



Nap Time and Social Interaction Skills among Preschoolers in Ilorin West Local Government Area, Kwara State, Nigeria

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Abstract

This study examined the frequency of nap time and its predictive influence on social interaction skills among 229 preschoolers in Ilorin West Local Government Area, Kwara State, Nigeria. Using a descriptive survey design, teachers and caregivers rated children's nap time frequency and social interaction skills. Descriptive statistics revealed a high frequency of nap time among the preschoolers (grand mean = 3.14, SD = 0.58). Simple linear regression analysis showed that nap time significantly and positively predicted social interaction skills ($R = .270$, $R^2 = .073$, Adjusted $R^2 = .069$, $F(1, 227) = 17.897$, $p < .001$), with nap time explaining 7.3% of the variance in social interaction skills ($B = .199$, $t(227) = 4.231$, $p < .001$). The findings suggest that structured daytime rest is associated with the behavioural capacity for positive peer exchange, cooperation, and classroom social engagement. This study contributes rare West African empirical evidence on sleep and social competence linkages, addressing a documented gap in African early childhood research. Implications for culturally responsive early childhood practices in resource-constrained settings are discussed.

Keywords: Nap Time, Social Interaction Skills, Preschoolers, Nigeria, Descriptive Survey

Introduction

Early childhood is a critical developmental period marked by rapid neural maturation and the foundational acquisition of socio-emotional skills, including emotion regulation, social interaction, and resilience. Central to this trajectory is the evolution of children's sleep patterns, particularly the transition from biphasic to monophasic sleep, which involves the gradual cessation of daytime napping and the consolidation of nighttime sleep (Staton et al., 2019; Spencer & Riggins, 2022). Daytime napping routines serve as biological and environmental mechanisms that influence a child's cognitive and emotional processing (Spencer, 2021; Sadeh et al., 2024). While disrupted sleep is linked to increased anxiety, emotional dysregulation, and externalising behavioural problems, the role of daytime napping remains complex, with variations in nap duration showing both protective and potentially adverse associations with socio-emotional functioning (Lollies et al., 2022; Thorpe et al., 2015). Given the interconnectedness of daytime and nighttime sleep, their predictive influence on specific socio-emotional competencies remains underexplored, particularly in culturally specific early childhood education settings where daily routines strongly shape sleep practices.

A fundamental aspect of early childhood development is the acquisition of socio-emotional skills, which encompass a child's ability to understand, manage, and express emotions effectively while forming and maintaining healthy relationships with others (Malik & Marwaha, 2020). These skills are essential building blocks for school readiness, academic achievement, and long-term psychological well-being (Jones et al., 2025; Malti & Noam, 2026). When children develop strong socio-emotional competencies, they are better equipped to overcome challenges, participate

cooperatively in learning environments, and reduce the risk of internalising and externalising behavioural problems (Schonert-Reichl, 2019; Hash et al., 2020). Among the core indices of socio-emotional development in preschoolers, social interaction skills stand out as a primary indicator of a child's psychological and social health. Social interaction skills represent the behavioural capacity for positive social exchange with peers and adults (Maleki et al., 2019; Yusuf et al., 2023). This domain involves interpersonal competencies such as sharing, taking turns, listening, demonstrating empathy, and engaging in cooperative play (Odo, 2024; Mendoza et al., 2026). For preschoolers, successful social interaction is pivotal for integrating into the classroom setting, resolving peer conflicts, and building trusting friendships (Paulus, 2026; Yazihan Torun et al., 2025). A child's ability to communicate and cooperate directly influences their social acceptance within their peer group (Çiçeköğlu et al., 2019; McDonald & Rubin, 2020). Conversely, deficits in social interaction skills during this sensitive period can lead to isolation, inappropriate interpersonal relationships, and psychological distress later in life (Hosokawa & Katsura, 2020; Lacey et al., 2024). Empirical evidence from Aksoy and Gresham (2024) indicates that children who frequently engage in peer interaction demonstrate stronger communication skills and better emotional understanding than those with limited social exposure. Research by Hosokawa et al. (2024) further confirms that early mastery of social interaction skills predicts positive peer relationships, emotional well-being, and school readiness. These findings underscore the importance of intentional social opportunities during early childhood (Scott et al., 2024).

