. The factor content changed in the sense that it did not include the increase in task complexity as long as the children's current levels allow, but the decrease in the difficulty was still included. Factor 4 is consistent with fostering the learners' responsibility for learning. This very characterisation corresponds to the a priori autonomy support subscale definition in terms of learners' elevated role in their own learning experiences with relatively low external support.

Factor 1 was characterised as *task persistence*. The subscale items concentrated on parental support to help children sustain learning activities by providing either

emotional support, like praise for children's effort or instructive guidance when the learners need such interventions. The scaffolding functions of this subcategory were predominantly the promotion of children's motivation through affective support to enhance the effort and persistence they display in the task (Mackiewicz & Thompson, 2014; Mermelshtine, 2017), which is associated with increased self-efficacy (Bandura, 1997). This aspect of a scaffold is important in enhancing opportunities for children to explore more by engaging in tasks with elevated learning motivation and facilitating learning outcomes (e.g., Neitzel & Stright, 2003).

Factor 2 was labelled *responsive teaching* since it primarily concerned parents' instructive guidance during the learning processes. In the subcategory, tutors' agency in the teaching-learning interaction is relatively more dominant than that of the novices (see Factor 4). That is, the teachers provide cognitive input through mainly instructive strategies to children, constructing the learners' understanding of the task or a novel topic (Yelland & Master, 2007). Considering most items, the responsive teaching factor retained its cognitivist conceptualisation.

Factor 3 was characterised as *reducing task difficulty*. It defines parental intervention in tasks by reformulating the task goals according to the children's needs (Tharp & Gallimore, 1998). The initial sensitive scaffolding subscale did not display a critical difference from the new factor structure with respect to the gradation of learning support containing necessary shifts in the scaffolds. It examined the tutors' monitoring of their children's current level and efficient modifications in task demands accordingly (Zhang & Whitebread, 2017). This learning support emphasises the tutor-novice interactions within the region of sensitivity in the zone

(i.e., ZPD), where it is possible for the child to achieve new learning outcomes (Greenfield, 1984).

Factor 4 was labelled as *autonomy for learning* because the factor items predominantly define the transfer of responsibility for learning to the children. The central item structure emphasises the learner's agency for taking the responsibility to start and sustain a task without or with relatively limited intrusiveness of the skilled companions and greater autonomy granted to the novices (Neitzel & Stright, 2004), indicating the process of self-scaffolding (i.e., "learning to learn", Bickhard, 1992, 2005). This type of parental scaffolding nourishes children's self-regulated learning competencies by providing space for their own exploratory behaviours (Mermelshtine, 2017; Bourbour et al., 2020).

To conclude, Study 1 results showed that the a priori subcategories (i.e., cognitive, emotional, autonomy support, and sensitive scaffolding) were conceptually related to the new categorisations (i.e., task persistence, responsive teaching, reducing task difficulty, and autonomy for learning). The previous subcategories did not exhibit significant alterations, necessitating a complete reclassification aligning with a novel theoretical framework. Instead, they were systemically organised into related domains. The main meaningful difference between the constructions of the a priori and the present subscales is the transition from the general definition of the factor structures to the more specific characterisation of the scaffolds according to their instrumental use within learning interactions.

#### 4.1. Limitations and Future Directions

Even though the required minimum number for the sample size was reached according to the literature recommendations (e.g., Boateng et al., 2018) in Study 1, the sample size ( $N = 258$ ) might be relatively limited to conduct factor analysis, as stated in the other sources (e.g., 10 persons for each item, Field, 2013). Since the current study is exploratory research to develop a new measurement tool and some of the factor loadings are relatively low (i.e.,  $< .50$ , see Table 4), the importance of a larger sample becomes critical (Field, 2013). Therefore, the current sample size might limit the uncovering of the underlying dimensions of the PSCL to a certain extent.

In addition, after the EFA, all reverse items in the item pool were excluded from the scaffolding scale because of the low total-item correlation values, except for one item (item 13). This might pose a limitation regarding the scale. Implications of the current study can address the potential reasons (e.g., social desirability) for the statistical inefficiency of the reverse-coded items and seek further contributions to the scale targeting this issue.

Besides, during EFA analyses, the number of factors was fixed to three, four, and five without testing each item's item-total correlations within their a priori subscales. However, since the theoretical justification of the initial subcategories was based on four dimensions, the current method, which involves testing the item-total correlation of each subcategory's variables and fixing the number of factors to four, was preferred. Another concern was that the correlations between the factors in the other alternatives were either negative or nonsignificant, indicating a contradiction

between the theoretical definition and statistical results. This, conceptually, was not meaningful since all items, regardless of their subcategories, define efficient scaffolding in the present study. Thus, they were all expected to assess the same phenomenon, scaffolding, and to be associated.



## CHAPTER V

### INTRODUCTION II

In pedagogical exchanges, tutors should be evaluated by learners as competent and accurate agents in order to acquire information from them (Harris & Corriveau, 2011; Koenig et al., 2019). Learners' considerations for persons' reliability affect their preferences for learning in future interactions (Koenig & McMyler, 2019; Koenig et al., 2019), representing the epistemic aspect of social learning. Furthermore, when social agents' false claims (e.g., lying) cannot be attributed to situational factors, such as ignorance, children might discredit the agents' trustworthiness as a source of information (Koenig et al., 2019). Trustworthiness captures the interpersonal aspect of social learning.

Based on this theoretical perspective, the present research aimed to investigate the epistemic and interpersonal aspects of social learning within parenting domains. This was an exploratory endeavour to understand how parenting practices shape these two aspects. For this purpose, the epistemic aspect of social learning was operationalised through parental scaffolding within everyday interactions, including both intentional and incidental forms of guidance. The interpersonal aspect of social learning was examined through parental lying to their children. In this regard, the primary aim of the research was to examine the relations of parenting styles (i.e., authoritative, authoritarian, and overprotective parenting) on these two aspects, as well as the interrelations between parental scaffolding and lie-telling practices.

### 5.1. The Role of Parenting Styles in Parental Scaffolding Practices

Authoritative parenting practices are mainly defined by emotional support, autonomy granting, and responsiveness (Cowan et al., 2005; Darling & Steinberg, 1993). Given these attributes, parents who apply authoritative practices might contribute to their children's social learning by providing a higher prevalence of successful scaffolds in daily life. Earlier empirical research showed that parents using authoritative practices provide more effective scaffolding to their children during problem-solving situations (e.g., Carr & Pike, 2012; Mattanah et al., 2005; Pratt et al., 1992; Pratt et al., 1988). These results are likely to be explained by the fact that parents with authoritative practices are more aware of and responsive to their children's needs; in turn, they provide efficient scaffolding and truncate the given support as the children gain agency in the task that allows them autonomy.

Carr and Pike (2012) discussed the relationship between parenting styles and maternal scaffolding through positive and negative parenting contexts in terms of disciplines used in child-rearing. The study results showed that positive parenting significantly enhanced the provision of sensitive scaffolds characterized by responsiveness to children's needs. Similarly, Bayındır and Cengiz (2023) showed that parents with authoritative orientations provide more detailed explanations to their children in informal teaching interactions, compared to parents with stricter discipline techniques (i.e., authoritarian practices).

Parallel with this, the authoritarian parenting style is likely to provide less support for facilitating children's understanding of tasks or subjects, as examined by the responsive teaching subdomain. Furthermore, authoritarian parenting styles may

exhibit limited affective support (e.g., encouragement), less monitoring competence for their children's needs (e.g., decreasing task demand in the case of struggle) and less autonomy-granting practices in children's learning-based experiences, which is related to their low warmth and high control properties (Cowan et al., 2005).

Excessive regulation and control over the children's activities reflect some characteristics of overprotective parenting practices (Moreira et al., 2021).

Considering the high level of intrusiveness of this parenting style in children's learning processes (Biringen et al., 2000), parents with more overprotective orientations might provide less responsive teaching interventions and low autonomy-granting support but tend to reduce task difficulties. Correspondingly, mothers exhibiting overprotective behaviours may fail to provide sufficient space for children to explore their learning environment independently, contradicting the definition of effective scaffolding in terms of giving autonomy to children in learning.

Considering the high responsiveness and warmth of the overprotective parenting style, parents who display overprotective behaviours may display more task persistence functions. On the other hand, they might show less responsive teaching support, reducing task difficulty and autonomy support since all of these require the transfer of responsibility to the child. Aligned with Bayındır and Cengiz's study (2023), which found parents demonstrating overprotective practices used less demanding cognitive scaffolding means (i.e., corrective feedback) to support their children's learning experience, parents with overprotective orientations may provide less responsive teaching support to their children related to providing cognitive input.

