REQUIRED TIME FOR COGNITIVE AND MOTOR ACTIVITIES IN LUCID DREAMS

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Objectives: The relationship between time in dreams and real time has intrigued scientists for centuries (cf. Schredl, 2000). In a recent study by Erlacher and Schredl (2004) it was shown that the required time to perform a motor task in a lucid dream was significant longer than the required time for the same task in the waking state. In contrast, the time intervals for counting were quite similar in lucid dreams and in wakefulness. In this experiment a simple cognitive task was used to investigate the relationship between the time needed in a lucid dream and the time needed for the same activity performed in the waking state.

Methods: Two experiments were conducted whereas in experiment 1 the participant’s task was to count to 10, 20, and 30 and in experiment 2 to walk 10, 20, and 30 steps in their lucid dreams. The lucid dreamers were instructed to mark the events by LRLR: the onset of lucidity, the beginning of each sequence and the end of the lucid dream task. The LRLR are clearly visible in the EOG recording and the interval between two LRLR can be measured. Sleep was recorded by means of standard procedures (EEG, EOG, EMG) by the standard recording device Trex Longtime EEG recorder (XLTEK).

Results: For the first and second experiment the results showed that the absolute duration of counting or walking in the lucid dream takes more time than for counting or walking during wakefulness. The relative timing, however, revealed for both conditions quite similar percentages for the two conditions (lucid dreaming and wakefulness).

Discussion: The results showed that in lucid dreams a tendency exists to overestimate durations for simple cognitive and motor tasks, but, that those differences are not visible for the relative timing of the tasks. In general the statistical analysis has to face the problem of testing for equivalence, because the alternative hypothesis predicts a similar result and not a difference (c.f. Wellek, 2003).

Literatur:

Keywords: sleep, lucid dreaming, time, counting, walking.