



Nap Practices and Social–Emotional Development in Early Childhood: Evidence from a Daycare Setting

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Abstract: This study aims to describe the dynamics of changes in children's social–emotional functioning before and after napping in early childhood education institutions that provide childcare services. Employing a qualitative approach with a descriptive case study design, the study investigates children's behavioral patterns in a naturalistic setting through observations and semi-structured interviews. The participants comprised three children (two typically developing and one with special needs) along with three accompanying teachers, selected using convenience total sampling technique due to their availability at the research site. Data were analyzed using thematic analysis encompassing open coding, axial coding, and selective coding procedures. The findings identified three major themes: first, a significant improvement was observed in emotional regulation, autonomy, and social interaction following nap time. Second, substantial individual variations emerged, particularly in the child with special needs, who required more intensive co-regulation support. Third, the nap time experience was influenced by multifactorial interactions, including daily routines, physical environment, caregiver support, and parent, educator communication. These findings reinforce our understanding of emotional regulation, socio-emotional competence, and executive functioning in child development. The present study offers practical implications for policies regarding flexible nap time arrangements in full-day or daycare early childhood education settings and is aligned with SDG 3 (mental health and well-being) and SDG 4.2 (access to quality early childhood education).

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Introduction

Daytime napping is mandatory in Indonesian PAUD settings, yet empirical evidence on within-child socio-emotional effects remains limited, creating a tension between widespread practice and research-based understanding. This gap is problematic because napping influences multiple developmental domains during the critical preschool period. While direct behavioral observation is essential for assessing socio-emotional development (Al-Hendawi et al., 2025), Indonesian research has been limited to correlational designs that cannot capture dynamic changes before and after napping (Hasibuan & Ruslan, 2025; Rachmawati H & Sunanto, 2019). Addressing this evidence gap is essential for ensuring institutional nap routines genuinely support children's socio-emotional well-being.

Socio-emotional development in preschool constitutes a critical foundation for later success. Emotion regulation, interpersonal skills, and impulse control shape longer-term trajectories (D'Cruz et al., 2024; Lukmasari et al., 2017), though Indonesian



children often display inconsistent self-regulatory patterns (Mutiah et al., 2024). In full-day PAUD settings (8-10 hours daily), optimizing activities including napping becomes essential (Astuti et al., 2013; Nurul Fauziah & Ahmad Fajar, 2018).

Spencer (2021) argues that napping consolidates emotional memory and restores self-regulatory capacity via neurobiological mechanisms, aligning with emotion-regulation frameworks (Gross, 1998), socio-emotional development theories (Denham, 2006), and executive-function models (Zelazo et al., 2003), which emphasize inhibitory control and persistence in preschool years. Empirical studies have tested these linkages in practical settings. Longitudinal and experimental studies support napping benefits: Hash et al. (2020) found daily napping associated with reduced behavioral problems and improved socio-emotional competence in 123 children; Berger et al. (2012) demonstrated that nap restriction produced 31% more negative and 34% fewer positive emotional responses; Kurdziel et al. (2018) showed napping enhances emotional memory consolidation; Horváth et al. (2015) evidenced facilitated word learning; and Cremone et al. (2017) found non-napping children exhibited attentional bias toward negative stimuli.

Indonesian research remains largely correlational: Susanto (2024) and Radita Suratno et al. (2025) found significant associations between napping/sleep quality and socio-emotional measures. However, relationships are complex: Lam et al. (2011) found negative correlations with neurocognitive function; St. Laurent et al. (2023) showed that overall behavioral configurations, not just nap duration, influence temperament; and nap cessation associates with improved functioning for some children (Loeffler & Anna, 2024; Newton et al., 2023).

Prior work reveals methodological heterogeneity: international studies employed experimental laboratory designs (Berger et al., 2012; Cremone et al., 2017), while Indonesian studies used cross-sectional correlational approaches (Radita Suratno et al., 2025; Susanto, 2024). Research probing within-child socio-emotional dynamics before and after napping in naturalistic PAUD settings remains scarce, indicating need to analyze: (1) behavioral dynamics before/after napping, (2) individual variation, and (3) contextual factors shaping napping experiences in daycare-kindergarten contexts.

This study was conducted at TK Yos Sudarso Purwakarta, which was selected because it operates a full-day kindergarten with integrated daycare services where mandatory nap routines are implemented daily. The selection of this site was based on three criteria: (1) it exemplifies the widespread practice of mandatory napping in Indonesian full-day PAUD institutions, (2) it provides a naturalistic environment that allows direct observation of children's socio-emotional behaviors before and after napping in authentic institutional contexts, and (3) the setting includes children with diverse developmental profiles, including children with special needs, enabling examination of individual variation in nap-related socio-emotional responses. This makes it urgent and appropriate for investigating real-time behavioral dynamics within institutional nap practices in Indonesia, particularly given the tension between mandated policies and limited empirical evidence on their developmental effects.

