



Adolescent sleep insufficiency one year after high school[☆]

Jessamyn G. Perlus^{a,*}, Fearghal O'Brien^b, Denise L. Haynie^c, Bruce G. Simons-Morton^c

^a University of Illinois at Urbana-Champaign, Department of Educational Psychology, 1310 S. Sixth Street, Champaign, IL, 61820, USA

^b National College of Ireland, Mayor Street, Dublin 1, Ireland

^c Eunice Kennedy Shriver National Institute of Child Health and Human Development, 6710B Rockledge Drive, Bethesda, MD, 20817, USA



ARTICLE INFO

Keywords:

United States
Sleep
Health behavior
Adolescents
Emerging adults

ABSTRACT

Introduction: Sleep difficulties affect approximately 45% of adolescents and are associated with health consequences such as depression and obesity. Sleep duration immediately following high school is not well understood, especially for those not pursuing post-secondary education. We examined adolescent sleep insufficiency and its association with school and work status.

Methods: Data were collected in 2012 and 2013 as part of the NEXT Generation Health Study (NEXT), a nationally representative, longitudinal study of U.S. adolescents. Self-reported sleep was compared with guidelines for healthy sleep.

Results: On weekdays, 31% reported less than 7 h of sleep; which reduced to 6% on weekends. Average weekday sleep was 7.4 h and weekend sleep was 9.2 h. Few results emerged from interaction analyses comparing different work and school statuses.

Conclusions: This study captures sleep habits of adolescents one year after high school regardless of school and/or working status. Implications and future directions are discussed.

Sleep difficulties, such as insufficient sleep, affect approximately 45% of adolescents in 6th to 12th grade (Gradisar, Gardner, & Dohnt, 2011). These difficulties are associated with a host of mental and physical consequences, including increased risk of obesity, drowsy driving, depressed mood, and even suicide attempts (Owens et al., 2014). Poor sleep is also linked to lowered academic performance and behavioral problems such as school absenteeism and substance use (Roberts, Roberts, & Duong, 2009; Shochat, Cohen-Zion, & Tzischinsky, 2014). Physiological and psychosocial changes characteristic of adolescence coincide with sleep habits such as delayed sleep onset and a shift in circadian rhythms (Carskadon, 2011). Behaviors acquired in adolescence tend to persist into adulthood (Lau, Quadrel, & Hartman, 1990); therefore, this is a critical time to examine sleep habits. Persistent sleep deficiency can compromise humans' mental aptitude and physical vitality, and lead to overall poorer health (Walker, 2017). Sleep is a vital health behavior that has widespread impact on functioning, particularly in school and social environments. This impact may be seen in life opportunities and decisions such as employment and school status. These numerous health and academic consequences make sleep, particularly during emerging adulthood, a public health concern.

The recommended sleep duration for adolescents and adults is typically a minimum of seven hours per night (CDC, 2017; Hirshkowitz et al., 2015; National Health Lung & Blood Institute, 2017, June 7). Others have noted that these recommendations may even underestimate the amount of sleep needed (Short, Weber, Reynolds, Coussens, & Carskadon, 2018). Sleep duration has been examined separately for high school (Keyes, Maslowsky, Hamilton, & Schulenberg, 2015) and college students (Lund, Reider, Whiting, & Prichard, 2010), but changes during this transition are not well understood, and adolescents not attending college are

[☆] This article is part of a Special Issue entitled Sleep Issues During Adolescence.

* Corresponding author.

E-mail addresses: perlus2@illinois.edu (J.G. Perlus), fearghal.obrien@ncirl.ie (F. O'Brien), Denise_Haynie@nih.gov (D.L. Haynie), mortonb@exchange.nih.gov (B.G. Simons-Morton).

<https://doi.org/10.1016/j.adolescence.2018.07.016>

Received 26 January 2018; Received in revised form 5 July 2018; Accepted 30 July 2018

0140-1971/© 2018 Published by Elsevier Ltd on behalf of The Foundation for Professionals in Services for Adolescents.

largely unstudied. Many researchers have noted the constricted availability of sleep hours among adolescents due to extracurricular demands (Bartel, Gradisar, & Williamson, 2015) and the particular burden faced by those both enrolled in college and working (Teixeira et al., 2012). No study has examined whether sleep duration differs based on distinctive pathways of work, post-secondary education, or both after high school.