The acquisition of social interaction skills is shaped by a child's biological and environmental routines, including sleep patterns such as daytime nap duration (Williams et al., 2020; Touchette et al., 2023). The preschool period is marked by a developmental shift in sleep architecture known as the nap transition, during which children gradually cease daytime napping and consolidate sleep at night (Staton et al., 2019; Spencer & Riggins, 2022). Prolonged sleep onset delay and irregular napping have been empirically linked to heightened anxiety, poor emotional regulation, and deficits in social responsiveness (Ross & Karraker, 2008; Chung et al., 2023; Yazihan Torun et al., 2025). Thus, daytime nap routines may serve as biological mechanisms that influence a child's socio-emotional processing (Vriend et al., 2023; Sadeh et al., 2024). In Nigeria, challenges to socio-emotional development in preschool children are particularly acute. A 2025 study across Enugu, Anambra, and Abia States in Southeast Nigeria found that many preschool classrooms are characterised by teacher-centred approaches that prioritise academic skills over holistic development, with teacher-pupil ratios averaging 1:35 in public schools compared with 1:20 in private schools (Obijiofor & Ugwele, 2025). The study revealed that only 2 of 18 interviewed teachers actively incorporated social-emotional learning activities, and children who lacked secure teacher relationships struggled with emotional regulation, anxiety, withdrawal, and peer difficulties (Obijiofor & Ugwele, 2025). These findings highlight that, in Nigerian preschool settings, structural and pedagogical constraints directly undermine the development of foundational socio-emotional competencies. Research by Yusuf et al. (2023) further confirms that quality early childhood education centres in Nigeria significantly influence children's social interactions, yet access to such centres remains unevenly distributed.

Bronfenbrenner's bioecological theory (1979) provides a useful contextual framework because children's routines occur within interacting home, preschool, and wider community environments. For this study, nap-related routines can be considered within children's immediate settings, while home-school consistency, caregiver schedules, and school policies may shape those routines. The theory helps explain why rest and social behaviour should be understood in context rather than as isolated child characteristics. However, the present regression model includes only a nap-time composite score and social-interaction score; it does not measure the ecological systems or processes described by the theory. The framework therefore informs interpretation but is not empirically tested in its full form by this study.

Nap Time and Social Interaction Skills

Research on daytime napping and child outcomes reports mixed findings. Some studies suggest that naps may be associated with aspects of memory or socio-emotional functioning, while other work indicates that nap cessation can coincide with improved behavioural outcomes for children who are developmentally ready to stop napping. These findings are not necessarily contradictory, as nap need may vary with age, total sleep, nighttime sleep, and individual development. The present study does not distinguish between objectively measured nap frequency, duration, timing, or sleep quality. Its rating scale combines observed routines with perceptions of need and benefit, so the result should be interpreted as a relationship involving the composite score rather than as a direct estimate of sleep duration or physiological need. In Nigerian early childhood settings, social interaction is also shaped by classroom practices, teacher-child relationships, resources, and school context. Studies reviewed by the authors discuss institutional quality

and pedagogical approaches in relation to children's social development. These factors may be relevant alternative explanations for the present association, but they were not included as covariates in the regression model. The present study therefore offers a preliminary, local analysis rather than evidence that nap time is an independent determinant of social interaction.

