

SPORTICA: Journal of Sport Science and Physical Education



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SOCIAL MEDIA USE AND ITS PHYSICAL HEALTH IMPLICATIONS AMONG ADOLESCENTS IN PENE VILLAGE, EAST LOMBOK

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ABSTRACT

This study explored the perceived physical health implications of social media use among adolescents in Pene Village, Jerowaru District, East Lombok Regency. A descriptive qualitative design was used to understand adolescents' everyday digital routines and the health-related meanings attached to them. Twelve informants were selected through snowball sampling, consisting of seven adolescents, two parents, and three village stakeholders. Data were collected on 4-5 November 2025 through semi-structured interviews, non-participant observation, documentation, and a short Likert-scale questionnaire used only as supporting descriptive evidence. Data were analysed using the interactive model of Miles, Huberman, and Saldana through data condensation, data display, and conclusion drawing/verification, supported by source triangulation. Four themes emerged: intensive daily and nighttime social media use, delayed sleep and morning fatigue, eye discomfort after prolonged screen exposure, and reduced physical activity due to passive phone-based routines. The findings indicate perceived health implications rather than clinical or causal effects. The study contributes local rural evidence showing that adolescents' screen habits should be addressed through family screen-time agreements, school-based digital literacy and healthy lifestyle education, and village youth activity programs.

keywords: social media, perceived physical health, adolescents, screen time, rural context

INTRODUCTION

Social media has become an inseparable part of adolescents' daily lives. In Indonesia, DataReportal recorded 143 million social media user identities in January 2025, equivalent to 50.2% of the national population, indicating that digital interaction has become deeply embedded in everyday routines (Data Reportal, 2025). For adolescents, social media is not only a communication tool but also a space for entertainment, self-expression, peer recognition, and informal learning. In the Indonesian context, adolescents' social media practices are also shaped by their own digital competence,

parents' perceived competence, and family-level negotiation of risks and benefits (Purboningsih et al., 2022).

Adolescence is a crucial developmental stage because behaviour patterns formed during this period may shape long-term health. The World Health Organization reported that 81% of adolescents aged 11-17 years globally do not meet recommended physical activity levels, with adolescent girls tending to be less active than boys (World Health Organization, 2024). In this context, prolonged screen exposure may displace movement, delay sleep, and encourage sedentary behaviour. Thus, the issue of adolescent social media use should be discussed not only as a communication or psychosocial phenomenon, but also as a physical-health and lifestyle concern. Recent evidence further suggests that adolescent health promotion should consider screen-based sedentary time together with movement opportunities and cardiometabolic indicators (Nagata et al., 2024; Guo et al., 2024).

Recent studies show that the consequences of social media use extend beyond psychosocial issues and may also affect health-related routines. Ahmed et al. (2024), in a systematic review with meta-analyses, found that problematic social media use was associated with sleep problems and lower wellbeing among young people. Likewise, Boniel-Nissim et al. (2023) reported that intense and problematic social media use was associated with shorter sleep duration, later bedtimes, and greater social jetlag among adolescents across 18 European and North American countries. Longitudinal and bedtime-screen studies also indicate that social media and screen use before sleep are associated with later sleep timing and greater sleep disturbance, while parental rules may play a protective role (Van der Schuur et al., 2021; Nagata et al., 2023).

Prolonged digital exposure is also linked to visual complaints. (Aykutlu et al. 2024) found a high prevalence of digital eye strain and poor sleep quality among adolescents, while Ha et al. (2025) showed in a dose-response meta-analysis that each additional hour of digital screen time was associated with higher odds of myopia. A scoping review by Ellis Sandoval et al. (2025) further concluded that prolonged screen time may adversely affect both visual and postural health in children and adolescents. Digital eye strain literature explains that prolonged screen viewing may produce ocular symptoms such as tired eyes, blurred vision, dryness, headache, and eye discomfort (Mylona et al., 2023; Mohan et al., 2021).

Screen-based routines may also reduce physical activity. (Zink et al. 2024) found that the association between screen time and body mass index in youth depended partly on whether screen time displaced physical activity or sleep. Purba et al. (2023) also concluded that social media exposure was associated with health-risk behaviours in

young people, including unhealthy dietary behaviour and other behaviours relevant to health promotion. Evidence on this relationship is not always linear; objectively measured smartphone use was not consistently associated with lower physical activity in one study, suggesting that context, type of screen activity, and available alternatives should be considered (Dahlgren et al., 2021).

