

An Hour of Wakefulness Before Morning Naps Makes Lucidity More Likely

By Stephen LaBerge, Leslie Phillips, & Lynne Levitan

Morning naps provide us highly favorable circumstances for inducing lucid dreams. Two important factors are at work here: timing and wakefulness during sleep. (The term "nap" indicates that the target sleep period is immediately preceded by a period of wakefulness; "morning" indicates the relevant time-of-day.) A series of *NightLight* experiments exploring the relationships between napping, length of sleep, continuity of sleep, biological rhythms, and lucid dreaming, have repeatedly demonstrated a strong relationship between taking morning naps and increased likelihood of lucid dreaming. (1, 2, 3, 4)

Working from the premise that lucid dreaming is associated with increased REM propensity and REM intensity, both of which are typically at or near their peak late in the morning, the first of our nap studies, "The Best Time for Lucid Dreaming," (1) compared the following sleep schedules: a. Taking a two-hour nap two hours after getting up two hours early (i.e., taking a nap at the normal waking time) and b. Taking a two-hour nap starting four hours after getting up two hours early (i.e., taking a nap two hours later than the typical rising time) to assess their relative value in promoting lucid dreams. Overall, lucid dreams were 10 times more likely in the naps than the preceding nights. More lucid dreams per total dreams occurred in the two-hour delayed nap than in the four-hour delayed nap (an average of one lucid dream out of each two dreams versus one lucid dream out of each three dreams, respectively). Although the number of subjects in this study was not large enough for the differences between the two napping conditions to be statistically significant, it was very encouraging that these nap schedules showed much more effect on lucid dreaming than any of our previous studies of lucid dream induction by mental exercises.

Our second nap study, "Get Up Early, Take a Nap, Be Lucid," (2) compared three different sleep schedules, one each night. In the first schedule, Condition A, participants awakened 90 minutes before their normal waking time, stayed up for 90 minutes, and did a special MILD exercise for 10 minutes before falling back to sleep for a 90-minute nap. In the second sleep schedule, Condition B, participants also awakened 90 minutes prior to their normal waking time, but then went right back to sleep after doing the MILD exercise for 10 minutes to finish a "normal" night's rest. In the third sleep schedule, Condition C, subjects slept their complete normal sleep time, woke up and did the MILD exercise, then returned to sleep for 90 extra minutes. In Condition A (delayed nap), 8% of participants had lucid dreams in the night, and 67% in the nap; none of the participants had lucid dreams in the night portion of Condition B ("normal" sleep with MILD), and 33% in the nap; 17% of participants had lucid dreams in the night portion of Condition C (prolonged sleep), and 8% in the nap. In other words, Condition A (which included the delayed nap) was, by far, the sleep schedule most conducive to lucid dreaming, with a full two-thirds of participants recording lucid dreams under these circumstances. The results of this study indicated that there was something about the delayed sleep that greatly improved lucid dreaming ability, as the prolonged sleep in Condition C, which happened in the same time of the morning as the Condition A nap, was not associated with these elevated levels of lucidity.

The value of a period of wakefulness in promoting lucid dreaming has been known since the late 70s when LaBerge noted that certain activities "in the middle of the night" have been observed to increase the likelihood of lucid dreaming upon a subsequent return to sleep (3). Patricia Garfield, (4) for example, found that, in her case, "sexual intercourse during the middle of the night was often followed by a lucid dream." Scott Sparrow, in contrast, found that early morning meditation favored lucid dreaming (5). Additional anecdotes cited

by LaBerge (3) indicated that early morning reading or writing was also favorable. The diversity of these activities suggested that it is not the particular activity, but the alert wakefulness that facilitates lucid dreaming during subsequent sleep. (3)

Following up on this observation, in our third experiment, "The Best Time for Lucid Dreaming: Naps, Mishaps, and Recaps," (6) we planned to study the effect of varying periods of wakefulness before naps (10 minutes versus 90 minutes), but due to an ambiguity in the instructions, many participants did not start their naps at the same time for the two conditions, confounding the impact of varying periods of a.m. wakefulness with changes in the circadian phase. Also, those who were asleep less time probably had less time in REM and, thus, less opportunity for lucid dreams. Despite these complications, we were able to effectively compare the first and second parts of sleep, which again showed a.m. naps to be much better than nights for lucid dreaming.