Social interaction difficulties can affect children's participation in play and classroom routines, but the present study did not collect local surveillance data showing a rise in aggression or other behavioural problems in Ilorin West. The educational issue addressed here is narrower: whether teachers' and caregivers' reports of children's nap-related behaviours are statistically associated with their ratings of social interaction skills. Existing literature suggests that sleep and daytime napping may relate to children's behaviour, although findings vary and may depend on age, total sleep, nighttime sleep, nap duration, and individual need. Nap frequency is distinct from nap duration, timing, consistency, or physiological sleep need. Likewise, social interaction skills are one domain of socio-emotional development and should not be treated as interchangeable with general classroom behaviour. The present study is limited to a descriptive account of reported nap-related behaviours and social interaction ratings among Nursery 3 pupils in selected schools in Ilorin West. Claims about local changes in home routines, screen exposure, parental knowledge, sleep facilities, or increasing aggressive behaviour are not made because these variables were not directly measured. The study also does not establish that nap time is beneficial for every preschool child: some children continue to need daytime sleep, whereas others naturally transition away from naps. The literature reviewed for this study includes research on sleep and behaviour, but comparatively little of the material identified by the authors directly examines reported nap-time behaviours as a statistical predictor of specific social interaction skills among preschoolers in Kwara State. This is presented as a gap in the literature reviewed, not proof that no such study exists. The study therefore examines the observed relationship in the selected sample without making a causal claim or claiming that it represents all preschoolers in Nigeria. The study examines the reported frequency of nap time and its statistical relationship with social interaction skills among preschoolers in Ilorin West Local Government Area, Kwara State. Its findings may contribute context-specific evidence for further research and for discussions about flexible, developmentally appropriate rest routines in early childhood settings.

The main purpose of this study is to describe the reported frequency of nap time, describe the level of social interaction skills, and examine the extent to which nap-time scores statistically predict social interaction scores among preschoolers in Ilorin West Local Government Area, Kwara State.

The following research questions guided the study:

1. What is the reported frequency of nap time among preschoolers in Ilorin West Local Government Area, Kwara State?
2. To what extent do nap-time composite scores statistically predict social interaction skill scores among preschoolers in Ilorin West Local Government Area, Kwara State?
3. What is the level of social interaction skills among preschoolers in Ilorin West Local Government Area, Kwara State?

The following null hypothesis was formulated and tested at a 0.05 level of significance:

H₀₁: Nap-time composite scores do not significantly predict social interaction skill scores among preschoolers in Ilorin West Local Government Area, Kwara State.

Methodology

This study adopted a descriptive survey research design, appropriate for examining predictive relationships among variables as they naturally occur without manipulation. The design facilitated the systematic collection of information on the frequency of nap time and the prediction of nap time on social interaction skills among preschool children in the study area. The population comprised 25,470 preschool children in 351 pre-primary schools in Ilorin West Local Government Area. The target population was 1,314 Nursery 3 pupils. The sample size was determined using the Research Advisors' table (2006), which recommended 297 participants for a population of approximately 1,300 at a 95% confidence level and a 5% margin of error. Through multi-stage sampling, 10 schools were purposively selected (3 public, 7 private). More private schools were selected because private pre-primary schools are more numerous in Ilorin West Local Government Area (290 private compared to 61 public schools). A census was conducted within each selected school, and all Nursery 3 pupils present during the data collection period were included. The final sample

comprised 229 pupils, representing all available Nursery 3 pupils in the selected schools during the data collection period. The slight shortfall from the recommended 297 reflects the practical realities of school attendance and availability during the data collection window. The respondents were preschool teachers and caregivers who had direct, daily contact with the children and were therefore able to rate their behaviours accurately based on sustained observation. Two researcher-designed instruments were used:

1. Preschoolers Nap Time Rating Scale (Pre-NAPT): 10 items measuring nap frequency and consistency (Cronbach's $\alpha = 0.79$). The instrument used a modified four-point Likert scale: Always (A), Sometimes (S), Rarely (R), and Never (N). Scores were assigned as follows: Always = 4, Sometimes = 3, Rarely = 2, Never = 1. The scale assessed the frequency with which children participated in and benefited from nap routines. It is acknowledged that the scale combines items relating to nap frequency, need, and perceived benefit, and this heterogeneity is addressed in the Limitations section.
2. Socio-Emotional Development Skills Rating Scale (SEDS): 15 items across three subscales: emotional regulation (5 items, $\alpha = 0.81$), social interaction skills (5 items), and resilience (5 items). The social interaction subscale assessed behaviours such as interacting freely with peers, sharing toys, communicating needs, cooperating in group activities, and responding to social cues. The overall SEDS yielded a Cronbach's alpha of 0.81. The social interaction subscale's reliability coefficient was not computed separately, and this is acknowledged as a limitation.