Although the spread of social media has reached rural areas, evidence from specific local contexts is still limited. Many rural adolescents now have access to smartphones and digital entertainment, yet their families and schools may have different supervision patterns, leisure facilities, and community activity options compared with urban settings. In Pene Village, social media use among adolescents is common, but its perceived physical health implications have not been systematically described. This local gap is important because health promotion strategies must be adjusted to the everyday routines, family supervision practices, and available youth activities in the village. This is especially relevant in Indonesia, where adolescents and parents may perceive social media as both useful and risky, including the possibility that it displaces more meaningful offline activities (Purboningsih et al., 2022).

The novelty of this study lies in its local qualitative description of how adolescents, parents, and village stakeholders perceive the physical-health implications of social media use in a rural East Lombok context. The study was guided by the following research question: How is social media use perceived to influence adolescents' sleep patterns, eye comfort, and physical activity in Pene Village? Accordingly, this study aimed to explore the perceived physical health implications of social media use among adolescents in Pene Village, Jerowaru District, East Lombok Regency.

METHOD

Research design and setting

This study used a descriptive qualitative approach. This design was considered appropriate because the study did not attempt to test a causal relationship or diagnose clinical conditions, but rather to describe adolescents' experiences and the meanings attached to their social media routines. The research was conducted in Pene Village, Jerowaru District, East Lombok Regency, on 4-5 November 2025.

Informants and sampling

Informants were selected using snowball sampling. The initial informant was identified through local community access, after which additional informants were recommended based on their relevance to the research focus. The inclusion criteria for adolescent informants were: (1) living in Pene Village, (2) being in the adolescent age

range, (3) actively using at least one social media platform, and (4) being willing to participate with parental permission. Parents were included when they had direct experience supervising adolescents' phone use, while village stakeholders were included because of their role in youth and community activities. The final sample consisted of 12 participants: seven adolescents as main informants, two parents as supporting informants, and three village stakeholders as key informants. Recruitment was stopped when the interviews no longer produced substantially new themes related to sleep, eye complaints, and physical activity. The profile of informants is presented in Table 1.

Table 1. Informant profile and role in the study

Code	Informant group	Number	Role in data triangulation
A1-A7	Adolescents	7	Main informants; described daily social media use, sleep patterns, eye comfort, and physical activity routines
P1-P2	Parents	2	Supporting informants; confirmed supervision practices and observed changes in adolescents' routines
V1-V3	Village stakeholders	3	Key informants; provided contextual information on youth activities and village-level supervision

Data collection instruments and procedures

Data were collected through semi-structured interviews, non-participant observation, documentation, and a short closed-ended Likert-scale questionnaire used as supporting data. The interview guide covered four domains: (1) types of social media platforms used by adolescents, (2) duration and timing of use, especially nighttime use, (3) perceived physical complaints such as fatigue, eye discomfort, or reduced movement, and (4) family and community supervision. Interviews with adolescents focused on their own routines, while interviews with parents and village stakeholders focused on supervision, observed behaviour, and available youth activities.

Observation was conducted to record visible patterns of phone use and adolescent leisure activities in the village environment. Documentation included field notes and supporting records related to the research setting. The supporting Likert-scale questionnaire consisted of brief indicators on social media-use intensity, nighttime use, sleep-related complaints, eye discomfort, and physical activity. Responses were scored descriptively and were not treated as the main data source. The questionnaire functioned as a triangulation aid to compare whether the pattern of interview statements was consistent with the respondents' structured responses.

Data analysis and trustworthiness

Data analysis followed the interactive model of Miles, Huberman, and Saldana (2014), which includes data condensation, data display, and conclusion drawing/verification. First, interview and observation notes were read repeatedly to identify meaning units

related to social media routines and physical-health experiences. Second, similar meaning units were grouped into subthemes, such as nighttime scrolling, morning fatigue, eye soreness, reduced outdoor play, and parental supervision challenges. Third, the themes were displayed in a matrix and compared across adolescents, parents, and village stakeholders. Finally, conclusions were drawn by linking recurring empirical patterns with relevant literature.

Trustworthiness was strengthened through source triangulation, method triangulation, and member checking in a limited form. Source triangulation compared information from adolescents, parents, and village stakeholders. Method triangulation compared interviews, observation, documentation, and the supporting Likert-scale questionnaire. Member checking was conducted by confirming the meaning of key statements with informants during or immediately after interviews.