Interpretation of the findings drew upon socio-emotional development theories, particularly Denham (2006) framework of social competence which highlights empathy and social interaction skills, alongside emotion-regulation theory Gross (1998) and executive-function models (Zelazo et al., 2003). These theoretical lenses informed the interpretative framework applied in the discussion of results.



This study's novelty lies in applying a descriptive case-study design in a naturalistic kindergarten-daycare setting to explore socio-emotional behavioral dynamics before and after napping, including individual variation. The research examines within-child dynamics, identifies individual variations in nap-related responses, and explores contextual factors influencing napping experiences. The study contributes to the attainment of the Sustainable Development Goals (SDGs), notably SDG 3, which underscores the importance of mental health and emotional well-being from an early age, and SDG 4.2, which targets universal access to quality early childhood development. The findings are intended to provide empirical evidence to inform more responsive napping policies in Indonesian PAUDs, recognising that 10-30% of children naturally do not require daytime naps during the preschool years (Liu et al., 2019; Riad & Khadafi, 2023).

Research Method

This study employed a qualitative descriptive exploratory case-study design, referring to (Yin, 2018) and (Stake, 1995). This design was chosen because it allows in-depth examination of children's socio-emotional experiences within a natural daycare setting and supports interpretation of behavioural changes before and after napping. Participants included three children aged 4–6 years (two typically developing and one with special needs), one teacher, and two helpers. We used convenience total sampling because only three children were available during data collection. The child with special needs was included incidentally as part of the naturally occurring group, not through purposive selection. Data were collected between 24 September and 3 October 2025, encompassing behavioural observations of the children across seven working days (excluding the weekend of 27-28 September) and semi-structured interviews with three educators conducted on 3 October 2025. Observations were performed across three principal phases: before napping (pre-nap), the napping process (nap), and after waking (post-nap). Observation intensity varied among participants according to attendance and the children's health conditions. Research instruments included:

- 1) A narrative observation sheet focusing on four socio-emotional domains informed by contemporary early childhood development frameworks (Denham et al., 2012; Williford et al., 2013): (a) emotion regulation, (b) autonomy, (c) social interaction, and (d) activity participation;
- 2) A semi-structured interview guide for teachers and helpers probing routines, environmental factors, and strategies for supporting children's napping.

Data were analysed using thematic analysis following six stages (Braun & Clarke, 2006): (1) familiarisation with the data, (2) open coding to identify units of meaning, (3) axial coding to cluster conceptual categories, (4) selection and integration of themes, (5) cross-source review, and (6) interpretation within a theoretical framework. This process yielded 15 categories and three principal themes: (1) the dynamics of socio-emotional behaviour before and after napping, (2) individual variation in responses to napping, and (3) factors that influence children's napping experiences. Data trustworthiness was strengthened through source triangulation (observation, interview, field notes), member checking, and peer debriefing with two early childhood education experts (one PhD-holding researcher, one senior practitioner) conducted across four sessions during data analysis to validate coding schemes and thematic interpretations.

Result and Discussion

This study explores the dynamics of socio-emotional behaviour in early childhood before and after daytime napping within the naturalistic daycare setting of TK Yos Sudarso Purwakarta. Through intensive observation of three participants (coded G, C, and V) over seven working days between 24 September and 3 October 2025, and in-depth interviews with one teacher and two helpers conducted on 3 October 2025, the study identified three principal empirical findings: (1) a significant alteration in socio-emotional functioning following naps that aligns with emotion-regulation theory; (2) substantial individual variation indicating the complexity of sleep needs in the preschool period; and (3) multifactorial interactions that shape napping experiences within the institutional context. These findings contribute empirical evidence to the limited literature on daytime napping among young children in Indonesia and offer practical implications for PAUD policy evaluation. Figure 1 synthesizes the three findings into an integrated framework showing how contextual factors influence socio-emotional outcomes via emotional recovery mechanisms, moderated by child characteristics. This section presents the study's three primary findings: the dynamics of children's socio-emotional behaviour before and after napping, individual variation in responses to napping, and contextual factors that influence napping experiences in the daycare setting.

