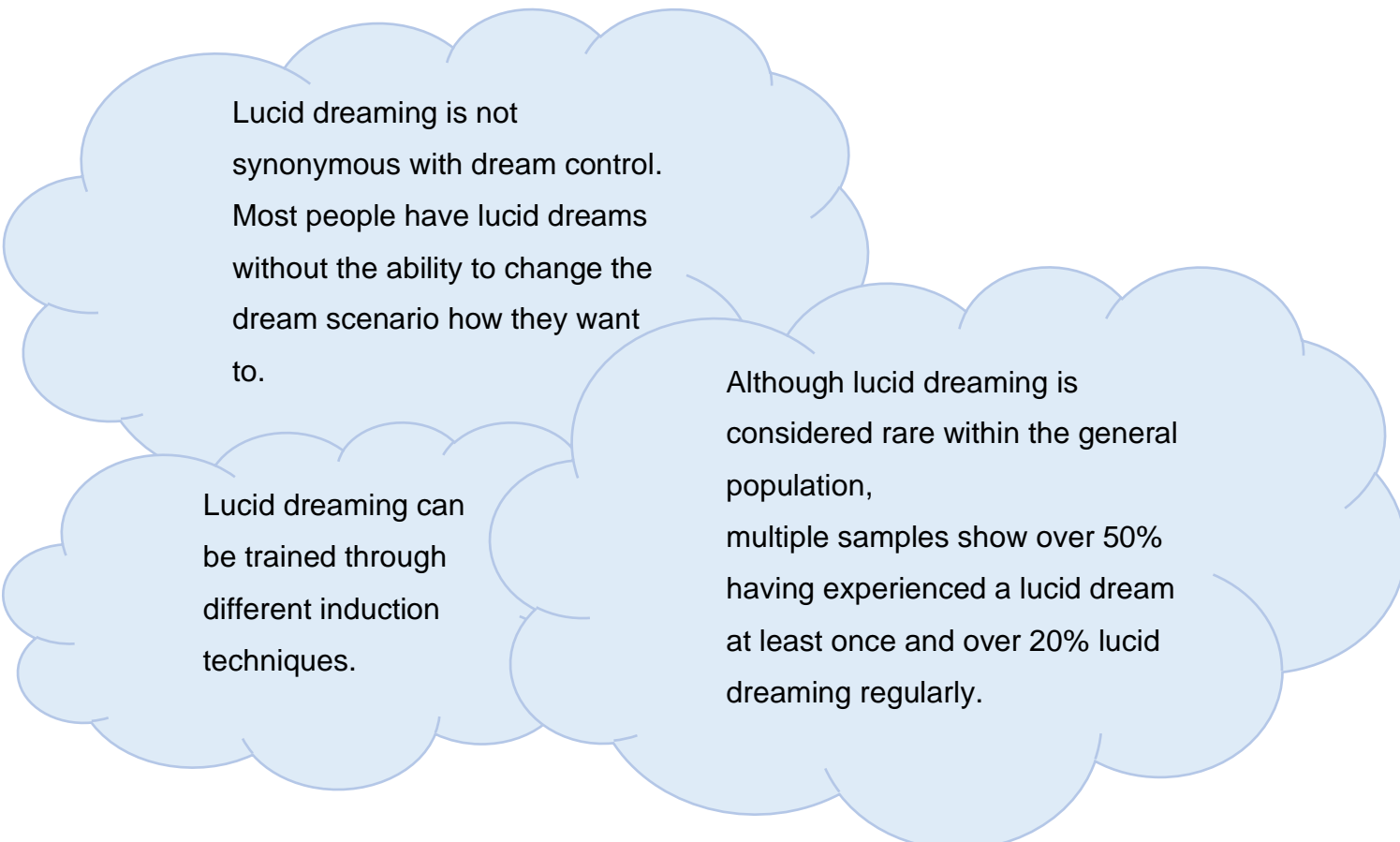


How Living the Dream Might Be a Nightmare: The Role of Poor Quality of Sleep in Lucid Dreaming and Nightmare Frequency

What is lucid dreaming?

Lucid dreaming is the phenomenon of being aware of dreaming while in a dream, which at times is accompanied by the ability to control the dream narrative.

Did you know...



Lucid dreaming is not synonymous with dream control. Most people have lucid dreams without the ability to change the dream scenario how they want to.

Lucid dreaming can be trained through different induction techniques.

Although lucid dreaming is considered rare within the general population, multiple samples show over 50% having experienced a lucid dream at least once and over 20% lucid dreaming regularly.

Why is it important?

- Lucid dreaming prevalence is ever-increasing due to the gaining popularity of induction techniques.
- Many benefits of lucid dreams have been reported, such as positive waking mood, self-exploration, and even treating PTSD.

- Recently, findings have shown lucid dreamers having wake-like levels of neural activity in the prefrontal cortex, and increased connectivity between brain regions usually deactivated during REM sleep.
- This gave rise to concerns about lucid dreaming interfering with functions of sleep.

