



# What kind of parenting promotes 0-3-year-olds' development?

A review of research evidence in  
international and China-specific  
literature

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*June 2021, UCL Institute of Education*



**Publication details:** UCL Institute of Education, London.

**Date:** 2021

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### **Acknowledgements**

We would like to thank Dr. Bernardita Munoz Chereau and Prof. Gemma Moss for peer-reviewing this report and providing us with very constructive comments and suggestions, which have helped us refine this report.

## Contents

<b>EXECUTIVE SUMMARY</b> .....	<b>4</b>
BACKGROUND .....	4
REVIEW FOCUS AND METHODOLOGY .....	4
MAIN FINDINGS .....	5
RECOMMENDATIONS FOR EMPIRICAL RESEARCH .....	6
RECOMMENDATIONS FOR PARENTS AND FAMILY SUPPORT PROFESSIONALS .....	7
<b>1. INTRODUCTION</b> .....	<b>8</b>
<b>2. METHODOLOGY</b> .....	<b>10</b>
2.1 LITERATURE SEARCH .....	10
2.2 INCLUSION AND EXCLUSION CRITERIA .....	10
2.3 STUDY SELECTION AND QUALITY ASSESSMENT .....	11
2.4 DATA EXTRACTION AND SYNTHESIS .....	12
<b>3. FINDINGS</b> .....	<b>15</b>
3.1 SUMMARIES OF THE INCLUDED STUDIES .....	15
3.2 RESEARCH QUESTION 1: ASPECTS OF PARENTING AND CHILD DEVELOPMENT .....	15
3.2.1 <i>Aspects of parenting under investigation</i> .....	15
<i>Parental perceptions</i> .....	16
<i>Parenting styles</i> .....	16
<i>Parenting behaviours</i> .....	17
<i>Parenting practice</i> .....	18
3.2.2 <i>Aspects of child development under investigation</i> .....	19
<i>Physical development</i> .....	19
<i>Behavioural development</i> .....	20
<i>Cognitive development</i> .....	20
<i>Socioemotional development</i> .....	20
3.3 RESEARCH QUESTION 2: ASSOCIATIONS BETWEEN PARENTING AND CHILD DEVELOPMENT .....	21
3.3.1 <i>Parenting styles and child development</i> .....	22
3.3.2 <i>Parenting behaviours and child development</i> .....	22
3.3.3 <i>Parenting practice and child development</i> .....	23
<b>4. DISCUSSION</b> .....	<b>28</b>
4.1 RESEARCH GAPS AND METHODOLOGICAL CHALLENGES .....	28
4.2 RECOMMENDATIONS FOR PARENTS AND FAMILY SUPPORT PROFESSIONALS .....	31
4.3 LIMITATIONS OF THIS EVIDENCE REVIEW .....	32
<b>5. CONCLUSION</b> .....	<b>34</b>
<b>6. REFERENCE</b> .....	<b>38</b>
<b>7. APPENDIX</b> .....	<b>44</b>
<i>Table 2.2a Quality assessment of the included international literature reviews and meta-analyses</i> .....	44
<i>Table 2.2b Quality assessment of the included empirical research in Chinese contexts</i> .....	49
<i>Table 3.1 Summaries of the included international literature reviews and meta-analyses</i> .....	51
<i>Table 3.2 Summaries of included empirical research in Chinese contexts</i> .....	67

## Executive summary

### Background

This report presents a synthesis of up-to-date research evidence reviewed by UCL Centre for Teacher and Early Years Education. It focuses on the relationships between parenting and children's development in early childhood (with a focus on 0-3 years period). Through the present evidence review, we seek to help Chinese parents and family support professionals to make better use of the available research evidence to guide parenting practice to promote children's development during the critical first 1000 days of life, which witness the most remarkable development and growth in children. In China, currently, the care and education of children under three years old are mainly taking place within the family, which highlights the urgency and importance to support Chinese parents and other family members to fulfil their responsibilities in caring for and educating young children. Furthermore, the Covid-19 pandemic has put a spotlight on parental involvement in children's care and education, which leads to increasing interests and a greater need to gain a better understanding of the role that parents play in children's development. This report serves as a timely response to the needs of Chinese parents with young children and the family support professionals working with these parents.

### Review focus and methodology

This review focuses on research evidence concerning the relationships between parenting and young children's development. We conducted literature searches through seven bibliographic databases (ProQuest Central, IBSS, ERIC, East & South Asia Database, PRISMA Database, PsycINFO, and Coronavirus Research Database) in August 2020 for two sets of literature: (i) recent literature reviews and meta-analyses on the aforementioned relationships in international contexts (published in the past ten years, 2010-2020); and (ii) recent empirical research on the aforementioned relationships in Chinese contexts (published in the past ten years, 2010-2020). The purpose of reviewing the international literature reviews and meta-analyses is to generate an overview of the existing research on the focused relationships in global contexts, whilst the second set of literature can be more readily used to support Chinese parents in caring and educating children under three years old. By synthesising the findings of the two sets of literature, we aim to explore the complexities surrounding the question of what kind of parenting promotes or hinders young children's development.

Our literature searches generated 2976 and 740 records before screening, respectively (see Figure 2.1 & 2.2 for the detailed number of records in each database). A set of inclusion and exclusion criteria were adopted in the screening of literature as benchmarks of relevance and quality (see Table 2.1). After the screening process, there were 149 international literature reviews/meta-analyses and 66 China-specific empirical research papers remaining for the subsequent full-text screening and quality assessment.

The assessment of the full-text articles was informed by the four dimensional framework of Pascal, Bertram and Peckham (2018). Studies that demonstrate sound quality in all four dimensions were included for data extraction and finding synthesis. As a result, thirty-eight

international literature reviews/meta-analyses and ten China-specific empirical research papers are included in this report (see Table 3.1 and 3.2 for summaries).

A thematic approach (Pascal, Bertram, & Rouse, 2019) was adopted to code the findings of included studies in relation to the research questions. The final themes with corresponding sub-themes were used to address the following two research questions:

1. What aspects of parenting are under investigation in association with young children's development?
2. What are the associations between parenting and 0-3-year-old children's development in different contexts?

## Main findings

The synthesis of the two sets of literature has demonstrated that a wide range of parenting constructs have been investigated in relation to different aspects of young children's physical, behavioural, cognitive and socioemotional development (see Section 3.2 for details). The parenting constructs under investigation can be classified into four categories, namely, parental perceptions, parenting styles, parenting behaviours and parenting practice.

While the importance of parental perceptions is to a certain extent recognised in research, the evidence mainly pertains to the indirect relationships between parental perceptions and children's development with parenting styles/behaviours/practice serving as in-between mediators (e.g., Fraser *et al.*, 2011; Hesketh *et al.*, 2017).

Meanwhile, research on associations between parenting styles and child development has generated considerably mixed evidence (e.g., Lindsay *et al.*, 2017; Pavarini *et al.*, 2013; Blaine *et al.*, 2017), suggesting that it is time for parenting research to go beyond general parenting styles and take a more nuanced approach in the investigation of parenting and children's development (Smetana, 2017).

In contrast, the research evidence regarding associations between parenting behaviours (e.g., parental warmth and parental control) and children's development is relatively more consistent across contexts (e.g., Pinquart, 2014; Valcan *et al.*, 2018), albeit some evidence suggesting cultural differences exist in terms of how parental warmth and control are perceived, which may lead to variation in the relationships across different cultures (Cui *et al.*, 2018).

Likewise, some international review studies have reported relatively consistent research evidence regarding the associations between parenting practice and children's development (e.g., Avila *et al.*, 2015; Ban *et al.*, 2017; Hooley *et al.*, 2012; Russell *et al.*, 2016), whereas others have demonstrated mixed evidence (e.g., Carneiro *et al.*, 2016; Kiff *et al.*, 2011; Jago *et al.*, 2013), suggesting that the associations are dependent on a number of factors, including research contexts, participant characteristics and how the parenting practice is defined and assessed in research. A more nuanced account of the associations between parenting constructs and child development is presented in Section 3.3 of this report. Therefore, we highlight the importance of contextualising parenting in future research, as well as in practical work with parents.

## Recommendations for empirical research

Based on the synthesis of research evidence, we have identified the following research gaps and methodological challenges in current research:

- Most of the participants in the parenting studies under review are mothers, whilst fathers are sometimes regarded as subsidiary carers, particularly during 0-3 year period.
- The majority of research evidence has been generated by correlational studies taking a quantitative approach, which may not be adequate in revealing the underlying mechanisms of and complexity in the associations between parenting and children's development.
- Research on 0-3-year-olds' cognitive and socioemotional development is relatively insufficient, compared to research on physical and behavioural development. This may be due to theoretical and methodological challenges in assessing cognitive and socio-emotional development in children under three years old.
- There is a lack of attention on 0-3-year-olds' own perspectives, which may be due to the theoretical and methodological barriers to 'listening to' (Clark, 2017) preverbal children.
- In the Chinese contexts, the associations between parenting and children's development during the 0-3-year period are understudied, which may be partly due to the difficulties in participant recruitment.

Accordingly, we propose the following recommendations for future empirical research on the associations between parenting and 0-3-year-olds' development in the Chinese contexts:

- adopting approaches rooted in paradigms that allow 'thick description' of the associations between parenting and young children's development (in addition to the general patterns that most of the current research focuses on)
- taking an interdisciplinary approach that enables researchers to interpret the associations from different perspectives
- drawing on theoretical frameworks that entail ecological and system dynamic elements to account for the multifaceted and interactive effects of individual and contextual factors
- emphasising the bi-directional and interactive effects between parents and young children
- regarding young children as active and agentic individuals who have the right to express their own views, which shall be heard, valued and acted on; therefore, developing innovative research methods to 'listen to' (Clark, 2017) 0-3-year-olds
- paying close attention to parent and child characteristics, particularly for families with special needs
- further developing theories and corresponding measurement to conceptualise and assess the different aspects of development for children aged 0-3 years old in the Chinese contexts
- tracking the development trajectories of children from birth (or even prenatal period) to an older age to explore the role of parents during life process

## Recommendations for parents and family support professionals

The findings of this evidence review highlight the importance of contextualising parenting to understand the complexity and underlying mechanisms of relationships between parenting and young children's development. Therefore, we suggest that parents and family support professionals should transform their question from '*what is good parenting?*' to a more contextualised question of '*what is the possible optimal parenting for this parent and this child?*'.

When drawing on research evidence, parents and family support professionals are advised to pay attention to the contexts in which the empirical research was situated and make connections to their own contexts. Whilst some of the widely-acknowledged general patterns of parenting effects are informative (see Section 3.3), when it comes to more specific parenting practices with individual children, we emphasise the importance of empowering parents to make contextualised judgments to their best knowledge of their children. While we understand that novice parents may seek general parenting principles and consider information on 'typical' childhood development useful, we believe it is crucial to stress that each child is unique, each parent is unique and each family is unique.

Hence, the key advice that we can offer to parents is to make contextualised judgments about parenting based on their best knowledge of their children through conscious observation during parent-child interaction with close attention paid to the nonverbal (and sometimes verbal) cues of their young children (Zeegers *et al.*, 2017). Parents can benefit from self-reflection on their interaction with children (Fonagy *et al.*, 1991; Slade, 2007), especially how their children respond to specific parenting practices in different situations.

Professional advice on parenting practice should be contextualised and based on a sound knowledge of the child and the family. Family support professionals should facilitate parents to build up confidence and explore the most suitable parenting practice for their children within their family. We highlight the uniqueness of each individual family to argue against standardisation in evaluating parenting practices in family support services and advocate a bespoke approach whenever possible.

Finally, we challenge the implicit presumption that fathers are subsidiary carers to mothers. We suggest that family support professionals should purposefully encourage and promote father involvement in the care and education of 0-3-year-olds (Shorey & Ang, 2019; Coates & Phares, 2019; Li, 2020). We recognise the potential differences between fathers and mothers in some aspects of parenting (Bariola *et al.*, 2011). However, we emphasise the importance and necessity to be mindful of gendered roles in parenting. Family support professionals should endeavour to promote gender equity and shared responsibilities in childcare between fathers and mothers.

To summarise our recommendations in an illustrative manner, we have created a poster (see the next page) to demonstrate the **Five 'Be'** for parents of children aged 0-3 years, namely, **be observant, be interactive, be reflective, be caring and be a 'family'**. Research findings underscore the key importance of empowering parents. Perfect parenting does not exist. Parents grow and develop together with their children. The ideal is to be a 'good enough' parent who embarks on a unique journey together with their children.



# What kind of parenting promotes 0-3-year-olds' development?

Empower parents to make  
contextualised judgments based on  
their understanding of their children  
as well as themselves

## Be observant

*Each child is unique*

How does your child respond to you?  
What is your child's temperament?  
If it doesn't work, try a different way.

## Be interactive

*Child enjoys interaction*

Touch, hold, have eye contact.  
Talk to your baby/toddler  
(they are listening!)  
Respond to their call for attention.

## Be a 'family'

*Parenting is not a one-  
person job*

Share responsibilities with each other.  
Join parent groups.  
Have quality time together.

## Be caring

*Not only care for your child, but  
also care for yourself*

How do you feel?  
Have time for yourself and your (other)  
loved ones.  
Don't hesitate to ask for help.

## Be reflective

*Each parent is unique*

How do you respond to your child?  
What is your need and trigger? Anything to  
do with your past experiences (as a child)?  
How can you do things differently?  
Regard parenting as a learning journey.



## 1. Introduction

The first 1000 days after birth witness the most remarkable development and growth in children. As babies grow into toddlers, their bodies and brains develop rapidly, so do their cognitive, social-emotional and behavioural functions. Their development requires rich nutrition, a stimulating environment and responsive interaction with carers. It is vital for adults to provide the best care they can to ensure the safety and well-being of children so that they can have a sound and promising start in life.

Thanks to the increasing government investment and efforts aimed at improving early childhood education and care, over the past three decades China has made impressive progress in decreasing infant mortality and enhancing young children's nutrition and health (Yue et al., 2016). Chinese parents of young children, especially those of middle class in urban areas, are actively engaged in what Hays (1996) described as 'intensive parenting', that is, "child-centred, expert-guided, emotionally absorbing, labour-intensive, and financially expensive" (p.8) forms of care (Hanser & Li, 2017). Yet, not all so-called 'expert-guided' parenting support is based on scientific evidence, let alone being tailored to the needs of contemporary Chinese parents with diverse backgrounds. In some extreme cases, misleading information and guidance from unqualified parenting support providers have led to sad tragedies. What Chinese parents urgently need is guidance and support which are informed by scientific research evidence. Therefore a synthesis of up-to-date research evidence on the associations between parenting and children's development in early childhood would be useful for exploring approaches to answer the question of under what circumstances, what kind of parenting promotes or hinders young children's development.

In order to help Chinese parents with children under three years old (as well as the family support professionals working with these parents) to make better use of the available research evidence, we conducted literature searches through seven bibliographic databases (*i.e.*, ProQuest Central, IBSS, ERIC, East & South Asia Database, PRISMA Database, PsycINFO, and Coronavirus Research Database) in August 2020 for two sets of literature.

The first set of literature is the recent literature reviews of the relationships between parenting and young children's development in international contexts (published in the past ten years, 2010-2020). The purpose of reviewing the existing literature reviews is to generate an overview of the current research on the associations between parenting and young children's development in global contexts. We adopted the approach of an umbrella review (as defined in Higgins *et al.*, 2019) which refers to synthesising the findings of existing literature reviews and meta-analyses of the research topic under investigation. In light of the importance of parenting in early years, there is globally an abundant amount of research investigating the impact of parenting on children's development, based on which, the existing literature reviews, with diverse foci, have synthesised the research evidence of various aspects of parenting and children's development across nations and cultures (*e.g.*, Amodia-Bidakowska *et al.*, 2020; Valcan *et al.*, 2018). Therefore, by conducting an umbrella review (Higgins *et al.*, 2019) of the existing literature reviews and meta-analyses, we can reach a wide range of international literature on parenting and young children's development in diverse contexts within a limited timeframe to obtain an overview of the field. These international literature reviews and meta-analyses not only include empirical

research conducted in Chinese contexts, but also aggregate research evidence generated in other contexts. The findings of this umbrella review can provide useful insights into the associations between parenting and young children's development in global contexts.

