

Sleep, media habits and lifestyle in adolescents

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Creator/Principal investigator(s)

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Description

In the academic year 2008/2009 Pernilla Garmy initiated a longitudinal study regarding sleep, media habits, and lifestyle in school aged children (ages 6–16; n=3011 in collaboration with all the school nurses in the city of Lund in southern Sweden. The results showed that the questionnaire was reasonable (Garmy et al. 2012a), that short sleep periods were associated with fatigue and less enjoyment in school (Garmy et al. 2012b), and that excessive screen time (i.e. time spent at television and/or computer) was linked with overweight children (Garmy et al. 2014). In the academic years 2011–2012 and 2012–2013, a follow-up study was conducted. The baseline investigation consisted of children who were 6–7 years old and about 10 years old during the follow-up investigation. The study was then repeated in collaboration with all of the school nurses in the city, and the survey and height and length measurements were conducted for all 10-year old school children during individual health visits with the school nurse (n=1300) (Garmy et al. 2018). This study showed that short sleep periods and long screen time were linked with obesity (Garmy et al. 2018). In the academic years 2015–2017, the students were about 14 years old, and the school nurse again offered a health visit that included height and weight measurements, and the school nurses once again collaborated and distributed the survey to the students (n=1518). At this time, interest in the study had started to spread, and in addition to the city of Lund, another four municipalities were included in the study. At present, this material is being analyzed in three master level theses, and the results should be published in scientific journals in 2018.

The cohort is about 16 years during the academic years 2017–2019 and who have entered the first year in the secondary upper school, in which the school nurse once again will offer individual health visits. At this follow-up investigation, questions in the survey regarding physical activity, body image, and use of alcohol, tobacco, and drugs have been added. We have also received ethical approval to compare the survey responses regarding sleep, media, and lifestyle with the school grades that measure academic success. Our hypothesis is that sleep and media habits affect academic success. The sleep length of the students in our studies is about 30 to 40 minutes shorter than in the earlier studies of Klackenberg (1982) involving children born in the 1950s. Our results are in line with other studies that show that the sleep length has decreased among adults and also among children. According to an extensive literature review by Matricciani et al. (2012), sleep period has decreased by an hour among children and adolescents during the last 100 years. Today we live in a 24-hour society in which work and spare time are distributed around the clock. Television, computer games, and social media can be used around the clock. This happens at the same time as the adult population on addition to children and adolescents are facing increased sleeping difficulties, shorter sleep length, and stress-related problems. It is therefore of utmost importance to investigate sleep, media habits, and lifestyle in a longitudinal perspective.

Research Questions

The aim of the current study was to investigate longitudinal sleep, media habits, body image, physical activity, and body mass index (BMI) among adolescents. Specific research topics were expressed in

terms of six questions:

1. Do sleep patterns change over time?
2. Are different media habits associated with irregular or shorter sleep?
3. Are media habits and sleep length associated with obesity?
4. What is the prevalence of sleeping difficulties among adolescents?
5. Is there a link between physical activity, media habits, body image, obesity, and sleep?
6. Are the screening instruments, Minimal Insomnia Symptom Scale (MISS) and Insomnia Severity Index (ISI), valid and reliable among adolescents?

Project Relevance

Sleep, media habits, and lifestyle among children and adolescents are in a rapidly changing. School has an important role to play in this area, and in school health care, we get many questions from children and parents regarding these issues. There is a lack of knowledge regarding sleep and media habits, and the way in which these habits are related to other lifestyle factors such as physical activity and obesity. Foremost, there is a great need for longitudinal studies in this area.

Method

The sample consists of all students in first year of upper secondary school in the academic years 2017–2018 and 2018–2019 in four southern Swedish municipalities. Both public and private schools are included. The students will respond to a web-based survey regarding sleep, media habits, physical activity, body image, use of alcohol, tobacco, drugs, and self-reported health during the school day. The responses will be compared with grades (measuring academic success) and BMI (height and weight measurements by the school nurse).

The students have participated in the survey three times earlier: 1) at the ages of 6–7, 10, and 14. The survey has now been supplemented with Minimal Insomnia Sleep Symptoms questionnaire (MISS) (Broman et al., 2008, Westergren et al., 2015).

Information about height and weight are collected from the school health journal. Trained school nurses have conducted all of the measurements. The weight is measured at a digital scale, which is calibrated annually. Children's height is measured without their shoes using a manual height measure. BMI (kg/m²) is used to calculate the relative weight. Since BMI varies with the gender and age among the children, the international age and gender specific BMI curve developed by Cole et al. (2000) is used to identify adolescents who are overweight or obesity. Students with a BMI value correlating to >25 in late adolescence is classified as overweight, whereas a value correlating >30 is considered obese.

Qualitative data will also be collected via focus adolescent group interviews regarding healthy sleep and media habits in addition to the phenomena Fear of Missing Out, FoMo. Qualitative content analysis (Graneheim & Lundman, 2004) will be used.

Language

[Swedish](#)

Unit of analysis

[Individual](#)

Population

School children in five municipalities in Southern Sweden aged 6-18

Time Method

[Cross-section](#)

[Longitudinal](#)

Sampling procedure

[Total universe/Complete enumeration](#)

Time period(s) investigated

2008 – 2020

Responsible department/unit

Faculty of Health Science

Ethics Review

Lund - Ref. 2015/113 samt 2017/600

Research area

[Medical and health sciences](#) (Standard för svensk indelning av forskningsämnen 2011)

[Health](#) (INSPIRE topic categories)

[Health](#) (CESSDA Topic Classification)

Keywords

[Sleep](#), [Life style](#), [Youth](#)

Accessibility level

Access to data through an external actor

Access to data is restricted

Homepage

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