**Research Question 1 (RQ1):** How do different types of parenting styles relate to the subcategories of parental scaffolding practices?

**Hypothesis 1 (H1).** Whereas authoritative parenting style was expected to be associated with a high prevalence of appropriate scaffolding means in all four subcategories, authoritarian parenting practices were anticipated to be related to the inefficient scaffolding provision in general. Last, overprotective parenting was expected to be related to higher task persistence and reducing difficulty support in children’s learning experiences, while it was predicted to be negatively associated with the other scaffolding domains (see Table 6).

Table 6. Hypothesis 1 on how parenting styles relate to scaffolding behaviours

|      |                          | Task Persistence | Responsive Teaching | Reducing Difficulty | Autonomy for Learning |
|------|--------------------------|------------------|---------------------|---------------------|-----------------------|
| H1.1 | Authoritative Parenting  | +                | +                   | +                   | +                     |
| H1.2 | Authoritarian Parenting  | -                | -                   | -                   | -                     |
| H1.3 | Overprotective Parenting | +                | -                   | +                   | -                     |

## 5.2. The Role of Parenting Styles in Parenting by Lying Practices

Instrumental lie-telling practices are used by parents to control children’s emotions and behaviours (Heyman et al., 2013). As an instance of associated practice with families’ value systems (Darling & Steinberg, 1993), Heyman et al. (2009) showed that Asian American parents use lie-telling to ensure their children’s behavioural obedience. These study results might draw attention to a common ground with authoritarian parenting practices in the realm of expectations for respect and obedience from their children (Baumrind, 1971) through lie-telling. In this regard, however, it is critical to emphasise the differences between instrumental aims of

using different types of lies. That is, persons can lie to protect others' feelings (i.e., positive affect lies), which differs from the intention to use *idle threats* to control their behaviours in terms of implications for learning interactions (Heyman et al., 2009; Setoh et al., 2024).

In prior research, Zigler and Yando (1972) showed that younger institutionalised children show less imitative fidelity than their noninstitutionalised peers. This difference is explained by the researchers as the impaired sense of trust towards others as reliable sources in social learning processes. Since the children previously experienced adversities in their social relationships, they were less willing to trust others in their future learning opportunities, which is explained through imitation fidelity. In addition, according to the researchers, except for the initial reasons to leave home, the more adverse experiences children are exposed to in institutionalisation conditions, the less they find adults to trust as reliable sources for social exchanges. In sum, the study results indicated the impact of the violated interpersonal trust relationship on children's social learning processes.

Parents who show authoritative practices are characterised by using confrontive power, which is defined through reasoning, autonomy-supportive, responsive and negotiable practices and warmth in their child-rearing (Baumrind, 1971, 2012; Cowan et al., 2005). Considering this, parents exhibiting authoritative practices might use solely positive affect lies to make their children feel better. On the other hand, authoritarian parenting is characterised by implying coercive power use that excludes reasoning, threat-wise practices through strict discipline techniques to control their children and low responsiveness and warmth (Baumrind, 1971, 2012;

Cowan et al., 2005). Thus, parents with authoritarian orientations are highly likely to use threatening lies to control their children's behaviours and emotions compared to parents displaying authoritative practices. In addition, linked to the low warmth characterisation of authoritarian parenting, they may rarely use positive affect lies to promote their children's positive feelings. Because of their high control over the children, they presumably feel less need to apply lies about resources to mitigate the children's frustration in related cases.

Furthermore, parents who frequently use overprotective practices might apply more threat lies as an outcome of their excessive anxiety level and, possibly, the lack of confidence regarding their parenting skills to control their children through efficient guidance mechanisms (Moreira et al., 2021). Aligned with this, Allen and Kara (2023) showed that parents' authoritarian and overprotective practices were significantly correlated with the use of threat lies. In contrast, the authoritative parenting style was negatively correlated with threatening deceptions (Allen & Kara, 2023).

**Research Question 2 (RQ2):** How do different types of parenting styles relate to the subcategories of instrumental lie-telling practices?

**Hypothesis 2 (H2).** While authoritative parenting was expected to use solely positive affect lies, authoritarian and overprotective parenting styles were expected to be associated with the use of threatening lies more frequently. In addition, it was hypothesised that positive affect lies and lies about resources would be related to overprotective parenting practices, too. (see Table 7).

Table 7. Hypothesis 2 on how parenting styles relate to lie-telling behaviours

|      |                             | Positive<br>Affect Lies | Lies about<br>Resources | Threat Lies |
|------|-----------------------------|-------------------------|-------------------------|-------------|
| H2.1 | Authoritative<br>Parenting  | +                       | -                       | -           |
| H2.2 | Authoritarian<br>Parenting  | -                       | -                       | +           |
| H2.3 | Overprotective<br>Parenting | +                       | +                       | +           |

### 5.3. The Relationships between Parental Scaffolding and Parenting by Lying Practices

Koenig et al. (2019; 2022) argued that there are interrelationships between epistemic and interpersonal aspects of social learning. Since social learning is a relationship between parent and child, these two aspects could be related to parents.

Correspondingly, parental factors examined within the context of scaffolding and instrumental lie-telling practices might also be interrelated. Nevertheless, given that both parental scaffolding and instrumental lie-telling domains consist of different subcategories, it is important to specify each relation between the means separately.

Setoh et al. (2024) point out the importance of examining the different types of lies (e.g., threat lies and positive affect lies). As a result of the significant differences in the characterisation of the types of lie-telling practices, they were investigated based on their “instrumental” purpose of use to test the hypothesis in the current study. For example, if parents deceive their children to boost their positive feelings (e.g., “Your pet has gone to our relatives’ town. There is more space to run there.” (when the pet has passed away)), it includes different intentions and purposes of use than utterances of false threats to control them (e.g., “If you do not come with me now, I will leave you alone here.” (when the parent has no intention to do so)). Whereas positive affect

lies aim to inhibit negative feelings in children, the threat lies contrastingly include negative affect to control the children's behaviours (Allen & Kara, 2023). In addition, lies about resources (e.g., "I did not bring any money with me today; we will come back another day." (even though the family has money and has no intention of coming back)) are related to deceiving the children to control their behaviours with the prime intention to protect them from experiencing any undesirable emotions.

Thus, parental scaffolding behaviours may demonstrate close links with the positive affect lies, both aiming to create positive feelings in children. In contrast, since providing successful scaffolding points out parents' competence in applying guidance strategies to their children effectively, it may curb the potential need to control the children's emotions and behaviours through deceptive utterances and idle threats.

**Research Question 3 (RQ3):** Are there any relationships between the subcategories of parental scaffolding and parenting by lying practices as two aspects of social learning?

**Hypothesis 3 (H3):** While it was hypothesised there would be positive correlations between the total of four scaffolding subcategories and positive affect lies, it was expected to find negative correlations between the scaffolding subcategories and lies about resources and threat lies.

## CHAPTER VI

### METHOD II

#### 6.1. Participants

The sample size for the hypotheses being tested was sufficient based on prior research with a similar design in the existing literature (e.g., Allen & Kara, 2023) and by conducting G\*Power analysis (Faul et al., 2007) to determine the required minimum sample size, revealing that the sample size as 119 persons ( $f^2 = .15$ ,  $\alpha = .05$ , a power of .95). The sample size exceeded the number of 119 to conduct the confirmatory factor analysis (CFA) for the PSCL before the hypotheses were tested (i.e.,  $N = 153$ ).

In Study 2, the retained PSCL items in Study 1 were administered to an independent second sample. Three hundred ninety-seven persons clicked the study link in total. Two hundred thirty-four persons did not continue to survey since they did not meet the criteria to participate in the present study, indicating they either participated in Study 1 or do not have children between 2.75 (2 years and 9-month) and 6.75 years old (6-year and 9-month olds) preschoolers, as detected through initial questions before questionnaires, or for any other reason. Nine parents with older or younger children younger than the range of 2.75 – 6.75 years of age were excluded from the analyses. Additionally, only one individual was excluded from the analyses because of failing all control questions. The final sample consisted of a total number of 153 mothers ( $M_{\text{age}} = 35.09$  years,  $SD = 4.65$  years; age range = 24 – 47 years) with preschoolers ( $M_{\text{age}} = 4.54$  years,  $SD = .96$  years; age range = 33 – 80 months). The

data was collected mainly from the large cities in Türkiye. In addition, two persons from abroad participated in the study, both of whom were native speakers. The socioeconomic status (SES) of the sample was stated as predominantly middle to upper-level; 82.4% of the participants ( $N = 126$ ) had undergraduate degrees or higher (i.e., Master's or doctoral degrees), and 79.1% of the participants ( $N = 121$ ) had at least 50.000 Turkish Liras monthly income or more. The marital status of the sample was mostly married (96.1%). Half of the mothers participating in the current study have one child (%56.2), 38.6% of the participants have two children, and mothers who have three children make up 5.2% of the sample (see Table 8 for detailed information).

