Sleep Patterns in Elementary School Children (Grades 2-5) and Adolescents (Grade 10)

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Introduction

- There is limited research examining sleep patterns in elementary school children.
- Bedtime activities affect total sleep time in elementary school children.
- Previous researchers focused on parental responses rather than student responses to determine factors that affect sleep.

Objective:
Examine sleep patterns and external factors affecting total sleep time among elementary school children & adolescents.

Results

Sleep-Wake Times on School Nights

- Table 1 compares the mean wake up & bedtime on a weekday.
- The wake time across grades was relatively similar for children in grades 2 – 5.
- 10th graders woke up on average 30-40 minutes earlier than others grades.
- Mean time to bed on a school night became later with increasing grade level.

<table>
<thead>
<tr>
<th>Grade 2</th>
<th>Variable</th>
<th>Mean Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Grade</td>
<td>Child Wake-Up</td>
<td>7:01</td>
</tr>
<tr>
<td></td>
<td>Child Bedtime</td>
<td>8:24</td>
</tr>
<tr>
<td>3rd Grade</td>
<td>Child Wake-Up</td>
<td>6:49</td>
</tr>
<tr>
<td></td>
<td>Child Bedtime</td>
<td>8:37</td>
</tr>
<tr>
<td>4th Grade</td>
<td>Child Wake-Up</td>
<td>6:56</td>
</tr>
<tr>
<td></td>
<td>Child Bedtime</td>
<td>8:52</td>
</tr>
<tr>
<td>5th Grade</td>
<td>Child Wake-Up</td>
<td>6:59</td>
</tr>
<tr>
<td></td>
<td>Child Bedtime</td>
<td>9:10</td>
</tr>
<tr>
<td>10th Grade</td>
<td>Child Wake-Up</td>
<td>6:20</td>
</tr>
<tr>
<td></td>
<td>Child Bedtime</td>
<td>10:51</td>
</tr>
</tbody>
</table>

- 80-88% of children reported going to bed later on non-school days than on school days.

Bedtime and Wake Up Time Later Than on Weekends

- Percent of Children Waking up Without Assistance on Weekday

- Children in grades 2-5 woke up earlier (31.7-72.4%) and on their own in comparison to adolescents in grade 10 (6.8%).

Total Sleep Time Across Grades

- Figure 1 illustrates total sleep time across grades 2-5 & grade 10.

Environmental Factors Affecting Total Sleep Time

- Students who have a TV in the room sleep less.
- Students who read sleep more.

Methodology

Subjects:
- Students in grades 2-5; n=885
- Students in grade 10; n=190
- All students were enrolled in a public school system in the Northeast.

Instrumentation:
- Students in grades 2-5 were given a short 16 question survey (multiple choice & fill-in)
- Students in grade 10 were given a short 26 question survey (multiple choice & fill-in)
- Surveys consisted of questions focusing on:
  - Sleep-wake cycles
  - Bedtime routines
  - Environmental factors
  - Sleep duration
  - Sleep hygiene

Procedure:
- Surveys were administered by classroom teachers to students in grades 2-5.
- Students in grade 2 were read aloud each question in the survey.
- Surveys were administered by student advisors to students in grade 10.

Data Analysis:
- Descriptive statistics
- Independent t-test
- ANOVA (Analysis of Variance)

Conclusion

- Younger children report waking up on their own at an earlier time.
- Adolescents report less sleep and are sleep deprived.
- Irregular sleep-wake cycles lead to poor sleep quality.
- Environmental factors can negatively & positively affect sleep habits.
- Understanding sleep patterns will assist parents, health care providers & educators in promoting quality sleep hygiene in school-aged children.

References


Acknowledgments

- Partial funding provided by UROP (Undergraduate Research Opportunities Program).
- We thank Dr. Amy K. Wolfson for helpful comments & support during the preparation.