Ethical considerations

Because the main informants included adolescents, the study applied basic ethical procedures. Participation was voluntary, informants were informed about the purpose of the study, and adolescent participation was conducted with parental permission. Names were anonymized using codes such as A1, P1, and V1. The study did not collect sensitive clinical diagnoses, and the reported sleep and eye complaints were treated as perceived experiences rather than medical findings.

RESULTS AND DISCUSSION

Overview of themes

The findings show that social media use among adolescents in Pene Village was intensive and routine. Most adolescent informants reported accessing social media every day, especially after school and at night. The most frequently used platforms were WhatsApp, Facebook, Instagram, and TikTok. WhatsApp was mainly used for communication, while Facebook, Instagram, and TikTok were used for entertainment, following trends, and uploading personal content. Some informants reported spending approximately five to six hours per day on their phones.

The thematic analysis produced four major themes: intensive daily and nighttime use, delayed sleep and morning fatigue, eye discomfort after prolonged screen exposure, and reduced physical activity. The theme matrix is presented in Table 2.

Table 2. Theme matrix of perceived physical health implications

Theme	Empirical indicators	Main sources	Interpretive meaning
Intensive daily and nighttime use	Daily access after school and at night; use of WhatsApp, Facebook, Instagram, and TikTok; estimated use of around five to six hours for some adolescents	Adolescents; parents	Social media has become embedded in leisure, communication, and entertainment routines
Delayed sleep and morning fatigue	Phone use beyond 10:00 p.m.; difficulty stopping; waking up sleepy or less energetic	Adolescents; parents	Nighttime screen use appears to disturb rest routines and school-day readiness
Eye discomfort	Sore, tired, watery, or blurred eyes after long video watching or use in dark rooms	Adolescents; parents	Prolonged and poorly regulated screen exposure is perceived to create visual discomfort
Reduced physical activity	More time sitting or lying down with phones; less outdoor play or exercise after school	Adolescents; parents; stakeholders	Screen-based leisure may displace active movement and community-based play
Supervision challenges	Parents find it difficult to limit phone use because adolescents use schoolwork or chatting as justification	Parents; stakeholders	Family supervision requires shared rules and support from schools and village programs

Theme 1: Intensive daily and nighttime social media use

Adolescents described social media as part of their everyday routine. They commonly accessed their phones after school, during leisure time, and before sleep. The use of several platforms also shows that social media served different functions: WhatsApp for communication, Facebook and Instagram for social interaction, and TikTok for short-video entertainment.

"After school I usually open WhatsApp, Facebook, or TikTok. Sometimes I only want to check messages, but then I continue watching videos until late." (A3)

Parents confirmed that adolescents often continued using phones after returning from school. Attempts to limit phone use were not always effective because adolescents argued that they were communicating with friends or completing school-related tasks. Similar Indonesian evidence shows that parents often recognize both benefits and risks of adolescent social media use, but may feel less skilled than adolescents in managing the digital environment (Purboningsih et al., 2022).

"When reminded to stop using the phone, the child often says it is for schoolwork or chatting with friends, so it is difficult to know when to limit it." (P1)

Theme 2: Delayed sleep and morning fatigue

One of the clearest perceived physical implications was delayed sleep. Many adolescent informants reported using social media before sleep, often beyond 10:00 p.m. and sometimes until midnight. As a consequence, they woke up feeling sleepy, tired, and

less enthusiastic in the morning. Parents also observed that adolescents who slept late because of phone use appeared less energetic during daytime activities.

"If I keep scrolling at night, I sleep late. In the morning I feel sleepy and lazy to move."
(A5)

This finding is consistent with broader literature. Boniel-Nissim et al. (2023) found that intense and problematic social media use was related to shorter sleep and later bedtime, while (Fiore et al. 2025) concluded in an umbrella review that digital device use negatively affects several sleep parameters in adolescents, including sleep duration, bedtime procrastination, and sleep quality. Thus, the pattern observed in Pene Village reflects a wider tendency in which bedtime social media use disrupts healthy rest routines. However, because this study did not use a clinical sleep instrument, the findings should be interpreted as perceived sleep-related disruption rather than clinical evidence of sleep disorder. Evidence from daily-diary research also shows that greater social media use and lower physical activity can be linked with later sleep timing among adolescent girls (Hamilton et al., 2023), while bedtime screen use has been associated with trouble falling or staying asleep and overall sleep disturbance in early adolescents (Nagata et al., 2023).