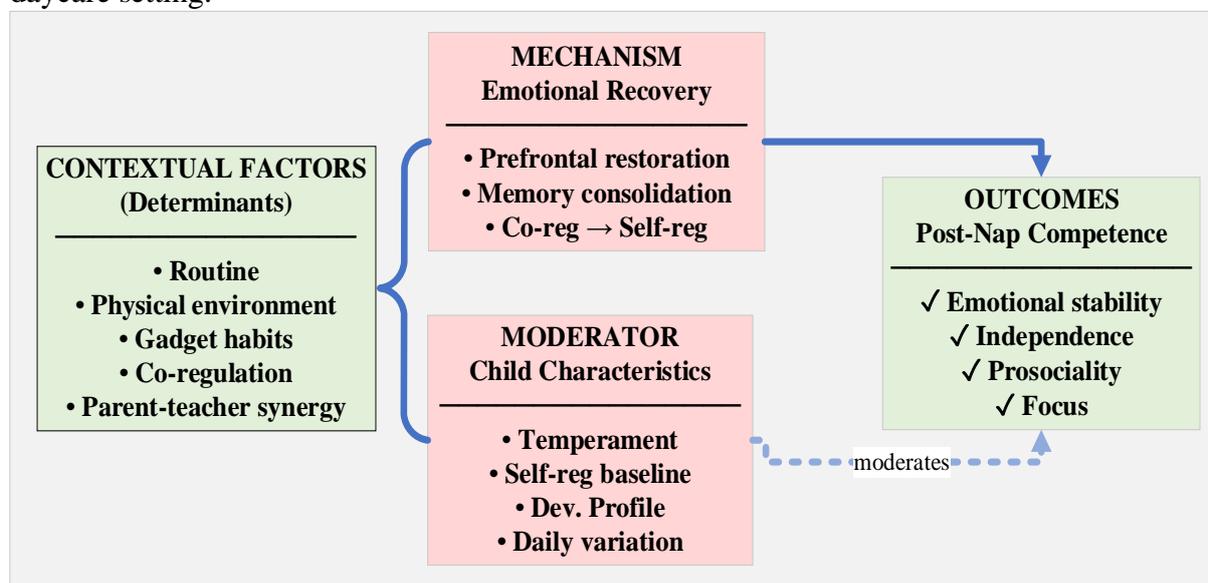


Figure 1. Model of Napping Effects on Socio-Emotional Development, With Contextual and Child Factors

Dynamics of Socio-Emotional Behaviour Before and After Daytime Napping

Longitudinal observations revealed a consistent pattern of improvement in socio-emotional functioning among children who napped, particularly across four dimensions: emotion regulation, autonomy, quality of social interaction, and participation in activities. These findings are congruent with Gross (1998) theory of emotion regulation, which posits that sleep serves to restore depleted self-regulatory capacity engendered by daytime activity.

Observational data indicated superior emotional stability during the post-nap period. Participant 1 displayed “very stable emotion regulation” (G-POST-01) upon awakening, with smooth transitions into afternoon activities. Participant 3 manifested an even more advanced regulatory capacity, described as “accepting when a toy did not meet expectations” (V-POST-01), an indicator of emotional acceptance that constitutes an advanced emotion-regulation skill for the preschool age. This contrast was echoed by the daycare teacher’s



account of children who did not nap: “Those who do not sleep are more fussy... those who nap is calmer; their fatigue disappears after sleep so they become more relaxed and more willing to share.” (MD-EMO-01, MD-EMO-02, MD-EMO-04). The first helper corroborated these observations with more specific remarks concerning wake-up behaviour: “Children who nap wake quietly at first, smiling, fresher and more cheerful. Those who do not nap are irritable and difficult to rouse.” (MR-BED-01, MR-BED-02).

These results align with Berger et al. (2012), who reported that nap restriction among children aged 30–36 months produced a 31% increase in negative emotional responses and a 34% decrease in positive responses. Spencer (2021) provides a neurobiological account of this phenomenon, arguing that daytime napping facilitates recovery of prefrontal cortex function critical for emotion control. Within the present study, children who did not nap displayed depleted regulatory resources, manifested as fussiness and difficulty managing frustration.

Children who napped exhibited greater independence in post-nap self-care activities. Observational records note that Participant 1 “washed hands by themselves” (G-POST-04), while Participant 3 “fed themselves, walked independently to the bathroom, and remained self-reliant until going home” (V-POST-08, V-POST-14). This gain in autonomy suggests recovery of executive functions, particularly working memory and inhibitory control, which are critical components according to (Zelazo et al., 2003). Improved appetite following napping (G-POST-02: “ate heartily and independently”) was likewise reported by the daycare teacher: “You can see it from eating after sleep, the non-nappers have less appetite; those who nap is more active and share during play.” (MD-SOS-01, MD-SOS-02, MD-SOS-03). Enhanced sustained attention and task completion were evident in Participant 2, who “could focus on number play by themselves” (C-POST-01, C-POST-02) after napping. This pattern accords with the second helper’s observation that children’s activities “become more orderly” following a nap: “Regular sleep affects the ordering of children’s play... those with regular naps play more regularly.” (MY-SOS-01, MY-SOS-03).

A particularly notable finding was the emergence of spontaneous prosocial behaviour post-nap. Participant 1 demonstrated “giving their toy” (G-POST-07) without prompting, a spontaneous sharing behaviour indicative of restored empathic capacity and social competence. Participant 3 displayed clear and polite verbal communication with caregivers (V-POST-03), reflecting strong social initiation skills. The contrast with non-napping children was made explicit by the first helper: “Non-nappers tend to tease and grab friends’ toys... after napping, the children stop fighting over toys and need reminders to share.” (MR-SOS-03, MR-SOS-01, MR-SOS-02).

These observations accord with Hash et al. (2020), who found that daily napping correlated significantly with increased socio-emotional competence and reductions in internalising and externalising behaviours in a sample of 123 children. Kurdziel et al. (2018) have argued that the underlying mechanisms include consolidation of emotional memory and social learning occurring during naps, enabling children to integrate morning social experiences and apply this learning in afternoon interactions.