## 6.2. Procedure

Permission to collect data from parents was obtained from the Bilkent University Ethics Board. Each participant was required to sign the consent form indicating their acceptance of participation in the current study. Participants were informed that their participation was voluntary and that they had the right to withdraw from the research at any time. The data collection process for Study 2 was conducted between 9<sup>th</sup> April and 3<sup>rd</sup> June 2024 online through the scales on the Qualtrics Survey Software.

In Study 2, the final data was recruited from 122 mothers who completed all the questionnaires. Participants filled out a demographic form, the PSCL, the Instrumental Lie-telling Scale and the Parent Attitude Scale (PAS). To complete the surveys took an average of 18 minutes.

Table 8. Demographics of the participants in Study 1 ( $N = 153$ )

| <b>Variables</b>                                                | <b>Category</b>                 | <b>f</b> | <b>%</b> |
|-----------------------------------------------------------------|---------------------------------|----------|----------|
| Marital Status                                                  | Married                         | 147      | 96.1     |
|                                                                 | Single                          | -        | -        |
|                                                                 | Divorced                        | 6        | 3.9      |
|                                                                 | Widow                           | -        | -        |
|                                                                 | Other                           | -        | -        |
| Residing Place Where the Participants Lived Most Of Their Lives | Metropolis                      | 107      | 69.9     |
|                                                                 | City                            | 29       | 19       |
|                                                                 | District                        | 16       | 10.5     |
|                                                                 | Village                         | 1        | 0.7      |
| The Number Of Children                                          | 1                               | 86       | 56.2     |
|                                                                 | 2                               | 59       | 38.6     |
|                                                                 | 3                               | 8        | 5.2      |
|                                                                 | 4                               | -        | -        |
| Parents Receiving Childcare Support                             | Yes                             | 112      | 73.2     |
|                                                                 | No                              | 41       | 26.8     |
| Who Providing Childcare Support                                 | Other Parent                    | 40       | 26.1     |
|                                                                 | Babysitter                      | 11       | 7.2      |
|                                                                 | Grandparent                     | 48       | 31.4     |
|                                                                 | Other                           | 15       | 9.8      |
| Mother's Education                                              | Just Literate                   | -        | -        |
|                                                                 | Primary/Secondary School Degree | 2        | 1.3      |
|                                                                 | High School Degree              | 15       | 9.8      |
|                                                                 | Bachelor's Degree               | 76       | 49.7     |
|                                                                 | Post Graduate Degree            | 60       | 39.3     |
| Other Parent's Education                                        | Just Literate                   | -        | -        |
|                                                                 | Primary/Secondary School Degree | 5        | 3.3      |
|                                                                 | High School Degree              | 18       | 11.8     |
|                                                                 | Bachelor's Degree               | 80       | 52.3     |
|                                                                 | Post Graduate Degree            | 46       | 30.1     |
| Household Number                                                | 2                               | 2        | 1.3      |
|                                                                 | 3                               | 82       | 53.6     |
|                                                                 | 4                               | 56       | 36.6     |
|                                                                 | More than 4                     | 13       | 8.5      |
| Monthly Income                                                  | 17.002 ₺ or below               | -        | -        |
|                                                                 | 17.002 - 34.999 ₺               | 17       | 11.1     |
|                                                                 | 35.000 - 49.999 ₺               | 15       | 9.8      |
|                                                                 | 50.000 - 69.999 ₺               | 35       | 22.9     |
|                                                                 | 70.000 - 99.999 ₺               | 47       | 30.7     |
|                                                                 | 100.000 ₺ or above              | 39       | 25.5     |
| Income Evaluation                                               | Lower                           | 10       | 6.5      |
|                                                                 | Middle                          | 88       | 57.5     |
|                                                                 | Middle to Upper                 | 53       | 34.6     |
|                                                                 | Upper                           | 2        | 1.3      |

Anonymity of the participants was ensured by assigning an ID number for each participant on the questionnaires. The only personal information obtained from the parents was their email address, which was used within the scope of Study 2 to automatically send the follow-up study link via Qualtrics two weeks later.

### 6.3. Measures

#### 6.3.1. Demographic Form

The demographic form consists of 14 questions about families' basic demographic information. The questions ask about the parental age, marital status, city of residence, where parents spent most of their life (e.g., city or village), the number of children, children's age, if there is another adult who cares for the children, parental education level, the number of persons living in the household, monthly income, and income evaluation. Parents were also asked for their email addresses as an optional question to send them for the test-retest study link two weeks later.

#### 6.3.2. Parental Scaffolding within Cultural Learning Scale (PSCL)

The 22-item PSCL was developed as a self-report scale to measure the type and prevalence of parental scaffolding in the scope of the current study. The PSCL was used to assess parental learning support provided to preschoolers aged between 2.75 and 6.75 years. It was a 5-point Likert-type ranging from 0 to 4 (0: Never, 1: Rarely, 2: Sometimes, 3: Often, 4: Always). The 22 items were grouped into four subcategories considering their instrumental definitions: Task persistence, responsive teaching, reducing task difficulty, and autonomy for learning.

The task persistence subscale consisted of seven items that describe providing motivation and guidance to children to sustain a task ( $\alpha = .747$ ). The subscale items were characterised by physical praise (e.g., “When my child succeeds in a task, I congratulate them with my body language (e.g., I give a high five/clapping).”), verbal praise (e.g., “When my child accomplishes a task, I praise them (e.g. Well done!).”), providing motivation (e.g., “When my child fails in a task, I encourage them for their future attempts (e.g., “You will get better as you keep trying, do not give up.).”), verbal encouragement (e.g., “I say encouraging things when my child tries activities for the first time (e.g. “You can do it.”)”), providing explanations (e.g., “When my child encounters a problem, I make necessary explanations that will help them reach a solution.”), and verbal instruction (e.g., “When my child is doing a daily task, I guide them on how to do it. (e.g., “I tell them how to brush their teeth.).”).

The responsive teaching subscale consisted of seven items that define parents’ provision of didactic and instructive support to elevate their children’s understanding of a task ( $\alpha = .704$ ). The subscale items were defined by demonstration (e.g., “While my child is going to do something they have not done before, I show them how to do it by doing it by myself first.”), providing feedback (e.g., “When my child accomplishes a task, I give them feedback (e.g., “I tell my child about well-drawn areas and deficiencies in their colouring).”) direction maintenance (e.g., “When I notice that my child is distracted while doing a task, I redirect their attention to what they are doing.”), active participation (e.g., “We do some activities with my child together to be more instructive (e.g. making shapes out of play dough together).”), providing explanations (e.g., “I give long and detailed answers to my child's daily

questions.”), frustration control (e.g., “I help my child progress in a stressful activity by being there for them.”), and asking questions (e.g., “When my child faces a problem, I ask them thought-provoking questions like “What do you think you should do now?” to help them find a solution.”).

The reducing difficulty subscale included four items ( $\alpha = .740$ ). The subscale items explain parents’ monitoring abilities to gauge their children’s current needs and, accordingly, adjust the task’s difficulty (e.g., “When my child has difficulty in an activity, I make the activity one level easier.”) or provide the required support to ease the task demand that enables children to maintain it (e.g., “When I notice that my child is stuck on a task, I intervene and help them progress on the task.”).

The autonomy for learning subscale consisted of four items ( $\alpha = .393$ ). This subscale assessed the extent to which children are allowed by their parents to do a task or solve a problem autonomously (Stern & Hertel, 2022) (e.g., “Before I get involved, I wait to see if my child can do daily tasks by themselves.”). The autonomy support subscale explained parents’ appreciation of their children’s competence to progress in learning, expanding the space for them to enable self-scaffolding.

### 6.3.3. Instrumental Lie-telling Scale

The Instrumental Lie-telling scale was modified by Allen and Kara (2023) based on Heyman et al.’s (2013) questionnaire to measure parents’ lie-telling prevalence to control their children’s behaviours and/or emotions. This questionnaire is a 5-point Likert-type scale ranging from 0 (never) to 4 (always) points. After adding and excluding items according to Turkish culture, the modified version of the scale

consists of 24 items in total, and two of the items are control questions. The scale has three instrumental lie-telling subscales: positive affect lies, lies about resources, and threat lies.

The positive affect lies subscale comprised of seven items ( $\alpha = .687$ ). They are defined by the parents' intention of saving their children from feeling any particular negative feeling and making them feel better (e.g., "What a beautiful painting you have made" when the painting is so bad) (Allen & Kara, 2023). The lies about resources subscale included seven items ( $\alpha = .802$ ). They are characterised by delaying the child's request without explicitly denying it. Instead, parents appease the child for the current moment by using an instrumental lie about the resource of money or food (e.g., "We do not have enough money to buy you this toy (when the family has enough money)."). The threat lies subscale included eight items ( $\alpha = .679$ ). Threatening lies are defined by the use of threats to prevent children from doing an undesired activity or expressing emotion and expect the children to comply (e.g., "Finish your food, or it will cry after you.").

#### 6.3.4. Parenting Attitude Scale (PAS)

The PAS was developed by Demir and Şendil (2008) to assess the child-rearing practices of parents of 2- to 6-year-old children. The PAS is a 5-point Likert-type scale ranging from 0 (It is never like that) to 4 (It is always like that) points. The scale consists of 46 items in total and has four subscales: authoritative, authoritarian, overprotective and permissive. Only authoritative, authoritarian and overprotective parenting subscales were used in the current study.

The authoritative parenting style subscale consisted of 17 items ( $\alpha = .888$ ). The authoritative parenting style is characterised by the acceptance of the autonomy of a child and the warmth and interest of the parents towards the child (e.g., “I respect my child’s personal opinions.”). The authoritarian parenting subscale included 11 items ( $\alpha = .780$ ) that define excessive control over their children’s behaviour and punitive discipline practices (e.g., “When I am angry at my child, I punish my child.”). The overprotective parenting style subscale included nine items ( $\alpha = .827$ ). It targets the parents’ beliefs that their children are not capable of doing a task alone and need their help in any situation, in turn, avoiding giving responsibility to the children (e.g., “I protect my child from the tasks that might be difficult for her/him.”) (Demir & Sendil, 2008). In addition to the item number of three subscales, three additional control questions were added to the scale. The total number of items in the PAS is 40.

## CHAPTER VII

### RESULTS II

#### 7.1. Preliminary Analyses

Data analysis utilised IBM SPSS 27.0.1 (2020) to analyse the data. First, the normality of each study variable was checked in the final data ( $N = 153$ ) through skewness and kurtosis values and Q-Q plots. Normality was not violated for the total data, except for threat lies, indicated by skewness ( $S = 1.583$ ) and kurtosis ( $K = 2.598$ ), representing a distribution with heavier tails. Nevertheless, no correction was made since the  $K$  value slightly exceeded the acceptable range between  $-2$  and  $+2$ .

CFA was performed in the jamovi project programme (2024) to test the PSCL structure before testing the research questions related to the scaffolding phenomenon. Results showed that the scale was statistically confirmed (task persistence:  $X^2 = 19.900$ ,  $df = 13$ ,  $X^2/df = 1.530$ ,  $RMSEA = .059$ ,  $SRMR = .047$ ,  $CFI = .970$ ,  $TLI = .952$ ; responsive teaching:  $X^2 = 15.0$ ,  $df = 14$ ,  $X^2/df = 1.153$ ,  $RMSEA = .022$ ,  $SRMR = .039$ ,  $CFI = .992$ ,  $TLI = .989$ ; reducing difficulty:  $X^2 = 4.17$ ,  $df = 2$ ,  $X^2/df = 2.170$ ,  $RMSEA = .084$ ,  $SRMR = .025$ ,  $CFI = .984$ ,  $TLI = .951$ ; autonomy for learning:  $X^2 = 3.27$ ,  $df = 2$ ,  $X^2/df = 1.635$ ,  $RMSEA = .064$ ,  $SRMR = .036$ ,  $CFI = .926$ ,  $TLI = .778$ ) (see Appendix for detailed information).

#### 7.2. First Research Question

*“How do different types of parenting styles relate to the subcategories of parental scaffolding practices?”*

Four hierarchical multiple regression analyses were conducted to assess the impact of parents' child-rearing practices on each scaffolding subdomain after controlling for the effect of socioeconomic status (SES) ( $N = 129$ ). SES was defined by the mother's education and monthly income, considering their significant correlation with each other ( $r = .523, p < .000$ ). For each of the four hierarchical multiple regression analyses, the multicollinearity assumption was controlled by Tolerance (i.e., above .10) and Variance inflation factor (VIF) (i.e., less than 10) values for each model, and no multicollinearity was indicated. Furthermore, Cook's distances (i.e., smaller than 1) were checked for each model in all analyses, and no violation was detected.

First, the relationship between parenting styles and task persistence was examined through the hierarchical multiple regression analysis. SES was entered into the first block. The first model was not statistically significant,  $p > .05$ . In the second step, three parenting styles entered the model, explaining 45% of the variance in task persistence,  $F(3,124) = 32.580, p < .001$ . Parenting practices predicted an additional 43% of the variance in task persistence after controlling SES ( $R^2$  change = .434).

According to the results, authoritative and overprotective parenting were statistically significant predictors of task persistence, with a higher  $\beta$  value for authoritative parenting ( $B = .285, \beta = .612, p < .001, 95\% \text{ CI } [.216, .354]$ ) than overprotective parenting ( $B = .150, \beta = .295, p < .001, 95\% \text{ CI } [.072, .228]$ ) (see Table 9). That is, as parents embrace more authoritative and overprotective styles, they provide scaffolds to increase their children's persistence in ongoing tasks, aligning with the related aspects of H1.1 and H1.3.

Table 9. Hierarchical multiple regression analysis for parenting styles variables predicting task persistence

| Models           | Predictors               | Unstandardised Coefficient |      | Standardised Coefficient |       | $\Delta R^2$ | $F$    | $p$   | $\Delta R^2$<br>Change |
|------------------|--------------------------|----------------------------|------|--------------------------|-------|--------------|--------|-------|------------------------|
|                  |                          | $B$                        | $SE$ | $\beta$                  | $p$   |              |        |       |                        |
| Task Persistence |                          |                            |      |                          |       |              |        |       |                        |
| Model 1          |                          |                            |      |                          |       | .016         | 2.122  | .148  |                        |
|                  | SES                      | -.226                      | .155 | -.128                    | .148  |              |        |       |                        |
| Model 2          |                          |                            |      |                          |       | .450         | 32.580 | <.001 | .434                   |
|                  | SES                      | .034                       | .124 | .019                     | .783  |              |        |       |                        |
|                  | Authoritative Parenting  | .285                       | .035 | .612                     | <.001 |              |        |       |                        |
|                  | Authoritarian Parenting  | .039                       | .053 | .059                     | .466  |              |        |       |                        |
|                  | Overprotective Parenting | .150                       | .039 | .295                     | <.001 |              |        |       |                        |

The impact of parenting practices on responsive teaching was examined through the hierarchical multiple regression analysis. SES was entered into the first block. The first model was not statistically significant,  $p > .05$ . In the second block, three parenting styles entered the model, explaining 40% of the variance in task persistence,  $F(3,124) = 26.560$ ,  $p < .001$ . Parenting styles predicted an additional 38% of the variance after controlling SES ( $R^2$  change = .383). According to the results, only authoritative parenting, among other styles, was a significant predictor of responsive teaching ( $B = .329$ ,  $\beta = .642$ ,  $p < .001$ , 95% CI [.251, .408]) (see Table 10). Consequently, parents displaying more authoritative practices use responsive teaching scaffolds in their children's learning. This result supported the part of H1.1 associated with the current scaffolding subdomain.