We understand that parenting is shaped by cultural and socioeconomic contexts, and the relationships between parenting and children's development are likely to differ across contexts (Cui *et al.*, 2017). Therefore, the second set of literature focuses on recent empirical research conducted in the Chinese contexts. Contemporary Chinese parents are facing different challenges in a rapidly changing society. Parents in urban areas often encounter the conflicts between 'traditional' (usually instructed by the elder generation) and 'modern' (usually imported from western countries) parenting ideologies and practices (Hanser & Li, 2017), whilst Chinese parents in rural areas usually face the dilemma and difficulties caused by rural-to-urban internal migration (Yue *et al.*, 2020). Keeping these specific contexts in mind, we consider it vital to look into recent parenting research conducted in the Chinese contexts, in addition to the aforementioned international literature reviews and meta-analyses. In the same vein, we do not restrict the aspects of parenting and children's development under investigation. Given that there is a very limited number of literature reviews and meta-analyses of Chinese parenting (*e.g.*, Li, 2020), we are not able to conduct an umbrella review (Higgins *et al.*, 2019). Instead, we directly synthesise the primary research evidence of recent empirical studies on parenting and young children's development in Chinese contexts. This enables us to gain insights into the research evidence that can be more readily used to inform Chinese parents in caring for and educating young children.

This report demonstrates the research evidence obtained from both literature searches (*i.e.*, international and China-specific literature). By analysing, comparing and integrating the findings of both literature searches, we seek to address the following research questions:

1. What aspects of parenting are under investigation in association with young children's development?
2. What are the associations between parenting and 0-3-year-old children's development in different contexts?

Guided by the above two research questions, we seek to synthesise the available research evidence in international and China-specific literature in order to help Chinese parents, as well as family support professionals, to make better use of the available research evidence to guide their parenting practice to support children's development during the first 1000 days after birth.

## 2. Methodology

### 2.1 Literature search

Seven bibliographic databases were searched for the two sets of literature (*i.e.*, international literature reviews and meta-analyses and empirical research in Chinese contexts), namely, ProQuest Central, IBSS, ERIC, East & South Asia Database, PRISMA Database, PsycINFO, and Coronavirus Research Database. Literature published in English and Chinese languages were searched for the targeted studies of this report.

As for the international literature reviews and meta-analyses of the relationships between parenting and young children's development, the following search term was used: "*parent\* OR parent\*-style OR parent\*-pattern OR parent\*-behavio\*\* AND young-child\* OR early-year\* OR early-child\* OR infant\* OR postnatal OR neonatal OR preschool OR kindergarten OR nursery*" AND "*review\* OR meta-analys\*\**". In order to capture the most recent review studies, we set the search period of publication from January 2010 to Aug 2020 (the time of the search). Figure 2.1 demonstrates the number of records identified through each database.

As for the empirical research about Chinese parenting and young children's development, the search term was "*parent\* OR parent\*-style OR parent\*-pattern OR parent\*-behavio\*\* AND young-child\* OR early-year\* OR early-child\* OR infant\* OR postnatal OR neonatal OR preschool OR kindergarten OR nursery*" AND "*China OR Chinese*". The search period was set as the same as the first one (January 2010 to Aug 2020) to focus on the most recent studies. Figure 2.2 demonstrates the number of records identified through each database.

Since most of the review studies in the first search have included empirical studies of at least the past ten years from the time of publication, it is fair to say that this report manages to cover empirical research of interest over the past two decades and beyond, with a focus on the most recent ten years.

### 2.2 Inclusion and exclusion criteria

As shown in Table 2.1, the following inclusion and exclusion criteria were adopted in the screening of literature as benchmarks of relevance and quality. The purpose of this report is to understand the associations between various aspects of parenting and children's development through reviewing international and China-specific literature. We mainly focus on the 0-3 year period but the research that includes 0-3 year period yet expands beyond 3-year-old is also included for two reasons: *a*) the number of studies that solely examine development during 0-3 years is relatively limited; *b*) from a developmental perspective, longitudinal studies that span beyond 0-3 year period provides valuable insights of the trajectory of development. However, studies that do not include children under three are excluded. We regard peer-reviewed publications as a benchmark of study quality. We acknowledge the limitation that only publications of English and Chinese languages are included. We consider that publications of other languages are more likely to focus on region-specific findings which are out of the scope of this study. We reflect on the implications of the dominance of English language publications in this report (see *Limitation*

section). Meanwhile, we acknowledge that research focusing on one specific type of special needs of either parents or children is not included in this report. We recognise the importance of paying close attention to families with special needs and therefore we consider it more sensible and meaningful to have a separate report which focuses on research evidence regarding Chinese families with special needs. Nonetheless, we think the research evidence included in this report, albeit general rather than specific, can be of use to a certain extent for families with and without special needs. Finally, this report mainly adopts developmental and educational perspectives in understanding parenting and children's development. Therefore studies that focus on biological and medical research are not included in this report.

**Table 2.1 The inclusion and exclusion criteria**

<b>Literature</b>	<b>The inclusion criteria</b>	<b>The exclusion criteria</b>
International literature reviews and meta-analyses	<ul style="list-style-type: none"> <li>- Examining associations between parenting and children's development</li> <li>- Involving children aged 0-3 years</li> <li>- Literature review and meta-analysis studies</li> <li>- Published in the past ten years (2010-2020)</li> <li>- Peer reviewed</li> <li>- English and Chinese language</li> </ul>	<ul style="list-style-type: none"> <li>- Reviews that focus on biological or medical research</li> <li>- Reviews that focus on one specific type of special needs of parents or children</li> </ul>
Empirical research in Chinese contexts	<ul style="list-style-type: none"> <li>- Involving parents and children in China (<i>incl.</i> mainland China, Hong Kong, Macao and Taiwan)</li> <li>- Examining associations between parenting and children's development</li> <li>- Involving children aged 0-3 years</li> <li>- Published in the past ten years (2010-2020)</li> <li>- Peer reviewed</li> <li>- English and Chinese language</li> </ul>	<ul style="list-style-type: none"> <li>- Chinese parents and children who have migrated into another country</li> <li>- Medical or biological research</li> <li>- Research that focuses on one specific type of special needs of parents or children</li> </ul>

### 2.3 Study selection and quality assessment

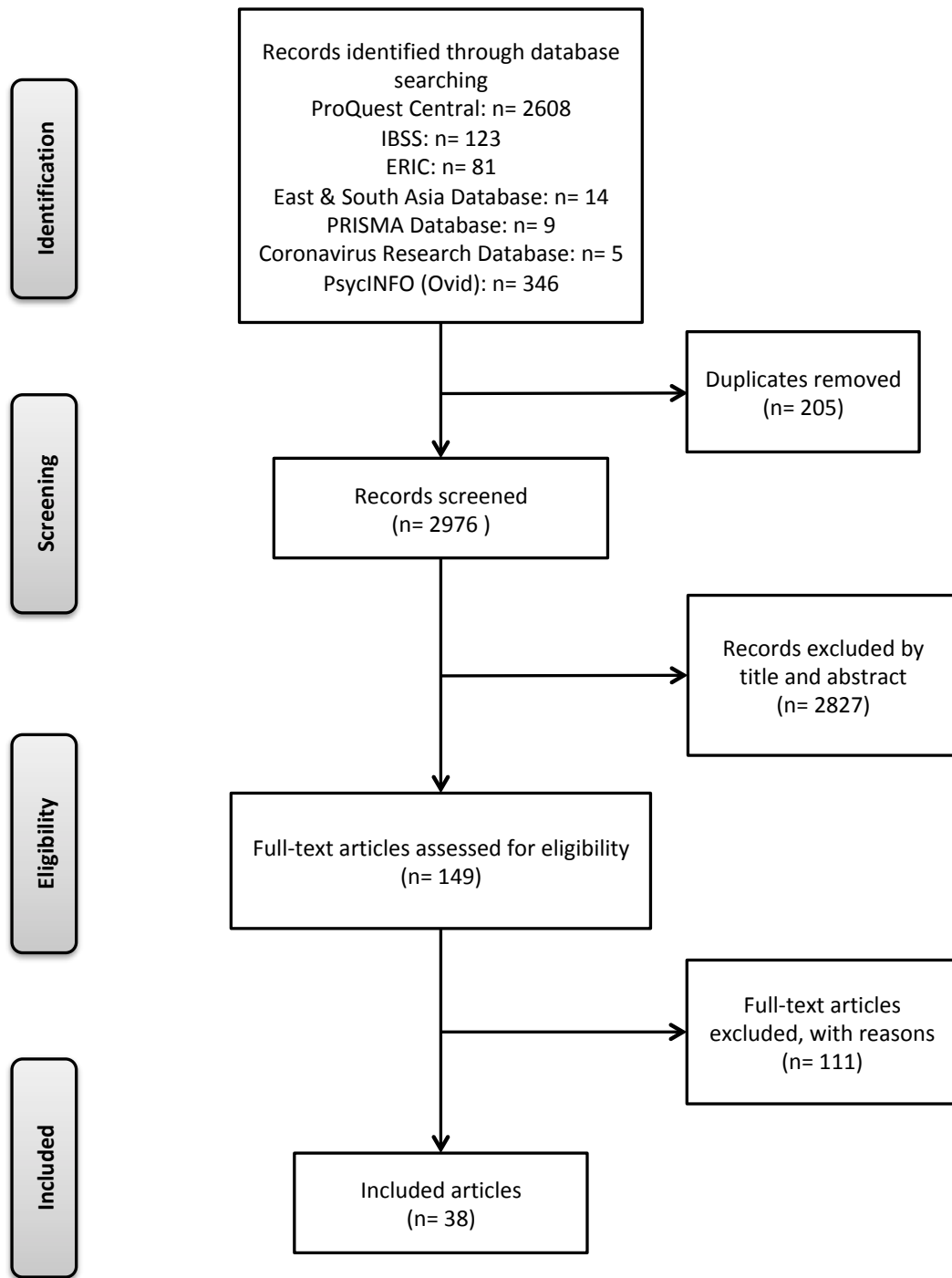
The procedures of study selection of the two sets of literature are shown in the two diagrams of the procedure of literature search (Figure 2.1 & 2.2). After removing the duplicates ( $n=205$  &  $207$ , respectively), the records were screened by title and abstract in accordance with the inclusion and exclusion criteria ( $n=2976$  &  $740$ , respectively). After the screening process, there were 149 records (*i.e.*, international literature reviews and meta-analyses) and 66 records (*i.e.*, empirical research in Chinese contexts) remaining for the subsequent full-text screening and quality assessment.

The quality assessment of the full-text articles was informed by the literature. More precisely, we applied Pascal, Bertram and Peckham's (2018) four dimensions' framework: relevance of the study to the research questions; conceptual/theoretical framing; methodological rigour, transparency and ethics; and reliability, validity and trustworthiness of the findings. We adopted a four-point scale to evaluate the studies on each dimension, with higher scores indicating more relevance and higher methodological quality (see Appendix for the tables of quality assessment). The studies were firstly reviewed and assessed by the first author and then checked by the second author. Any dissonance was discussed among the research team to reach a consensus. We agreed that the studies with a score equal to or higher than three on each dimension were considered as having sound quality and relevance, hence were included for the data extraction and finding synthesis of this report. As a result, thirty-eight international literature reviews/meta-analyses and ten empirical research in Chinese contexts are included in this report.

## 2.4 Data extraction and synthesis

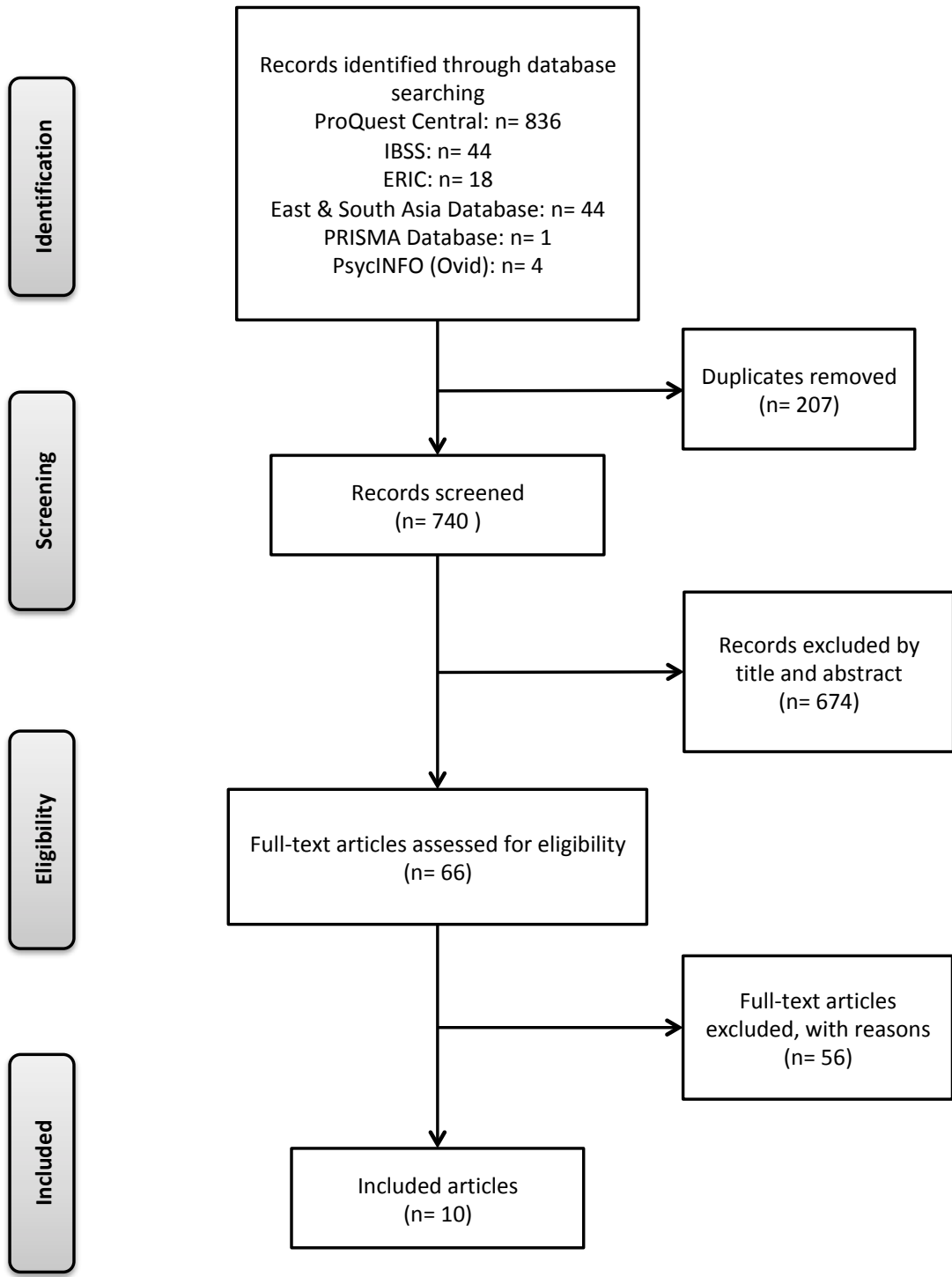
Data extraction was carried out during the first round of full-text review. For the international literature reviews and meta-analyses, the following data were extracted from the articles: type of literature review, number of studies included, literature search period (if applicable), parenting construct(s) under investigation, aspects of children development and the main findings relevant to the research questions. For the China-specific empirical research, the following data were extracted: study type, sample, parenting construct(s) under investigation, aspects of children development and the main findings relevant to the research questions. The extracted data were used to inform the subsequent synthesis and analysis of the included literature.

We adopted a thematic approach (Pascal, Bertram, & Rouse, 2019) to synthesise the research evidence of the associations between parenting and children's development in the second round of review. The procedure started with reviewing the research findings of the included studies to generate initial codes that are relevant to the two research questions (e.g., parental self-efficacy, authoritative parenting, parental warmth, language development, weight, positive/negative association, etc.). Subsequently, we organised and combined these initial codes to form themes that could be used to address the research questions (e.g., parental perceptions, parenting styles, cognitive development, etc.). Finally, the themes were examined and refined in the final round of review to reveal the patterns that emerged from the research findings of included studies.



