Title:
Lucid dream practice in German and Japanese athletes: A questionnaire study.

Authors:
Daniel Erlacher¹, Tadas Stumbrys², Masato Fujii³, Michael Schredl⁴
¹University of Bern, Switzerland, ²Heidelberg University, Germany, ³Central Institute of Mental Health, Mannheim, Germany, ⁴Fukuoka University, Japan

Abstract:
Introduction:
Mental practice is the cognitive rehearsal of a motor task in the absence of overt physical movement. A different and rather unknown kind of mental rehearsal is practice in lucid dreams (Erlacher, Stumbrys & Schredl 2011-12). Within lucid dreams (LD), the dreamer is aware of the dream state and thus able to control the ongoing dream content. Previous studies could demonstrate that it is possible to practice motor tasks during LD and doing so improved performance while awake (Erlacher & Schredl, 2010). However, little is known about the prevalence of LD practice in sport. The aim of the present study was to estimate the prevalence of LD in athletes, how often they use their LD state for rehearsal and whether they had experienced an improvement in daytime performance.

Methods:
The sample included 840 German (483 m, 357 w) and 1323 Japanese (1000 m, 323 w) athletes. Their mean age was 20.4 years (G: 21.6, J: 19.7), ranging from 11 to 55 years. The athletes were recruited through personal contacts or through their coaches and volunteered to participate in a questionnaire study about sleep and dream habits. Participants were involved in various sports ranging from team sports (e.g., basketball, soccer) to individual sports (e.g., athletics, figure skating). The athletes had been practicing their sport for an average of 9.1 years (G: 11.1, J: 7.9) and were practicing an average of 14.4 hours (G: 11.1, J: 16.7) per week (excluding additional time for competitions or other sports). The questionnaire included the following questions: How often they experience LD using an 8-point scale (To ensure a clear understanding of LD, a definition was presented); If they have ever used LD to practice their sport while dreaming and if this was confirmed by the athletes, then they were asked if they had an impression that their performance had improved by their practice during the LD.

Results:
About 47% (G: 57%, J: 41%) of the athletes stated that they experienced a LD at least once in their lives, 20% (G: 24%, J: 18%) are frequent LDers (having one or more lucid dreams per month), and 9% (G: 9%, J: 9%) of the LDers used this dream state to practice sport skills, and the majority of those athletes had the impression that the rehearsal within the LD improved their performance in wakefulness.

Discussion/Conclusion:
The results indicate that about 47% of the athletes stated that they experienced a lucid dream at least once in their lives and about 20% are frequent lucid dreamers and about 9% of the athletes who had lucid dreams have used their dreams to practice sports skills. For the German sample, the prevalence rate of LD in professional athletes is similar as in general population, however the rough estimate of the percentage of lucid dreams compared to all dreams in athletes was found to be nearly twice as high as in general population (14.5% vs. 7.5%). For the Japanese sample no representative data are available, however, the cultural differences seems to play a minor role. The possibilities of lucid dream practice for professional sports will be discussed.

References: