A QUALITATIVE STUDY ON MOTHERS' AND CHILDREN'S PERCEPTION OF SLEEP AND SLEEP HABITS

AMIRAH MUNAWWARAH BINTI BADRUZZAMAN

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ABSTRACT

This study explored children's perceptions of sleep and sleep habits, as well as mothers' perceptions of their children's sleep, sleep habits, and the practices that help their children to sleep. This qualitative study used a phenomenological approach with purposive sampling. The participants were 12 preschool-aged children, aged five to six years, who were generally healthy and typically developing and 12 mothers who were non-shift workers (M = 37.4 years old, SD = 2.68). Data were collected using in-depth semi-structured interviews. Thematic analysis was performed on interview transcripts from 12 children and 12 mothers. Children's understanding of their sleep elicited five themes (sleep behaviour, dreams, feelings upon waking, daytime functioning, facial appearance), while their perceptions of sleep habits elicited three themes (sleeping environment, bedtime routine, sleep resistance and midnight awakening). Mothers' perceptions of their children's sleep elicited three themes (type of sleepers; children's feelings upon waking; daytime functioning), their perceptions of sleep habits elicited four themes (sleep pattern; sleep environment; bedtime routine; sleep resistance and midnight awakening), and their sleep-promoting practices elicited six themes (establishing a bedtime routine; providing an optimal sleep environment; parental presence during sleep onset; diet-related practices; spiritual and psychological related practices; parents' resources). The findings revealed that young children have developed an understanding of sleep and its associated habits, highlighting the need for accurate information and sustainable healthy sleep habits from an early age. These findings may serve as a guide in the development and implementation of sleep education programmes for young children and for parenting support for Malaysian parents in managing their children's sleep.

KAJIAN KUALITATIF TERHADAP PERSEPSI IBU DAN KANAK-KANAK BERKENAAN TIDUR DAN TABIAT TIDUR

ABSTRAK

Kajian ini bertujuan mengkaji persepsi kanak-kanak terhadap tidur dan tabiat tidur, serta persepsi ibu terhadap tidur, tabiat tidur anak mereka dan amalan yang membantu anak mereka untuk tidur. Kajian kualitatif ini menggunakan pendekatan fenomenologi dengan persampelan bertujuan. Peserta kajian terdiri daripada 12 kanak-kanak prasekolah berumur lima dan enam tahun, yang sihat dan dalam perkembangan tipikal serta 12 ibu yang tidak bekerja syif (M = 37.4 tahun, SD = 2.68). Kajian ini menggunakan temu bual separa berstruktur secara mendalam. Analisis tematik telah dilaksanakan terhadap 12 transkrip temu bual kanak-kanak dan 12 transkrip temu bual ibu. Persepsi kanak-kanak terhadap tidur menghasilkan lima tema (tingkah laku tidur; mimpi; perasaan sewaktu bangun; fungsi disiang hari; penampilan muka), manakala persepsi kanak-kanak terhadap tabiat tidur mereka menghasilkan tiga tema (persekitaran tidur; rutin tidur; rintangan tidur dan bangun malam). Bagi ibu pula, persepsi mereka terhadap tidur anak menghasilkan tiga tema (jenis penidur; perasaan kanak-kanak sewaktu bangun; fungsi di siang hari), manakala persepsi mereka terhadap tabiat tidur anak menghasilkan empat tema (pola tidur; persekitaran tidur; rutin tidur; rintangan tidur dan bangun malam). Persepsi ibu terhadap amalan yang dilakukan untuk membantu tidur anak mereka pula menghasilkan enam tema (menetapkan rutin tidur; menyediakan persekitaran tidur yang optimal; kehadiran ibubapa sewaktu tidur; amalan pemakanan; amalan kerohanian dan psikologi; sumber ibu bapa). Hasil dapatan menunjukkan kanak-kanak telah mempunyai kefahaman terhadap tidur dan tabiat tidur, sekali gus menekankan keperluan maklumat yang tepat dan tabiat tidur sihat yang mampan sejak usia awal. Penemuan kajian ini boleh dijadikan panduan bagi pembangunan dan pelaksanaan program pendidikan tidur untuk kanak-kanak serta program sokongan keibubapaan bagi membantu ibu bapa di Malaysia dalam menguruskan tidur anak mereka.

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LIST OF ABBREVIATIONS

FHD	Family Health Development
NCDRC	National Child Development Research Centre
NSF	National Sleep Foundation
SF-CSHQ	Short-Form-Child Sleep Habit Questionnaire

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This dissertation presents a study of children's sleep through a qualitative approach. This chapter starts by highlighting the importance of understanding children's sleep and outlines five research objectives and five research questions of this study. Moving on to the subsection, two theoretical frameworks are discussed in support and guidance for this study. This chapter then presents the conceptual and operational definitions of several key terms used in this study. Lastly, this chapter ends with a discussion of the significance of the study.

1.2 Background Study

Sleep is important for physical, social, and psychological well-being (Cheng et al., 2020; Cremone et al., 2018; Matricciani et al., 2019; Mindell et al., 2017). In children, sleep plays a major role in their developmental milestones as well as in protecting them from the risk of getting health problems (Briguglio et al., 2020; Miller et al., 2021). Studies have shown that sleep is associated with obesity, which has been seen rising in children (Institute for Public Health, 2020; Morrissey et al., 2020). According to the World Health Organisation (WHO, 2024), globally, the statistics of children and adolescents aged 5-19 years with obesity increased from 2% to 8% in 32 years (1990-2022). This is worrying as individuals who are not getting enough sleep have a higher risk of obesity (Miller et al., 2021). In addition, it poses a threat to children's mental health (Cheng et al., 2020). Cheng et al. (2020) found that shorter sleep duration was significantly associated with psychiatric problems, specifically depression in children. Sleep could be a risk factor, symptoms and/or consequences of a range of psychological disorders, such as anxiety and depression (Cheng et al., 2021; Fehr et al., 2021; Tomaso et al., 2021).

Given the significance of sleep for children, past studies have further explored children's sleep, including the factors affecting pediatric sleep (El Rafihi-Ferreira et al., 2019; Nena et al., 2020; Whalen et al., 2017). Sleep can be affected by several factors such as individual (e.g., genetic profile, temperament), environment (e.g., family routine and chaos), and community (e.g., neighbourhood) (Williamson et al., 2019b). These factors interacted with each other in a complex way and distinctly at different development points (Meltzer et al., 2021).

Given the complex nature of pediatric sleep, perspectives and experiences regarding it have been studied across various groups, such as parents (Cook et al., 2022), educational psychologists (Furlong, 2019), primary school staff (Mellon et al., 2024), and childcare providers (Sadler et al., 2020). Meltzer and colleagues (2021) highlighted the need to explore sleep from different perspectives to improve children's sleep at various levels, including individuals, communities, and populations (Meltzer et al., 2021). Additionally, this approach also provides insights into developing strategies for promoting healthy sleep that are more suitable and sustainable for families and communities (Redeker et al., 2018; Sadler et al., 2020).

As children have limited control over their lives, parents play a crucial role in shaping their children's sleep (Meltzer et al., 2021). Past studies have demonstrated the significant influence of family on children's sleep (Maratia et al., 2023; Varma et al., 2021). For instance, parent-child interactions (Cimon-Paquet et al., 2019), family routines and chaos (Koopman-Verhoeff et al., 2019), and family socioeconomic status (Cameron et al., 2022) are among the contributing factors that affect children's sleep outcomes.

In addition to the adults' perception, children's perceptions of sleep have also been examined in several studies, demonstrating the value of including children's participation in sleep research (Rodgers et al., 2019). According to Rodgers et al. (2019), understanding children's perspectives and experiences can improve the effectiveness of delivering informational interventions. It also plays a role in the validation of child-reported sleep-related instruments, which enables the researcher and

paediatricians to get more accurate results when administering these instruments (Ludwig et al., 2019).

Although there is a growing body of research on paediatric sleep health, further studies are necessary, especially within the Malaysian context. This is because how individuals perceive the world and events is unique and shaped by their cultural background (Qiong, 2017), and these perceptions are linked to their behaviour (Ferguson & Bargh, 2004). For instance, sleep habits such as sleep duration, daytime napping and practices such as bedtime routines and sleep arrangements are influenced by cultural factors (Daban & Goh, 2019; Hoyniak et al., 2022). Therefore, investigating sleep perceptions in the Malaysian context is essential to understanding sleep-related behaviours, which can then inform the development of culturally appropriate interventions and psychoeducational programmes.