Table 10. Hierarchical multiple regression analysis for parenting styles variables predicting responsive teaching

| Models                         | Predictors               | Unstandardised Coefficient |      | Standardised Coefficient |       | $\Delta R^2$ | $F$    | $p$   | $\Delta R^2$<br>Change |
|--------------------------------|--------------------------|----------------------------|------|--------------------------|-------|--------------|--------|-------|------------------------|
|                                |                          | $B$                        | $SE$ | $\beta$                  | $p$   |              |        |       |                        |
| Responsive Teaching<br>Model 1 |                          |                            |      |                          |       | .021         | 2.685  | .104  |                        |
|                                | SES                      | -.279                      | .170 | -.144                    | .104  |              |        |       |                        |
| Model 2                        |                          |                            |      |                          |       | .385         | 26.560 | <.001 | .383                   |
|                                | SES                      | -.069                      | .143 | -.036                    | .627  |              |        |       |                        |
|                                | Authoritative Parenting  | .329                       | .040 | .642                     | <.001 |              |        |       |                        |
|                                | Authoritarian Parenting  | .112                       | .061 | .154                     | .069  |              |        |       |                        |
|                                | Overprotective Parenting | .077                       | .045 | .138                     | .088  |              |        |       |                        |

The impact of parenting practices on reducing difficulty was examined through the hierarchical multiple regression analysis. SES was entered into the first block, with no statistically significant impact explaining the variance in reducing the difficulty,  $p > .05$ . In the second block, three parenting styles entered the model, explaining 15% of the variance in reducing difficulty,  $F(3,124) = 6.334$ ,  $p < .001$ . Parenting styles explained 13% of the variance in reducing difficulty after controlling SES ( $R^2$  change = .131). According to the results, overprotective parenting practices were detected as the sole significant predictor of the reducing difficulty scaffolding behaviours ( $B = .127$ ,  $\beta = .326$ ,  $p < .001$ , 95% CI [.053, .201]) (see Table 11). That is, as parents show overprotective parenting practices, they ease the task demands for their children accordingly, as it was hypothesised in the related aspect of H1.3.

Table 11. Hierarchical multiple regression analysis for parenting styles variables predicting reducing difficulty

| Models                         | Predictors               | Unstandardised Coefficient |      | Standardised Coefficient |       | $\Delta R^2$ | $F$   | $p$   | $\Delta R^2$<br>Change |
|--------------------------------|--------------------------|----------------------------|------|--------------------------|-------|--------------|-------|-------|------------------------|
|                                |                          | $B$                        | $SE$ | $\beta$                  | $p$   |              |       |       |                        |
| Reducing Difficulty<br>Model 1 |                          |                            |      |                          |       | .016         | 2.109 | .149  |                        |
|                                | SES                      | -.172                      | .119 | -.128                    | .149  |              |       |       |                        |
| Model 2                        |                          |                            |      |                          |       | .147         | 6.334 | <.001 | .131                   |
|                                | SES                      | -.005                      | .118 | -.003                    | .969  |              |       |       |                        |
|                                | Authoritative Parenting  | .056                       | .033 | .158                     | .092  |              |       |       |                        |
|                                | Authoritarian Parenting  | .035                       | .051 | .068                     | .496  |              |       |       |                        |
|                                | Overprotective Parenting | .127                       | .037 | .326                     | <.001 |              |       |       |                        |

The impact of parenting styles on autonomy for learning was examined through the hierarchical multiple regression model. SES was entered into the first block. The first model was not statistically significant,  $p > .05$ . In the second block, three parenting styles entered the model, explaining 19% of the variance in autonomy for learning,  $F(3,124) = 9.414$ ,  $p < .001$ . Three parenting styles significantly predicted 19% of the variance, after controlling SES ( $R^2$  change = .185). Results revealed that authoritative parenting was the only statistically significant predictor of autonomy for learning scaffolds ( $B = .115$ ,  $\beta = .400$ ,  $p < .001$ , 95% CI [.063, .166]) (see Table 12). This means that parents with authoritative practices are more likely to provide autonomy to their children to sustain the tasks by themselves, which is parallel with the related aspect of H1.1.

Table 12. Hierarchical multiple regression analysis for parenting styles variables predicting autonomy for learning

| Models                        | Predictors               | Unstandardised Coefficient |      | Standardised Coefficient |       | $\Delta R^2$ | $F$   | $p$   | $\Delta R^2$ Change |
|-------------------------------|--------------------------|----------------------------|------|--------------------------|-------|--------------|-------|-------|---------------------|
|                               |                          | $B$                        | $SE$ | $\beta$                  | $p$   |              |       |       |                     |
| Autonomy for Learning Model 1 |                          |                            |      |                          |       | .005         | .617  | .434  |                     |
|                               | SES                      | -.075                      | .096 | -.070                    | .434  |              |       |       |                     |
| Model 2                       |                          |                            |      |                          |       | .189         | 9.414 | <.001 | .185                |
|                               | SES                      | -.033                      | .093 | -.030                    | .727  |              |       |       |                     |
|                               | Authoritative Parenting  | .115                       | .026 | .400                     | <.001 |              |       |       |                     |
|                               | Authoritarian Parenting  | -.027                      | .040 | -.065                    | .505  |              |       |       |                     |
|                               | Overprotective Parenting | .015                       | .029 | .047                     | .615  |              |       |       |                     |

### 7.3. Second Research Question

*“How do different types of parenting styles relate to the subcategories of instrumental lie-telling practices?”*

Three hierarchical multiple regression analyses were conducted to assess the impact of parenting practices on parenting by lying subdomains after controlling for the effect of SES ( $N = 129$ ). For each of the three hierarchical multiple regression analyses, the multicollinearity assumption was controlled by Tolerance and Variance inflation factor (VIF) values for each model, and no multicollinearity was indicated. Furthermore, Cook’s distances were checked for each model in all analyses, and no violation was detected.

The impacts of parenting styles on positive affect lies were examined through the hierarchical multiple regression analysis. SES was entered into the first block. The first model was not statistically significant,  $p > .05$ . After the entry of three parenting styles to the second step, the model explained 13% of the variance in positive affect

lies,  $F(3,124) = 5.716, p < .001$ . Three parenting styles significantly predicted an additional 12% of the variance after controlling SES ( $R^2$  change = .120). Results demonstrated only overprotective parenting predicted the use of positive affect lies significantly ( $B = .215, \beta = .280, p < .01, 95\% \text{ CI } [.067, .362]$ ) (see Table 13). The result implies that parents with overprotective practices show the tendency to use positive affect lies to their children to make them feel better. This result supported the H2.3 element associated with this parenting by lying subcategory.

Table 13. Hierarchical multiple regression analysis for parenting styles variables predicting positive affect lies

| Models               | Predictors               | Unstandardised Coefficient |      | Standardised Coefficient |      | $\Delta R^2$ | $F$   | $p$   | $\Delta R^2$<br>Change |
|----------------------|--------------------------|----------------------------|------|--------------------------|------|--------------|-------|-------|------------------------|
|                      |                          | $B$                        | $SE$ | $\beta$                  | $p$  |              |       |       |                        |
| Positive Affect Lies |                          |                            |      |                          |      |              |       |       |                        |
| Model 1              |                          |                            |      |                          |      | .009         | 1.133 | .289  |                        |
|                      | SES                      | -.250                      | .235 | -.094                    | .289 |              |       |       |                        |
| Model 2              |                          |                            |      |                          |      | .129         | 5.716 | <.001 | .120                   |
|                      | SES                      | .053                       | .236 | .020                     | .823 |              |       |       |                        |
|                      | Authoritative Parenting  | .082                       | .066 | .117                     | .217 |              |       |       |                        |
|                      | Authoritarian Parenting  | .149                       | .101 | .149                     | .143 |              |       |       |                        |
|                      | Overprotective Parenting | .215                       | .075 | .280                     | .005 |              |       |       |                        |

The effects of parenting practices on the use of lies about resources were examined through the hierarchical multiple regression analysis. SES was entered into the first block. The first model was not statistically significant,  $p > .05$ . The three parenting styles entered into the second block, and the model explained 19% of the variance in lies about resources,  $F(3,124) = 9.233, p < .001$ . Three parenting styles significantly predicted an additional 18% of the variance after controlling SES ( $R^2$  change = .181). Results demonstrated that only authoritarian parenting predicted lies about resources

significantly ( $B = .348, \beta = .349, p < .001, 95\% \text{ CI } [.155, .541]$ ). Other parenting practices did not account for the variance in lies about resources,  $p > .05$  (see Table 14). Contrary to the aspect of H2.2 associated with this type of instrumental lie-telling, parents implying more authoritarian practices were found to use lying about resources to curb any negative feelings the situation may cause for their children. Thus, none of the study hypotheses were supported statistically.