Theme 3: Eye discomfort after prolonged screen exposure

Another recurring complaint concerned eye health. Adolescents reported sore, tired, watery, and occasionally blurred eyes after prolonged phone use, especially when watching videos for a long time, using phones while lying down, or using them in dark rooms. These complaints were also noticed by parents, who said that their children often mentioned eye discomfort after extended social media use.

"When I watch videos for a long time, my eyes feel sore and tired, especially at night when the room is dark." (A2)

The visual complaints reported in this study are supported by recent evidence. (Aykutlu et al. 2024) found a high prevalence of digital eye strain among adolescents, especially among those with long daily digital exposure and bedtime use. (Ha et al. 2025) further showed that more screen time is associated with higher odds of myopia, while Ellis Sandoval et al. (2025) emphasized that prolonged screen exposure may affect both visual and postural health. Therefore, the eye complaints found in this study should be viewed as important early warning signs. Nevertheless, the study did not conduct ophthalmological examination; therefore, the findings should not be interpreted as a clinical diagnosis. These symptoms are consistent with the wider digital eye strain literature, which identifies ocular and extra-ocular complaints following prolonged digital device use (Mylona et al., 2023) and reports increased risk among children with long daily device exposure (Mohan et al., 2021).

Theme 4: Reduced physical activity and displacement of active play

The study also found that intensive social media use was perceived to reduce adolescents' physical activity. Several informants said that after school they preferred staying indoors with their phones rather than exercising or playing outside. Parents likewise stated that adolescents were now less physically active than before and more likely to spend leisure time sitting or lying down while using their phones.

"I rarely play outside after school now. I usually stay at home with my phone because it is more fun to watch videos." (A6)

"Adolescents need more positive activities in the village. If there are no attractive activities, they tend to gather with their phones." (V2)

From a health perspective, this reduction in movement is important because excessive screen time may replace opportunities for exercise and adequate sleep. Zink et al. (2024) demonstrated that the health impact of screen time in youth depends partly on the behaviours it displaces, especially physical activity and sleep. In addition, the WHO continues to emphasize that adolescent inactivity remains a major global concern (World Health Organization, 2024). In Pene Village, the findings suggest that social media does not merely occupy leisure time, but may also reshape adolescents' daily behaviour in ways that reduce movement opportunities. Cross-sectional and population-based evidence further indicates that high recreational screen time and insufficient physical activity remain important adolescent health concerns, although their relationship may vary across contexts and measurement approaches (Dahlgren et al., 2021; Guo et al., 2024; Nagata et al., 2024).

Supporting questionnaire summary

The supporting Likert-scale questionnaire showed a pattern consistent with the interviews and observations. Because the questionnaire was used only as supporting evidence, the results are presented descriptively in Table 3 and are interpreted as a triangulation aid rather than inferential statistics.

Table 3. Summary of supporting Likert-scale questionnaire patterns

Indicator	Dominant response pattern	Consistency with qualitative data
Frequency of daily social media use	High	Consistent with adolescents' reports of daily use after school and at night
Nighttime phone use before sleep	High	Consistent with the theme of delayed sleep and morning fatigue
Eye discomfort after prolonged use	Moderate to high	Consistent with reports of sore, tired, or watery eyes
Physical activity after school	Moderate to low	Consistent with reduced outdoor play and passive phone-based routines
Parental supervision of screen time	Inconsistent	Consistent with parents' difficulty regulating phone use at home

CONCLUSIONS AND SUGGESTIONS

This study concludes that adolescents in Pene Village use social media intensively, especially after school and at night. The main perceived physical health implications were delayed sleep and morning fatigue, eye discomfort after prolonged screen exposure, and reduced physical activity due to more passive phone-based routines. These findings should be interpreted as perceived and behavioural implications, not as clinical diagnoses or causal proof.

It is recommended that adolescents regulate nighttime social media use, avoid prolonged screen exposure in dark rooms, and balance digital entertainment with active movement. Parents should apply consistent home rules, such as a no-phone period before bedtime and shared monitoring of screen purposes. Schools should integrate digital literacy with healthy lifestyle education, while the village government should provide attractive youth sports and community programs. Future research should involve larger samples, validated instruments, and mixed-method designs to examine the relationship between social media use and adolescent physical health more comprehensively. Interventions should therefore combine digital literacy, bedtime media rules, eye-rest habits, and attractive offline activities rather than relying only on individual self-control (van der Schuur et al., 2021; Purboningsih et al., 2022; Cal-Herrera et al., 2025).

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