1.3 Problem Statement

Insufficient sleep among children has been linked to various negative health outcomes, such as obesity and mental health issues (Cheng et al., 2021; Porri et al., 2024). Lack of sleep could also impact children's cognitive development and processes, including attention regulation and memory consolidation, which in turn influence their learning (Alfonsi et al., 2020; Iranmanesh et al., 2022; Woods et al., 2024). In addition, poor sleep has been associated with behavioural problems such as aggressiveness (Lee et al., 2021) and acting out (Deng et al., 2023) in children, which subsequently increases parental stress (Amaerjiang et al., 2021; Bell & Belsky, 2008).

Although sleep problems are common in children, their prevalence has increased significantly over two decades (Chen et al., 2021). Globally, statistics have shown that lack of sleep affects 10-34% of children, suggesting the urgency for understanding sleep needs and targeted interventions (National Survey of Children's Health, 2023; Yang et al., 2024). Similar trends have been observed in Malaysia where a study found that 41.5% of children reported insufficient sleep (Firouzi et al., 2013). Likewise, findings from Unplagan et al., (2018) demonstrated that most of the children aged 6-11 years old in a northern state of Malaysia experienced insufficient sleep, characterised by sleeping less than the recommended nine hours of sleep.

With the significance of sleep in children and the rise in sleep problem prevalence, a lot of studies on paediatric sleep have been conducted. However, there is a dearth of studies exploring Malaysian parents' perceptions of sleep among healthy and typically developing young children (i.e., Firouzi et al., 2013, 2014; Zakaria et al., 2016). Also, limited studies have investigated young children's perception of sleep (Belmon et al., 2020; Golem et al., 2019). Research within the Malaysian context is important as it is crucial in the development of sleep education programmes and interventions that are culturally appropriate and sustainable (Hoekstra et al., 2018; Wildman et al., 2019).

In addition, various methods have been employed to examine children's sleep (Mazza et al., 2020). Most studies conducted among healthy and typically developing young children in Malaysia have relied on quantitative methods (Firouzi et al., 2013, 2014; Zakaria et al., 2016). While previous studies have examined paediatric sleep using objective measures such as actigraphy (e.g., Kahn et al., 2021; Varma et al., 2023)

or surveys (e.g., Günay Molu et al., 2022; Sigmundová, 2021), limited studies have explored subjective perceptions of sleep among mothers and children. Exploring subjective perceptions is important because it not only helps to explore issues in detail and in-depth, but also uncovers subtle contextual nuances that are often missed in a quantitative approaches (Anderson, 2010). Furthermore, existing studies often focus solely on parents (e.g., Abd Rahim et al., 2023; Foo et al., 2022; Fujii et al., 2022), overlooking the perceptions of children, which is essential for a comprehensive understanding of sleep behaviour.

Therefore, to address this gap, the present study used a qualitative approach to explore the perceptions of sleep, sleep habits, and sleep-related practices among Malaysian mothers and their children. Using a qualitative approach, this study was able to explore children's and parents' subjective experiences of sleep, providing a perspective that other methods alone might not capture.

1.4 Research Objectives

There were several research objectives in this study, which are:

i) To explore mothers' perceptions of their children's sleep.

ii) To explore mothers' perceptions of their children's sleep habits.

iii) To explore children's perceptions of their sleep.

iv) To explore children's perceptions of their sleep habits.

v) To explore mothers' sleep-related practices to help their children fall asleep.

1.5 Research Questions

Several research questions that were addressed in this study are:

i) How do mothers perceive their children's sleep?

ii) What are mothers' perceptions of their children's sleep habits?

iii) What are children's perceptions of their sleep?

iv) In what ways do children perceive their sleep habits?

v) What are mothers' sleep-related practices to help their children fall asleep?

1.6 Theoretical Framework

Two theoretical frameworks will be discussed in detail, which are the Peds B-SATED model (Meltzer et al., 2021) and the Family Health Development model (Feinberg et al., 2022). Theoretical framework is the "blueprint" which guides building and supporting a study as well as providing the structure and rationale to approach the literature review, methods and analysis (Grant & Osanloo, 2014).

1.6.1 Peds B-SATED Model

This study adopts the Peds B-SATED model proposed by Meltzer et al. in 2021. The Peds B-SATED is a six-factor framework explaining the definition of sleep health in the pediatric context (Meltzer et al., 2021). The model is an adaptation of the SATED

model proposed by Buysse in his seminal paper "Sleep Health: Can We Define It? Does It Matter?" (Buysse, 2014).