Table 14. Hierarchical multiple regression analysis for parenting styles variables predicting lies about resources

| Models               | Predictors               | Unstandardised Coefficient |      | Standardised Coefficient |       | $\Delta R^2$ | $F$   | $p$   | $\Delta R^2$<br>Change |
|----------------------|--------------------------|----------------------------|------|--------------------------|-------|--------------|-------|-------|------------------------|
|                      |                          | $B$                        | $SE$ | $\beta$                  | $p$   |              |       |       |                        |
| Lies about Resources |                          |                            |      |                          |       |              |       |       |                        |
| Model 1              |                          |                            |      |                          |       | .009         | 1.124 | .291  |                        |
|                      | SES                      | -.249                      | .235 | -.094                    | .291  |              |       |       |                        |
| Model 2              |                          |                            |      |                          |       | .190         | 9.233 | <.001 | .181                   |
|                      | SES                      | -.045                      | .228 | -.017                    | .844  |              |       |       |                        |
|                      | Authoritative Parenting  | -.017                      | .064 | -.025                    | .786  |              |       |       |                        |
|                      | Authoritarian Parenting  | .348                       | .097 | <b>.349</b>              | <.001 |              |       |       |                        |
|                      | Overprotective Parenting | .108                       | .072 | .140                     | .137  |              |       |       |                        |

The impacts of parenting styles on threat lies were examined through the hierarchical multiple regression analysis. SES was entered into the first block. The model was not statistically significant,  $p > .05$ . After the entry of three parenting styles to the second block, the model explained 35% of the variance in threatening lies,  $F(3,124) = 20.771, p < .001$ . Three parenting styles significantly predicted an additional 33% of the variance after controlling SES ( $R^2$  change = .329). Results revealed that authoritarian and overprotective parenting practices predicted the use of threat lies significantly, with a higher  $\beta$  value for authoritarian parenting ( $B = .308, \beta = .477, p$

< .001, 95% CI [.196, .421]) than overprotective parenting ( $B = .114, \beta = .230, p < .01$ , 95% CI [.031, .198]) (see Table 15). Last, however, authoritative parenting did not significantly predict the less use of threat lies,  $p > .05$ , meaning that the H2.1 was not supported statistically. As a result, parents with authoritarian and overprotective styles were found to be associated with the increased use of threat lies, which is aligned with the parts of H2.2 and H2.3 related to the threat lies subcategory.

Table 15. Hierarchical multiple regression analysis for parenting styles variables predicting threat lies

| Models                 | Predictors               | Unstandardised Coefficient |      | Standardised Coefficient |       | $\Delta R^2$ | $F$    | $p$   | $\Delta R^2$<br>Change |
|------------------------|--------------------------|----------------------------|------|--------------------------|-------|--------------|--------|-------|------------------------|
|                        |                          | $B$                        | $SE$ | $\beta$                  | $p$   |              |        |       |                        |
| Threat Lies<br>Model 1 |                          |                            |      |                          |       | .017         | 2.242  | .137  |                        |
|                        | SES                      | -.227                      | .152 | -.132                    | .137  |              |        |       |                        |
| Model 2                |                          |                            |      |                          |       | .346         | 20.771 | <.001 | .329                   |
|                        | SES                      | -.012                      | .133 | -.007                    | .926  |              |        |       |                        |
|                        | Authoritative Parenting  | .029                       | .037 | .064                     | .430  |              |        |       |                        |
|                        | Authoritarian Parenting  | .308                       | .057 | .477                     | <.001 |              |        |       |                        |
|                        | Overprotective Parenting | .114                       | .042 | .230                     | .007  |              |        |       |                        |

#### 7.4. Third Research Question

*“Are there any relationships between the subcategories of parental scaffolding and parenting by lying practices as two aspects of parenting?”*

Correlation analyses were conducted to investigate the relationships between the epistemic and interpersonal aspects of social learning within the parenting framework, as defined by scaffolding (i.e., task persistence, responsive teaching, reducing difficulty, and autonomy for learning) and instrumental lie-telling practices (i.e., positive affect lies, lies about resources, and threat lies) in the present study ( $N$

= 148). Results revealed no significant association between most parental scaffolding and parenting by lying subdomains,  $p > .05$ . The only significant association was found between task persistence and positive affect lies,  $r = .262$ ,  $p < .01$  (see Table 16). This finding suggests that parents who provide learning support for task persistence to their children also employ positive affect lies to protect their children's feelings. Consequently, H3 was generally not supported.

### 7.5. Additional Analyses

Primarily, regarding SES, it was found that there are significantly negative associations between the parents' socioeconomic background and their use of threat lies and overprotective parenting practices ( $r = -.203$ ,  $p < .05$ ,  $r = -.325$ ,  $p < .01$ , respectively) (see Table 16).

In addition, there was a negative relationship between receiving childcare support and providing responsive teaching scaffolds ( $r = -.181$ ,  $p < .05$ ) (see Table 17), meaning that in the presence of other(s) to share child-rearing roles, parents demonstrate the less instructive manner of scaffolding. This could be linked to the distributed responsibilities of tutors for actively guiding the children's learning experiences.

Last, it seems necessary to stress the association between SES and parental scaffolding. Even though the relationships were not significant, there was a consistent pattern showing negative associations between SES and scaffolding scores on the PSCL ( $r = -.117$  for task persistence,  $r = -.114$  for responsive teaching,  $r = -.141$  for reducing difficulty, and  $r = -.021$  for autonomy for learning) (see Table 17).

Table 16. Correlations between child variables and the PSCL, Lie-telling, PAS subscales

| Variables                    | 1     | 2     | 3              | 4             | 5             | 6             | 7      | 8             | 9             | 10            | 11      | 12            | 13 |
|------------------------------|-------|-------|----------------|---------------|---------------|---------------|--------|---------------|---------------|---------------|---------|---------------|----|
| 1. Child Age                 | -     |       |                |               |               |               |        |               |               |               |         |               |    |
| 2. Child Gender              | .205* | -     |                |               |               |               |        |               |               |               |         |               |    |
| 3. SES                       | .084  | -.076 | -              |               |               |               |        |               |               |               |         |               |    |
| 4. Task Persistence          | .072  | -.007 | -.117          | -             |               |               |        |               |               |               |         |               |    |
| 5. Responsive Teaching       | -.017 | .032  | -.114          | <b>.704*</b>  | -             |               |        |               |               |               |         |               |    |
| 6. Reducing Task Difficulty  | -.130 | .109  | -.141          | <b>.431**</b> | <b>.400**</b> | -             |        |               |               |               |         |               |    |
| 7. Autonomy for Learning     | .102  | .078  | -.021          | <b>.302**</b> | <b>.267**</b> | .023          | -      |               |               |               |         |               |    |
| 8. Positive Affect Lies      | -.040 | .097  | -.083          | <b>.262**</b> | .153          | .159          | .025   | -             |               |               |         |               |    |
| 9. Lies about Resources      | -.015 | .112  | -.111          | .129          | .094          | .094          | -.082  | <b>.482**</b> | -             |               |         |               |    |
| 10. Threat Lies              | -.117 | .063  | <b>-.203*</b>  | .109          | .037          | .140          | -.124  | <b>.361**</b> | <b>.425**</b> | -             |         |               |    |
| 11. Authoritative Parenting  | .123  | .001  | -.075          | .592*         | .585*         | .136          | .430*  | .059          | -.161         | -.123         | -       |               |    |
| 12. Authoritarian Parenting  | .012  | .013  | -.094          | -.077         | -.049         | .130          | -.206* | .208*         | .415**        | .540**        | -.405** | -             |    |
| 13. Overprotective Parenting | .074  | .085  | <b>-.325**</b> | <b>.323**</b> | .221*         | <b>.356**</b> | .039   | <b>.333**</b> | <b>.279**</b> | <b>.416**</b> | .019    | <b>.384**</b> | -  |

