



2004-06

Sleep Patterns of Incoming Cadets at the United States Military Academy [presentation outline]

Miller, N.L.



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**Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943**

1. Title: Sleep patterns of incoming Cadets at the United States Military Academy
2. Authors: Miller NL¹, Shattuck LG², Clark J², Miller DB¹, Neverosky, D¹
 - (1) Naval Postgraduate School, Dept of Operations Research, Monterey CA
 - (2) United States Military Academy, West Point, NY
3. Introduction: This project is part of a longitudinal study of sleep patterns of US Military Academy Cadets over a four-year period. Research has shown that the sleep requirements of adolescents and young adults are distinctly different from those of other age groups. The circadian fluctuation of melatonin differs in these groups and is thought to contribute to the underlying processes that control sleep patterns. In adolescents and young adults, melatonin is released later than in pre-teens and adults. Consequently, this population tends to go to bed later, but is less able to wake up early in the morning. Under these conditions, human performance is likely to be degraded in both academic and military settings. This study will be a test bed for examining sleep and performance in the Army's Objective Force/Future Soldier program.
4. Methods: Baseline survey data were obtained on a nearly 1300 new Cadets, all members of the Class of 2007. The data examined sleep patterns for the 30 days prior to reporting to USMA. Actigraphy data were collected on a randomly-selected sample of 80 New Cadets through Cadet Basic Training (CBT), an 8-week orientation to the military before classes begin in the Fall semester. Additional data were collected on a sample of 40 USMA Cadre upperclass Cadre members who interact with the incoming Cadets during the CBT period. Wrist Activity Monitors (WAMS) were used to assess sleep quality and quantity. This technique has been widely used in studies of sleep and the assessment methods and supporting software are readily available.
5. Results: Results demonstrate that incoming Cadets report receiving a mean of 8.39 hrs of sleep ($SD = 1.62$) for the month prior to reporting to USMA. During CBT, the average amount of sleep dropped to 4.9 hrs (95% CI = 4.4-5.4). For the upperclass Cadre members, the amount was 5.0 hrs (95% CI = 4.8-5.2).
6. Conclusions: This study represents the first phase of a comprehensive study of sleep and circadian rhythms of the future leaders of the armed services. The average Army Cadet received about 5.0 hours of sleep during Cadet Basic Training, approximately four hours less than the literature states is optimal for young adults in this age group. This amount is over three hours less than what Cadets received prior to their arrival in West Point. Similar sleep patterns were seen in participating upperclass Cadre members during CBT.