Framed by Denham (2006) model of socio-emotional competence, napping appears to contribute to three core components: more modulated emotional expression, improved emotion knowledge (evidenced by prosocial behaviour), and more effective emotion regulation. The spontaneous prosocial acts observed post-nap suggest that children possessed sufficient regulatory resources not only to manage their own emotions but also to attend to others’ needs.



Individual Variation in Response to Napping

Although the aggregate pattern indicates benefits of daytime naps, this study revealed substantial individual variation, underlining the complexity of the relationship between napping and socio-emotional development. Variation was most pronounced between typically developing children and the child with special needs, and in the longitudinal trajectory of sleep-related autonomy.

Participants 1 and 3 displayed a clear developmental progression from dependence on co-regulation toward self-regulation during the sleep routine. Participant 1 progressed from “needing time to fall asleep” (G-SLEEP-01) on the first observation day to “falling asleep immediately with a bolster” (G-SLEEP-02), eventually verbalising “I sleep by myself” (G-SLEEP-03) in subsequent days. Such verbal reports are notable as indicators of metacognitive awareness regarding self-regulatory capacity. Participant 3 showed a comparable trajectory: from “requiring to be held” (V-SLEEP-01) early in the week to “falling asleep without being held or without music” (V-SLEEP-02), and later “sleeping independently while holding a bolster” (V-SLEEP-06). The employment of transitional objects by both participants suggests self-soothing strategies consistent with emotion-regulation theory, wherein physical objects function as external scaffolds that facilitate the shift from co-regulation to self-regulation (Gross, 1998).

These developments indicate that, with consistent routines and appropriate support, preschool children can develop self-soothing abilities within a relatively brief period (several days). The findings thus provide empirical support for scaffolding theories in emotion regulation, in which external support is gradually withdrawn as internal capacities emerge.

Participant 2, the child with special needs, presented a markedly different and the most challenging pattern in this study. This child exhibited consistent resistance to napping, remaining awake for several consecutive days (C-SLEEP-01, C-SLEEP-02, C-SLEEP-03) despite signs of physical fatigue such as “yawning while colouring and falling asleep spontaneously” (C-PRE-02). Of greatest concern was a severe dysregulation episode on 29 September, described as “a tantrum involving stabbing a pencil toward a caregiver” (C-PRE-07). This episode occurred on the Monday following the weekend, and the daycare teacher contextualised it as follows: “For a child with special needs, if they are active, they refuse to sleep; being put straight to bed often means they are exhausted... the child’s background (special needs) creates difficulties... parents report: at home they do not nap.” (MD-FAK-02, MD-FAK-03, MD-FAK-04).

This episode suggests depleted regulatory capacity exacerbated by consecutive nights without adequate rest and by the transition from weekend to weekday routines. The pattern aligns with literature indicating that children with special needs frequently exhibit more irregular sleep patterns and require more intensive support (Spencer, 2021). Nevertheless, the data also demonstrate that with appropriate co-regulation, Participant 2 was capable of adaptive behaviour. Following the dysregulation incident and subsequent intensive intervention, the child “required being held, grasped a ball as a comfort object” (C-SLEEP-04) and ultimately “fell asleep calmly after receiving support” (C-SLEEP-05). Upon waking, although initially vulnerable to external stimuli “appearing fearful and closing the door tightly” (C-POST-05) during episodes of extreme weather, the child, with support from caregiver PE1, was able to “play calmly with toys” (C-POST-07) and eventually “eat and request additional rice” (C-POST-09) after initial refusal.

Daycare staff corroborated that individualized approaches and habituation protocols can be effective: “In our experience, by recognising the child’s character and implementing habituation consistently, 70% of children with special needs succeed with habituation.” (MD-



STR-01, MD-STR-02, MD-STR-03, MD-STR-04). It should be emphasised that this reported 70% success rate reflects teachers' experiential accounts rather than a quantitative outcome measured within this study. Similarly, observations regarding the influence of screen time derive from teacher and parent reports rather than direct researcher observation. These notes indicate that although children with special needs require more intensive scaffolding, successful napping can be achieved with appropriate strategies.

Interestingly, even among typically developing children there was notable day-to-day variability. Participant 3 displayed predominantly positive states across many observation days "calm, stable" (V-POST-06), "refreshed and happy" (V-POST-13), yet on 1 October exhibited "low energy, slow eating, and limited verbalisation" (V-POST-09, V-POST-10, V-POST-12). Such fluctuations suggest that while napping is generally beneficial, it operates within a broader system of influences. Factors such as nocturnal sleep quality, health status, and external conditions (for example, documented extreme weather on certain observation days) continue to affect behaviour.

The present findings on individual variation correspond with Liu et al. (2019), who reported that 10-30% of preschool children naturally do not require daytime naps. Loeffler & Anna (2024) similarly observed that nap cessation in some children is associated with improvements in socio-emotional functioning. Within this study's context, Participant 2's resistance to napping may indicate membership in the subgroup of children who do not naturally require naps; however, this complexity is compounded by the child's special-needs profile. These results carry important implications for mandatory napping policies in Indonesian PAUDs (Astuti et al., 2013). As Staton et al. (2017) cautioned, compulsory nap schedules may not be appropriate for all children and should accommodate substantial individual variation.