This study investigated the prevalence of sleep insufficiency in the first year after high school and its associations with school enrollment and work status. Using a nationally representative population, we addressed two main research questions: (a) what is the proportion of adolescents obtaining insufficient sleep one year after high school? (b) How does this differ when adolescents are enrolled in post-secondary schooling and/or working? Based on previous estimates we expected more than half the sample to report insufficient weekday sleep (Lund et al., 2010). In contrast, we expected most of the sample to report sufficient weekend sleep. We expected students, particularly those enrolled at universities, to get insufficient weekday sleep and we also expected full-time workers to report similar insufficient sleep patterns.

Demographic factors have been shown to be associated with sleep in this population, so we included gender, race/ethnicity, and parental education as covariates. Although some differences have been found in other sleep quality studies (Vallido, Jackson, & O'Brien, 2009), we did not expect gender differences to be related to insufficient sleep. Race/ethnicity and socioeconomic status have been associated with adolescent health, particularly sleep (Kingsbury, Buxton, & Emmons, 2013) and stress (Goodman, McEwen, Dolan, Schafer-Kalkhoff, & Adler, 2005). We predicted that members of ethnic/racial minority groups would report shorter sleep duration. Previous studies have also found socioeconomic status and maternal education linked to sleep efficiency in children (El-Sheikh et al., 2013); we expected lower parental education could also be linked to shorter sleep duration.

1. Methods

1.1. Participants

This study used data from the NEXT Generation Health Study (NEXT), a nationally representative cohort of adolescents initially recruited in 2009 during their 10th grade year and were followed for seven years (Li, Iannotti, Haynie, Perlus, & Simons-Morton, 2014). Students were sampled using a clustered sample strategy, stratified across nine U.S. Census divisions with school districts as the primary sampling unit. This examination utilized the third and fourth waves (i.e., 2012 and 2013) and to avoid confusion these are referred to as “Time 1” (i.e., final year of high school), and “Time 2” (i.e., first year after high school). Data collection extended from January to July for both surveys and the majority of responses were provided February to May each year. Most participants completed the survey online; those without Internet access completed a paper version. Participants received monetary incentives at each wave.

At Time 1, 2297 students were in NEXT. Of these, 225 dropped out, 67 were still in high school, and 390 had missing data for the variables in the current study at Time 2. The final analysis sample ($N = 1615$) was 60% female, 66% Caucasian, 12% African American, 17% Hispanic/Latino, 5% other (weighted frequencies, see Table 2). At Time 2 the mean age was 19.1 years ($SD = 0.03$).

1.2. Measures

Sleep duration was total hours of sleep on scheduled-days (typically weekdays) with the phrasing “On days that you go to school, work, or similar activities.” Sleep was measured separately for free-days (typically weekends) with the phrasing “On days that you don't have to get up at a certain time.” At Time 1, participants reported sleep and wake times (e.g., 11:00pm, 7:00am) for “most weekdays” and “most free-days” but at Time 2 participants reported sleep duration (e.g., “8 h 10 min”). Accordingly, Time 1 reports were converted to duration to allow for comparisons. The estimates reflect weekday (scheduled-day) and weekend (free-day) and averages. Participants who reported less than 7 h of sleep were classified as having *insufficient sleep*. This dichotomy reflects the way public health recommendations often appear, typically a minimum of 7 h for adults 18 to 60 according to the Centers for Disease Control (CDC, 2017), the National Heart, Lung, and Blood Institute (National Health Lung & Blood Institute, 2017, June 7), and the National Sleep Foundation (Hirshkowitz et al., 2015).

School and work were independently classified. Post-secondary *school status* was classified as enrolled in a (a) 4-year college or university; (b) community college or vocational/tech school; or (c) not enrolled in any school. *Work status* was classified as working (a) ≤ 20 h; (b) > 21 h; or (c) not working. Table 1 presents a frequency cross-tabulation of work and school status. Although the Bureau of Labor Statistics defines part time as less than 35 h per week, we found the 20-h cut point a useful categorization for the young adult population; particularly the typical hourly jobs available to college students. Our classification captures part time

Table 1
Distribution of participants by post-secondary school and work status.

		Post-Secondary School Status		
		No School	Community/Tech School	University
Work Status	No work	151	261	467
	≤ 20 h/week	35	86	186
	> 21 h/week	194	139	96

Download English Version:

<https://daneshyari.com/en/article/7240704>

Download Persian Version:

<https://daneshyari.com/article/7240704>

[Daneshyari.com](https://daneshyari.com)