



**PARENT-REPORTED PHYSICAL ACTIVITY,
TECHNOLOGY USE, AND SLEEP AMONG CHILDREN
AGED 9–14 YEARS IN TIRANA, ALBANIA**

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Abstract:

This cross-sectional study describes parent-reported daily routines among children aged 9–14 years in Tirana, Albania. In October–November 2024, a 13-item Google Forms questionnaire was sent to 90 parents or guardians through several schools; 50 responded (55.6%). Frequencies and percentages were calculated; individual-level data are unavailable. Thirty-eight children (76%) were placed in a sitting category, six (12%)

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walked at least 30 minutes daily, and three (6%) were reported to undertake regular physical activity; three (6%) were unclassified. Weekday technology use was 4–5 hours for 37 children (74%) and 5–6 hours for 13 (26%). Thirty-eight (76%) reportedly slept seven hours, eight (16%) six hours, and four (8%) nine hours. These descriptive findings cannot establish associations or causation. The small, parent-reported sample and lack of formal ethics committee review limit interpretation and publication eligibility.

Keywords: sedentary behaviour; digital media; parent survey; physical education; Albania

1. Introduction

Digital technology is an established part of childhood and adolescence. Screen-based devices support communication, learning, creativity, and entertainment, but prolonged use may compete with physical activity, sleep, and face-to-face interaction. Evaluation of technology use therefore requires attention not only to duration but also to content, purpose, context, and the way use is embedded in everyday routines (boyd, 2014; George & Odgers, 2015; Granic *et al.*, 2014).

Regular physical activity contributes to cardiometabolic health, musculoskeletal development, psychological well-being, and cognitive functioning. Reviews have documented benefits among both younger children and school-aged youth (Janssen & LeBlanc, 2010; Timmons *et al.*, 2012), and objectively measured physical activity has been associated with academic attainment (Booth *et al.*, 2014). Nevertheless, insufficient activity remains widespread, particularly during adolescence (Hallal *et al.*, 2012). The World Health Organization recommends regular age-appropriate activity and limiting sedentary behaviour (World Health Organization, 2019, 2020).

Screen exposure has been associated with sleep, development, and behaviour, although the magnitude and direction of these relationships vary by age, context, and study design. The association with well-being may not be linear, and moderate and very high use may have different implications (Przybylski & Weinstein, 2017). Screen use before bedtime has been associated with shorter sleep or later sleep onset (Cheung *et al.*, 2017; Dworak *et al.*, 2007). In early childhood, higher screen exposure has also been associated with poorer developmental and language outcomes (Madigan *et al.*, 2019; van den Heuvel *et al.*, 2019). These findings should not automatically be interpreted as causal, particularly when evidence is cross-sectional or based on self-report.

Evidence describing these behaviours in Albanian school-aged populations remains limited. The present study therefore aimed to describe parent-reported physical activity, technology use, and sleep among children aged 9–14 years attending several schools in Tirana. The research questions concerned the proportion described as predominantly sedentary, the reported duration of weekday technology use, and the reported duration of sleep.

2. Material and methods

2.1 Participants

This quantitative descriptive cross-sectional study was conducted in Tirana, Albania, during October and November 2024. Exposure and routine indicators were assessed during the same period without an intervention or control group. The design supports description of response distributions but not temporal or causal conclusions.

The target population comprised parents or legal guardians of children aged 9-14 years attending several nine-year schools in Tirana. Ninety parents were selected for invitation through the participating school networks. Participation after invitation was voluntary; consequently, the achieved sample also reflects self-selection. Fifty parents provided consent and completed the questionnaire, yielding a response rate of 55.6%. Each parent reported on one child. Because recruitment involved a limited number of schools and a small sample, the results should not be generalized to all children in Tirana or Albania.

2.2 Measures

Data were collected using a 13-item parent questionnaire adapted from Dahlgren *et al.* (2021). Items covered basic characteristics of the parent and child, predominant daily activity, walking, regular physical activity, sleep duration, sport participation, and daily technology use. The present study used only the parent-report form. Responses were analysed according to the recorded categories. Parent estimates may be affected by recall limitations and subjective perception.

2.3 Procedures

The questionnaire link was distributed through Google Forms to the 90 invited parents.

Participation was voluntary, and parents or legal guardians received information about the study purpose and use of the data before completing the questionnaire. Submission of the questionnaire was treated as informed consent. Children did not participate directly, and no directly identifying information was collected. Responses were handled confidentially, used only for research purposes, and reported in aggregate form. The questionnaire was non-interventional, and the anticipated risk was minimal. The study was not submitted for formal review by an ethics committee; this is disclosed transparently and should be considered when assessing the manuscript.

2.4 Analysis

The parent was the reporting unit, and the child described in the response was the unit of analysis. Absolute frequencies and percentages were calculated using the full sample of $N = 50$ as the denominator. No correlation tests, group comparisons, multivariable models, or other inferential analyses were conducted. Accordingly, no p-values or claims of statistical significance are reported.

3. Results

Results are presented for all 50 parent responses. Percentages use $N = 50$ as the denominator.

Table 1: Birth-year categories of responding parents

Category	n	%
1970-1980	18	36
1980-1990	32	64
Total	50	100

Most respondents ($n = 32$, 64%) were born between 1980 and 1990; 18 (36%) were born between 1970 and 1980. Because only broad intervals were available, a mean parental age could not be calculated.