Contextual Factors Affecting the Napping Experience

This study identified six categories of interacting factors that complexly shape children's napping experiences: child-internal factors, routine and consistency, the physical environment, technology and modern habits, co-regulation support, and communication with parents. The multifactorial interplay among these domains explains why not all children respond to napping in the same manner. The most consistent finding across the three informants was the importance of a structured routine and consistency between home and daycare. The daycare operates a highly structured routine: "nap at 12:00; prior to this, children wash their feet and brush their teeth; they are satiated with a fruit snack; they either listen to a story or sleep directly depending on mood, assisted by relaxing sound." (MD-RUT-01 to MD-RUT-06). However, the success of this routine depends heavily on consistency at home: "Home routines influence... habituation at home (weekend), not using smartphones supports napping at daycare." (MD-FAK-01, MD-DUK-01, MD-DUK-02).

These findings align with developmental-ecology theory, which emphasises the importance of consistency across microsystems (home and school) for optimal child development. Inconsistency between weekend and weekday routines may account for the severe dysregulation episode observed in Participant 2 on Monday, when the transition from home to daycare routine was most challenging.

A salient finding for contemporary Indonesia is screen-time influence on napping. The first helper and teacher both identified home smartphone use as impeding nap success: "Most play with phones at home... at daycare phones are not allowed... children want to be outside, refuse to sleep" (MR-HAB-02, MR-HAB-03); "habituation at home (weekend), not using smartphones supports napping at daycare" (MD-DUK-01, MD-DUK-02). The second helper did not explicitly mention screen time (MY-DUK-04, MY-DUK-05). While



triangulated across two of three educators and supported by observed patterns (Participant 2's post-weekend resistance), direct home observation is needed to establish causality. Hasibuan & Ruslan (2025) identified similar challenges in Malaysia; however, no Indonesian study has documented how home screen-time impedes institutional napping.

Neurobiological mechanisms offer an explanatory account: screen time, particularly before sleep, disrupts melatonin production and activates arousal systems, rendering children less able to down-regulate and transition to a resting state (Spencer, 2021). Moreover, children habituated to high screen stimulation may struggle with activities requiring self-regulation and low stimulation, such as napping.

Informants also identified several physical-environment constraints that affect nap quality. Ambient temperature emerged as a primary constraint: "Insufficient air conditioning; children use AC at home; at daycare we use fans... rooms are cramped." (MR-DUK-01, MR-DUK-02). Although the second helper reported that "the fan helps prevent overheating; the room is already effective" (MY-DUK-05, MY-DUK-04), discrepancies between home conditions (with AC) and daycare settings remain influential.

Auditory stimuli play a dual role: "relaxing sounds help, music makes sleeping more comfortable" (MD-RUT-06, MR-KEN-03), yet external noise or extreme weather can disrupt sleep. Observational data recorded that Participant 3 "awoke due to heavy rain, thunder, lightning" (V-SLEEP-03), and Participant 2 exhibited "fear, tightly closing the door" (C-POST-04, C-POST-05) during extreme weather. These observations indicate that optimisation of the physical environment, temperature control, noise reduction, and appropriate lighting, is critical and often underestimated in Indonesian PAUD settings.

Caregiver co-regulation strategies were diverse: "holding, gentle pats, stroking the forehead, rubbing the back... telling stories, relaxing sounds" (MD-RUT-03, MD-RUT-05, MY-STR-01 to MY-STR-04), tailored to temperament: "Approaches must recognise the child's character... some children do not like to be accompanied, others are accustomed to being accompanied" (MD-STR-01, MD-STR-02). Observational data illustrate this: Participant 1 (calm temperament) progressed rapidly to independent sleep with only a bolster (G-SLEEP-02, G-SLEEP-03); Participant 3 (separation anxiety) required sustained holding initially (V-SLEEP-01) before transitioning to self-soothing (V-SLEEP-06); Participant 2 (special needs, heightened arousal) required intensive holding plus comfort object following dysregulation (C-SLEEP-04, C-SLEEP-05). These differentiated approaches demonstrate that effective co-regulation must be calibrated to each child's regulatory capacity.

These findings accord with emotion-regulation theory, which posits caregiver co-regulation as the foundation for the development of self-regulation (Gross, 1998). In the napping context, co-regulation functions as scaffolding that facilitates the transition from wakefulness to sleep; with consistent routines, this scaffolding can be gradually withdrawn as children acquire self-soothing capacities.

Active communication with parents emerged as a critical factor for building consistency and understanding the child's behavioural context: "Parents ask daily whether the child napped; they answer honestly (no means no, yes means yes). Parents are surprised their child can sleep at that time; they are enthusiastic when the child can nap, communication with parents is important." (MD-KOM-01 to MD-KOM-05). Parental enthusiasm when a child who never sleeps at home manages to nap at daycare suggests that home, school collaboration can establish a positive feedback loop that supports habituation. Open communication also enables caregivers to contextualise behaviour and adjust expectations and support strategies.