The instruments were subjected to face and content validation by three experts in Early Childhood and Primary Education and Test, Measurement, and Evaluation at Kwara State University, Malete. Their feedback was incorporated to refine item wording, clarity, and relevance. A pilot study was conducted with 20 preschool teachers and caregivers in Ilorin South Local Government Area, which shares similar characteristics with Ilorin West. Cronbach's alpha coefficients were 0.79 for Pre-NAPT and 0.81 for SEDS. An official letter of introduction was obtained from the Department of Early Childhood and Primary Education, Kwara State University, Malete, and presented to the management of the selected preschools. Informed consent was obtained from all respondents. The instruments were administered personally by the researcher over a six-week period. Respondents were instructed to rate each child based on direct observation and daily interaction. Completed instruments were retrieved, checked for completeness, and coded for analysis. Informed consent was obtained from all respondents. Participation was voluntary, and respondents were assured of confidentiality and anonymity. No names of children, teachers, or schools were recorded on the instruments. The study posed no physical or psychological risk to participants. Descriptive statistics (mean and standard deviation) were used to answer the research question. Simple linear regression analysis tested the predictive relationship at the 0.05 significance level. All analyses were conducted using SPSS.

Results

Table 1: Frequency of Nap Time among Preschoolers

S/N	Nap Time Items	Mean	Std. D	Remarks
1	The child takes a daytime nap during school hours on weekdays.	3.13	.680	High
2	The child participates in scheduled nap or rest time in the preschool.	2.95	.548	High
3	The child falls asleep during designated nap time at school.	3.08	.505	High
4	The child sleeps for at least 30 minutes during nap time on school days.	3.17	.565	High
5	The child requires a daytime nap to remain calm and attentive for the rest of the school day.	3.43	.578	High
6	The child lies down quietly during nap time, even when sleep does not occur immediately.	3.52	.500	High
7	The child follows nap time routines consistently on most school days.	2.91	.833	High
8	The child shows signs of tiredness when nap time is missed during school hours.	3.08	.653	High
9	The child benefits from nap time by being more active and focused after resting.	3.26	.530	High
10	The child rarely skips nap time during the school week.	2.91	.585	High
	Grand Mean	3.14		High

Decision: Low: 1.00–2.49; High: 2.50–4.00

Table 1 shows the frequency of nap time among preschoolers in Ilorin West Local Government Area of Kwara State. The grand mean is 3.14 (SD = 0.58), which is greater than 2.49, the baseline for positive opinion. This indicates a high frequency of nap time among preschoolers in the study area. It should be noted that the 2.50 decision rule classifies all items as "High," which reflects restricted variability in the responses and is acknowledged as a limitation.

Table 2: Descriptive Statistics for Social Interaction Skills

S/N	Social Interaction Skills Items	Mean	Std. Dev.
1	The child interacts freely and positively with other children during play activities.	3.00	.588
2	The child can share toys and materials with peers when playing.	3.13	.614
3	The child communicates needs and ideas clearly when interacting with others.	3.30	.546
4	The child cooperates with peers during group activities and classroom routines.	3.00	.418
5	The child responds appropriately to social cues such as greetings, turn-taking, and requests.	2.78	.414
Grand Mean		3.04	.516

Decision: Low: 1.00–2.49; High: 2.50–4.00

Table 2 shows that social interaction skills were rated highly among the preschoolers (grand mean = 3.04, SD = 0.52).

Hypothesis Testing.