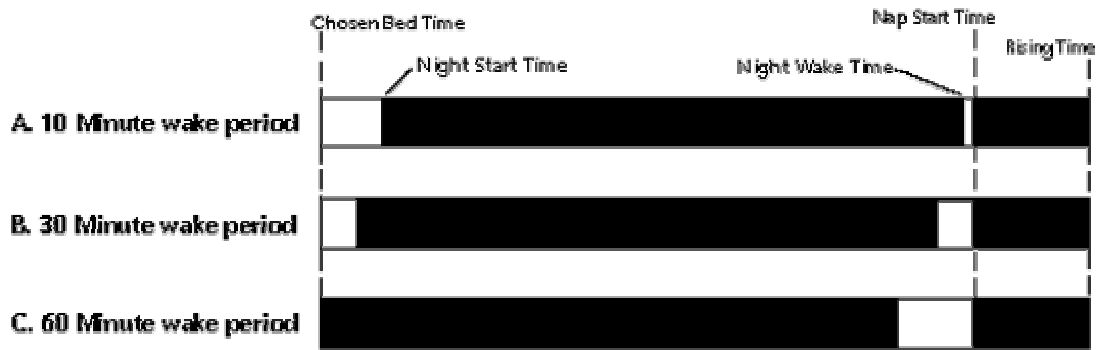
The fourth in our series of nap studies, reported in *NightLight* 4.4 (7), compared lucid dreaming frequencies in morning and afternoon naps. The results were clearly in favor of morning naps. Nine of the eleven participants had more lucid dreams in morning naps. Two had the same number of lucid dreams in each napping condition. None had more lucid dreams in the afternoon than the morning. Time asleep, for both nap conditions, was approximately one hour. There were slightly fewer total dreams recalled from afternoon naps, but the difference was not of statistical significance. Hence, it seems that the different times of day must somehow be responsible for the varying levels of lucidity.

In sum, past nap experiments demonstrate the great impact of morning naps in achieving lucid dreams, but leave questions such as the optimum amounts of sleep and wakefulness prior to the naps largely unanswered. The current study brings us one step closer to determining the ideal conditions for inducing lucid dreams by clarifying the effects of varying periods of wakefulness (10, 30, and 60 minutes) before morning naps.

The Procedure

Participants in the "Wakefulness During the Night: Aiming Towards the Perfect Lucid Dreaming Technique" experiment (8) followed three different sleep schedules, one on each night. In Condition A, they went to bed 50 minutes past their regular bedtime, awoke 10 minutes before their regular rising time, read about lucid dreaming for 10 minutes, then returned to bed for a nap; once back in bed they set their alarm to awaken them in 90 minutes, then practiced a modified MILD exercise for at least 10 minutes or until they fell asleep. In Condition B, they went to bed 30 minutes past their regular bedtime, awoke 30 minutes before their regular rising time, read about lucid dreaming for 30 minutes, then returned to bed for a nap; once back in bed they set their alarm to awaken them in 90 minutes, then practiced a modified MILD exercise for at least 10 minutes or until they fell asleep. In Condition C, participants went to bed at their regular bedtime, awoke 60 minutes before their regular rising time, read about lucid dreaming for 60 minutes, then returned to bed for a nap; once back in bed they set their alarm to awaken them in 90 minutes, then practiced a modified MILD exercise for at least 10 minutes or until they fell asleep. In other words, the three experimental conditions all allowed for the same lengths of time for sleep and napping and held constant the activity to be performed during the period of wakefulness (reading about lucid dreaming), but varied the amount of morning awake time before the naps. This allowed us to assess what impact varying lengths of wakefulness prior to morning naps might have on lucid dreaming.

Figure 1. Diagram of the three experimental conditions.



Results: Stay Awake Longer

Twenty-two people (12 males and 10 females) submitted acceptable data. (9) Ninety-five percent of them recalled one or more dreams per night. As a measure of their level of skill in achieving lucid dreams we had asked them how many lucid dreams they had recalled within the last six months, and in their best six months of lucid dreaming. Based on the data provided by the group, we would have expected an average of about one lucid dream approximately every seven nights for each participant if they were not involved in the special conditions of this study. Participants averaged one lucid dream every 36 nights during the nighttime portion of this study, and one lucid dream every 11 nights during the Condition A nap. However, dramatically higher rates were found in nap Conditions B and C. On average, participants experienced lucid dreams once every two nights in nap Condition B, and even more (once every 1.6 nights) in nap Condition C.