*Note.* \* $p < .05$ , \*\* $p < .01$

Table 17. Correlations between demographic variables and the PSCL, Lie-telling, PAS subscales

| Variables                                           | 1      | 2      | 3     | 4     | 5             | 6     | 7      | 8      | 9    | 10 |
|-----------------------------------------------------|--------|--------|-------|-------|---------------|-------|--------|--------|------|----|
| 1. SES                                              | -      |        |       |       |               |       |        |        |      |    |
| 2. Mother's Age                                     | .425** | -      |       |       |               |       |        |        |      |    |
| 3. Marital Status                                   | -.186* | .115*  | -     |       |               |       |        |        |      |    |
| 4. Where the Participants Lived Most of Their Lives | .155   | -.196* | .023  | -     |               |       |        |        |      |    |
| 5. Receiving Childcare Support                      | -.096  | .126   | .029  | -.108 | -             |       |        |        |      |    |
| 6. Household Number                                 | -.153  | .061   | -.158 | .021  | .034          | -     |        |        |      |    |
| 7. Task Persistence                                 | -.117  | -.116  | .055  | .035  | -.037         | -.076 | -      |        |      |    |
| 8. Responsive Teaching                              | -.114  | -.131  | -.141 | .125  | <b>-.181*</b> | -.081 | .704** | -      |      |    |
| 9. Reducing Task Difficulty                         | -.141  | .057   | .046  | .066  | -.072         | .021  | .431** | .400** | -    |    |
| 10. Autonomy for Learning                           | -.021  | -.074  | .006  | .039  | -.009         | .049  | .302** | .267** | .023 | -  |
| <i>Note. *p &lt; .05, **p &lt; .01</i>              |        |        |       |       |               |       |        |        |      |    |

## CHAPTER VIII

### DISCUSSION II

The present study aimed to examine the relationships between parenting dimensions, namely child-rearing practices, scaffolding, and lie-telling practices. The study findings demonstrated that different parenting styles are associated with different types of parental scaffolding and lying behaviours. However, contrary to expectations, the research did not support overall interrelations between parental scaffolding and lie-telling variables.

#### 8.1. The Role of Parenting Styles in Parental Scaffolding

The current study findings showed that authoritative parenting predicted parents' learning support in terms of their children showing task persistence. Presumably, this aspect of scaffolding is linked to the high warmth dimension of authoritative parenting (Cowan et al., 2005). Moreover, supporting task persistence includes the provision of emotional support, such as encouragement or praise (Neitzel & Stright, 2003). This adult assistance, in turn, helps children to start and maintain tasks. The results posit that parents with an authoritative orientation are likely to successfully motivate and assist their children when they need emotional support to progress.

Responsive teaching, as another aspect of scaffolding, was defined as parents' ability to contingently guide their children in the case of need and facilitate their understanding of the task or subjects (e.g., providing feedback after the task is completed). This aspect of scaffolding emphasised the active agency of parents as

tutors, meaning they are often involved in contingent support to make children progress by providing necessary adjustments. In addition, the responsive teaching subscale items were mainly related to the provision of knowledge to the children, which is linked with another salient component of authoritative parenting in terms of the high prevalence of explanation and verbal exchange (Baumrind, 1971; Bayındır & Cengiz, 2023). Accordingly, authoritative parenting is a crucial factor in constructing the understanding of tasks with children learning in the current study.

Granting autonomy to children is fundamentally related to the appreciation of the children's capability to learn by themselves. This appreciation is also reflected in authoritative parenting (Baumrind, 2012; Cowan et al., 2005). This being the case, the authoritative parenting style was expected to predict the provision of this type of scaffolding (see Table 6), as the study findings supported.

On the other hand, however, the results showed that authoritative parenting did not significantly predict the reducing difficulty aspect of scaffolding. It is plausible to interpret this result as parents demonstrating authoritative practices might want their children to manage to progress on a challenging task by their own personal effort instead of easing the demand for them. This is related to their parenting properties that support the children's agency for learning through self-exploratory behaviours.

The results indicated that overprotective parenting practices predicted a significant increase in the parents' *task persistence* learning support. Given that overprotective parenting is characterised by warmth and sensitivity towards the child's needs (Cowan et al., 2005), it is reasonable that they provide emotional support to the child

during learning. Furthermore, overprotective parenting significantly predicted parents' interventions aiming to reduce task difficulty for the child. This seems closely linked to their excessively intrusive behaviours (Biringen et al., 2000) in terms of blocking the child's efforts to deal with the difficulties without external help.

Overprotective parenting was expected to be associated with preventing children from completing the tasks, aligning with limited appreciation of the children's active role in their learning and competence to progress on the tasks without their help. The results did not support this prediction. Nevertheless, the profile represented by the current sample was predominantly authoritative parenting style, meaning the other two parenting practices were relatively less applied in parents' child-rearing. This being so, it is plausible not to see the intrusive impacts of the overprotective orientation on autonomy-granting scaffolding practices.

The findings did not support predictions regarding authoritarian parenting's impact on scaffolding behaviours. One of the main reasons behind this might be that the data was recruited from one sample without any classification between the participants based on the scores they received from the subcategories of parenting styles. That is to say, the same parents' scores were assessed to examine the present study's research questions. The authoritarian parenting scores of the sample were considerably lower than other types of parenting styles, implying that the authoritarian scores were represented by the parents who showed more authoritative and overprotective practices. This being so, authoritarian parenting style scores may

be insufficient to demonstrate this parenting style's impacts on scaffolding functions with the present sample.

## 8.2. The Role of Parenting Styles in Parenting by Lying

According to the findings, overprotective parenting explained a significant increase in applying positive affect lies. This result aligned with Allen and Kara's (2023) study results, interpreted as parents' overprotective practices being relatable to protect their children from any stress sources. That is to say, parents' overprotective behaviours appeared to be linked to the frequent use of deceptive statements that include the intention of making the child feel better and preventing them from experiencing negative feelings by hiding the truth instead of telling it.

Furthermore, the results showed that as authoritarian and overprotective practices become prominent in parenting, the use of threat lies increases, which aligns with the prior research (see Allen & Kara, 2023). Authoritarian parenting is characterised by coercive power, including threatening tendencies (Baumrind, 2012), which was displayed through the use of threat lies in the current research. In addition, this finding pointed out a plausible relationship between the need to apply threat lies in everyday life and the increased level of anxiety reflected through overprotective parenting practices (Moreira et al., 2021), both aiming to control children's emotions and behaviours, as predicted (see Table 7).

Although the association between autonomy for learning and other subscales was nonsignificant in Study 1 (see Table 5), Study 2 results revealed a critical change in interrelations between the PSCL subscales. That is, autonomy for learning

subcategory was associated with task persistence and reducing difficulty (see Table 16). This finding highlighted the sensitivity of collecting data from different samples and its impact on the results.

### 8.3. Relationships between Epistemic and Interpersonal Aspects of Parenting

According to the results, epistemic and interpersonal domains of parenting did not display strong associations. One of the reasons behind this could be that the interrelated association between epistemic and interpersonal aspects of parenting was not examined within the outcomes of children's social learning experiences in the current research, as a critical difference from Koenig et al.'s argument (2019; 2022). Therefore, Koenig et al.'s theory (2019; 2022) may not be generalised to the coherence of parental factors within the social learning framework, or future research is needed to elaborate further.

On the other hand, there was a relationship between task persistence and positive affect lies, both aiming to elevate positive feelings and prevent any frustration children may experience. In light of this result, the relationship between epistemic and interpersonal social learning variables might cluster based on more specific sharing grounds beyond merely being a social learning component.

### 8.4. The Interpretation of Socioeconomic Background with Other Variables

Although the relationships between SES and scaffolding functions were nonsignificant, a constant pattern was detected (i.e. as SES increased, scaffolding behaviours decreased). It seems plausible to discuss the possibility that as parents' education and income levels increase, they may find additional support systems, such

as institutions, for sharing child-rearing responsibility. In this regard, it might result in fewer interactions with their children and, in turn, a reduced prevalence of learning support. However, these interpretations require more comprehensive testing in future studies.

Furthermore, even though the SES impact was nonsignificant in relation to the epistemic and interpersonal aspects of social learning, it showed some significant associations with the parents' use of threat lies and overprotective parenting practices. Considering the homogeneity of the current study sample, predominantly consisting of participants from the upper-middle class, it shows a promising way to investigate these relationships further in more heterogeneous samples.

#### 8.5. Limitations and Future Directions

The current study was subject to certain constraints. First, the PSCL was developed to identify the type and prevalence of scaffolding functions parents provide in child-rearing practices during their children's preschool development. The scores obtained from this scale might reflect general information about parents' scaffolding practices rather than elucidating the nuances within dynamic, real-time learning interactions between the parent-child dyads. Therefore, it is crucial to validate the obtained results through an observational study. This will allow us to determine the extent to which the scale results, including parents' self-evaluations of their scaffolding practices, accurately reflect the actual scaffolding behaviours that they provide to their children in immediate contexts.