Synthesis and Theoretical Implications

The study's three findings form an integrated framework (Figure 1) wherein post-nap improvements (Theme 1) vary across children (Theme 2) due to contextual influences (Theme 3). For example, Participant 2's dysregulation reflected weekend-weekday inconsistency and screen exposure, whereas Participants 1 and 3 showed stable patterns with consistent routines. These findings validate emotion-regulation Gross (1998), socio-emotional competence Denham (2006), and executive-function theories Zelazo et al. (2003) within the Indonesian context, demonstrating that napping involves neurobiological (prefrontal recovery), psychological (co-regulation to self-regulation), and ecological mechanisms (home-school consistency, environment quality) that mutually shape developmental outcomes.

Three critical tensions emerged. First, co-regulation both enables napping and risks dependency (Participants 1 and 3 progressed to self-soothing [G-SLEEP-03; V-SLEEP-06], while Participant 2 required sustained support [C-SLEEP-04, C-SLEEP-05]). Second, while napping benefits most children, 10-30% naturally do not require naps Liu et al. (2019), and enforcement may produce adverse outcomes, though habituation can succeed with intensive support. Third, screen-time effects remain ambiguous without direct home observation (educator reports: MR-HAB-02; MD-DUK-01). These tensions indicate that napping benefits depend on fit between practices, child characteristics, and contexts, cautioning against "one-size-fits-all" mandatory policies.

The study contributes threefold: (1) documentation of socio-emotional change mechanisms in naturalistic settings; (2) identification of screen-time influence on napping capacity; and (3) evidence that individualized habituation facilitates successful napping among children with special needs in Indonesia. These findings address gaps in local literature dominated by correlational studies (Radita Suratno et al., 2025; Susanto, 2024) and offer insights into developmental processes underlying institutional napping practices.

Conclusion

This study produced three principal empirical findings concerning the dynamics of daytime napping and socio-emotional development in early childhood within a daycare setting. First, daytime napping consistently enhanced socio-emotional functioning, as evidenced by improved emotion regulation (G-POST-01, V-POST-01), increased independence (G-POST-04, V-POST-08), the emergence of spontaneous prosocial behaviour (G-POST-07), and greater participation in activities. These results validate emotion-regulation theory (Gross, 1998) and socio-emotional competence frameworks in the Indonesian context and are coherently explained by a proposed mechanism of prefrontal-cortex recovery (Spencer, 2021).

Second, substantial individual variation problematises blanket "mandatory nap" policies in PAUD. Typically developing participants demonstrated rapid transitions from co-regulation to self-regulation (G-SLEEP-01 → G-SLEEP-03; V-SLEEP-01 → V-SLEEP-06), whereas the child with special needs exhibited persistent resistance to napping and a severe dysregulation episode (C-PRE-07). The teacher-reported observation that approximately 70% of children with special needs respond positively to consistent habituation (MD-STR-04) constitutes a novel empirical contribution not previously documented in the local literature, and sits alongside findings that 10–30% of preschool children may not require daytime naps naturally.

Third, six contextual factor domains interact in complex ways: home, daycare routine consistency, the physical environment, technology (screen time), co-regulation practices,



parent caregiver communication, and individual child characteristics. The reported influence of household smartphone use on nap resistance (MR-HAB-02, MR-HAB-03) represents a new empirical observation for contemporary Indonesia. By documenting mechanisms of socio-emotional change within a naturalistic setting, this study complements prior correlational work and indicates the need for PAUD policies that are flexible and responsive to individual differences, with emphasis on routine consistency, minimisation of screen time, and caregiver development in individualised co-regulation strategies.

Recommendation

Practical recommendations for PAUD practitioners and policymakers. We recommend: (1) revising mandatory nap policies to include quiet-time alternatives for children who do not require sleep; (2) providing teacher training on individualised co-regulation strategies and identification of child sleep needs; (3) strengthening parent-school communication to align home-daycare routines and to raise awareness of screen-time effects; and (4) optimising the sleep environment through temperature control, noise reduction, and creation of a conducive atmosphere.

Follow-up recommendations for teachers. Teachers should implement systematic observational documentation to track individual children's nap patterns, pre-sleep behaviours, and post-nap socio-emotional responses over extended periods (minimum four weeks) to identify which children genuinely benefit from napping versus those who exhibit consistent resistance. For children demonstrating persistent nap refusal, teachers should collaboratively develop with parents individualised "quiet time" protocols that permit rest without enforced sleep, such as calm book-reading, listening to soothing music, or gentle sensory activities, whilst maintaining classroom routine consistency. Teachers must acquire and regularly practise differentiated co-regulation techniques tailored to each child's temperament and developmental needs, including gradual withdrawal of adult presence for children progressing toward self-regulation and sustained proximal support for children with special needs. Monthly reflective sessions with peer teachers and programme coordinators are essential to review documentation, troubleshoot challenging cases, and refine co-regulation approaches. Finally, teachers should establish structured communication rhythms with parents, minimally fortnightly updates, to share observations, align expectations, and collaboratively address home factors (particularly screen time and bedtime routines) that influence daycare napping success.