Participants reported a grand total of 424 dreams during this study--235 (55%) during nights and 189 (46%) during naps. Three of the 235 nighttime dreams (1.3%) were lucid and 50 of the 189 nap dreams (27%) were lucid. In other words, although 55% of the total dreams were reported in the nights, the great majority (94%) of the lucid dreams occurred during naps. Of the 53 lucid dreams, seven were in Condition A (two during nights and five during nap periods following 10 minutes of wakefulness, 20 in Condition B (none during Condition B nights, and 20 in nap periods following 30 minutes of wakefulness), and 26 in Condition C (one in a Condition C night, and by far the highest number of all, 25, during the nap periods following 60 minutes of wakefulness). Nearly half (over 47%) of all lucid dreams from this experiment were reported to have taken place in morning nap periods following 60 minutes of wakefulness. In our current study five times as many participants had lucid dreams in morning naps after 60 minutes of wakefulness compared to naps after only 10 minutes of wakefulness.

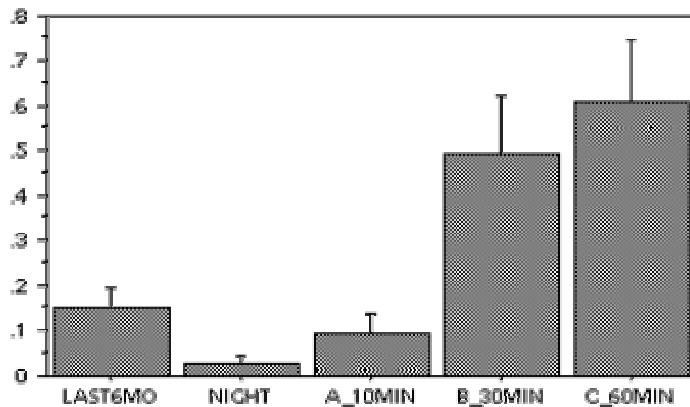


Figure 2. Average frequencies of lucid dreaming in the various experimental conditions. The subjects were significantly more likely to have a lucid dream after 30 or 60 minutes of wakefulness than after 10 minutes.

Discussion

Holding the other parameters of this study relatively constant allowed us to assess the impact of varying lengths of wakefulness (10, 30, and 60 minutes) on lucid dreaming in a.m. naps. It appears there is something about the increased lengths of wakefulness that somehow better prepares the brain to become lucid in dreams.

Although five lucid dreams were reported in Condition A naps, 20 during Condition B naps, and 25 during Condition C naps, it is significant to note that of five participants in this study who reported lucid dreams in Condition A naps, four actually took at least 15 minutes beyond the minimum 10 minutes of required MILD time (or a total of at least 25 minutes) to fall asleep. Hence, it may be that if these individuals had fallen asleep after only 10 minutes, they may have had even fewer than five lucid dreams during Condition A naps. Also, this may be yet another indication that longer periods of a.m. wakefulness are much more conducive to lucid dreaming.

Note the preceding statement regarding the relationship between increased wakefulness and increased lucid dreaming may have limits not tested in this study. In other words, we would not want to generalize this statement beyond the current findings for the three periods of wakefulness addressed in this study. It could be, for example, that 120 or 180 minutes of wakefulness may be no more effective, or even less effective, than 60 minutes in bringing about the ideal condition for having lucid dreams. This issue will undoubtedly be of interest in future *NightLight* nap studies.

Conclusion

Getting up an hour early, staying awake for an hour or more reading about lucid dreaming, doing MILD briefly, then taking a morning nap is an excellent means of achieving lucid dreams. This technique is one of the most powerful, promising means of achieving lucidity.

References

- (1) Levitan, L. (1990). The Best Time for Lucid Dreaming. *NightLight* 2(3). (This experiment commenced in *NightLight* 2(1)).
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- (4) Garfield, P. (1975). Psychological determinants of the lucid dream state. *Sleep Research*, 4, 184.
- (5) Sparrow, G. S. (1976). *Lucid Dreaming: Dawning of the Clear Light*. Virginia Beach: A. R. E. Press.
- (6) Edelstein, J. & LaBerge, S. (1992). The Best Time for Lucid Dreaming: Naps, Mishaps, and Recaps. *NightLight* 4(2). (This experiment commenced in *NightLight* 3(4)).
- (7) Levitan, L., LaBerge, S. & Dole, J. (1992). Morning Naps are Better than Afternoon Naps for Lucid Dreaming. *NightLight* 4(4). (This experiment commenced in *NightLight* 4(2)).
- (8) LaBerge, S. (1994). Wakefulness During the Night: Aiming Towards the Perfect Lucid Dreaming Technique. *NightLight* 6(1).
- (9) Twenty-eight people submitted data for this experiment. Six data sets were incomplete (typically missing lucid dream reports) or inconsistent, so results from 22 participants were used in this Research Update.