*Figure 2.1 Procedure of literature search for literature reviews and meta-analyses*





*Figure 2.2 Procedure of literature search of China-specific empirical research*

## 3. Findings

### 3.1 Summaries of the included studies

For each of the included studies, we summarised the main findings that are relevant to the research questions. Two tables are generated to demonstrate the study summaries, including the type of study, the aspects of parenting and children's development under investigation and the main findings relevant to the current research questions (see Appendix for Table 3.1 and 3.2). These essential details about the included studies are useful for cross-referencing in the discussion of findings as well as providing readers with an informative account of the included literature. We need to reiterate that the international literature are reviews and meta-analyses whereas the China-specific literature are empirical studies. Therefore, it is important to be mindful of the source of evidence as well as the contexts of research when comparing and synthesising the findings.

Among the included international literature, the majority of studies ( $n=31$ ) have taken a qualitative approach in synthesising the research evidence (e.g., narrative review) while seven studies have conducted meta-analyses on the results generated by quantitative research of similar research questions. Meanwhile, it is noticeable that the majority of the included China-specific empirical research has adopted cross-sectional survey method (7 out of 10), with the remaining being a longitudinal quantitative study (i.e., Dong *et al.*, 2018), a cross-sectional observation study (i.e., Chang *et al.*, 2011) and an interview study (i.e., Yue *et al.*, 2016). We do acknowledge that the reliance on cross-sectional survey method may be partly due to the research question of associations between parenting and children's development. Further discussion on the methodological issues of the research on this topic is presented in Section 4.1.

### 3.2 Research question 1: aspects of parenting and child development

Both sets of literature show that a variety of parenting and child development constructs have been investigated in different contexts. Before we review the relationships between them, it is useful to have an overview of how these constructs are defined and assessed in research. It helps us to obtain a better understanding of the field and gain insights into the focus of research. The following two sections provide the aspects of parenting and child development under investigation, respectively.

#### 3.2.1 Aspects of parenting under investigation

Parenting is a very broad term that refers to the process of child-rearing (Bornstein & Lansford, 2010). When studying parenting, researchers tend to focus on specific aspects of parenting. Based on our review of the included studies, we can classify the parenting constructs into the following categories, namely, parental perceptions, parenting styles, parenting behaviours and parenting practice. While these constructs are conceptualised and operationalised differently for different research purposes, they are inextricably intertwined in essence. While some research explicitly focuses on one of the constructs (e.g., Gordon *et al.*, 2015; Ren *et al.*, 2018), other research investigates how these constructs interact with each other in exerting influence on young children's development (e.g., Fraser *et al.*, 2011; Rochelle & Cheng, 2016). We recognise that there is an overlap

between the definitions of some parenting constructs. The categorisation in this report is mainly based on the theoretical frameworks adopted by the included studies to conceptualise the constructs. The intention of the present categorisation is to provide a structured overview of the parenting constructs under investigation in the included studies of this report. Reference to specific parenting constructs can be found in Table 3.1 and 3.2 for a summary of each study's relevant findings.

## Parental perceptions

A variety of constructs pertaining to parental perceptions have been investigated in the included studies of this report, such as:

- parents' self-beliefs, such as parental self-efficacy (e.g., Hesketh *et al.*, 2017; Xu *et al.*, 2015), which can be broadly defined as a parent's beliefs of his/her ability to be a good parent (Coleman & Karraker, 1998);
- parenting knowledge, which can be either regarding general childcare in early years (e.g., Zhong *et al.*, 2020) or more commonly with reference to specific child-rearing tasks, such as feeding (e.g., Hooley *et al.*, 2012) and promoting children's physical activity (e.g., Hesketh *et al.*, 2017);
- parenting attitudes, mainly towards a specific aspect of child-rearing, such as eating-related attitudes (e.g., Fraser *et al.*, 2011);
- parents' perceptions of their children, such as expectations and concerns about child (e.g., Carneiro *et al.*, 2016) and assessment of child's dietary quality (e.g., Adamo & Brett, 2013);
- parenting stress (e.g., Rochelle & Cheng, 2016), which refers to parental experience of stress (Abidin, 1990).

The importance of parental perceptions is to a certain extent recognised in research as seven out of the thirty-eight international review studies and three out of the ten Chinese research include constructs pertaining to parental perceptions under investigation. Nonetheless, researchers tend to examine indirect relationships between parental perceptions and children's development with the assumption that parenting styles/behaviours/practices may serve as in-between mediators (e.g., Fraser *et al.*, 2011; Hesketh *et al.*, 2017). More detailed research findings regarding the relationships are presented and discussed in Section 3.3.

## Parenting styles

The theory of typology of parenting styles proposed by Baumrind (1971, 2005) is probably the most widely adopted theoretical framework in the existing parenting research. Based on her research with pre-school children, Baumrind (1971) at first identified three different types of parenting style, namely, authoritative, authoritarian and permissive. Maccoby and Martin (1983) later added a fourth type --- uninvolved parenting. The four parenting styles mainly differ in the characteristics on two dimensions --- responsiveness and demandingness (Baumrind, 2005). To be more specific, authoritative parenting is identified as child-centred, with a high level of responsiveness and demandingness. Authoritative parents foster autonomy in children with clear standards and consistent monitoring. On the other hand, authoritarian parenting is regarded as controlling, demanding and harsh, with a low level of responsiveness. Authoritarian parents tend to be very restrictive and expect

obedience from their children. In contrast, permissive parenting is characterised as indulgent, lenient and non-directive. The low level of demandingness means that permissive parents seldom set rules or discipline their children. Finally, the uninvolved parenting style shows low levels of both responsiveness and demandingness. Uninvolved parents basically have minimum or no interests in parenting and are likely to put children in dangerously neglectful situations. While Baumrind's (1971, 2005) theoretical framework has been extensively used in empirical research to examine the effects of different parenting styles on children's development, we are mindful of its potential limitations.

Foremost, it is questionable whether this typology of parenting styles is valid cross-culturally (Cui *et al.*, 2018). Lim and Lim (2003) suggest that general parenting styles, such as proposed by Baumrind (1971), are constrained by cultural limitations because each style is composed of multidimensional parenting behaviours, which may imply different meanings in different cultures. Similarly, several researchers have pointed out the complication in identifying the effects of any specific parenting behaviour that makes up a parenting style (Bean, Bush, McKenry, & Wilson, 2003; Pettit, Laird, Dodge, Bates, & Criss, 2001). Therefore some researchers turn to more specific parenting constructs (*e.g.*, parenting behaviours/ practice) to conduct a more nuanced investigation into parenting and children's development (Sleddens *et al.*, 2011).

In the included studies, nine out of the thirty-eight international review studies have examined the relationships between parenting styles and various aspects of young children's development. The research findings are discussed with reference to the aforementioned limitations in the section addressing the second research question of this report (Section 3.3).

### **Parenting behaviours**

A variety of theoretical frameworks of parenting behaviours have been proposed (*e.g.*, Becker, 1964; Schaefer, 1965; Barber, Maughan, & Olsen, 2005), thereby different terminologies pertaining to parenting behaviours are adopted in research. Nonetheless, these theories all underscore similar aspects of parenting behaviours that are deemed as salient in parent-child interaction. Two essential sets of parenting behaviours are commonly referred to among these theoretical frameworks, namely:

- parental warmth (also referred to as parental support, nurturing, acceptance, etc.) which refers to a wide range of parenting behaviours that are supportive, affective, companionate, sympathetic, loving and alike;
- parental control (also referred to as monitoring, regulation, discipline, etc.), which refers to parents' control over children's behaviours, activities, thoughts, emotions and so on. Further classification of parental control is often adopted in research, for example, Dong *et al.* (2018) differentiate low-power (*e.g.*, reasoning and explanation) and high-power (*e.g.*, intrusiveness and reprimand) strategies in parental control; Barber *et al.* (2005) distinguish behavioural control which focuses on regulating children's behaviours through rule-setting and reasoning, from psychological control which exerts control through love withdrawal, parental dominance, intrusiveness, guilt and shame, etc.; and Karreman *et al.* (2006) differentiate positive from negative parental control (*i.e.*, teaching/guidance *v.s.* power-assertiveness).

In contrast to the typology of parenting styles, studies adopting the theoretical frameworks of parenting behaviours focus on a certain kind of parenting behaviour *per se* rather than compressing various parenting behaviours into one particular parenting style. While research evidence suggests that parents of different cultural backgrounds may not fit into the typology of parenting styles (for example, Chao (1994) demonstrates that rather than being authoritarian, Chinese parenting is more properly characterised by the notion of 'training' [*guan*] which implies parental care and devotion in addition to strict control and discipline), the theoretical frameworks of parenting behaviours have seen more consistent evidence suggesting relatively high applicability in cross-cultural contexts (Barber *et al.*, 2005).

In the included studies of this report, the above parenting behaviours are broadly examined, albeit diverse terms are adopted across studies. Overall, eight out of the 38 international review studies and three out of the ten Chinese research have investigated the relationships between the aforementioned parenting behaviours and young children's development. These studies have generated more up-to-date research evidence regarding parenting behaviours, which is presented in Section 3.3.

### Parenting practice

We use this category to encompass those parenting constructs that are specific to a certain child-rearing task or refer to a specific set of actions, for example: (*note: this is not an exhaustive list*)

- breastfeeding and other feeding practices (e.g., Avila *et al.*, 2015; Hooley *et al.*, 2012; Lo *et al.*, 2015; Yue *et al.*, 2016);
- vegetarian and vegan weaning (e.g., Baldassarre *et al.*, 2020);
- parent-infant bedsharing (e.g., Gordon *et al.*, 2015);
- Kangaroo care (e.g., Campbell-Yeo *et al.*, 2015), which refers to *'the holding of an infant with ventral skin-to-skin contact typically in an upright position with the swaddled infant on the chest of the parent'* (*ibid*, p.15);
- parental numeric speech (e.g., Chang *et al.*, 2011);
- parental storytelling, singing and playing with children (e.g., Luo *et al.*, 2019);
- parental emotion regulation and expression (e.g., Aktar & Bögels, 2017; Bariola *et al.*, 2011);
- parent-child play (e.g., Amodia-Bidakowska *et al.*, 2020)
- parental role-modelling, goal setting and reinforcement (e.g., Hesketh *et al.*, 2017);
- parental involvement (e.g., Higgins & Katsipataki, 2015; Ma *et al.*, 2016) which is usually defined in accordance to the research topic;
- abuse, neglect and maltreatment (e.g., Belsky & de Haan, 2011; Pavarini *et al.*, 2013);
- parental sensitivity as defined in Ainsworth *et al.*'s (1978) attachment theory that refers to parents being aware of infants' signals and needs, and responding in a *'contingent, appropriate and consistent'* manner (Lamb & Easterbrooks, 1981, p.127);
- parental mentalisation (e.g., Zeegers *et al.*, 2017) which is defined as parents' awareness of infant's internal states and their actions to *'interpret their child's behaviour in terms of envisioned mental states, such as emotions, thoughts, desires, and intentions'* (*ibid*, p. 1246).

As is shown, the above parenting constructs tend to be more specifically defined in accordance with an individual research focus, compared to the parenting styles and general parenting behaviours in the previous sections. We acknowledge that the definitions of some constructs pertaining to parenting practice overlap with the definitions of previously mentioned parenting styles and parenting behaviours. For example, parental sensitivity (Ainsworth *et al.*, 1978) shares some similarities with responsiveness (as defined in Baumrind's parenting styles) and parental warmth (as defined in the theoretical frameworks of parenting behaviours). However, parental sensitivity is more specific to parent-infant interaction, particularly the establishment of parent-infant attachment (Ainsworth *et al.*, 1978). Therefore, we distinguish constructs pertaining to specific parenting practices from the more general parenting behaviours and parenting styles. Nevertheless, as we point out earlier, these parenting constructs are essentially intertwined and the purpose of this categorisation is to provide a structured overview of the parenting constructs under investigation in research. In the included studies of this report, thirty-five out of the thirty-eight international review studies and seven out of the ten Chinese research have investigated parenting constructs pertaining to specific parenting practices. A wide range of parenting practices has been examined in relation to the different aspects of child development. We discuss the findings in Section 3.3.

### 3.2.2 Aspects of child development under investigation

The purpose of this section is to provide an overview of which aspects of young children's development have been studied in relation to parenting in the studies included in this report. We roughly categorise the aspects of child development into physical, behavioural, cognitive and socioemotional development. We recognise that different aspects of young children's development are not disconnected but rather intertwined with each other. Nonetheless, the current categorisation is intended to offer a clear structure for presenting the research focus of the included studies of this report. Both the international and the China-specific literature have covered all four aspects of child development in research. Table 3.3 illustrates the number of studies that investigate each aspect of development in international and China-specific literature. More details on each aspect of child development under investigation are presented as follows.

**Table 3.3 Number of studies investigating each aspect of development**

	Physical development	Behavioural development	Cognitive development	Socioemotional development
International reviews and meta-analyses	13	19	10	14
Empirical research in Chinese context	2	4	5	2

#### Physical development

The importance of 0-3-year-olds' physical development is recognised in research as it to a certain extent paves the foundation for other aspects of development. The included studies of this report show that substantial empirical research has investigated infants mortality (e.g., Campbell-Yeo *et al.*, 2015; Gordon *et al.*, 2015), nutrition (e.g., Baldassarre *et al.*, 2020; Yue *et al.*, 2016), stunting (e.g., Ban *et al.*, 2017), weight (e.g., Fraser *et al.*, 2011;



Pinquart, 2014), dental caries (e.g., Avila *et al.*, 2015; Hooley *et al.*, 2012), motor functions (e.g., Zhong *et al.*, 2020), brain development (e.g., Belsky & de Haan, 2011; Cui *et al.*, 2018), neurohormonal functions (e.g., Scott, 2012), *etc.* The research evidence gives a relatively comprehensive account of the role that parents play in supporting young children's physical development in diverse contexts. Tables 3.1 and 3.2 present detailed findings of the specific facet of physical development.

### **Behavioural development**

Researchers' interests in young children's behavioural development are evident in the number of studies that investigate this issue (see Table 3.3). We use this category to encompass a range of behavioural outcomes of young children, including behaviour problems (e.g., Carneiro *et al.*, 2016; Rochelle & Cheng, 2016), eating behaviours/ dietary patterns (e.g., Blaine *et al.*, 2017, Lo *et al.*, 2015), behavioural regulation (e.g., Baker *et al.*, 2019, Ren *et al.*, 2018), gender-typed behaviour (e.g., Endendijk *et al.*, 2018), physical activity and sedentary behaviours (e.g., Lindsay *et al.*, 2017; Russell *et al.*, 2016), screen viewing (e.g., Jago *et al.*, 2013), compliance (e.g., Dong *et al.*, 2018; Owen *et al.*, 2012), *etc.* We understand that some behavioural problems are closely related to children's socioemotional development (Carneiro *et al.*, 2016). We use this category to summarise research that focuses on externalised behaviours of young children. Yet, we are cautious that the research findings should be interpreted in relation to other aspects of child development. Overall, there is relatively substantial research evidence of the associations between parenting and children's behavioural development (see Table 3.1 and 3.2 for details).

### **Cognitive development**

We recognise the challenges in assessing young children's cognitive development, especially during the period of 0-3 years old. Despite the methodological difficulties, researchers have not neglected this aspect of development, especially in the included China-specific empirical research of which five studies focus on children's cognitive development. Across the included studies of international and China-specific literature, the investigation into young children's cognitive development has mainly been carried out in three areas: language abilities (e.g., Ahun & Cote, 2018, Luo *et al.*, 2019), numeric/ mathematics competence (e.g., Chang *et al.*, 2011; Ren *et al.*, 2018), and executive functions (e.g., Moullin *et al.*, 2018; Valcan *et al.*, 2018). In each of these areas, researchers have examined more concrete and specified abilities, competence, skills and functions pertaining to the cognitive development of young children. When interpreting the research findings, we are mindful of how the specified facet of children's cognitive development is conceptualised and assessed in the research, as the variance in research findings can sometimes be accounted for by the different assessments adopted. We discuss the findings in Section 3.3.