Another limitation of this research is that all of the data were collected through self-report measures, which may be subject to social desirability concerns. Even though anonymity was assured in the study, parents may have answered the questions with the impact of reflecting more socially approved profiles. Since lie-telling is less (if it is not) morally acceptable (see Heyman et al., 2009), this influence could be especially increased in the answers for the Instrumental Lie-telling Scale. Conducting research that includes both observational and quantitative measurements to assess scaffolding behaviours will also provide a comparison opportunity to uncover the degree to which scale results are subjected to the social desirability issue.

In addition, it is essential to emphasise that there are various individual differences among parents, which in the present study were limited to parenting styles. Other factors, such as attachment relationships and parents' personality traits, may mediate scaffolding interactions within everyday life (Meins, 1997; Mermelshtine, 2017). Similarly, parental preferences for using scaffolding functions within learning interactions could be influenced by individual child factors, such as cognitive abilities, receptive language skills and motivation for learning. Furthermore, parents' preferences for granting autonomy within learning experiences may be influenced by children's personal history. For instance, the child's health problems (e.g., chronic illness) or tendency toward impulsive behaviours may make the child more vulnerable to environmental threats; consequently, this might increase the intrusive behaviours of the caregiver to protect the child from potential risks. These individual differences could be addressed in future research, which will help to illuminate the underlying dynamics shaping parental scaffolding practices.

The prevalence and type of scaffolds parents provide may also vary according to children's birth order. Caregivers might adjust their scaffolding strategies throughout their parenting experiences, such as granting more autonomy to the second child than the first. Although these considerations exceed the scope of the current study, further iterations to improve the scaffolding scale could be done to capture better the particular individual differences of both parents and children, thereby increasing its sensitivity and comprehensiveness.

To reiterate, the PSCL aims to provide a general pattern of scaffolding strategies within everyday interactions. It requires further investigations of the other substantial components of the scaffolding phenomenon, such as "*structuring situation*" (Rogoff, 1986, as cited in Tharp & Gallimore, 1998) and *task preference* based on its difficulty attuned accordingly to the child's current level.

Moreover, the sample size for performing CFA was relatively small ( $N = 153$ ) (see Boateng et al., 2018). An implication of the present study would be to increase the sample size to rerun CFA for the 22-item PSCL. This would allow us to obtain more reliable results about the scale structure. Another statistical concern was that Cronbach's  $\alpha$  value for the autonomy for learning subscale was .393, reporting a lower value than the acceptable criterion (i.e.,  $> .60$ ). Nevertheless, the subcategory was included in the study because of exploratory reasons.

The current study samples mainly consisted of individuals from middle to upper SES, with the fundamental differences between low and middle to upper SES not considered. For instance, the number of children in a family generally shows a

negative association with the SES; that is, parents from low SES typically have more children compared to parents with middle and high SES. Thus, it is important to note that the scale items can show different results in samples with different SES backgrounds. Additionally, it is recommended that the present study be replicated to test the validity and cultural sensitivity of the PSCL in other cultures (even in subcultures). The PSCL should be tested in father samples, too, since they represent a different sample.

The negative association between providing responsive teaching scaffolds and receiving childcare support (see Table 17) drew attention to other institutional support systems apart from individuals. That the child is enrolled in service might have an indirect impact on parenting practices by playing a role in childcare responsibilities. Mothers were asked if they receive childcare support from a person or persons, but they were not asked if the preschool child is enrolled in any institution (e.g., kindergarten) on the demographic form. Thus, future research could address this consideration to uncover the relationship between childcare support systems and parental scaffolding practices more comprehensively.

The present study results did not reveal any age effect in scaffolding levels between mothers with different age groups. However, given that the dynamic nature of scaffolding within each interaction is determined by multiple variables, such as contextual and individual factors, it is critical importance of conducting longitudinal research, including observational and quantitative approaches, to examine the changes in the provision of scaffolding throughout children's development. This

implication might also serve to uncover the long-term influences of scaffolding on child development (e.g., school success, Mattanah et al., 2005).

Last, the findings of the current study are expected to facilitate further investigations into the impact of parents on children's social learning, a fundamental factor in constructing their early understandings. Correspondingly, this may contribute to the development of social intervention programmes, such as caregiver training in specific parenting practices, aimed to enhance the provision of learning support to children and, in turn, foster their socio-cognitive development. This implication can be extended to vulnerable populations, such as those living in poverty (see Robinson et al., 2009), to mitigate the negative impacts of adversity on child development.

#### 8.6. Overall Contributions and Conclusion

The current study demonstrated notable relationships between three parenting domains (i.e., parenting styles, parental scaffolding and parenting by lying practices) examined as factors in cultural learning in early childhood. This overall result underscores the robust nature of the research area investigating the associations between different subdynamics of parenting that (presumed to) contribute to the child's acquisition of cultural affordances. Furthermore, the present study contributed to the literature by developing a quantitative measurement tool for assessing parental scaffolding in daily life contexts. This endeavour will pave the way for understanding scaffolding beyond observational settings and enable researchers to reach larger sample sizes.

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# APPENDIX

## CONFIRMATORY FACTOR ANALYSIS RESULTS OF THE 22- ITEM PSCL

Table 18. Confirmatory factor analysis for task persistence

|                | <i>L</i> | $\lambda$ | <i>SE</i> | <i>z</i> |
|----------------|----------|-----------|-----------|----------|
| <b>Item 2</b>  | .430     | .751      | .047      | 9.130*   |
| <b>Item 10</b> | .379     | .499      | .066      | 5.710*   |
| <b>Item 11</b> | .366     | .593      | .052      | 7.000*   |
| <b>Item 21</b> | .459     | .652      | .059      | 7.850*   |
| <b>Item 26</b> | .349     | .515      | .060      | 5.840*   |
| <b>Item 27</b> | .338     | .393      | .077      | 4.390*   |
| <b>Item 35</b> | .258     | .334      | .071      | 3.660*   |

Note. *L*: Unstandardized Factor Loading,  $\lambda$ : Standardized Factor Loading, *SE*: Standard Error

\* $p < .001$

Table 19. Confirmatory factor analysis for responsive teaching

|                | <i>L</i> | $\lambda$ | <i>SE</i> | <i>z</i> |
|----------------|----------|-----------|-----------|----------|
| <b>Item 1</b>  | .508     | .574      | .079      | 6.470*   |
| <b>Item 6</b>  | .447     | .612      | .064      | 6.970*   |
| <b>Item 15</b> | .425     | .456      | .085      | 5.010*   |
| <b>Item 25</b> | .350     | .470      | .067      | 5.200*   |
| <b>Item 29</b> | .412     | .605      | .060      | 6.880*   |
| <b>Item 31</b> | .370     | .395      | .086      | 4.280*   |
| <b>Item 36</b> | .379     | .468      | .073      | 5.170*   |

Note. *L*: Unstandardized Factor Loading,  $\lambda$ : Standardized Factor Loading, *SE*: Standard Error

\* $p < .001$

Table 20. Confirmatory factor analysis for reducing difficulty

|                 | <i>L</i> | $\lambda$ | <i>SE</i> | <i>z</i> |
|-----------------|----------|-----------|-----------|----------|
| <b>Item 13*</b> | .450     | .534      | .074      | 6.100*   |
| <b>Item 22</b>  | .393     | .556      | .060      | 6.610*   |
| <b>Item 24</b>  | .711     | .817      | .073      | 9.760*   |
| <b>Item 38</b>  | .620     | .680      | .077      | 8.110*   |

Note. *L*: Unstandardized Factor Loading,  $\lambda$ : Standardized Factor Loading, *SE*: Standard Error

\* $p < .001$

Table 21. Confirmatory factor analysis for autonomy for learning

|                  | <i>L</i> | $\lambda$ | <i>SE</i> | <i>z</i> |
|------------------|----------|-----------|-----------|----------|
| <b>Item 14</b>   | .252     | .269      | .126      | 2.000*   |
| <b>Item 18</b>   | .171     | .247      | .077      | 2.230*   |
| <b>Item 32</b>   | .513     | .698      | .190      | 2.700**  |
| <b>Item 42**</b> | .316     | .342      | .151      | 2.100*   |

Note. *L*: Unstandardized Factor Loading,  $\lambda$ : Standardized Factor Loading, *SE*: Standard Error

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