The SATED is an acronym developed by Buysse as a quick way to assess five key dimensions of sleep health which are: Satisfaction with sleep [S], alertness during waking hours [A], timing of sleep [T], sleep efficiency [E], and sleep duration [D] (Buysse, 2014). Meltzer et al. (2021) extended these dimensions by adding the dimension of sleep-related behaviour [B] which is a critical factor in promoting and inhibiting sleep health. This modified model also takes into consideration the socio-ecological influences shaping children's sleep environment and daily lives (Meltzer et al., 2021).

The first domain of pediatric sleep health is satisfaction or quality of sleep, reflecting a subjective judgement of whether sleep is 'good' or 'poor'. In the pediatric population, the children may have difficulty accurately reporting their sleep quality. Moreover, parents' perceptions of their children's sleep quality may be influenced by various factors, such as the mood of the parent, how they view their child, the child's behaviour, and cultural norms (Meltzer et al., 2021; Sadeh et al., 2011).

The second domain is alertness, sleepiness or napping. Alertness is defined as the ability of an individual to stay awake. For children, factors such as age and cultural practices influence napping behaviour. Napping commonly stopped between the ages of three and five. However, it is influenced by cultural and environmental factors such as preschool schedules and activities (Fujii et al., 2022; Mindell et al., 2013). For example, children attending childcare transit facilities after they attend public preschool

have mandatory nap session compared to children attending all-day kindergartens where it is optional (Fujii et al., 2022). In addition, children exhibit varied behaviours when sleepy (Meltzer et al., 2021). Unlike adults, who may appear to be lethargic, children often have increased energy or hyperactivity when they are sleepy (Dahl, 1996; National Heart, Lung and Blood Institute, 2022).

The third domain is timing, which refers to the 24-hour sleep cycle. While adults can choose the time when they are going to sleep, children's sleep schedules are commonly influenced by factors like parents' working hours, older siblings' beliefs or routines, and also environmental demands such as school and extracurricular activities (Meltzer et al., 2021).

The fourth domain is efficiency, which is defined as the ability to fall asleep and remain asleep throughout the night (sleep continuity). Because of their age, children might not reliably report midnight waking. Similarly, parents' or siblings' reports may also lack accuracy, as they might not always be aware when a child wakes during the night (Meltzer et al., 2021; Perpétuo et al., 2020).

The fifth domain is duration, which represents the total amount of sleep achieved within 24 hours. The optimal total sleep hours/ total sleep duration for children requires further research studies, as current recommendations are based on observed sleep patterns and opportunities for sleep (Meltzer et al., 2021). As sleep needs differ across developmental stages, it is important for parents to be mindful of how much sleep their children require to ensure their children's well-being.

The last domain is behaviour, a new dimension added by Meltzer et al. (2021). Sleep-related behaviours refer to actions or activities that either promote or inhibit sleep. These behaviours include maintaining a consistent sleep schedule and bedtime routine, managing sleep onset associations, ensuring healthy parent-child interactions at bedtime, monitoring risk factors such as caffeine consumption and the use of electronic devices before bedtime, at bedtime, and during the night (Mindell & Williamson, 2018).

For this study, the dimensions of satisfaction, efficiency, and behaviour are more weighted compared to other dimensions. The Peds B-SATED model is chosen as it is specifically designed for children's sleep. In addition, the holistic approach of the model, which took into account multiple facets of sleep health provides a thorough understanding of children's sleep health. However, the comprehensive nature of the model becomes a disadvantage as it needs careful interpretation and integration of the data. Despite the limitation, the Peds B-SATED model provides insight into how to approach pediatric sleep health.

1.6.2 Family Health Development Model

Family Health Development (FHD) is an integrative framework, proposed by (Feinberg et al., 2022), which examines the dynamic interactions influencing health trajectories across individuals, family relationships and environmental factors. The framework includes three time-related dimensions and four interconnected domains of family functioning: structure, process, cognitions, and behaviours.

The framework is conceptualised based on Sen and Nussbaum's capability approach focusing on the interactions between individual and family capacities, extrafamilial opportunities, and available resources. The model emphasizes the family functioning domains in health outcomes. Generally, family functioning influences health through two key mechanisms: (i) family cohesion and (ii) individual targeted support. Firstly, family cohesion provides emotional security, positively affecting mental health, motivation to engage in health behaviours, and physical health across family members. Secondly, individual targeted support, offers tailored care, such as emotional and physical support, health education, and facilitation of medical care, which requires time, energy, and financial resources. Families managing acute or chronic health conditions often experience resource allocation challenges, requiring critical decision-making.