### **Socioemotional development**

In terms of young children's socioemotional development, fourteen international literature reviews have looked into the relevant research focusing on this aspect, whereas only two of the ten Chinese studies have included it in the research as one of the developmental outcomes of young children. It is arbitrary to jump to the conclusion that inadequate attention is paid to researching social and emotional development of 0-3-year-olds in

Chinese contexts. Yet it is worth noticing that the current literature search of China-specific research did not yield as many studies of socioemotional development as those of other aspects of development discussed above. As mentioned earlier, during the screening of China-specific research, we found that a large number of studies were conducted with samples of parents of children aged 3-6 years old as the participants were recruited through kindergartens (*i.e.*, early years provision for children aged 3-6 years old). Among these studies, many have investigated children's socioemotional development (*e.g.*, Ren & Xu, 2019; Ren & Edwards, 2015), even though there seem to be inadequate studies focusing on 0-3-year-olds' socioemotional development in Chinese contexts. Cui *et al.* (2018) demonstrate research evidence suggesting that early social experiences are related to children's genome and neurodevelopment, especially during infancy as a sensitive period of socioemotional development. Therefore we recommend that more empirical studies should be conducted to investigate the relationship between parenting and 0-3-year-olds' socioemotional development in Chinese contexts.

Across the included international and China-specific literature, the following constructs pertaining to socioemotional development have been investigated: infants' emotional expressions and reactions (*e.g.*, Aktar & Bögels, 2017), young children's emotion regulation (*e.g.*, Bariola *et al.*, 2011), socioemotional growth (*e.g.*, Zhong *et al.*, 2020; Luo *et al.*, 2019), children's temperament (*e.g.*, Kiff *et al.*, 2011), internalising symptoms (*e.g.*, Brumariu & Kerns, 2010; Carneiro *et al.*, 2016), parent-child attachment (*e.g.*, Zeegers *et al.*, 2017), *etc.* In the same vein as research on children's cognitive development, it is important to pay attention to how the specific facet of socioemotional development is conceptualised and assessed in different studies when synthesising and interpreting the research evidence. The findings are discussed in the following sections.

### 3.3 Research question 2: associations between parenting and child development

As demonstrated above, researchers have carried out relatively comprehensive investigations into the relationships between various aspects of parenting and the development of children aged 0-3 years. Table 3.4 demonstrates an overview of the associations under examination in the included studies of this review. We synthesise the relevant research findings to shed light on the research-based evidence that can be used to inform educational programmes and support services for parents. When interpreting the findings, it is important to keep the following points in mind:

- The relationship between parents and children is reciprocal. Even when the focus of research is on the effects of parenting on children's development, we need to be mindful that children shape and influence parents' perceptions, parenting styles, behaviours and practices.
- The effects of parenting depend on the characteristics of parents and children, which can either amplify or buffer the effects. For example, Kliff *et al.* (2011) demonstrate that children's temperament plays an instrumental role in conditioning the effects of parenting. Therefore any attempts to generalise the findings need to be made with great caution.
- While the research under review focuses on parent-child relationship and the proximal process of interaction within family, it is important to maintain an ecological perspective and pay attention to the contexts in which the research is situated. Even

within the same cultural background, we need to be conscious of the heterogeneity of socio-cultural experience (Ladson-Billings, 2014). This is of particular relevance to the research-informed approach in supporting parents with diverse backgrounds.

Accordingly, we consciously pay attention to the above issues in our enquiry into the research question of 'what are the relationships between parenting and 0-3-year-old children's development in different contexts'. The research findings of the included studies are synthesised as follows. More nuanced findings of the relationships under investigation can be seen in Table 3.1 and 3.2 in the Appendix.

### **3.3.1 Parenting styles and child development**

Research adopting the theoretical framework of parenting styles has generated considerably mixed evidence, which is in correspondence with the aforementioned potential limitations of parenting styles. Two systematic reviews have reported no associations between parenting styles and children's physical activity (Lindsay *et al.*, 2017) and theory-of-mind development (Pavarini *et al.*, 2013), respectively. Nonetheless, several reviews have demonstrated inconsistent research findings regarding the relationships between parenting styles and children's weight gain/obesity (Fraser *et al.*, 2011), eating habits (Blaine *et al.*, 2017) and physical activity and screen time (Xu *et al.*, 2015). Sleddens *et al.* (2011) suggest that the influence of general parenting styles on children's development can be potentially moderated by behaviour-specific parenting practices. In support of this argument, Russell *et al.* (2016) have reported research evidence of associations between the styles of specific feeding practice (*i.e.*, authoritative, permissive, authoritarian and uninvolved) and children's dietary intakes.

In light of the above research evidence and the aforementioned potential limitations, we argue that it is time for parenting research to go beyond general parenting styles and take a more nuanced approach in the investigation of parenting and children's development. This shift from global styles to more specific dimensions of parenting is also supported by current parenting researchers (*e.g.*, Smetana, 2017). We discuss the relationships between specific parenting behaviours/ practices and children's development in the following sections.

### **3.3.2 Parenting behaviours and child development**

Compared to the research findings of general parenting styles, the research evidence regarding associations between parenting behaviours and children's development is relatively more consistent across contexts, albeit with some socio-cultural variance in certain specific effects. Instead of making generalised claims about the relationships, we scrutinise the research evidence giving careful consideration to the contexts of studies.

Two meta-analysis reviews of international literature have found significant associations between parenting behaviours and children's development. To be more specific, Pinquart (2014) conducted a meta-analysis on 156 studies of parenting behaviours and children's weight status, eating and physical activity in diverse contexts. The results suggest that parents' psychological control is associated with children's higher body weight (small effect size) whereas parental demandingness is associated with children's lower body weight, more physical activities and healthier eating (small to very small effect size) (*ibid*). Likewise,

Valcan *et al.*'s (2018) meta-analysis on 42 studies suggest that both positive (*e.g.*, warmth, responsiveness, sensitivity) and negative (*e.g.*, control, intrusiveness, detachment) parenting behaviours are significantly associated with children's composite executive functions, without detecting significant moderation effects of ethnicity or SES.

Similarly, other narrative reviews of international literature have reported relatively consistent evidence of the relationships between parenting behaviours (*i.e.*, parental warmth/acceptance and parental control) and various aspects of children's development. For example, Kiff *et al.* (2011) demonstrates evidence of the bidirectional and interactive relations between parenting behaviours and children's temperament, suggesting that parental behaviours shape and at the same time are responsive to the temperamental, emotional and behavioural characteristics of children. They suggest that young children's difficult temperament/negative emotionality increases the risk of adjustment problems in the presence of low parental responsiveness/sensitivity and high psychological control. Their findings highlight the bidirectional effects of parenting and children's development. Accordingly, we reiterate the importance of paying attention to both parents' and children's characteristics when examining the bidirectional relationships between parenting behaviours and children's development. Meanwhile, the contextual influences on the aforementioned relationships are reinforced by the research evidence reported by Cui *et al.* (2018) showing cultural differences in terms of how parental warmth and control are perceived, which may lead to variation in the relationships across different cultures. Therefore, careful scrutiny of how parenting behaviours are perceived and examined in different contexts is of importance in the comparison and synthesis of research evidence.

Among the China-specific literature, three studies have investigated parenting behaviours in association with young children's compliance (Dong *et al.*, 2018), behaviour problems (Ren *et al.*, 2018; Rochelle & Cheng, 2016) as well as behavioural regulation and number competence (Ren *et al.*, 2018). The findings are mostly consistent with the research evidence demonstrated in the international literature reviews. Table 3.1 presents more details of the studies.

Due to the relatively consistent research evidence regarding parenting behaviours, some researchers (*e.g.*, Valcan *et al.*, 2018; Ren *et al.*, 2018) have roughly classified parenting behaviours as positive/supportive (*e.g.*, warmth, responsiveness, sensitivity, *etc.*) and negative/aversive (*e.g.*, harsh control, intrusiveness, detachment, *etc.*). While we acknowledge the research evidence and theoretical rationales underpinning such classification, it may be more sensible to restrain ourselves from defining certain parenting behaviours as positive or negative in a generalised manner. Instead, a more nuanced approach with sufficient consideration given to contextual factors as well as parents' and children's characteristics is recommended for understanding the relationships between parenting behaviours and children's development.

### **3.3.3 Parenting practice and child development**

The majority of studies in international and China-specific literature have investigated specific parenting practices in association with corresponding aspects of children's development, which echoes the aforementioned call for shifting research focus from general parenting styles to more specific parenting practices. As demonstrated in Section 3.2, a variety of parenting practices are examined in the included international and China-

specific studies. Some international review studies have reported relatively consistent research evidence regarding the associations between parenting practice and children's development, whereas others have demonstrated mixed evidence, suggesting that the associations are dependent on a number of factors, including research contexts, participant characteristics and how the parenting practice is defined and assessed in research.

When interpreting the research evidence (as demonstrated in Table 3.1 and 3.2), we recommend taking an ecological perspective to understand the effects of a certain parenting practices in association with other influential factors. It is important to clarify that having a research focus on specific parenting practice does not mean investigating the practice in isolation. Instead, parenting is an interactive process situated in family dynamics, which are inevitably influenced by the outer community and society. Therefore it is essential to include related factors in the investigation of parenting practices. For example, a number of studies have examined the relevant parental perceptions, demonstrating evidence of their associations with parenting practices and children's development (e.g., Adamo & Brett, 2013; Carneiro *et al.*, 2016; Hesketh *et al.*, 2017; Hooley *et al.*, 2012; Lindsay *et al.*, 2017; Rochelle & Cheng, 2016). By proposing and examining comprehensive models of parenting and related influential factors, studies with a research focus on specific parenting practice can generate meaningful findings of the associations between parenting and children's development.

As mentioned earlier, for some parenting practice, relatively consistent evidence is reported regarding its associations with certain aspects of children's development. Nonetheless, we reiterate the importance of paying attention to contextual factors and characteristics of parents and children when interpreting and making use of such research evidence. To support our argument, we use the practice of breastfeeding as an example. The benefits of breastfeeding to infants are consistently acknowledged across studies (e.g., Avila *et al.*, 2015; Ban *et al.*, 2017; Hooley *et al.*, 2012; Russell *et al.*, 2016). However, we shall not overlook the practical constraints and difficulties related to breastfeeding in certain circumstances. For example, Ban *et al.* (2017) reported that Chinese left-behind children of migrant mothers had a higher risk of lacking age-appropriate breastfeeding compared to non-left-behind children. Yet, proper alternative feeding practices can lower the risk of stunting (*ibid*). On the other hand, Hanser and Li (2017) have brought attention to the huge pressure related to breastfeeding that Chinese urban mothers encounter, which is regarded as a form of 'gendered burden'. It is reasonable to argue that the benefits of breastfeeding may be counterbalanced by other negative influences (e.g., parenting stress) if the practice is forced upon mothers. Therefore, it can be rather arbitrary to make a judgment about any specific parenting practice without careful consideration of other related contextual and individual factors. The example of adult-infant bedsharing can be used to further reinforce this argument. While research evidence shows that parent-infant bedsharing is especially risky for sudden infant death when it intersects with other individual risk factors (e.g., infant's physical conditions) (Gordon *et al.*, 2015), Ward (2015) summarised the main reasons for parent-infant bedsharing based on their review of relevant literature, which suggests that some parents share bed with their infants for breastfeeding, comforting, better/more sleep, monitoring infants, bonding with infants to build attachment and so on. This example manifests the complexity embedded in parenting. What works in one circumstance does not necessarily work in another one. Hence, it is essential for researchers and family support professionals to pay close attention to such complexity and

avoid over-simplifying the associations between parenting practices and child development.

The importance of considering contextual and individual factors is further emphasised in the analysis and synthesis of the inconsistent evidence concerning certain parenting practice. For example, Carneiro *et al.* (2016) conducted a systematic review on parents' disciplinary practice in the early childhood period and found mixed evidence of the associations between parents' harsh discipline and young children's internalising and externalising problems, suggesting that sample characteristics and other relevant factors (*e.g.*, parents' inappropriate expectations and concerns about children) should be taken into consideration. On the other hand, some reviews show that the differences in the existing measurement of some parenting practices may account for the divergent evidence of its associations with children's development (*e.g.*, Kiff *et al.*, 2011; Jago *et al.*, 2013). Therefore, when interpreting the inconsistent evidence concerning certain parenting practices, the above factors (*i.e.*, contextual, individual, and methodological) shall be taken into account.

Among the China-specific literature, three studies have investigated parents' feeding practices, of which two focus on families in disadvantaged rural areas of mainland China (Ban *et al.*, 2017; Yue *et al.*, 2016), while the other one involves a sample of Hong Kong parents and children (Lo *et al.*, 2015). Overall, the findings of the associations between feeding practices and young children's dietary quality and corresponding physical development is in line with the research evidence demonstrated in international literature reviews (Russell *et al.*, 2016; Fraser *et al.*, 2011). Nonetheless, it is worth mentioning that both Ban *et al.* (2017) and Yue *et al.* (2016) have highlighted the considerable rural-urban gap in China in terms of the risk of malnutrition/stunting for young children. Yue *et al.* (2016) interviewed the primary caregivers of young children (6-18 months) in the rural areas of nationally-designated poverty counties in China. They found that the caregivers lacked adequate knowledge of infant health and nutrition; and had limited access to quality sources of relevant information, which impeded proper complementary feeding practices (*ibid*). Accordingly, Yue *et al.* (2016) recommended promoting educational campaigns aimed at improving complementary feeding practices in disadvantaged rural areas in China. Based on our current review, we suggest that educational campaigns of a similar kind can benefit from a more in-depth investigation into the associations between parenting (or the lack of parenting) and young children's development with careful consideration given to the contextual and individual factors that are of particular relevance to Chinese rural families. While there are increasingly more studies focusing on Chinese rural families, especially those with *left-behind-children* (defined as children having one or both parents who migrate to urban areas and leave child-care responsibility to the other parent or other relatives in rural areas, Ban *et al.*, 2017), the majority are large-scale survey studies which rely on standardised questionnaires and measurement (*e.g.*, Ai *et al.*, 2020; Qu *et al.*, 2020; Zhong *et al.*, 2020). We acknowledge the contribution of these large-scale studies and their implications on policy making and implementation. Nonetheless, based on our review of existing research evidence, we argue that it is not sufficient to solely rely on standardised questionnaires and measurement, which may not be able to fully account for the complexity and explain the underlying mechanisms of the relationships between parenting and young children's development. We recommend conducting more in-depth investigations that adopt mixed-method approaches (*e.g.*, case study) to shed light on the complexity embedded in the parenting of Chinese rural families.



