Understanding Wellbeing: The Role of Sleep and Social Media on Havering's Youth

Summary

- It is important to acknowledge that although the findings show a statistically significant association (strong p-value), the correlation itself is only weak to moderate, suggesting that while the relationship may be reliable, it is not necessarily meaningful or robust.
- **Sleep and Wellbeing**: A **moderate positive correlation** (r_s=0.38, p<0.0001) exists overall, indicating that students who report getting enough sleep tend to have higher wellbeing scores. The relationship is consistent across all demographic groups, with the **strongest correlation observed in the least deprived group** (IDACI Q5: r_s=0.48).
- **Social Media and Wellbeing**: A **weak negative correlation** (r_s=−0.22 p<0.0001) suggests that higher social media use is associated with lower wellbeing scores. The relationship is slightly stronger among moderately deprived groups (IDACI Q3: r_s=−0.33).
- **Sleep and Social Media**: A **weak to moderate negative correlation** (r_s=−0.26, p<0.0001) was found between sleep and social media use, suggesting that increased time spent on social media is associated with insufficient sleep. The relationship is stronger in moderate deprived group (IDACI Q3: r_s=−0.31).

Methods

The data for this analysis was drawn from the Havering Youth Wellbeing Census, which was completed by secondary school students in Havering. The Census is based upon the #BeeWell Survey, a questionnaire designed to measure adolescent wellbeing. The survey included the following measures:

- **Wellbeing Index**:
  A composite score derived from 7 statements (e.g., *"I've been feeling optimistic about the future"*) answered on a 5-point scale:
  - *None of the time = 1*, *Rarely = 2*, *Some of the time = 3*, *Often = 4*, *All of the time = 5*.
    The average score for each student was used as the wellbeing measure.
- **Sleep**:
  Students were asked: *"Is the amount of sleep you normally get enough for you to feel awake and concentrate on your schoolwork during the day?"*
  - Response: *Yes* or *No*.
- **Social Media Use**:
  Students reported their weekday social media usage with the following options:
  - *None – 0, less than one hour – 1, one hour to less than 2 hours – 2, two hours to less than 3 hours – 3, 3 hours to less than four hours – 4, four hours to less than five hours – 5, five hours to less than six hours – 6, six hours to less than seven hours – 7, more than seven hours – 8*

Statistical Analysis

- **Spearman Rank Correlation (r_s)** was used to assess the strength and direction of relationships between variables.
- **p-values** were calculated to test for statistical significance. Results with p<0.05 are considered significant, indicating a low probability that the observed relationship occurred by chance.
- Analyses were stratified by gender (male, female) and socioeconomic groups, measured using IDACI quintiles (Index of Deprivation Affecting Children Income). The IDACI is a national measure that estimates the proportion of children aged 0–15 living in income-deprived households within a local area.

Key Findings

Sleep and Wellbeing

- A **moderate positive correlation** (r_s=0.38) demonstrates that students reporting sufficient sleep tend to score higher on the wellbeing index.
- This trend holds for both males (r_s=0.39) and females (r_s=0.37), as well as across socioeconomic groups.
- The relationship strengthens in the least deprived group (IDACI Q5: r_s=0.48), while moderate correlations are seen in middle and lower groups (IDACI Q1–Q4).

Social Media and Wellbeing

- A **weak negative correlation** (r_s=−0.22) suggests that higher social media usage is linked to lower wellbeing scores.
- While significant across all groups, the association is strongest in IDACI Q3 (r_s=−0.33) and weakest in IDACI Q4 and 5 (r_s=−0.17).
- Gender differences show very weak relationships for males (r_s=−0.14) as well as for females (r_s=−0.19).

Sleep and Social Media

- A **weak negative correlation** (r_s=−0.26) indicates that increased social media usage is associated with insufficient sleep.
- The relationship is strongest in IDACI Q3 (r_s=−0.31) and Q4 (r_s=−0.28), showing its particular relevance to students in the middle deprivation groups.
- There is very little difference between males (r_s=−0.24) and females (r_s=−0.22)

Statistical Notes

- **Spearman Rank Correlation (r_s)**: Measures the strength and direction of a relationship between two variables. Values range from −1 (strong negative) to +1 (strong positive), with values between:
    - 0 to ±0.1: Negligible (very weak) correlation
    - ±0.1 to ±0.3: Weak correlation
    - ±0.3 to ±0.6: Moderate correlation
    - ±0.6 to ±0.8: Strong correlation
    - ±0.8 to ±1.0: Very strong correlation
- **p-value**: Indicates the statistical significance of the result. A p-value less than 0.05 suggests that the observed relationship is unlikely to have occurred by chance.

Conclusion

The findings highlight relationships between sleep, wellbeing, and social media usage. The strongest association between sleep and wellbeing occurs within the least deprived group (IDACI Q5: rs=0.48), though this correlation remains moderate. Weaker to moderate associations are observed among the middle and lower socioeconomic groups (IDACI Q2–Q4). Similarly, for relationships involving social media usage—both with wellbeing and with sleep—the strongest correlations appear in the more deprived groups (IDACI Q3 and Q4); however, these correlations are also moderate at best. Although these associations are statistically significant, their moderate strength suggests that additional factors likely play a crucial role in influencing student wellbeing.

Detailed Results

Please see next page for full statistical tables

Social Media v Wellbeing	Spearman Rank (rs)	Degrees of Freedom (df)	t-statistic	p-value
Overall	-0.22	2131	-10.43	0.00000000000
Male	-0.14	875	-4.16	0.00003557262
Female	-0.19	1125	-6.49	0.00000000013
IDACI Q1	-0.22	280	-3.73	0.00023478490
IDACI Q2	-0.21	564	-5.02	0.00000069447
IDACI Q3	-0.33	390	-6.96	0.00000000001
IDACI Q4	-0.17	569	-4.13	0.00004186354
IDACI Q5	-0.17	276	-2.88	0.00424261411

Sleep v Wellbeing	Spearman Rank (rs)	Degrees of Freedom (df)	t-statistic	p-value
Overall	0.38	2129	19.20	0.00000000000
Male	0.39	281	7.10	0.00000000001
Female	0.37	1122	13.36	0.00000000000
IDACI Q1	0.39	281	7.10	0.00000000001
IDACI Q2	0.33	570	8.49	0.00000000000
IDACI Q3	0.42	384	9.16	0.00000000000
IDACI Q4	0.36	565	9.32	0.00000000000
IDACI Q5	0.48	278	9.05	0.00000000000

Sleep v Social Media	Spearman Rank (rs)	Degrees of Freedom (df)	t-statistic	p-value
Overall	-0.26	2226	-12.88	0.00000000000
Male	-0.24	917	-7.50	0.00000000000
Female	-0.22	1174	-7.83	0.00000000000
IDACI Q1	-0.21	311	-3.86	0.00013586615
IDACI Q2	-0.27	593	-6.90	0.00000000001
IDACI Q3	-0.31	398	-6.42	0.00000000040
IDACI Q4	-0.28	587	-7.00	0.00000000001
IDACI Q5	-0.20	284	-3.36	0.00087834143