Time Dimensions of FHD

The FHD model considers three dimensions of time (Feinberg et al., 2022):

1) Ontogenetic time: Reflecting the development of individuals and families over time.
2) Generational time: Exploring how health behaviours and outcomes are transmitted intergenerationally, for instance, how parental health behaviour influences children.
3) Historic time: Examining how societal and historical changes in family structures and dynamics impact health across cohorts.

Family Functioning Domains

The family functioning domains consist of family structure, family process, cognitions and health-related behaviours (Feinberg et al., 2022).

Domain 1: Family structure. Family structure is made up of the family, which may include the nuclear family, extended or household members. The family membership is self-defined and may be based on the same biological or genes, household, marital or emotional ties. Any changes in family composition have bidirectional effects on health. For example, research has examined the effect of household size, marital status, and the number of siblings on parents' and children's health outcomes (Steppan et al., 2019).

The family structure also comes with roles and responsibilities, which focus on how caregiving and responsibilities are shared within a family. These roles evolve over time, for instance, children may transition from being care recipients to caregivers for ageing parents. Although caregiving roles can provide fulfilment (i.e., positive experiences), they may also cause stress, distress, or a sense of burden, affecting caregivers' physical and emotional health (Erlingsson et al., 2012; Richardson et al., 2013). Similarly, employment is another factor that influences family health, as work-related stress or conflicts can impact family well-being, while health conditions may limit work opportunities or limit an individual's ability to work (Kinnunen et al., 2006; Winefield et al., 2014).

Domain 2: Family processes. Family processes are recurring strategies, for example, decision-making and communication, that families use to achieve health-

related goals. The main key elements include decision-making and conflict resolution, communication and cohesion and emotional warmth.

The decision-making and conflict resolution is an ongoing process in many families. Making health decisions such as decisions for treatment, chronic health conditions or preventive care of family members are usually made by a parental or executive subsystem (Aarthun et al., 2019). Along the way, conflict may arise as children, particularly adolescents, seek greater autonomy, challenging parents' authority (Feinberg et al., 2022). Decision-making styles might vary and could range from unstructured to authoritarian approaches (Žilinskienė et al., 2021).

The family process also encompasses communication, in which effective communication skills support problem-solving and decision-making processes. Meanwhile, poor communication and hostile conflict can lead to distress and negative health outcomes (Rosland et al., 2012). The repeated exposure to interparental conflict may negatively affect children's physical and mental health, particularly in the families who are managing chronic health conditions of their children. For example, parents might need to manage their work, daily demands and children.

Additionally, the family process comprises emotional warmth and cohesion. Positive interactions and support within families are associated with better self-care behaviours, improved coping capacity, and increased emotional regulation among family members (Garcia et al., 2024; Huang et al., 2022).

Domain 3: Cognition. The cognition within families includes (i) perceptions of self and others, (ii) health knowledge, literacy, and attributions, and (iii) health-related values and goals.

First, the perceptions of self and others are about self-efficacy and a sense of competence are critical for health-promoting behaviours. For example, children with high self-efficacy are more likely to adopt healthy behaviours. Meanwhile, competent parents might provide better support for their children (De Buhr & Tannen, 2020).

Second, health knowledge and literacy highlight families with greater health literacy can make informed decisions about health, such as understanding sleep needs or identifying suitable care for sleep-related problems. Literacy and knowledge are associated with various factors such as social media, healthcare access and psychoeducational opportunities (Ahmed et al., 2016; Motlova et al., 2017; Pizzuti et al., 2020).

The health-related values and goals that outline families' health priorities shape their engagement with health practices and services (Conner et al., 2022). For example, a family that values highly is more likely to prioritize preventative measures or care and seek appropriate treatments. These values are transmitted bidirectionally between parents and children, along with generational differences commonly influenced by historical changes.