Table 3.4 Overview of the included studies in this report

	Physical development	Behavioural development	Cognitive development	Socioemotional development
<b>Parental perceptions</b>	<b>International reviews/meta-analyses:</b> Fraser <i>et al.</i> , 2011; Hooley <i>et al.</i> , 2012.	<b>International reviews/meta-analyses:</b> Adamo & Brett, 2013; Carneiro <i>et al.</i> , 2016; Hesketh <i>et al.</i> , 2017; Lindsay <i>et al.</i> , 2017; Xu <i>et al.</i> , 2015. <b>Empirical research in Chinese contexts:</b> Rochelle & Cheng, 2016.	<b>Empirical research in Chinese contexts:</b> Liu <i>et al.</i> , 2020; Zhong <i>et al.</i> , 2020.	<b>International reviews/meta-analyses:</b> Carneiro <i>et al.</i> , 2016 <b>Empirical research in Chinese contexts:</b> Zhong <i>et al.</i> , 2020.
<b>Parenting styles</b>	<b>International reviews/meta-analyses:</b> Fraser <i>et al.</i> , 2011; Russell <i>et al.</i> , 2016; Sleddens <i>et al.</i> , 2011.	<b>International reviews/meta-analyses:</b> Adamo & Brett, 2013; Blaine <i>et al.</i> , 2017; Jago <i>et al.</i> , 2013; Lindsay <i>et al.</i> , 2017; Russell <i>et al.</i> , 2016; Sleddens <i>et al.</i> , 2011; Xu <i>et al.</i> , 2015.	<b>International reviews/meta-analyses:</b> Pavarini <i>et al.</i> , 2013.	<b>International reviews/meta-analyses:</b> Pavarini <i>et al.</i> , 2013.
<b>Parenting behaviours</b>	<b>International reviews/meta-analyses:</b> Cui <i>et al.</i> , 2018; Fraser <i>et al.</i> , 2011; Pinquart, 2014; Russell <i>et al.</i> , 2016.	<b>International reviews/meta-analyses:</b> Hesketh <i>et al.</i> , 2017; Kiff <i>et al.</i> , 2011; Pinquart, 2014; Russell <i>et al.</i> , 2016. <b>Empirical research in Chinese contexts:</b> Dong <i>et al.</i> , 2018; Ren <i>et al.</i> , 2018.	<b>International reviews/meta-analyses:</b> Ahun & Cote, 2018; Valcan <i>et al.</i> , 2018. <b>Empirical research in Chinese contexts:</b> Ren <i>et al.</i> , 2018.	<b>International reviews/meta-analyses:</b> Cui <i>et al.</i> , 2018; Kiff <i>et al.</i> , 2011.

Parenting practice	<p><b>Physical development</b></p> <p><b>International reviews/meta-analyses:</b> Avila <i>et al.</i>, 2015; Baldassarre <i>et al.</i>, 2020; Belsky &amp; de Haan, 2011; Campbell-Yeo <i>et al.</i>, 2015; Cui <i>et al.</i>, 2018; Gordon <i>et al.</i>, 2015; Hooley <i>et al.</i>, 2012; Pinquart, 2014; Russell <i>et al.</i>, 2016; Scott, 2012; van der Voort <i>et al.</i>, 2014.</p> <p><b>Empirical research in Chinese contexts:</b> Ban <i>et al.</i>, 2017; Yue <i>et al.</i>, 2016.</p>	<p><b>Behavioural development</b></p> <p><b>International reviews/meta-analyses:</b> Adamo &amp; Brett, 2013; Baker <i>et al.</i>, 2019; Blaine <i>et al.</i>, 2017; Campbell-Yeo <i>et al.</i>, 2015; Carneiro <i>et al.</i>, 2016; Coates &amp; Phares, 2019; Endendijk <i>et al.</i>, 2018; Hesketh <i>et al.</i>, 2017; Jago <i>et al.</i>, 2013; Lindsay <i>et al.</i>, 2017; Lucas-Thompson <i>et al.</i>, 2010; Moullin <i>et al.</i>, 2018; Owen <i>et al.</i>, 2012; Pinquart, 2014; Russell <i>et al.</i>, 2016; an der Voort <i>et al.</i>, 2014; Xu <i>et al.</i>, 2015.</p> <p><b>Empirical research in Chinese contexts:</b> Lo <i>et al.</i>, 2015; Rochelle &amp; Cheng, 2016</p>	<p><b>Cognitive development</b></p> <p><b>International reviews/meta-analyses:</b> Ahun &amp; Cote, 2018; Amodia-Bidakowska <i>et al.</i>, 2020; Coates &amp; Phares, 2019; Endendijk <i>et al.</i>, 2018; Higgins &amp; Katsipatakis, 2015; Lucas-Thompson <i>et al.</i>, 2010; Ma <i>et al.</i>, 2016; Moullin <i>et al.</i>, 2018; Pavarini <i>et al.</i>, 2013.</p> <p><b>Empirical research in Chinese contexts:</b> Chang <i>et al.</i>, 2011; Liu <i>et al.</i>, 2020; Luo <i>et al.</i>, 2019.</p>	<p><b>Socioemotional development</b></p> <p><b>International reviews/meta-analyses:</b> Aktar &amp; Bögels, 2017; Amodia-Bidakowska <i>et al.</i>, 2020; Bariola <i>et al.</i>, 2011; Brumariu &amp; Kerns, 2010; Campbell-Yeo <i>et al.</i>, 2015; Carneiro <i>et al.</i>, 2016; Cui <i>et al.</i>, 2018; Moullin <i>et al.</i>, 2018; Pavarini <i>et al.</i>, 2013; van der Voort <i>et al.</i>, 2014; Verhage <i>et al.</i>, 2016; Zeegers <i>et al.</i>, 2017.</p> <p><b>Empirical research in Chinese contexts:</b> Luo <i>et al.</i>, 2019.</p>
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## 4. Discussion

By conducting the search of two sets of literature through seven bibliographic databases (*i.e.*, international literature review/meta-analyses and China-specific empirical research, respectively), we gained an overview of the relevant research evidence of associations between parenting and young children's development across contexts. By reviewing the findings of included studies, we have identified a number of research gaps and methodological challenges for empirical research on parenting and the development of 0-3 year-olds, which are discussed in the following section. Based on the findings of this report, we propose some recommendations for future empirical research on associations between parenting and 0-3-year-olds' development in the Chinese contexts, as well as recommendations for Chinese parents and family support professionals in terms of how to interpret and make use of the available research evidence.

### 4.1 Research gaps and methodological challenges

Overall, abundant research evidence has been generated to illuminate the associations between a wide range of parenting constructs and young children's development outcomes in diverse contexts. The identified research gaps and methodological challenges are discussed as follows.

As is shown in Table 3.4, the majority of the included studies have investigated parenting constructs pertaining to specific parenting practices, instead of general parenting styles. Given the inconsistent research evidence concerning general parenting styles (*e.g.*, Lindsay *et al.*, 2017; Pavarini *et al.*, 2013; Blaine *et al.*, 2017), research that focuses on more specific parenting practices and child development is more informative and helpful for parents and family support professional. This echoes the call for taking a more nuanced approach in investigating parenting (Smetana, 2017). On the other hand, while research evidence suggests that parental perceptions (*e.g.*, parental self-efficacy, parenting knowledge and attitudes) influence parenting behaviours and practice (Fraser *et al.*, 2011; Hesketh *et al.*, 2017; Liu *et al.*, 2020; Zhong *et al.*, 2020), more research is needed to reveal the relationships between parental perceptions, parenting behaviours/practice and child development. Findings of such research can inform parenting programmes by shedding light on whether it is more effective to focus on changing parental perceptions or parenting behaviours/practice.

Another common pattern that is evident across the included international reviews and China-specific empirical research is that most of the participants in the existing parenting studies under review are mothers, particularly during 0-3 year period. Acknowledging this research gap, increasingly more parenting researchers have underlined the importance of investigating the role of fathers in various aspects of young children's development (*e.g.*, Bariola *et al.*, 2011; Brumariu & Kerns, 2010; Coates & Phares, 2019; Fraser *et al.*, 2011; Li, 2020; Pavarini *et al.*, 2013). We argue that researchers should refrain from assuming or reinforcing any gender-stereotypical differences between fathers and mothers in parenting. With this caution taken into account, empirical studies focusing on or including fathers as participants can generate valuable insights and expand the existing findings of associations between parenting and young children's development.

Furthermore, the majority of research evidence in this review has been generated by correlational studies taking a quantitative approach. We recognise the contribution of correlational studies, especially those adopting a longitudinal design and using external measurement of parenting and children's development in addition to self-report measurement. Nonetheless, as demonstrated in Section 3.3, the synthesised research evidence suggests that the associations between parenting and young children's development are contingent on individual characteristics of parents and children as well as the cultural and socioeconomic contexts in which families are situated. Therefore, we argue that it is time to take a more nuanced approach in parenting research and shift the emphasis from examining associations that can be generalised to a wider population to investigating the underlying mechanisms of parent-child interaction and revealing the complexity embedded in family dynamics. In addition to an ecological perspective, empirical research on parenting and young children's development can also benefit from approaches that are rooted in paradigms such as constructivism and post-structuralism. While we are not calling for a paradigm shift in the field, the findings of our review suggest that it is worth challenging some of the underlying assumptions of the current research on the associations between parenting and young children's development, such as assuming general classification of positive and negative parenting, assuming more influence from parents on children than the other way round, assuming fathers are secondary carers to mothers, and so on. Although there are many parenting studies that take a qualitative approach (e.g., grounded theory, phenomenology, *etc.*), these studies tend to focus on parents' perceptions and experiences of parenting without further exploring the potential links to children's development (e.g., Hanser & Li, 2017; Shorey & Ang, 2019). In order to gain a more in-depth understanding of the dynamic associations between parenting and young children's development, future research can benefit from more diverse theoretical perspectives as well as an interdisciplinary approach.

Taking a closer look at the included empirical research in Chinese contexts, we find that the empirical research focusing on 0-3-year-olds is insufficient, compared to a relatively large number of Chinese parenting studies which have involved children aged from 3-6 years old (e.g., Xing & Wang, 2017; Yao *et al.*, 2020). This may be partly due to the difficulties in participant recruitment. While it is relatively easier for Chinese researchers to approach kindergartens to recruit parents and children aged 3-6 years old, children under three are mainly taken care of by parents or grandparents at home in China, which poses some barriers to recruiting them for research. Yet, the current lack of ECEC provision for children under three makes it even more urgent and meaningful to investigate the associations between parenting and 0-3-year-olds' development in Chinese contexts. Researchers may consider working with maternity hospitals or local divisions of the population and family planning commission to reach out to families with children aged 0-3 years old.

Likewise, as can be seen in Table 3.4, while the importance of studying young children's socioemotional development is widely recognised in the international literature reviews and meta-analyses, the empirical research focusing on 0-3-year-olds' socioemotional development in Chinese contexts seems less adequate. This raises the question of whether young children's socioemotional development is less valued in Chinese contexts. Yet, there are a considerable number of studies that have investigated Chinese preschool children's (aged 3-6 years) socioemotional development (e.g., Ren & Xu, 2019; Ren & Edwards, 2015). We acknowledge that it is relatively more challenging to assess 0-3-year-olds'

socioemotional development, as well as their cognitive development, than their physical and behavioural development. Hence we suggest that future research should seek to further develop theories to conceptualise specific facets of cognitive and socioemotional development and accordingly exploring innovative methods of assessment for children aged 0-3-year-olds. Furthermore, as mentioned earlier, different aspects of young children's development are not disconnected but intertwined with each other. For example, Belsky and de Haan (2011) and Cui *et al.* (2018) have reviewed the research evidence of how early years parenting influences young children's brain development/neurodevelopment, suggesting it is worth exploring how such influence may potentially mediate the associations between parenting and children's emotion, cognition, behaviour and health. While it is sensible for empirical research to have a specific focus, we recommend that researchers take the connections between different aspects of development into consideration to gain a comprehensive understanding of young children's development.

Meanwhile, more empirical research is needed to focus on grandparents and other carers in extended family in Chinese contexts. We are aware of the high grandparent involvement in caring for young children in Chinese families nowadays (Chen, Liu & Mair, 2011; Silverstein & Zuo, 2020). Although the current report does not specifically look into grandparents taking care of their grandchildren, we do recognise its significance in the Chinese contexts, especially for left-behind-children in rural areas (Wang *et al.*, 2019), and consider it as a limitation that shall be addressed in future reports. Besides, for a large number of urban families in China, grandparents are effectively acting as co-caregivers for young children (Li & Liu, 2019). A more in-depth investigation into intergenerational caregiving for young children and co-parenting between parents and grandparents in Chinese contexts (*incl.*, both urban and rural contexts) can be beneficial to multiple stakeholders including policymakers, family support professionals, parents, grandparents as well as young children.

To summarise, we propose the following recommendations for future empirical research on the associations between parenting and 0-3-year-olds' development in the Chinese contexts. While we acknowledge the contribution of the current prevalently adopted cross-sectional survey research and large cohort research in China, we suggest drawing attention to the new insights that empirical research with the following features can potentially bring about:

- adopting approaches rooted in paradigms (*e.g.*, constructivism and post-structuralism) that allow 'thick description' of the associations between parenting and young children's development (in addition to the general patterns that most of the current research focuses)
- taking an interdisciplinary approach that enables researchers to interpret the associations from different perspectives
- drawing on theoretical frameworks that entail ecological and system dynamic elements to account for the multifaceted and interactive effects of individual and contextual factors
- emphasising the bi-directional and interactive effects between parents and young children
- regarding young children as active and agentic individuals who have the right to express their own views, which shall be heard, valued and acted on; therefore,

- developing innovative research methods to '*listen to*' (Clark, 2017) 0-3-year-olds
- paying close attention to parent and child characteristics, particularly for families with special needs
- further developing theories and corresponding measurement to conceptualise and assess the different aspects of development for children aged 0-3 years old in the Chinese contexts
- tracking the development trajectories of children from birth (or even prenatal period) to an older age to explore the role of parents during life process

## 4.2 Recommendations for parents and family support professionals

This report seeks to synthesise the up-to-date research evidence of associations between parenting and young children's development (with a focus on 0-3 years period) in order to advise Chinese parents and family support professionals. Informative research evidence generated by recent studies (published in the past ten years, 2010-2020) is summarised in Table 3.1 and 3.2. As demonstrated in Section 3.2 and 3.3, a great diversity of aspects of parenting and young children's development have been investigated in the included studies of this report. The synthesis of findings suggests that the associations between parenting and young children's development depend on factors that pertain to (i) theoretical and methodological issues (e.g., how the aspect of parenting and children's development is conceptualised and assessed in research), (ii) parent and child characteristics (e.g., child's temperament, etc.), and (iii) contextual factors (e.g., cultural, social, economic, political and historical contexts). Hence, we propose the following recommendations for Chinese parents and family support professionals to make better use of available research evidence to inform everyday practice.

We suggest that parents and family support professionals could start with transforming their question from '*what is good parenting?*' to the more contextualised question of '*what is the optimal parenting for this parent and this child?*'. When drawing on research evidence, parents and family support professionals are advised to pay attention to the contexts in which the empirical research was situated and make connections to their own contexts. Whilst some of the widely-acknowledged general patterns of parenting effects are informative, when it comes to more specific parenting practices with individual children, we emphasise the importance of empowering parents to make contextualised judgments to their best knowledge of their children.

Accordingly, we suggest that educational programmes and family services for parents of young children should lay emphasis on facilitating parents to gain a profound understanding of their children through conscious observation during interaction, a careful reading of the nonverbal (and sometimes verbal) cues of children and parental mentalisation (e.g., mind-mindfulness, insightfulness, and reflective functioning) (Zeegers *et al.*, 2017). Such effort can benefit from theories that underscore parents' conscious endeavour to understand their children (both the external behaviours and the internal mental states) during parent-child interaction, such as reflective parenting (Fonagy *et al.*, 1991; Slade, 2007). While we understand that novice parents may seek general parenting principles and consider information on '*typical*' childhood development useful, we think it is crucial to stress that each child is unique, each parent is unique and each family is unique. Professional advice on what kind of parenting practice may be suitable should be contextualised and based on



a sound knowledge of the child and the family. Family support professionals should facilitate parents to build up confidence and explore the most suitable parenting practice for their children within their context.

As mentioned earlier, the majority of research evidence of early years parenting in the included literature is regarding mothers. Nonetheless, we challenge the implicit presumption that fathers are subsidiary carers to mothers who are regarded as primary carers for children aged 0-3 years old. The benefits of father involvement to young children and mothers are well-documented (Shorey & Ang, 2019; Coates & Phares, 2019; Li, 2020). We suggest that family support professionals should purposefully encourage and promote father involvement in the care and education of 0-3-year-olds. We recognise the potential differences between fathers and mothers in some aspects of parenting (Bariola *et al.*, 2011). However, we emphasise the importance and necessity to be mindful of gendered roles in parenting young children. Rather than reinforcing gender stereotypes in parenting, family support professionals should endeavour to promote gender equity and shared responsibilities between fathers and mothers.

