Native Language Shifts Across Sleep-wake States in Bilingual Sleeptalkers

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Introduction: What is Sleeptalking?

- Sleeptalking (somniloquy) is a common parasomnia

- It occurs spontaneously
  - Emotional Stress may be a trigger

- More frequent in children and teenagers

Introduction: Somniloquy & Bilingualism

- Multi-language patients always use their dominant language during sleeptalking episodes

Introduction: Question?

- To assess language used during episodes of sleeptalking in bilingual children

Methods

- Participants
  - Basque Country, a region in northern Spain
  - 1000 parents agreed to participate, and 681 children were studied
    - 2 types of Bilinguals
      - Balanced Bilinguals and Dominant Bilinguals

- Procedure
  - Parents were asked to complete a self-administered questionnaire
  - All returned surveys were reviewed
Results

- Sleeptalking occurred in 56.3% of the 681 subjects
- Dominant Bilinguals primarily used their native (dominant) language during sleep talking
- Balanced Bilinguals sleeptalked in either of the two native languages

<table>
<thead>
<tr>
<th>Native Language</th>
<th>N (%)</th>
<th>Sleep Language</th>
<th>N (%)</th>
<th>Domination Shift</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euskera</td>
<td>77 (20)</td>
<td>Euskera</td>
<td>65 (84.4)</td>
<td>1 (1.3)</td>
<td>1 (1.3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spanish</td>
<td>1 (1.3)</td>
<td>Euskera</td>
<td>1 (1.3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Both without preference</td>
<td>11 (14.3)</td>
<td>Euskera</td>
<td>9 (3.9)</td>
</tr>
<tr>
<td>Spanish</td>
<td>233 (60.7)</td>
<td>Spanish</td>
<td>169 (72.5)</td>
<td>Both without preference</td>
<td>55 (23.6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Euskera</td>
<td>9 (3.9)</td>
<td>Euskera</td>
<td>9 (3.9)</td>
</tr>
<tr>
<td>西班牙</td>
<td>74 (19.3)</td>
<td>Spanish</td>
<td>21 (28.4)</td>
<td>Both without preference</td>
<td>31 (41.9)</td>
</tr>
</tbody>
</table>

Discussion

- Environmental factors may influence which language is spoken by a sleeptalker on a given night
- Intrahemispheric organization of the languages might influence language dominance in bilinguals
- Emotional Stress
- Bilingual subjects may have dreams in certain languages
Conclusion
- Bilingual subjects predominantly use their native (dominant) language during sleep-talking.
- Major language dominance shifts across sleep-wake states in a subgroup of healthy children occurs for reasons still unexplained.

Strength & Limitations
- Strengths
  - Large Sample
  - Efficient Screening process
- Limitations
  - Parent’s Bias and inexperience
  - Only Basque region was tested
  - Wealth Status of Subjects
  - Living conditions were not completely standardized for all subjects
  - Broad Age range

Further Studies
- Test other bilingual regions
- Test narrower age range
- Test a wider class of subjects

Questions?
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