Domain 4: Health-related behaviours. This final domain is shaped by the interaction between family structure, process and cognition. There are three categories

including lifestyle behaviours, preventive and promotive health behaviours, and help-seeking behaviours. The lifestyle behaviours refer to an individual's daily routines such as sleep, nutrition, and stress management. Interestingly, children's behaviours are often modelled after their parents. Besides, preventive and promotive health behaviours such as brushing teeth or maintaining a balanced diet, are influenced by parental guidance (Pyper et al., 2016). Lastly, as for help-seeking behaviours, parents also influence children's responses to health issues, for example, whether to self-treatment or seeking professional help or alternative care (Feinberg et al., 2022; Grey et al., 2022).

The application of the FHD framework to this study is due to its framework that provides a holistic approach to understanding family influences on health. The FHD underscores the significant influence of family health towards young children, who have limited control in shaping their behaviours. Parents play a significant role in shaping and supporting healthy sleep habits. Although this study emphasizes the cognition and health-related behaviours domains, applying the framework to sleep could offer meaningful insights into how family dynamics shape children's sleep patterns. Table 1.1 presents the specific application of the FHD framework to children's sleep.

Table 1.1

Application of Family Health Development in Young Children's Sleep

	Sleep in young children
Time	
Developmental time	Parent-feeding practices and routines around physical activity, beginning from infancy could influence lifelong healthy lifestyle behaviours.
Intergenerational transmission	Parent serves as a role models, influencing their children's healthy eating, sleeping, and physical activity habits.
Cohort Effects	The decrease in sleep duration across various family cohorts.
Domains	
Structure	Parents' division of responsibilities regarding food, physical activity, and sleep, whether managed separately or jointly, can either promote household coherence or contribute to conflicts.
Processes	Parents play a primary role in making decisions, monitoring habits, and enforcing family-wide healthy lifestyle behaviours. Positive parent-child interactions, for example, conversations and emotional warmth during bedtime, promotes healthy development of sleep practices.
Cognitions	Parents' perceptions of sleep health, the level of importance they attribute to their children's sleep, and their beliefs regarding factors that promote or hinder sleep could significantly affect sleep quality.
Behaviours	Educating children about good sleep hygiene, providing a suitable sleep environment, and recognizing the need to seek professional help when children experience sleep problems are essential elements in fostering long-term sleep health.

The FHD also has its limitations. As the theory focuses more on family units, individual-specific variables might be underrepresented compared to other health behaviour theories. In addition, FHD needs to be adapted to local culture as family health dynamic varies due to cultural differences which makes it more complex (Feinberg et al., 2022; Yang & McDonnell, 2024). Despite the limitations, FHD provides a systematic framework about how family shape much of the health outcomes across different stages of life. FHD also has another advantage. It incorporates a perspective that highlights how relationships across generations impact health outcomes, an aspect which is often overlooked by other theories.

With the significant influence of family on children's health behaviours, this study included the perception of other family members which is mothers in addition to children's perception to understand further the children's sleep behaviour. Furthermore, this framework also serves as a guide during the formulation of questions for mothers' interviews.

1.7 Definition of Variable

This section outlines the conceptual and operational definition of sleep, sleep habits, sleep-related practices, preschool children, and perceptions.

Sleep. Sleep is a reversible behavioural state of perceptual disengagement and unresponsiveness to the environment that is usually but not necessarily accompanied by the indicators of sleep such as postural recumbence, behavioural dormancy, and closed eyes (Carskadon & Dement, 2011). A good or poor sleep could be determined by the duration of sleep, feeling refreshed on waking, and mood during the day (Ramlee et al., 2017). Apart from that, sleep onset latency, the number of awakenings in the middle of the night and, sleep efficiency could be a defining feature of sleep as well as several parameters from sleep architecture obtained from polysomnography such as rapid eye movement (REM) and slow-wave sleep (Krystal & Edinger, 2008). Sleep consists of non-REM sleep (N1, N2, and N3 stages) and Rapid Eye Movement (REM), in which dreams usually occur in REM sleep (Marti et al., 2020). Each stage of sleep is characterised by distinct changes in muscle tone, brain wave activity, and eye movement (Patel et. al., 2024).

For this study, sleep was operationally defined in two ways. First, it referred to mothers' perceptions of their children's sleep, including how they evaluated the children's sleep quality (good or poor sleep) and the perceived importance of sleep for the children's well-being (i.e., health and behaviour). Second, sleep was operationally defined as children's own perception of their sleep, including their feelings on good or poor sleep and the importance of sleep.

