



Subjective versus Objective Sleep Quality and Wellbeing During COVID-19: Which Matters Most?

Tori Dickerson, M.A., M.B.A.¹, Jennifer K. Altman, Ph.D.¹, Amy Schaefer, M.A.¹, Yancy Nesbitt, M.P.S.¹, Christian French¹, Abbie O. Beacham, Ph.D.²
1. Spalding University, Louisville, KY, USA 2. University of Louisville, Louisville, KY, US

INTRODUCTION

The COVID-19 pandemic has taken a toll on American's physical and mental health. For example, increased stress and anxiety have become more prevalent and contributed to poorer sleep in the average American. Nearly 40% of the population reported experiencing sleep disturbance during the pandemic, colloquially termed "coronasomnia" (BBC Workplace, 2021; Jahrami et al., 2021).

Evidence shows that poor sleep quality is associated with lower mood and decreased wellbeing (Nutt et al., 2008). Most studies focus on objective sleep as the main measure of wellbeing. However, other research argues that objective sleep measures can differ from wellbeing in some adult populations (O'Donnell et al., 2010). Furthermore, that variability is partially mediated by subjective sleep quality reports.

The present study sought to explore the relationship between objective sleep quality, perceived sleep quality, and well-being during COVID-19. Specifically, the study investigated how perceived sleep quality impacted wellbeing during the COVID-19 pandemic. We predicted that objective sleep quality, would have a stronger influence on wellbeing.

METHOD

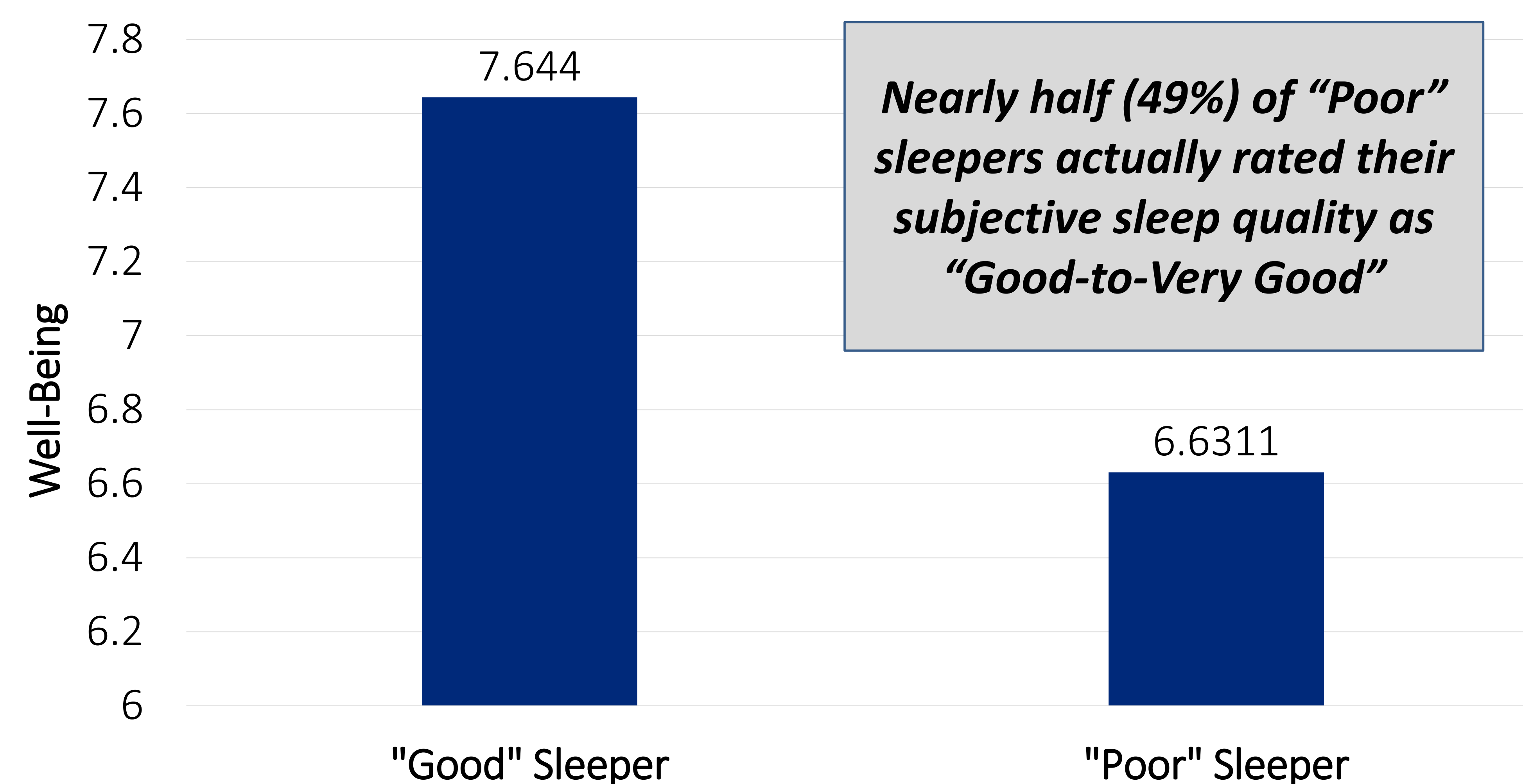
Data was collected as part of a larger study to understand the effects of COVID-19.