Table 2: Child country of birth

Category	n	%
Albania	48	96
Outside Albania	2	4
Total	50	100

Forty-eight children (96%) were born in Albania and two (4%) outside the country. Country of birth does not provide information about current residence or establish national representativeness.

Table 3: Predominant activity during the day

Category	n	%
Sitting for most of the day	34	68
Standing or walking for most of the day	10	20
Parent unable to classify	6	12
Total	50	100

Thirty-four children (68%) were described as sitting for most of the day, ten (20%) as standing or walking for most of the day, and six (12%) could not be classified by the responding parent. Sitting may include school attendance, studying, transport, and leisure and therefore cannot be attributed solely to technology use.

Table 4: Parent-reported physical activity category

Category	n	%
Sitting during the day	38	76
Walking at least 30 minutes per day	6	12
Regular physical activity	3	6
Parent unable to classify	3	6
Total	50	100

Thirty-eight children (76%) were placed in the sitting category, six (12%) walked for at least 30 minutes per day, and three (6%) engaged in regular physical activity. Three responses (6%) were unclassified. These categories do not fully capture activity frequency, intensity, and duration.

Table 5: Parent-reported sleep duration

Category	n	%
6 hours	8	16
7 hours	38	76
9 hours	4	8
Total	50	100

Thirty-eight children (76%) were reported to sleep seven hours, eight (16%) six hours, and four (8%) nine hours. Overall, 46 children (92%) were reported to sleep six or seven hours. Age-specific adequacy cannot be determined because results were not available separately by exact age.

Table 6: Technology use on weekdays

Category	n	%
4-5 hours per day	37	74
5-6 hours per day	13	26
Total	50	100

Technology use was reported as four to five hours per weekday for 37 children (74%) and five to six hours for 13 (26%). The questionnaire categories did not distinguish the device, type of content, educational or recreational purpose, or timing of use.

4. Discussion

This study describes a small sample in which sedentary behaviour and several hours of weekday technology use were common, whereas regular physical activity was rarely reported. The descriptive pattern is consistent with international concern regarding insufficient activity among children and adolescents (Hallal *et al.*, 2012). However, the present data do not demonstrate that technology use displaced physical activity because individual-level associations between variables were not available for analysis. Dahlgren *et al.* (2021), using objective measures, did not identify an association between smartphone use and physical activity, illustrating that these behaviours may not follow a simple time-displacement model.

Screen exposure should be interpreted together with the quality and context of use. Educational content, active communication, and shared use with an adult may serve different functions from passive consumption or use near bedtime. Digital games may offer cognitive, motivational, or social benefits in some contexts, although such benefits

do not eliminate possible risks associated with excessive or inappropriate use (Granic *et al.*, 2014). Likewise, associations between screen time and behavioural problems are generally small and influenced by family and individual factors (Eirich *et al.*, 2022).

The sleep findings warrant attention because 92% of the sample was reported to sleep six or seven hours. Without exact age-stratified data, the adequacy of these durations cannot be assessed for individual children. Previous research suggests that device use, particularly during the evening, may be associated with delayed sleep onset and shorter sleep (Cheung *et al.*, 2017; Dworak *et al.*, 2007). The current questionnaire did not capture bedtime screen use and therefore could not examine that mechanism.

Taken together, the findings support a balanced approach to family routines. Technology need not be treated as uniformly harmful, but its use should be organised so that it does not displace sleep, movement, or social interaction. Recommendations should be adapted to the child's age, the content and purpose of use, and the wider family and school context.

5. Limitations

The study has several limitations. The sample included only 50 parents recruited through a limited number of schools in Tirana, and the response rate was 55.6%; selection and non-response bias are therefore possible. All measures were reported by parents and may be influenced by recall error or social desirability. Response categories were broad and did not distinguish device type, content, activity intensity, or the distribution of behaviours across the day. The cross-sectional design does not establish temporal order or causality. Analyses were not stratified by exact age or sex, and family, health, and socioeconomic factors were not controlled. The absence of individual-level raw data precluded inferential analysis and independent reanalysis. Finally, the study did not undergo formal ethics committee review, which may limit its acceptability for publication.

6. Conclusions

In this sample of children and adolescents aged 9-14 years, parents frequently reported sitting during the day, limited regular physical activity, four to six hours of weekday technology use, and six to seven hours of sleep. These results identify daily-routine patterns that merit more structured investigation, but they do not demonstrate that technology causes sedentary behaviour or shorter sleep. Future studies should use larger and more representative samples, age-stratified measures, validated instruments, objective activity or device-use data, and prospective ethics review.

6.1 Practical implications

Parents and guardians may establish predictable routines, develop a family media plan, reduce prolonged device use near bedtime, and provide daily opportunities for active play, walking, and sport (Council on Communications and Media, 2016). Schools may support regular physical education, active breaks, and education about mindful technology use. Health professionals should ask about the purpose, content, and timing of screen exposure in addition to total duration, while considering sleep and physical activity together.

Author contributions

All authors contributed to the study and manuscript.

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Disclosure statement

Formal ethics committee approval was not obtained. Individual-level data are no longer available; only the aggregate counts reported in the tables can be supplied.

AI use disclosure

AI-assisted tools were used to correct language errors, clarify sentences, and remove repetition. The authors are responsible for verifying the scientific content and for complying with the journal's disclosure requirements.

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Conflict of Interest Statement

The authors declare no conflicts of interest.

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