Table 3: Summary of Regression Analysis Showing Prediction between Nap Time and Social Interaction Skills

Model	N	R	R Square	Adjusted R Square	F-cal	P-value
1	229	0.270	0.073	0.069	17.897	< .001

Dependent Variable: Social Interaction Skills

Source: Field Survey 2026

Table 3 summarises the regression results between nap time and social interaction skills among preschoolers. The result indicated a positive prediction between nap time and social interaction skills ($R = 0.270$), while R-squared is 0.073, which means that the independent variable (nap time) explained 7.3% of the variations in the dependent variable (social interaction skills). The Adjusted R^2 is 0.069. Thus, nap time significantly predicted social interaction skills among preschoolers ($F(1, 227) = 17.897, p < .001$).

Table 4: Test of Prediction (Coefficients)

Model	Unstandardized B	Std. Error	Standardized Beta	T	Sig.	95% Confidence Interval
1 (Constant)	8.949	1.484		6.030	<.001	6.025 - 11.874
Nap Time	.199	.047	.270	4.231	<.001	.106 - .292

Dependent Variable: Social Interaction Skills

Source: Field Survey 2026

The test of prediction results in Table 4 showed that nap time statistically significantly predicted social interaction skills among preschoolers ($B = .199; t(227) = 4.231, p < .001$). At the 5% level of significance, there was sufficient evidence that nap time statistically significantly predicted social interaction skills. Based on this, the null hypothesis was rejected.

Discussion

The finding established a high frequency of nap time among preschoolers in Ilorin West Local Government Area of Kwara State (grand mean = 3.14, SD = 0.58). This high frequency of nap time may be attributed to the developmental need for adequate daytime rest to support growth, energy restoration, and overall well-being. The outcome of the findings was in agreement with Reynaud et al. (2025), who conducted a study on daily interrelations between daytime

sleep and the following nighttime sleep and found that on days when napping occurred, children demonstrated significant sleep patterns. However, the finding was not in tandem with Smith et al. (2019), who examined the correlates of naptime behaviours in preschool-aged children and found that nighttime sleep duration significantly differentiated napping behaviour groups ($F = 10.84$, $p < 0.001$). The result was also not in agreement with Spencer et al. (2026), who found that children who rarely napped slept significantly longer overnight than frequent nappers. Similarly, Ward et al. (2008) reported that non-nappers had significantly longer nocturnal sleep duration (587, $SD = 32$ minutes) compared to nappers (539, $SD = 43$ minutes) ($p < 0.001$). These differences may reflect the unique cultural and environmental context of Nigerian preschoolers, where structured nap time in preschools is a standard practice, and communal child-rearing traditions support daytime rest. However, it is important to note that cultural variables were not directly measured in this study, and these interpretations remain speculative.

The significant prediction of social interaction skills by nap time aligns with developmental sleep research. Adequate daytime rest facilitates prefrontal cortex functions necessary for emotion control, memory consolidation, and improved social interactions (Spencer & Riggins, 2022). In Nigerian preschool classrooms characterised by large class sizes and limited individual attention, well-rested children may be better equipped to navigate complex peer dynamics, share resources, and cooperate during group activities.

This finding is particularly relevant given the documented social challenges in Nigerian preschools. With teacher-pupil ratios of 1:35, children's ability to self-regulate socially becomes critical for classroom functioning. Nap time may serve as a protective routine that enhances children's social capacity, enabling them to benefit from peer interactions despite structural constraints. However, the cross-sectional design precludes causal conclusions, and the direction of the relationship cannot be established from these data.

The results align with Litfi et al. (2025), who reported that the napping group exhibited significantly better working memory performance than the no-nap group ($p = 0.002$), alongside improved functional mobility ($p = 0.003$) and upper body strength ($p = 0.026$). Similarly, Ross and Karraker (2008) mapped the behavioural and stress-response deviations triggered by irregular naps, detailing how sleep disruptions directly altered children's socio-emotional resilience and emotional knowledge during stress-inducing procedures. Salsabila et al. (2025) found significant socio-emotional alterations post-nap, including improved emotion regulation, increased independence, and the emergence of spontaneous prosocial behaviours.