Finally, the synthesis of research evidence generated by studies conducted in different contexts has reinforced the importance to pay close attention to individual characteristics of parents and children when investigating associations between parenting and children development. Due to the limitation of not including studies that focus on families with special needs in this report, we are unable to propose specific recommendations accordingly. Nonetheless, based on the diverse research evidence reported by the included studies, we reiterate the necessity of tailoring support for different families, especially those with special needs and/or of disadvantaged backgrounds (*e.g.*, migrant families from rural to urban areas, families of left-behind children in rural areas, *etc.*). We recognise the urgency of providing these families with the support they need and suggest that such support should lay emphasis on enabling empowerment and strengthen resilience.

#### 4.3 Limitations of this evidence review

Although seven bibliographic databases were searched for literature in both cases (*i.e.*, international literature reviews and China-specific empirical research), the current report has included a limited number of studies that are available in the field. Particularly for China-specific empirical research, the exclusion of Chinese databases (*e.g.*, CNKI '中国知网') explains the inclusion of only a few empirical research conducted by Chinese researchers. This choice responds to the limited timeframe and resources available. We mainly focused on literature that are available in international bibliographic databases. We acknowledge this limitation, yet argue that the research evidence synthesised in this report is a useful supplement to other reviews of Chinese studies, thereby contributing to future empirical research of the topic.

Meanwhile, as this review focuses on the associations between parenting and children's development, the research evidence is mainly drawn from correlational studies. We understand that other parenting research which does not explicitly investigate the associations between parenting and children's development can also provide insights into the relationship (*e.g.*, Shorey & Ang, 2019). Such parenting research is likely to take a

theoretical approach that allows 'thick description' of parenting. Yet, they are not included in this evidence review because of not establishing links between parenting and children's development.

Furthermore, we are conscious that this report does not specifically focus on families with special needs and/or of disadvantaged backgrounds, which is a limitation that can be better addressed in a more specific literature review. Finally, we acknowledge that this report does not address issues of grandparenting (which is of particular relevance to the Chinese context), nor families beyond the heterosexual nuclear family structures. These issues are worth further investigation in Chinese contexts. Despite these limitations, we suggest that this report can be used to facilitate future development of academic research as well as practical service to support parents of children aged 0-3 years old in China in order to promote young children's development.



## 5. Conclusion

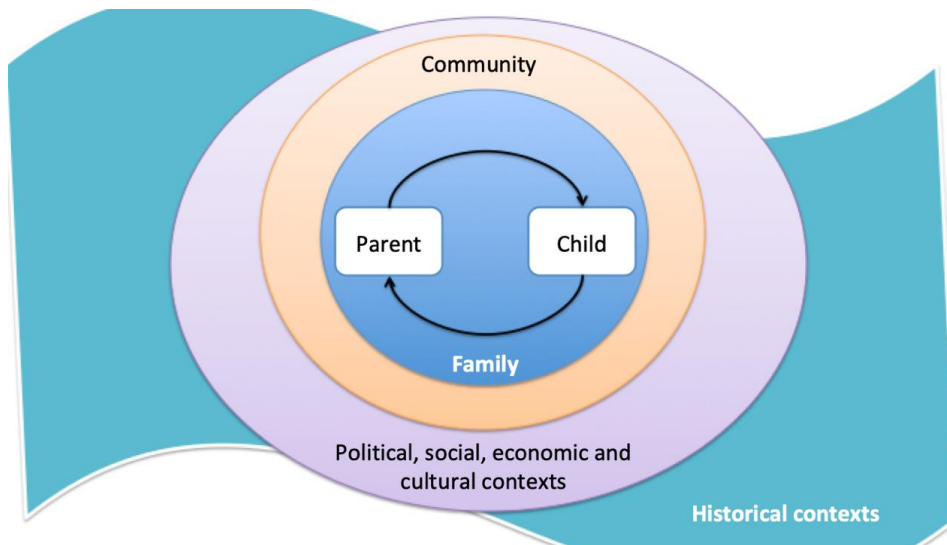
In response to Chinese parents' and family support professionals' need for up-to-date research evidence on the associations between parenting and young children's development (with a focus on 0-3 years period), we conducted literature searches through seven bibliographic databases for (i) recent literature reviews and meta-analyses on the aforementioned associations in international contexts (published in the past ten years, 2010-2020); and (ii) recent empirical research on the aforementioned associations in Chinese contexts (published in the past ten years, 2010-2020). By synthesising the findings of both sets of literature, we explored the complexities surrounding the question of under what circumstances, what kind of parenting promotes or hinders young children's development.

The synthesis of research evidence reported by the included studies has reinforced the finding that the effects of parenting on young children's development tend to vary across families of different backgrounds. Therefore, we argue that it may be time for researchers to shift from exploring generalised patterns to taking a more nuanced approach in investigating the effects of parenting to shed light on the underlying mechanisms of identified associations between parenting and young children's development. Empirical research on this topic can further benefit from an interdisciplinary approach that enables researchers to interpret the associations from different theoretical perspectives. Furthermore, it is worth tracking the development trajectories of children from birth (or even prenatal period) to an older age to explore the role of parents during life process.

Accordingly, we propose an evolving model of contextualising parenting (see Figure 5.1) which illustrates the individual and contextual factors (see Table 5.1) that potentially affect parenting and its impact on young children's development. We name the model as "*evolving*" to imply two points: (i) parenting constantly *evolves* as a result of the interplay between these influential factors; (ii) the model itself *evolves* along with the development in changing times (e.g., further development in parenting research). The listed potential influential factors of parenting in early childhood are not exhausted. Their influence on parenting is constantly changing rather than static. The relationships between factors in the model are reciprocal and dynamic.

This model can be used by researchers to contextualise parenting in their empirical studies, as well as by other stakeholders (e.g., family support professionals and parents) to understand and analyse parenting practice in everyday life. To be more specific, family research scholars can consider the different layers of contexts in the model before deciding on their research focus, so that the potential influence of other factors can be acknowledged or to a certain extent accounted for in the research. Based on this theoretical model, a set of practical checklists can be developed to help family support professionals identify the most relevant factors that affect the parenting practices in the family that they work with, thereby tailoring the intervention and their support to achieve optimal outcomes. In addition, we can also use this model to develop practical guidelines to facilitate parents' reflection on what potentially shapes their parenting practices and raise self-awareness in everyday interactions with their children. This evolving model of contextualising parenting serves as a useful tool for the development of practical checklists and parenting guidelines for family support professionals and parents.

**Figure 5.1 Evolving model of contextualising parenting**



**Table 5.1 Influential factors of parenting in early childhood**

*(Note: this is not an exhaustive list)*

<b>Child</b>
<ul style="list-style-type: none"> <li>• Age/Gender</li> <li>• Development status</li> <li>• Special needs</li> <li>• Temperament</li> <li>• Birth order</li> </ul>

<b>Parent</b>
<ul style="list-style-type: none"> <li>• Age/Gender</li> <li>• Socioeconomic status (e.g., education, occupation and income)</li> <li>• Special needs</li> <li>• Child-birth experience</li> <li>• Affect and mental states (e.g., parenting stress, parenting satisfaction, maternal/paternal depressive symptoms, etc.)</li> <li>• Self-beliefs (e.g., parental self-efficacy, etc.)</li> <li>• Parenting knowledge and parenting attitudes</li> <li>• Perceptions of their child</li> <li>• Childhood experience with their parents and/or other carers (e.g., attachment style, etc.)</li> <li>• Prior experience as a parent (if applicable)</li> </ul>

### **Family**

- Family structure
- Family socioeconomic status
- Family ethnicity
- Family migration (if applicable)
- Relationships between family members and family dynamics (*e.g.*, couple relationship, cross-generational relationship, power dynamics, emotional interdependence, *etc.*)
- (Shared) roles in/responsibilities of childcare within family

### **Community**

- Geographic region
- Community socioeconomic status
- Parent group (*e.g.*, informal peer groups or formal community parent groups)
- Access to childcare facilities and support (*e.g.*, playground, child centre, community family support, *etc.*)

### **Political, social, economic and cultural contexts**

- Childcare legislation and policies (*e.g.*, maternity/paternity leave, flexible working, family services, *etc.*)
- Country economic situation
- Shared parenting ideology
- Social expectations
- Parenting traditions (*e.g.*, rituals, traditional parenting ideologies and practices, *etc.*)

### **Historical contexts**

- Social revolutions
- Globalisation
- Public emergency (*e.g.*, pandemic, war, coup, *etc.*)

Based on our screening of China-specific literature, it is evident that empirical research on children aged 0-3 years old is not as sufficient as research on older children in Chinese contexts, which may partly be due to the challenges of participant recruitment posed by the lack of ECEC provisions for children aged under three years old in China. Yet, the current circumstances that the care and education of children under three years old are mainly taking place within family in China highlight the urgency and importance to support Chinese parents and other family members to fulfil their responsibilities in childcare. Based on the research evidence included in this report, we have proposed recommendations for researchers and family support professionals who can contribute to facilitating parents to promote the development of their young children (as demonstrated in Section 4.2 and 4.3). The key advice that we can offer to parents is to make contextualised judgments about parenting based on their best knowledge of their children through conscious observation during parent-child interaction with close attention paid to the nonverbal (and sometimes verbal) cues of their young children. In addition, parents can benefit from self-reflection on their interaction with children, especially how their children respond to specific parenting practice in different situations. We highlight the uniqueness of each individual family in order to argue against standardisation in evaluating parenting practices in family support services and advocate a bespoke approach whenever possible.



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- \* indicates the reference is among the included international literature reviews/meta-analyses;  
\*\* indicates the reference is among the included China-specific empirical research

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## 7. Appendix

**Table 2.2a Quality assessment of the included international literature reviews and meta-analyses**

*Note: A four-point scale was adopted, with higher score indicating more relevance and higher methodological quality.*

NO.	Reference	Type of literature review	Relevance to the research questions	Conceptual /theoretical framing	Methodological rigour, transparency, ethics	Reliability, validity and trustworthiness	Review	Check
1	Adamo & Brett, 2013	Narrative review of parental perceptions and childhood dietary quality	3	4	3	4	JG	CB
2	Ahun & Cote, 2018	Qualitative review of mediators between maternal depressive symptoms and children's cognitive development	3	4	4	4	JG	CB
3	Aktar & Bögels , 2017	Narrative review of associations between parents' expressions of emotions and infants' emotional development	4	4	3	4	JG	CB
4	Amodia-Bidakowska et al., 2020	Systematic review of associations between father-child play and infants social, emotional and cognitive development	4	4	4	4	JG	CB
5	Avila et al., 2015	Systematic review and meta-analysis of associations between parents' feeding practice and children's dental caries	4	4	4	4	JG	CB
6	Baker et al., 2019	Qualitative review of relationships between parenting practices and children's healthy habits and self-regulation	4	4	3	4	JG	CB

NO.	Reference	Type of literature review	Relevance to the research questions	Conceptual /theoretical framing	Methodological rigour, transparency, ethics	Reliability, validity and trustworthiness	Review	Check
7	Baldassarre et al., 2020	Narrative review of associations between vegetarian/vegan weaning and infants' nutrition	4	4	4	4	JG	CB
8	Bariola et al., 2011	Narrative review of relationships between parental emotion regulation/expression and children's emotion regulation	3	4	3	4	JG	CB
9	Belsky & de Haan, 2011	Narrative review of associations between parenting and children's brain development and function	3	3	3	3	JG	CB
10	Blaine et al., 2017	Systematic review of associations between parents' feeding practice and children's snacking behaviours	3	4	4	4	JG	CB
11	Brumariu & Kerns, 2010	Narrative review of relationships between attachment and children's general internalising symptoms	3	4	4	4	JG	CB
12	Campbell-Yeo et al., 2015	Narrative review of relationships between kangaroo care and infants' developmental outcomes	4	4	3	3	JG	CB
13	Carneiro et al., 2016	Systematic review of relationships between parenting and children's internalising and externalising problems	4	4	4	4	JG	CB
14	Coates & Phares, 2019	Narrative review of relationships between non-resident father involvement and children' behavioural and cognitive development	3	3	3	3	JG	CB

NO.	Reference	Type of literature review	Relevance to the research questions	Conceptual /theoretical framing	Methodological rigour, transparency, ethics	Reliability, validity and trustworthiness	Review	Check
15	Cui et al., 2018	Narrative review of relationships between parenting and children' socioemotional development	4	4	3	4	JG	CB
16	Endendijk et al., 2018	Narrative review of relationships between parental gender socialisation and children's gender development	3	4	3	4	JG	CB
17	Fraser et al., 2011	Systematic review of parental influences on children's weight gain	4	4	4	4	JG	CB
18	Gordon et al., 2015	Narrative review of relationships between adult-infant bedsharing and sudden infant death	4	4	4	4	JG	CB
19	Hesketh et al., 2017	Systematic review of relationships between parenting and children's physical activity	4	4	4	4	JG	CB
20	Higgins & Katsipataki, 2015	Review of meta-analysis studies of parental involvement and children's cognitive development	3	4	4	4	JG	CB
21	Hooley et al., 2012	Systematic review of parental influence on children's dental caries	4	4	4	4	JG	CB
22	Jago et al., 2013	Systematic review of relationships between media parenting and children's screen viewing behaviours	3	4	4	4	JG	CB
23	Kiff et al., 2011	Narrative review of relationships between parenting behaviours and children's temperament and adjustment problems	4	4	3	4	JG	CB



NO.	Reference	Type of literature review	Relevance to the research questions	Conceptual /theoretical framing	Methodological rigour, transparency, ethics	Reliability, validity and trustworthiness	Review	Check
24	Lindsay et al., 2017	Systematic review of relationships between parenting and children's physical activity and sedentary behaviours	4	4	4	4	JG	CB
25	Lucas-Thompson et al., 2010	Meta-analysis review of associations between maternal employment during infancy/early childhood and children's achievement and behavioural development	3	4	4	4	JG	CB
26	Ma et al., 2016	Meta-analysis review of associations between parental involvement and children's learning outcomes	3	4	4	4	JG	CB
27	Moullin et al., 2018	Narrative review of relationships between parental sensitivity/attachment style and children's development	3	4	3	3	JG	CB
28	Owen et al., 2012	Systematic review of the Effect of Praise, Positive Nonverbal Response, Reprimand, and Negative Nonverbal Response on Child Compliance	3	4	4	4	JG	CB
29	Pavarini et al., 2013	Narrative review of relationships between parental practices and theory of mind development	3	4	3	4	JG	CB
30	Pinquart, 2014	Meta-analysis review of associations between parenting and children's weight status, eating habits and physical activities	3	4	4	4	JG	CB

NO.	Reference	Type of literature review	Relevance to the research questions	Conceptual /theoretical framing	Methodological rigour, transparency, ethics	Reliability, validity and trustworthiness	Review	Check
31	Russell et al., 2016	Systematic review of associations between parenting behaviours and children's weight status and dietary behaviours	4	4	4	4	JG	CB
32	Scott, 2012	Narrative review of effects of parenting on children's physiological and genetic systems	3	3	3	3	JG	CB
33	Sleddens et al., 2011	Systematic review of associations between parenting styles and children's overweight and obesity-inducing behaviours	3	4	4	4	JG	CB
34	Valcan et al., 2018	Meta-analysis review of effects of parental behaviours on children's executive function	4	4	4	4	JG	CB
35	van der Voort et al., 2014	Narrative review of relationships between sensitive parenting and children's development	4	4	3	4	JG	CB
36	Verhage et al., 2016	Meta-analysis review of the associations between parental attachment experiences/representations and child attachment	3	4	4	4	JG	CB
37	Xu et al., 2015	Systematic review of associations between parenting and children's physical activity and screen time	4	4	4	4	JG	CB

NO.	Reference	Type of literature review	Relevance to the research questions	Conceptual /theoretical framing	Methodological rigour, transparency, ethics	Reliability, validity and trustworthiness	Review	Check
38	Zeegers et al., 2017	Meta-analysis review of parental mentalization and sensitivity as predictors of infant-parent attachment	4	4	4	4	JG	CB

**Table 2.2b Quality assessment of the included empirical research in Chinese contexts**

*Note: A four-point scale was adopted, with higher score indicating more relevance and higher methodological quality.*