- The sample from this study consisted of 93 adults between the ages of 18 and 64. Most participants identified as female (77.4%) and Caucasian (88.2%).
- Participants completed demographic items such as age, race, socioeconomic status, and education, the Pittsburgh Sleep Quality Index (Buysse et al., 1989) and the PERMA Well-being Profiler (Butler & Kerns, 2015) as part of a larger study, conducted shortly after COVID-19 was categorized as a Pandemic.

Table 1. Well-being Subscale Scores by "Good" and "Poor" PSQI Sleep Quality Category

	"Good" Sleepers Mean(SD)	"Poor" Sleepers Mean(SD)	t	df	Sig. (2-tailed)
Positive Emotion	7.61 (1.45)	6.02 (1.78)	3.53	58	.001
Engagement	7.15 (1.45)	6.31 (1.90)	1.82	61	.073
Relationships	7.85 (1.55)	6.81 (2.10)	2.03	60	.047
Meaning	7.84 (2.17)	6.41 (2.26)	2.46	62	.017
Accomplishment	7.75 (1.21)	6.66 (1.85)	2.87	61	.006
Total Well-Being	7.64 (1.26)	6.63 (1.51)	2.583	54	.013

Figure 1. Total Well-being scores by PSQI "Good" versus "Poor" Sleep Score category



RESULTS

In our study's sample:

- Nearly 70% (n=53) of participants who completed PSQI reported having "Poor" objective sleep scores.
- Objectively "Good" sleepers had higher overall wellbeing scores [t(54) = 2.58, p=.013]. See Table 1 and Figure 1.
- Notably, when the self-rated "Good-to-Very-Good" sleep reports were compared to those who rated their sleep as "Bad-to-Very Bad," those who perceived their sleep to be better had higher scores on most Wellbeing components: Positive Emotion, Positive Relationships, Meaning and Accomplishment (p's < .05).

DISCUSSION

The above findings suggest that wellbeing is influenced by objective sleep quality. However, the perception of sleep quality is likely a more robust driver of wellbeing than objective sleep quality. This outcome persists even with the additional stressor of COVID-19. In addition, the experiences of engagement and meaning in a person's life might be equally valuable predictors of both perceived sleep and wellbeing. Therefore, interventions targeting both sleep improvement and increased quality of life should focus on increasing psychological flexibility and change in the perception of sleep quality, in addition to improving objective sleep quantity parameters. Such improvements might be effective for interventions like CBT for Insomnia and ACT for Insomnia.

REFERENCES

BBC. (2021). *The "coronasomnia" phenomenon keeping you from getting sleep - BBC Worklife*. BBC Worklife. <https://www.bbc.com/worklife/article/20210121-the-coronasomnia-phenomenon-keeping-us-from-getting-sleep>

Butler, J., & Kern, M. L. (2016). The PERMA-Profiler: A brief multidimensional measure of flourishing. *International Journal of Wellbeing*, 6(3), 1-48.

Buysse, D. J., Reynolds, C. F., 3rd, Monk, T. H., Berman, S. R., & Kupfer, D. J. (1989). The Pittsburgh Sleep Quality Index: a new instrument for psychiatric practice and research. *Psychiatry research*, 28(2), 193-213. [https://doi.org/10.1016/0165-1781\(89\)90047-4](https://doi.org/10.1016/0165-1781(89)90047-4)

Jahrami, H., BaHammam, A. S., Bragazzi, N. L., Saif, Z., Faris, M., & Vitiello, M. V. (2021). Sleep problems during the COVID-19 pandemic by population: A systematic review and meta-analysis. *Journal of Clinical Sleep Medicine* (Vol. 17, Issue 2, pp. 299-313). American Academy of Sleep Medicine. <https://doi.org/10.5664/JCSM.8930>

Nutt, D. J., Wilson, S., & Paterson, L. (2008). Sleep disorders as core symptoms of depression. *Dialogues in Clinical Neuroscience*, 10(3), 329-336. <https://doi.org/10.31887/dcms.2008.10.3/dnutt>

O'Donnell, D., Silva, E. J., Münch, M., Ronda, J. M., Wang, W., & Duffy, J. F. (2009). Comparison of subjective and objective assessments of sleep in healthy older subjects without sleep complaints. *Journal of sleep research*, 18(2), 254-263. <https://doi.org/10.1111/j.1365-2869.2008.00719.x>