However, it is important to acknowledge that Loeffler et al. (2024) found that nap cessation was associated with reduced externalising behaviour problems, which could be interpreted as suggesting that napping may not be universally beneficial. This apparent contradiction may be explained by developmental timing: children who cease napping at the appropriate developmental stage may show improved outcomes, while children who still require naps may benefit from them. The present study's sample comprised Nursery 3 pupils aged 3 to 5 years, who are in the midst of the nap transition, making the findings particularly relevant to this developmental window.

The high baseline levels of nap time and social interaction suggest that Nigerian preschool children in Ilorin West may benefit from cultural practices supporting rest and social engagement. Communal child-rearing traditions, afternoon rest practices, and close peer relationships may collectively foster socio-emotional development in ways that differ from Western contexts. However, it must be emphasised that this study did not measure cultural variables directly, and these interpretations remain tentative. The finding underscores the need for context-specific interventions. While maintaining nap schedules appears beneficial for social interaction, targeted programmes addressing social skills may further enhance these outcomes.

The effect size ($R^2 = .073$) indicates that nap time explains 7.3% of the variance in social interaction skills. While statistically significant, this represents a small effect, and 92.7% of the variance remains unexplained by nap time alone. This suggests that social interaction skills are influenced by multiple factors, including individual child characteristics, teacher-child relationships, classroom climate, and family factors. The practical significance of the

finding lies in its contribution to understanding the multifaceted nature of social skill development, rather than in suggesting that nap time is a primary determinant.

Conclusion

This study provides rare empirical evidence on nap time frequency and its prediction of social interaction skills in Nigerian preschoolers. The finding that nap time significantly predicts social interaction skills contributes to a nuanced understanding of sleep-development relationships. Rather than assuming uniform benefits, educators and policymakers should recognise that sleep routines, particularly structured nap time, are associated with specific socio-emotional competencies in young children. The descriptive results indicate that preschoolers in Ilorin West Local Government Area demonstrate high frequencies of nap time. Inferential analyses revealed that nap time statistically significantly predicted social interaction skills among the preschoolers, suggesting that sleep-related variables are associated with specific developmental outcomes within this population. However, the small effect size and cross-sectional design warrant caution in interpretation.

Recommendations

1. Preschool administrators should maintain scheduled nap periods, as they are associated with social interaction skills among preschoolers.
2. Educators should provide continued opportunities for cooperative play and group activities to support social interaction skills among children.
3. Teacher training should include information on the role of rest in supporting classroom social dynamics.
4. Parents and caregivers should maintain consistent bedtime routines and ensure children receive adequate daytime rest.
5. Schools should consider the potential benefits of nap schedules for social development when designing daily timetables.

Limitations

This study has several limitations that should be acknowledged.

1. The study relied on teacher and caregiver reports rather than objective sleep measures such as actigraphy or polysomnography. This introduces the possibility of shared-method variance, as the same raters may have completed both the nap time and social interaction scales.
2. The instruments were researcher-designed, and while face and content validity were established, the social interaction subscale's reliability was not computed separately.
3. The nap time scale combines items relating to frequency, need, and perceived benefit, and the 2.50 decision rule classified all items as "High," indicating restricted variability.
4. The cross-sectional design precludes causal conclusions, and the direction of the relationship between nap time and social interaction skills cannot be established.
5. The sample was geographically limited to Ilorin West Local Government Area, and the children were nested within 10 schools; no multilevel modelling was employed to account for clustering.
6. No covariates (age, sex, school type, socioeconomic status) were included in the regression model, leaving the possibility of confounding unaddressed.
7. The effect size was small ($R^2 = .073$), indicating that 92.7% of the variance in social interaction skills remains unexplained by nap time.
8. The cultural interpretations offered in the Discussion are speculative, as no cultural variables were directly measured. These limitations notwithstanding, the study provides valuable preliminary evidence on an under-researched topic in a West African context

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