NO.	Reference	Type of study	Relevance to the research questions	Conceptual /theoretical framing	Methodological rigour, transparency, ethics	Reliability, validity and trustworthiness	Review	Check
1	Ban et al., 2017	Cross-sectional survey study of the associations between parents' feeding practice and children's stunting	4	4	4	3	JG	CB
2	Chang et al., 2011	Observation study of associations between parental numeric speech and children's numeric acquisition	3	4	4	3	JG	CB
3	Dong et al., 2018	Longitudinal study of associations between maternal behavioural control and children's committed compliance	4	4	4	4	JG	CB
4	Liu et al., 2020	Cross-sectional survey study of associations between parenting self-efficacy/parental involvement and children's cognitive development	4	4	4	3	JG	CB

NO.	Reference	Type of study	Relevance to the research questions	Conceptual /theoretical framing	Methodological rigour, transparency, ethics	Reliability, validity and trustworthiness	Review	Check
5	Lo et al., 2015	Cross-sectional survey study of associations between parents' feeding practice and children's dietary patterns	4	4	4	3	JG	CB
6	Luo et al., 2019	Cross-sectional survey study of associations between interactive parenting and children's development	4	4	4	3	JG	CB
7	Ren et al., 2018	Cross-sectional survey study of relationships between parenting, child behavioural regulation and early competencies	3	4	3	3	JG	CB
8	Rochelle & Cheng, 2016	Cross-sectional survey study of relationships between parenting and children's behavioural problems	3	4	3	3	JG	CB
9	Yue et al., 2016	Qualitative study (Interview) of relationships between feeding practices and infants' nutrition	4	4	4	4	JG	CB
10	Zhong et al., 2020	Cross-sectional survey study of associations between parenting knowledge and children's cognitive and socioemotional development	4	4	4	3	JG	CB

**Table 3.1 Summaries of the included international literature reviews and meta-analyses**

NO.	Authors and year of publication	Type of literature review	Number of studies included in review	Parenting variable(s) under investigation	Children development under investigation	Main findings relevant to the current research questions
1	Adamo & Brett, 2013	Narrative review	Over 300 articles (not specified)	Parental perceptions; parental practice; parenting style	Dietary quality (early years to adolescence)	<ul style="list-style-type: none"> <li>• Parents are children's role model of healthy eating.</li> <li>• Parents have the tendency to overestimate child's dietary quality.</li> <li>• Certain level of parental control over child's eating behaviours is required, yet excessive control is harmful for child's dietary quality.</li> <li>• Evidence suggests that authoritative parenting style is beneficial to child's dietary quality.</li> <li>• A variety of factors affect child's dietary quality in addition to parental perceptions, including family dynamics and structure, socioeconomic, convenience, time and cost, child's peer and social environment, and media.</li> </ul>
2	Ahun & Cote, 2018	Qualitative review	7 studies (before Mar 2018)	Mother-child interactions; maternal parenting behaviours	Cognitive development (0-5 years)	<ul style="list-style-type: none"> <li>• Mixed evidence is reported across the studies regarding putative mediators between maternal depressive symptoms (MDS) and children's cognitive development.</li> <li>• Maternal responsiveness and quality of maternal caregiving are shown to be the most significant mediators.</li> <li>• Other putative mediators include parenting style, family dysfunction, and home environment.</li> </ul>

3	Aktar & Bögels, 2017	Narrative review	Not specified	Parents' expressions of emotions	Emotional development (0-1 year)	<ul style="list-style-type: none"> <li>• This review summarises psychological studies on the link between parents' expressions of emotions and infants' emotional development in samples of parents with and without depression and/or anxiety diagnoses.</li> <li>• Parents' facial expressions directly affect infants' emotional expressions in dyadic parent-infant interactions.</li> <li>• Parents' expressions of emotions directly affect infants' emotional expressions and reactions to novel stimuli in triadic parent-infant-object interactions.</li> <li>• Infants' exposure to parents' emotions affect their attention to strangers' emotions.</li> </ul>
4	Amodia-Bidakowska et al., 2020	Systematic review	78 studies (before April 2018)	Father-child play	Infants' social, emotional and cognitive development (0-3 years old)	<ul style="list-style-type: none"> <li>• Research evidence suggests that fathers adopt more physical forms of play with children than mothers.</li> <li>• Mixed evidence exists in terms of the association between father's rough and tumble play and child aggression.</li> <li>• Evidence suggests that father's physical play, toy play and active play have positive impact on children's self-regulation.</li> <li>• Evidence suggests that father's play with children is associated with children's peer competence.</li> <li>• Evidence of the effects of father-child playful interaction on children's cognitive development is scarce and unclear.</li> </ul>
5	Avila et al., 2015	Systematic review and meta-analysis	7 studies for qualitative synthesis and 2 studies for meta-analysis (before Mar 2014)	Breast and bottle feeding	Dental caries (18 -60 months)	<ul style="list-style-type: none"> <li>• Breastfeeding is more effective at preventing dental caries in early childhood than bottle feeding.</li> <li>• Breastfeeding is recommended as exclusive feeding method for the first 6 months and as complementary feeding method for up to two years.</li> </ul>

6	Baker et al., 2019	Qualitative review	Not specified	Parenting practices	Self-regulation; healthy habits (early childhood)	<ul style="list-style-type: none"> <li>This review summarises research evidence regarding the associations between parenting practices and children's self-regulation and healthy habits.</li> <li>Parenting practices that are beneficial to children's health-related self-regulation include modelling, proactive regulation, use of reinforcements/punishments and establishment of routines and habits.</li> <li>Longitudinal studies are needed to further investigate the associations, which would have implications on parenting interventions aiming at promoting healthy habits in early childhood.</li> </ul>
7	Baldassarre et al., 2020	Narrative review	9 studies (1st May 2010 to 30th April 2020)	Vegetarian and Vegan Weaning	Child's nutrition (infants)	<ul style="list-style-type: none"> <li>Vegetarian and vegan weaning without appropriate diet regimen may cause severe nutritional deficiencies in early childhood and lead to potential detrimental long-term effects.</li> </ul>
8	Bariola et al., 2011	Narrative review	29 studies (1991-2010)	Parental emotion regulation and expression	Emotion regulation (2-19 years old)	<ul style="list-style-type: none"> <li>Parents' emotion regulation and emotional expression are integral to children's development of emotion regulation.</li> <li>Research evidence suggests that fathers and mothers may exert different influence on children's development of emotion regulation. More research is needed to look into fathers' influence.</li> </ul>

9	Belsky & de Haan, 2011	Narrative review	Not specified	Parenting (mainly maltreatment and institutionalisation)	Brain development and function (infants to adolescents)	<ul style="list-style-type: none"> <li>• This review summarises the research evidence of how parenting (mainly maltreatment and institutionalisation) affects children's brain development and function.</li> <li>• Given the substantial evidence generated by research of extreme circumstances, the authors pointed out that more research is needed to investigate the influence of non-extreme/non-pathological parenting on children's brain development and function.</li> <li>• More studies are needed to examine children's susceptibility to parenting effects on brain development and whether parenting effects on brain development potentially mediate the parenting effects on children's behaviour, cognition, emotion and health.</li> </ul>
10	Blaine et al., 2017	Systematic review	47 studies (1980-2017)	General parenting style and specific food parenting practice	Snacking (2-18 years)	<ul style="list-style-type: none"> <li>• Evidence suggests that parental restriction of food and home availability of unhealthy food have positive associations with child snack intake.</li> <li>• Mixed evidence yields in terms of the associations between parental pressure to eat/ monitoring/ role modelling and child snacking.</li> </ul>
11	Brumariu & Kerns, 2010	Narrative review	19 studies for general internalizing symptoms; 10 studies for anxiety; 4 studies for depression (1967 to present)	Parent-child attachment; sensitive parenting	General internalizing symptoms, anxiety and depression (2-18 years)	<ul style="list-style-type: none"> <li>• Most studies focused on mother-child attachment, whereas father-child attachment is under-investigated.</li> <li>• Previous studies have generated mixed evidence of the association between parent-child attachment and children's general internalizing symptoms in childhood.</li> <li>• Evidence suggests that secure parent-child attachment is related to lower levels of anxiety in children.</li> <li>• A relatively small number of studies investigated the association between attachment and childhood depression. Nonetheless, the limited evidence suggests that they are related.</li> </ul>



12	Campbell-Yeo et al., 2015	Narrative review	Not specified	Kangaroo care	Mortality; physiological, behavioural and neuro-development; parent-infant attachment (infants)	<ul style="list-style-type: none"> <li>This review synthesises research evidence of the benefits of kangaroo care to infants wellbeing, including temperature regulation, physiological stability, sleep organisation, mortality, infection, growth, NICU admission, breastfeeding, cry, neurodevelopment and parent-child attachment.</li> </ul>
13	Carneiro et al., 2016	Systematic review	28 studies (Jan 2001-Dec 2014)	Disciplinary practices; parental interactions; expectations; concerns about the child	Internalising and externalising problems (early childhood)	<ul style="list-style-type: none"> <li>The review demonstrates mixed evidence of the association between parents' disciplinary practices (e.g., harsh discipline)/parental interaction (e.g., intrusive interaction, low emotional stimulation and insensitive parenting) and children's internalising and externalising problems, suggesting that sample characteristics and other relevant variables should be taken into consideration.</li> <li>The review suggests that parents' inappropriate expectations and concerns about children's development may be related to children's internalising and externalising problems.</li> </ul>
14	Coates & Phares, 2019	Narrative review	10 studies	Non-resident father involvement	Behaviour problems and cognitive development (incl. 3-8 years old)	<ul style="list-style-type: none"> <li>The review reports mixed evidence of direct relationships between non-resident father involvement and children's behaviour problems and cognitive development.</li> <li>Research evidence shows that non-resident father involvement is related to maternal parenting stress, depression and maternal parenting, which affect children's behaviour problems and cognitive development.</li> </ul>

15	Cui et al., 2018	Narrative review	Not specified	Parental warmth, acceptance, rejection and corporal punishment	Genome and brain development; socio-emotional development (early childhood)	<ul style="list-style-type: none"> <li>• Research evidence shows early social experiences are related to children's genome and neurodevelopment, especially during infancy as a sensitive period of socio-emotional development.</li> <li>• Research evidence suggests that in general children's perceived parental acceptance-rejection relates to their socio-emotional development, with some cultural variance in specific effects.</li> <li>• Societal gender norms, attributional styles, family composition and marital status are found to be influential to parenting practice and children's development.</li> <li>• Cultural differences exist in terms of how children perceive parental warmth and control, as well as the associations between parenting styles and children's development.</li> <li>• Corporal punishment is detrimental to children's socio-emotional adjustment but considerable cultural variance exists in the use and acceptance of corporal punishment.</li> </ul>
16	Endendijk et al., 2018	Narrative review	Not specified	Parental gender socialisation	Gender-typed behaviour and gender-role cognitions (from prenatal period)	<ul style="list-style-type: none"> <li>• This review proposes a gendered family process model to understand children's gender development through the interplay between biological, social and cognitive processes within family.</li> <li>• Parental gender-role cognitions and gender socialisation have bi-directional associations with children's gender development (<i>i.e.</i>, gender-typed behaviour and gender-role cognitions).</li> </ul>

17	Fraser et al., 2011	Systematic review	10 studies (before 2010)	Paternal parenting style, behaviours and cognitions (e.g., paternal attitudes and knowledge)	Weight gain, overweight and obesity status (up to 12 years)	<ul style="list-style-type: none"> <li>Mixed evidence has been reported by studies investigating the associations between paternal parenting style and children's weight gain and obesity.</li> <li>Research findings suggest that fathers' eating-related attitudes are related to feeding practices, which are associated with children's weight.</li> <li>Research findings suggest that paternal knowledge about their children and feeding practices are associated with children's weight.</li> <li>Fathers were regarded as secondary carers in most existing studies.</li> </ul>
18	Gordon et al., 2015	Narrative review	Not specified	Adult-infant bedsharing	Sudden infant death (infant)	<ul style="list-style-type: none"> <li>The authors used the context-based evidence-based policy making framework to review the research about adult-infant bedsharing and sudden infant death.</li> <li>Three types of studies were under review, namely, case-control studies, sudden infant death syndrome case records and observations of infant sleep, and parent survey and focus groups.</li> <li>Research evidence suggests that bedsharing is especially risky when it intersects with other individual risk factors.</li> </ul>

19	Hesketh et al., 2017	Systematic review	44 studies (before Oct 2015)	Parental reinforcement, role-modelling, motivation, goal setting, knowledge, skills, self-efficacy and parental behaviours	Physical activity (0-6 years)	<ul style="list-style-type: none"> <li>• Consistent evidence shows that parental monitoring is positively associated with children's physical activity (PA).</li> <li>• Evidence suggests that maternal role-modelling is positively associated with children's PA.</li> <li>• Existing studies have generated mixed evidence of the association between parental goal setting and children's PA.</li> <li>• Research evidence shows that parental knowledge, parental motivation, parenting skills and parental self-efficacy are not associated with children's PA.</li> <li>• Limited studies have been conducted to investigate PA change from infancy to preschool period.</li> </ul>
20	Higgins & Katsipataki, 2015	Review of meta-analysis studies	13 studies (1995-2013)	Parental involvement	Children's learning, cognitive and academic development (pre-kindergarten children to secondary school pupils)	<ul style="list-style-type: none"> <li>• Based on the studies under review, there is indicative evidence suggesting that improved parental involvement has positive impact on children's learning, albeit the variation in effect size across parental involvement programmes (i.e., general approach, home and family literacy programmes and targeted programmes for families in need).</li> </ul>

21	Hooley et al., 2012	Systematic review	55 studies (2006-2011)	Feeding practice, dental-health-related behaviours, attributes, attitudes, knowledge and beliefs	Early childhood caries (0-6 years old)	<ul style="list-style-type: none"> <li>In the field of early childhood caries, the most extensively studied parental variables are socio-demographic factors, feeding practices (e.g., breast and bottle feeding, nocturnal feeding and between-meal snacking) and parent dental-health-related behaviours (e.g., tooth brushing and dental attendance). Majority studies have reported consistent findings.</li> <li>More studies are needed to investigate the effects of parents' attributes, attitudes, knowledge and beliefs on early childhood caries.</li> <li>The field can benefit from an ecological framework which enables researchers to investigate multilevel influential factors.</li> </ul>
22	Jago et al., 2013	Systematic review	29 studies (before January 2012)	Parenting style and media-related parenting practice	Screen viewing (infants to adolescents)	<ul style="list-style-type: none"> <li>There is no adequate evidence of the associations between parenting styles and children's screen viewing.</li> <li>A wide range of media-related parenting practices have been investigated yet the conceptualisation and measurement of media-related parenting practices were heterogeneous across studies. Therefore it was challenging to draw conclusion based on the research findings.</li> </ul>