Does lucid dreaming affect sleep?

- Lucid dreaming is associated with rapid changes between wake and sleep states but has been suggested to not affect sleep quality.
- Schadow et al. (2018) found lucid dreaming associated with poor sleep quality, but nightmare frequency mediated this relationship.
- Also, a relationship between lucid dreaming and nightmare frequency is sequentially mentioned in research, suggesting lucid dreamers having more nightmares or nightmares triggering lucidity.

But is there a relationship between lucid dreaming and nightmares?

- Schredl and Erlacher (2004) found the two only moderately correlated.
- Hess et al. (2017) found a significant association.
- Tzioridou et al. (2022) found no relationship in one sample, and an inverse relationship in the other, meaning that as lucid dreaming frequency increased nightmare frequency decreased.
- Therefore, findings are inconsistent.
- However, the relationship between nightmares and sleep quality is widely reported. Could this moderate the inconsistent findings between lucid dreaming and nightmares?

This study

- 151 participants reported their lucid dreaming frequency, nightmare frequency, and sleep quality over the last month.

- The aim was to investigate the relationship between lucid dreaming frequency and nightmare frequency, and further examine sleep quality as a moderator of this relationship.

Results

- No correlation between lucid dreaming and nightmare frequency was found.
- A model comparison showed sleep quality as a predictor variable a more appropriate model for interpretation, rather than as a moderator.
- Sleep quality was associated with nightmares, confirming previous literature.
- Sleep quality was not significantly associated with lucid dreaming frequency.
- Further exploratory research found no association between dream control or lucid dreaming intensity and nightmare frequency.

The way forward

- It is suggested that lucid dreaming frequency and nightmare frequency do not share a direct relationship.
- Could induced lucid dreaming show different results to spontaneous lucid dreaming?

References

- Baird, B., Castelnuovo, A., Gosseries, O., & Tononi, G. (2018). Frequent lucid dreaming associated with increased functional connectivity between frontopolar cortex and temporoparietal association areas. *Scientific Reports*, 8(1).
<https://doi.org/10.1038/s41598-018-36190-w>
- Gott, J., Rak, M., Bovy, L., Peters, E., van Hooijdonk, C. F. M., Mangiaruga, A., Varatheeswaran, R., Chaabou, M., Gorman, L., Wilson, S., Weber, F., Talamini, L., Steiger, A., & Dresler, M. (2020). Sleep fragmentation and lucid dreaming. *Consciousness and Cognition*, 84, 102988.
<https://doi.org/10.1016/j.concog.2020.102988>
- Hess, G., Schredl, M., & Goritz, A. S. (2016). Lucid dreaming frequency and the big five personality factors. *Imagination, Cognition and Personality*, 36(3), 240–253.
<https://doi.org/10.1177/0276236616648653>
- LaBerge, S. (1986). *Lucid dreaming: Physiological correlates of consciousness during REM sleep*. Lucid Dreaming: Physiological Correlates of Consciousness during REM Sleep. Retrieved March 21, 2023, from <https://www.jstor.org/stable/43853217>
- Paul, F., Schredl, M., & Alpers, G. W. (2015). Nightmares affect the experience of sleep quality but not sleep architecture: An ambulatory polysomnographic study. *Borderline Personality Disorder and Emotion Dysregulation*, 2(1). <https://doi.org/10.1186/s40479-014-0023-4>
- Saunders, D. T., Roe, C. A., Smith, G., & Clegg, H. (2016). Lucid dreaming incidence: A quality effects meta-analysis of 50 years of research. *Consciousness and Cognition*, 43, 197–215. <https://doi.org/10.1016/j.concog.2016.06.002>
- Schadow, C., Schredl, M., Rieger, J., & Göritz, A. S. (2018). The relationship between lucid dream frequency and sleep quality: Two cross-sectional studies. *International Journal of Dream Research*, 11(2), 154–159.
- Schredl, M., & Erlacher, D. (2004). Lucid dreaming frequency and personality. *Personality and Individual Differences*, 37(7), 1463–1473.
<https://doi.org/10.1016/j.paid.2004.02.003>

Schredl, M., & Erlacher, D. (2011). Frequency of lucid dreaming in a representative German sample. *Perceptual and Motor Skills*, 112(1), 104–108.
<https://doi.org/10.2466/09.pms.112.1.104-108>

Soffer-Dudek, N. (2020). Are lucid dreams good for us? are we asking the right question? A call for caution in lucid dream research. *Frontiers in Neuroscience*, 13.
<https://doi.org/10.3389/fnins.2019.01423>

Tzioridou, S., Dresler, M., Sandberg, K., & Mueller, E. M. (2022). The role of mindful acceptance and lucid dreaming in nightmare frequency and distress. *Scientific Reports*, 12(1). <https://doi.org/10.1038/s41598-022-19624-4>