Sleep habits. Sleep habits is a behaviour related to sleep, such as bedtime behaviour (bedtime, wake time, and time in bed) and sleep onset; sleep duration; anxiety around sleep; behaviour occurring during sleep and night wakings; sleep-disordered breathing; parasomnias; and morning waking/daytime sleepiness (Owens et al., 2000). It is also defined as behaviour pertaining to time to bed, time to rise, drinking coffee at night, duration of night sleep, and consumption of sleeping pills (Sweileh et al., 2011).

For this study, sleep habits were operationally defined in two ways. First, it referred to mothers' perceptions of their children's sleep habits, including their concerns about the children's sleep habits and comparisons of sleep patterns or behaviours during weekdays and weekends. Second, sleep habits were also defined as the children's perceptions of their own sleep habits, including their bedtime routines, sleeping arrangements, midnight awakenings, morning wake-up behaviours, and sleep patterns on weekdays and weekends.

Sleep-related practices. Sleep-related practices are practices by parents on managing their children's sleep such as setting a regular bedtime, establishing a bed-

time routine, absence of parental presence during sleep, firmly handling bedtime protest and night waking, separating parent and child bedroom, and refraining from co-sleeping (Latz et al., 1999). Good sleep practices also referred to as good 'sleep hygiene' include preparation for a routine 30 minutes before bedtime, consistent bedtime, warm bath, bibliotherapy which is bedtime reading, quiet darkened warm place, consistent wake time, discouraging of caffeinated beverages or caffeine-rich food four hours before bedtime and daytime exercise (Galland & Mitchell, 2010).

For this study, sleep-related practices were operationally defined as mothers' perceptions of the routines used to help their children fall asleep, the practices or factors that promote good sleep for their children, including their family traditions, and the sources of information influencing these sleep-promoting practices.

Preschool children. Preschool children are defined as children who go to preschool for early childhood education. In Malaysia, preschool is a formal school system; however, attending preschool is not compulsory for children aged four to six years old (Ministry of Education Malaysia, 2019).

For this study, preschool children were defined as children aged five and six years old who were enrolled in a preschool.

Perception. Perception is defined as a complex process in which people make sense of their environment by selecting, organising and interpreting sensory information into meaningful knowledge (Goldstein & Cacciamani, 2022). It is a unique

and individual process due to different capacities in interpreting information and can be influenced by culture (Kastanakis & Voyer, 2014; Mollon et al., 2017).

For this study, perception was operationally defined as the thoughts, beliefs, and interpretations expressed by mothers regarding their children's sleep, sleep habits and the practices that promote their children's sleep. It was also defined as children's understanding and descriptions of their own sleep and sleep habits.

1.8 Significance of the Study

This study provides an opportunity to explore the parents' perceptions of their children's sleep, sleep habits and sleep-related practices used to help their children fall asleep. The study explores how children perceive their sleep. By understanding and listening to children's perspectives and experiences, this research can contribute to existing literature, improve children's sleep assessments, and inform future sleep intervention programs. This study also empowers children by giving them a voice in research and promotes child-centred approaches, specifically in sleep research.

Furthermore, these findings can inform future research on pediatric sleep from the perspective of Malaysian parents. Additionally, the findings may support the development of sleep strategies for parents to improve children's sleep. This study also highlights the potential need for parental support programs to enhance parenting skills or emotional regulation in managing their children's sleep. Consequently, it could improve parent-child relationships.

The findings may also serve as a foundation for scaling up sleep health awareness initiatives for the 5 and 6 years-old age group. Raising children's awareness of sleep and its importance can help them achieve optimal sleep more easily, which in turn, can positively impact their physical health, cognitive development and emotional growth.

Lastly, the findings of this study could also help in the development of sleep health policies which could promote healthy sleep. For example, culturally appropriate sleep health policies can be implemented such as in schools and the health care system which further improve the sleep health and well-being of Malaysian children.

1.9 Summary

Given the dearth of studies in the Malaysian context, this study aims to explore the perceptions of mothers and children regarding children's sleep and sleep habits. It also explores the sleep-related practices that mothers have employed to help their children fall asleep. This study is guided by the Peds B-SATED model (Meltzer et al., 2021) and the Family Health Development model (Feinberg et al., 2022). Conceptual and operational definitions for key variables including sleep, sleep habits, sleep-related practices, preschool children and perception are provided to help define the context of the study. Finally, this study contributes to identifying the needs and developing strategies for parents and children to improve children's sleep. The next chapter will review and discuss previous studies on sleep, sleep habits and sleep-related practices.