23	Kiff et al., 2011	Narrative review	Not specified	Parenting behaviours	Children's temperament (e.g., emotionality, frustration, fear, self-regulation, impulsivity); adjustment problems (early childhood)	<ul style="list-style-type: none"> <li>• The review demonstrates evidence of the bidirectional relations between parental control/harsh parenting and young children's difficult temperament/negative emotionality.</li> <li>• Evidence suggests that young children's difficult temperament/negative emotionality increases the risk of adjustment problems in the presence of low parental responsiveness/sensitivity and high psychological control.</li> <li>• Evidence suggests that young children's low emotionality or reactivity seem to be less susceptible to parenting behaviours.</li> <li>• Evidence shows moderate bidirectional effects between children's frustration/irritability/anger and negative parenting (e.g., anger, rejection, hostility and intrusiveness).</li> <li>• Mixed evidence is reported regarding the interaction between children's irritability/frustration and parenting behaviours. Both seem to exert unique effects on children's adjustment problems.</li> <li>• Research evidence suggests that the associations between children's fearfulness and parenting may operate differently given different aspects of parenting, children's gender, developmental periods, and levels of fear.</li> <li>• Consistent evidence shows that parenting predicts the development of self-regulation, effortful control and impulsivity in infants and young children.</li> <li>• Children's self-regulation and impulsivity moderates the effect of parental control behaviours on children's externalising problems.</li> </ul>
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24	Lindsay et al., 2017	Systematic review	158 studies (2000-2016)	Parental physical activity and sedentary behaviours; parental beliefs, attitudes and concerns; parenting styles; parenting practice; parental influence on screen viewing	Physical activity and sedentary behaviours (0-5 years)	<ul style="list-style-type: none"> <li>Parental beliefs, attitudes, concerns and their own physical activities and sedentary behaviours influence young children's physical activity (PA) and sedentary behaviours.</li> <li>No association was found between parenting styles and children's PA.</li> <li>Parental support for and involvement in PA are related to children's PA.</li> <li>Parents' screen-viewing-related practices (e.g., restrictions on TV viewing) influence children's PA.</li> </ul>
25	Lucas-Thompson et al., 2010	Meta-analysis review	69 studies (1960-March 2010)	Maternal employment during infancy/early childhood	Achievement and behaviour problems (0-13+ years old)	<ul style="list-style-type: none"> <li>Research evidence suggests that maternal employment during infancy/early childhood is not significantly associated with children's later achievement or internalising/externalising behaviours in most cases.</li> <li>Some studies show that early employment is associated with higher achievement and fewer internalising behaviours as rated by teachers.</li> <li>Results of moderator analyses suggest that the effects are moderated by socioeconomic and contextual variables (e.g., single- or two-parent family).</li> <li>Research shows negative findings for very early employment (child's first year).</li> </ul>
26	Ma et al., 2016	Meta-analysis review	46 studies (1990-2015)	Parental involvement	Learning outcomes (early childhood)	<ul style="list-style-type: none"> <li>The result of meta-analysis suggests that parental involvement (i.e., behavioural, personal and intellectual involvement) during early childhood is positively associated with children's learning outcomes.</li> </ul>



27	Moullin et al., 2018	Narrative analysis	Not specified	Parental sensitivity; parent attachment style	Attachment style; self-regulation; externalising/internalising behaviours; executive functions; language and educational attainment (early childhood)	<ul style="list-style-type: none"> <li>• Research evidence suggests that children's attachment security is associated with self-regulation, executive functions, language and educational attainment.</li> <li>• Research evidence suggests that children's attachment insecurity is associated with externalising/internalising behaviours.</li> <li>• Research evidence suggests a strong association between parents' and children's attachment security.</li> <li>• Evidence suggests that parent sensitivity is associated with children's attachment styles.</li> <li>• Parental socio-economic and socio-emotional factors affect parent sensitivity.</li> </ul>
28	Owen et al., 2012	Systematic review	41 studies (1970-2012)	Praise, positive nonverbal response, reprimand, negative nonverbal response	Child compliance (one and half to eleven years)	<ul style="list-style-type: none"> <li>• Consistent evidence shows that reprimand and negative nonverbal responses (not delivered in a harsh or highly punitive manner) elicit greater compliance. On the other hand, praise and positive nonverbal responses lead to mixed child compliance.</li> <li>• Harsh verbalisation cannot increase compliance and may lead to distress in children.</li> </ul>

29	Pavarini et al., 2013	Narrative review	78 studies (1980-2011)	Parent-child attachment, mental-state talk, sensitivity, expression of emotions, parenting style, abuse and neglect	Theory of mind (i.e., emotions and beliefs) (early childhood)	<ul style="list-style-type: none"> <li>• Research evidence suggests an association between parent-child attachment and development of theory of mind. But the association becomes weaker when more specific features of parent-child interaction are under investigation.</li> <li>• Parents' mental-state talk promotes children's theory-of-mind development (father's mental-state talk is under-studied).</li> <li>• Parents' sensitivity to children's mental states is related to children's theory-of-mind development. Gender differences exist in parents' reactions to children's emotions.</li> <li>• Research evidence suggests no association between parenting styles and children's theory-of-mind development.</li> </ul>
30	Pinquart, 2014	Meta-analysis review	156 studies (before 2013)	General parenting behaviours and parent-child relations	Weight status, eating and physical activity (early childhood to adolescence)	<ul style="list-style-type: none"> <li>• Results of meta-analysis suggest that better parent-child relationship/higher level of parental demandingness are associated with lower weight, more physical activities and healthier eating, with small to very small effect size.</li> <li>• Parental overprotection, psychological control, and parental inconsistency are associated with higher body weight, with small effect size.</li> <li>• Authoritative parenting is positively associated with lower child weight and healthier eating, whereas neglectful parenting is negatively associated. The effect sizes are very small.</li> <li>• The authors suggested targeting parental inconsistency in order to prevent child obesity.</li> </ul>

31	Russell et al., 2016	Systematic review	32 studies (before Dec 2015)	Parenting behaviours; feeding practice; parental feeding styles	Weight, eating, and physical activity and sedentary behaviour (infants and young children)	<ul style="list-style-type: none"> <li>The review demonstrates evidence of the associations between maternal feeding practices (e.g., parental modelling, monitoring, pressure to eat and restriction) and dietary outcomes in infants and children.</li> <li>Research evidence shows associations between parental feeding style (e.g., authoritative, permissive, authoritarian and uninvolved) and children's dietary intakes.</li> <li>Mixed evidence is reported about associations between breast-/bottle-feeding/age or introducing solid foods and child weight.</li> </ul>
32	Scott, 2012	Narrative review	Not specified	Parenting quality	Neurohormonal functions, genetic systems (early childhood)	<ul style="list-style-type: none"> <li>The review presents research evidence of the biological effects of parenting on young children's neurohormonal functions and the expression of genotype.</li> </ul>
33	Sleddens et al., 2011	Systematic review	36 studies	General parenting style	Childhood overweight and obesity-inducing behaviours (infancy to adolescence)	<ul style="list-style-type: none"> <li>The result suggests that authoritative parenting positively associates with more physical activities, lower BMI levels and better health in children.</li> <li>The findings suggested that the influences of general parenting on children's weight-related outcomes are potentially moderated by behaviour-specific parenting practices, parent and child characteristics.</li> </ul>

34	Valcan et al., 2018	Meta-analysis review	42 studies (2000-2016)	Parental behaviours	Executive functions (0-8 years)	<ul style="list-style-type: none"> <li>• Results of meta-analysis show significant associations between children's composite executive functions and positive (e.g., warmth, responsiveness, sensitivity), negative (e.g., control, intrusiveness, detachment) and cognitive (e.g., autonomy support, scaffolding, cognitive stimulation) parental behaviours.</li> <li>• The association between cognitive parental behaviours and children's executive functions has larger effect size in younger children, whilst age does not moderate the associations between children's executive functions and positive and negative parental behaviours.</li> <li>• No significant moderation effects of ethnicity or SES were detected for the associations between parental behaviours and children's executive functions.</li> <li>• Results of meta-analysis show small effect sizes of the effects of genetics and environmental contexts on children's executive functions.</li> </ul>
35	van der Voort et al., 2014	Narrative review	Not specified	Sensitive parenting	Attachment security, social competence, behaviour problems and neurobiological development (infancy to early childhood)	<ul style="list-style-type: none"> <li>• The review presents evidence of the association between sensitive parenting and children's attachment security.</li> <li>• Some studies suggested that gene-environment interactions played a role in intergenerational transmission of attachment security.</li> <li>• Evidence shows the associations between attachment security and social competence, behaviour problems and neurobiological development.</li> </ul>

36	Verhage et al., 2016	Meta-analysis review	78 studies (before July 2014)	Attachment experiences and representations	Child attachment (12-74 months)	<ul style="list-style-type: none"> <li>• Results of meta-analysis suggest that the intergenerational transmission of attachment may vary in strength depending on other psychosocial risks of the targeted population and children's age.</li> <li>• Effect size for the transmission is smaller for non-biological child-carer dyads, but more research is needed to investigate biological heritability of attachment representations.</li> <li>• The review shows moderate to strong evidence of the association between parental encouragement/support, parental physical activity level and children's physical activity.</li> <li>• Mixed evidence is reported regarding the association between parental perception, parental self-efficacy, and parenting style with children's physical activity.</li> <li>• Evidence suggests that parents' own screen time and parental self-efficacy is associated with children's screen time.</li> <li>• Inconsistent evidence is reported regarding the association between parental perception, parenting style and children's screen time.</li> </ul>
37	Xu et al., 2015	Systematic review	30 studies (1998-2013)	Parenting practices; parents' role modeling; parental perceptions; parental self-efficacy; and general parenting style	Physical activity and sedentary behaviours (0-6 years old)	<ul style="list-style-type: none"> <li>• Results of meta-analysis suggest that parental mentalisation exerts influence on infant-parent attachment security both directly and indirectly through parental sensitivity.</li> <li>• Parental mentalisation is associated with parental sensitivity and both play a complementary role in influencing infant-parent attachment security.</li> </ul>
38	Zeegers et al., 2017	Meta-analysis review	17 studies of mentalisation and attachment; 85 studies of attachment and sensitivity; and 18 studies of mentalization and sensitivity (1997-2016)	Parental mentalisation (i.e., mind-mindfulness, insightfulness, and reflective functioning), parental sensitivity	Infant-parent attachment security (0-3 years old)	<ul style="list-style-type: none"> <li>• Results of meta-analysis suggest that parental mentalisation exerts influence on infant-parent attachment security both directly and indirectly through parental sensitivity.</li> <li>• Parental mentalisation is associated with parental sensitivity and both play a complementary role in influencing infant-parent attachment security.</li> </ul>

**Table 3.2 Summaries of included empirical research in Chinese contexts**

NO.	Authors and year of publication	Study type	Sample/ Participants	Parenting variable(s)	Children development	Main findings relevant to the current research questions
1	Ban et al., 2017	Cross-sectional survey study	6136 caregivers of left-behind children (0-3 years)	Feeding practices	Stunting	<ul style="list-style-type: none"> <li>Children's left-behind status was not associated with stunting.</li> <li>Left-behind children cared by fathers were more likely to be stunted compared to left-behind children cared by mothers.</li> <li>Left-behind children of migrant mothers had higher risk of lacking age-appropriate breastfeeding and a minimum acceptable diet compared to non-left-behind children.</li> </ul>
2	Chang et al., 2011	Observation study	59 Mandarin-speaking caregiver-child dyads (14 to 32 months) and 180 English-speaking caregiver-child dyads (15 to 32 months)	Parental numeric speech	Numeric acquisition	<ul style="list-style-type: none"> <li>Research evidence shows a higher proportion of number terms in the parental speech of Mandarin-speaking caregivers than that of English-speaking caregivers.</li> <li>Children's exposure to numeric content through parental numeric language input contributes to children's numeric acquisition.</li> <li>The difference in parental numeric speech may be due to both language and cultural differences.</li> </ul>

NO.	Authors and year of publication	Study type	Sample/ Participants	Parenting variable(s)	Children development	Main findings relevant to the current research questions
3	Dong et al., 2018	Longitudinal study	92 mother-child dyads (assessed at 10, 14, 25 and 38 months)	Maternal behavioural control	Committed compliance	<ul style="list-style-type: none"> <li>• Three groups of different developmental trajectories were identified: children who started low committed compliance at 14 months but had an increase trajectory (developmental group); children who consistently scored low in committed compliance from 14 to 38 months (low-level group) and children who scored consistently high (high-level group).</li> <li>• Low-level group seemed to be more easily to be distracted and fearful.</li> <li>• No gender difference was identified in maternal behavioural control.</li> <li>• Low-level and high-level group mothers showed higher maternal control while developmental group mothers remained relatively consistent in terms of maternal control.</li> </ul>
4	Liu et al., 2020	Cross-sectional survey study	748 migrant and non-migrant families residing in urban areas (children aged 2-3 years)	Parenting self-efficacy; parental involvement	Cognitive competence	<ul style="list-style-type: none"> <li>• Results suggest that parental education and family income are strongly associated with children's early cognitive competence across migrant (i.e., rural to urban) and non- migrant families.</li> <li>• Results suggest that parenting self-efficacy and parental involvement partially mediated the effects of parental education and family income on children's early cognitive competence.</li> <li>• Results suggest that the effect of parental education on parenting self-efficacy was stronger for migrant than non-migrant families.</li> </ul>

NO.	Authors and year of publication	Study type	Sample/ Participants	Parenting variable(s)	Children development	Main findings relevant to the current research questions
5	Lo et al., 2015	Cross-sectional survey study	Parents of 4553 children (age 2-5 years) in Hong Kong	Feeding styles (i.e., instrumental feeding, emotional feeding, prompting and encouragement to eat, and control over eating)	Dietary patterns	<ul style="list-style-type: none"> <li>• Results suggest that instrumental and emotional feeding was associated with negative dietary patterns, including inadequate consumption of fruit, vegetables and breakfast, and large intake of high-energy-density food.</li> <li>• Control over eating and prompting and encouragement to eat were found to be related to positive dietary patterns, for example, increased intake of healthy food and less consumption of high-energy-density food.</li> </ul>
6	Luo et al., 2019	Cross-sectional survey study	448 children (aged 6-18 months) and their caregivers in rural areas	General parenting; interactive parenting practice	Cognitive functions (i.e., information processing, counting and number skills); language ability; social-emotional development	<ul style="list-style-type: none"> <li>• Results show that higher ratio of children in the sample exhibited delays in cognitive, language and social-emotional development, compared to children in urban areas of China.</li> <li>• Interactive parenting practice (i.e., storytelling, singing and playing) was found to be related to children's cognitive, language and social-emotional development.</li> <li>• Results suggest that caregivers in rural areas of China demonstrate relatively low level of interactive parenting.</li> </ul>



NO.	Authors and year of publication	Study type	Sample/ Participants	Parenting variable(s)	Children development	Main findings relevant to the current research questions
7	Ren et al., 2018	Cross-sectional survey study	109 Hong Kong children (around 3 years old) and their parents	Parenting behaviours (incl. supportive parenting and aversive parenting)	Behavioural regulation, mathematics competence, language skills and behaviour problems	<ul style="list-style-type: none"> <li>• Results suggest that children's behavioural regulation was positively associated with children's number competence, receptive vocabulary, and phonological awareness, but was not related to children's internalizing or externalizing problems.</li> <li>• Results suggested that fathers' supportive parenting moderated the relations between children's behavioural regulation and number competence as well as externalizing problems.</li> <li>• No significant mediation effects of behavioural regulation on the relations between general parenting behaviours (i.e., supportive and aversive) and children's outcomes were found. The authors suggested that more heterogeneous samples might generate different findings.</li> </ul>
8	Rochelle & Cheng, 2016	Cross-sectional survey study	106 Hong Kong parents of children (2-10 years old)	Parenting knowledge, parenting stress, parental nurturance, dysfunctional parenting practice	Behaviour problems	<ul style="list-style-type: none"> <li>• Results suggested that knowledge of effective parenting strategies was associated with parenting stress and dysfunctional parenting practice.</li> <li>• Results showed that parenting stress was associated with parental nurturance, dysfunctional parenting and children's behaviour problems.</li> <li>• No significant associations were found between Chinese child-rearing ideologies and parenting behaviours and children's behaviour problems.</li> </ul>

NO.	Authors and year of publication	Study type	Sample/ Participants	Parenting variable(s)	Children development	Main findings relevant to the current research questions
9	Yue et al., 2016	Qualitative study (Interview)	60 primary caregivers of young children (6-18 months) in rural areas of nationally-designated poverty counties	Complementary feeding practice	Nutrition	<ul style="list-style-type: none"> <li>• Failure to practise age-appropriate complementary feeding contributes to children's malnutrition.</li> <li>• Caregivers lacked adequate knowledge of infant health and nutrition, which impeded proper complementary feeding practices.</li> <li>• Caregivers had limited access to quality sources of information about infant nutrition and health.</li> <li>• The authors recommended educational campaigns aimed at improving complementary feeding practices.</li> </ul>
10	Zhong et al., 2020	Cross-sectional survey study	1715 rural households with young children (average age 14 months)	Parenting knowledge	Cognitive, language, motor and social-emotional development	<ul style="list-style-type: none"> <li>• Results suggested that caregivers' parenting knowledge was significantly associated with young children's cognitive, language, motor and social-emotional development.</li> <li>• Results suggested that the variety of play materials, the play activities, and the number of play materials in the households mediated the relationships between caregivers' parenting knowledge and young children's development.</li> </ul>