References

- Al-Hendawi, M., Hussein, E., & Darwish, S. (2025). Direct observation systems for child behavior assessment in early childhood education: a systematic literature review. *Discover Mental Health*, 5(1), 1–22. <https://doi.org/10.1007/S44192-025-00139-Z/TABLES/6>
- Astuti, M., Tk, G., Al-Ya', U., & Malang, L. (2013). Implementasi Program Fullday School Sebagai Usaha Mendorong Perkembangan Sosial Peserta Didik TK Unggulan Al-Ya'lu Kota Malang. *Jurnal Kebijakan Dan Pengembangan Pendidikan*, 1(2), 133–140. <https://doi.org/10.22219/JKPP.V1I2.1561>
- Berger, R. H., Miller, A. L., Seifer, R., Cares, S. R., & Lebourgeois, M. K. (2012). Acute Sleep Restriction Effects on Emotion Responses in 30- to 36-Month-Old Children. *Journal of Sleep Research*, 21(3), 235–246. <https://doi.org/https://doi.org/10.1111/j.1365-2869.2011.00962.x>



- Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706QP0630A>
- Cremone, A., Kurdziel, L. B. F., Fraticelli-Torres, A., McDermott, J. M., & Spencer, R. M. C. (2017). Napping Reduces Emotional Attention Bias During Early Childhood. *Developmental Science*, 20(4), 1–12. <https://doi.org/10.1111/desc.12411>
- D’Cruz, A. F. L., Downing, K. L., Sciberras, E., & Hesketh, K. D. (2024). Are Physical Activity and Sleep Associated with Emotional Self-Regulation in Toddlers? a Cross-Sectional Study. *BMC Public Health*, 24(1), 1–8. <https://doi.org/10.1186/S12889-023-17588-2/TABLES/2>
- Denham, S. A. (2006). Social-Emotional Competence as Support for School Readiness: What is it and How do We Assess it? *Early Education and Development*, 17(1), 57–89. https://doi.org/10.1207/S15566935EED1701_4
- Denham, S. A., Bassett, H. H., & Zinsler, K. (2012). Early Childhood Teachers as Socializers of Young Children’s Emotional Competence. *Early Childhood Education Journal* 2012 40:3, 40(3), 137–143. <https://doi.org/10.1007/S10643-012-0504-2>
- Gross, J. J. (1998). The Emerging Field of Emotion Regulation: An Integrative Review. *Review of General Psychology*, 2(3), 271–299. <https://doi.org/10.1037/1089-2680.2.3.271>
- Hash, J. B., Oxford, M. L., Fleming, C. B., Ward, T. M., & Spieker, S. J. (2020). Sleep Problems, Daily Napping Behavior, and Social-Emotional Functioning among Young Children from Families Referred to Child Protective Services. *Behavioral Sleep Medicine*, 18(4), 447–459. <https://doi.org/10.1080/15402002.2019.1611579>
- Hasibuan, D. A., & Ruslan, M. (2025). Implementasi Pendidikan Anak: Studi Kasus di Reliable Childcare Center (RCC) Malaysia. *Konstruktivisme: Jurnal Pendidikan Dan Pembelajaran*, 17(1), 51–62. <https://doi.org/10.35457/KONSTRUK.V17I1.4089>
- Horváth, K., Myers, K., Foster, R., & Plunkett, K. (2015). Napping Facilitates Word Learning in Early Lexical Development. *Journal of Sleep Research*, 24(5), 503–509. <https://doi.org/10.1111/JSR.12306>
- Kurdziel, L. B. F., Kent, J., & Spencer, R. M. C. (2018). Sleep-dependent enhancement of emotional memory in early childhood. *Scientific Reports*, 8(1), 1–10. <https://doi.org/10.1038/S41598-018-30980-Y;SUBJMETA=1595,2167,2638,2811,378,477,631;KWRD=CONSOLIDATION,HUMAN+BEHAVIOUR,LONG-TERM+MEMORY>
- Lam, J. C., Mahone, E. M., Mason, T. B. A., Scharf, S. M., & Mahone, M. (2011). The Effects of Napping on Cognitive Function in Preschoolers HHS Public Access. *J Dev Behav Pediatr*, 32(2), 90–97. <https://doi.org/10.1097/DBP.0b013e318207ecc7>
- Liu, J., Feng, R., Ji, X., Cui, N., Raine, A., & Mednick, S. C. (2019). Midday Napping in Children: Associations Between Nap Frequency and Duration Across Cognitive, Positive Psychological Well-Being, Behavioral, and Metabolic Health Outcomes. *SLEEPJ*, 42(9), 1–17. <https://doi.org/10.1093/sleep/zsz126>
- Loeffler, & Anna. (2024). *The signifiacnce of nap cessation for children’s social-emotional functioning*. PhD Thesis. Institute for Social Science Research, The University of Queensland. <https://doi.org/10.14264/BF0000A>
- Lukmasari, A., Hartanto, F., Bahtera, T., & Muryawan, M. H. (2017). Hubungan antara Gangguan Tidur dengan Gangguan Mental Emosional Anak Usia 4-6 Tahun di Semarang. *Sari Pediatri*, 18(5), 345. <https://doi.org/10.14238/SP18.5.2017.345-9>
- Mutiah, T., Budiarto, S., & Pogadev, Victor. A. (2024). Early Childhood Self Regulated Learning Based on Javanese Local Wisdom Jawa. *Indigenous: Jurnal Ilmiah Psikologi*, 9(1), 14–26. <https://doi.org/10.23917/INDIGENOUS.V9I1.2652>



- Newton, A. T., Tremblay, P. F., Batterink, L. J., & Reid, G. J. (2023). Predictors of Early Nap Cessation: Longitudinal Findings from a Large Study of Young Children. *Sleep Epidemiology*, 3, 100054. <https://doi.org/10.1016/J.SLEEPE.2022.100054>
- Nurul Fauziah, A., & Ahmad Fajar, D. (2018). Bimbingan Prasekolah Program After School dalam Meningkatkan Kecerdasan Emosional Anak. *Dipublikasikan: Desember*, 6(4), 2086–4116. <https://doi.org/10.15575/IRSYAD.V6I4.905>
- Rachmawati H, & Sunanto. (2019). Bcvcpeningkatan Pemahaman Orang Tua Tentang Tidur Siang Pada Anak Usia 3-5 Tahun Di Tk Zainul Hasan Genggong Probolinggo. *Jurnal Pengabdian Masyarakat Progresif Humanis Brainstorming*, 2(1), 31–33. <https://ejournal.poltekharber.ac.id/index.php/abdimas/article/view/1285>
- Radita Suratno, P. P., Ma'rifah, A., & Sa'diyah, L. K. (2025). Hubungan Kualitas Tidur Dengan Masalah Perilaku Emosional Anak Usia Prasekolah 4-6 Tahun Di Ra Fatma Desa Pugeran Kab Mojokerto. (S1) Thesis.Universitas Bina Sehat PPNI. <https://repositori.stikes-ppni.ac.id/handle/123456789/3549>
- Riad, I., & Khadafi, M. Z. (2023). View of Qailullah (Tidur Siang) dalam Tradisi Sunnah: Manfaatnya Bagi Kesehatan dan Produktivitas. *Jurnal Religion: Jurnal Agama, Sosial, Dan Budaya*, 1(6), 1301–1315. <https://doi.org/https://doi.org/10.55606/religion.v1i6.831>
- Spencer, R. M. C. (2021). The role of naps in memory and executive functioning in early childhood. *Advances in Child Development and Behavior*, 60, 139–158. <https://doi.org/10.1016/BS.ACDB.2020.08.004>
- St. Laurent, C. W., Rasmussen, C. L., Holmes, J. F., Cremone-Caira, A., Kurdziel, L. B. F., Desrochers, P. C., & Spencer, R. M. C. (2023). Associations of activity, sedentary, and sleep behaviors with cognitive and social-emotional health in early childhood. *Journal of Activity, Sedentary and Sleep Behaviors*, 2(1), 1–13. <https://doi.org/10.1186/S44167-023-00016-6/TABLES/3>
- Stake, R. E. (1995). *The Art of Case Study Research - Robert E. Stake - Google Buku*. Sage Publications. https://books.google.co.id/books?id=ApGdBx76b9kC&printsec=frontcover&hl=id&source=gbs_atb#v=onepage&q&f=false
- Staton, S. L., Smith, S. S., Hurst, C., Pattinson, C. L., & Thorpe, K. J. (2017). Mandatory Nap Times and Group Napping Patterns in Child Care: An Observational Study. *Behavioral Sleep Medicine*, 15(2), 129–143. <https://doi.org/10.1080/15402002.2015.1120199;JOURNAL:JOURNAL:HBSM20;PAGE:STRING:ARTICLE/CHAPTER>
- Susanto, K. L. (2024). Hubungan Kebiasaan Tidur Siang Dengan Sosial Emosional Anak Prasekolah (3-5 Tahun). (S1) Thesis. Universitas Kristen Duta Wacana.
- Williford, A. P., Vick Whittaker, J. E., Vitiello, V. E., & Downer, J. T. (2013). Children's Engagement Within the Preschool Classroom and Their Development of Self-Regulation. *Early Education and Development*, 24(2), 162–187. <https://doi.org/10.1080/10409289.2011.628270;SUBPAGE:STRING:ACCESS>
- Yin, R. (2018). *Case study research and applications*. https://www.academia.edu/download/106905310/Artikel_Yustinus_Calvin_Gai_Mali.pdf
- Zelazo, P. D., Muller, U., Frye, D., & Marcovitch, S. (2003). The Development of Executive Function in Early Childhood. *Monographs of the Society for Research in Child Development*, 68(3), 1–89. <https://doi.org/10.1111/j.0037-976x.2003.00260.x>