A SLEEP DIARY AND QUESTIONNAIRE STUDY
OF NATURALLY SHORT SLEEPERS

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INTRODUCTION
While most people require more than six hours of sleep to feel well rested, there appears to be a group of people
who can function well on between 3h and 6h of sleep. The present study sought to determine from diary and
questionnaire instruments how naturally short sleepers differed from controls in various sleep, circadian and
personality measures, how many naturally short sleepers would be identified in a sample of 71 volunteers, and
how the naturally short sleepers so identified would differ from the sample as a whole.

CURRENT STATE OF RESEARCH
Methods
There were three aims to this study: 1) To compare 12 naturally short (3.0h-6.0h) sleepers (9m, 3f, mean age
39.6y, s.d. age 10.1y) recruited by a media publicity campaign with age and gender matched normal length (7h-
8.5h) sleepers on the various measures; 2) To determine the incidence of naturally short sleepers in a sample of
71 University alumni (24m, 47f, age range 20y-59y); and 3) to plot the distribution of the various measures from
the alumni study, and the position of the 12 naturally short sleepers identified in #1 on these distributions,
determining the extent, if any, to which they were outliers. Measurement instruments included diaries and
questionnaires to assess sleep duration and timing, the Pittsburgh Sleep Quality Index (PSQI) to assess sleep
pathology, the composite scale of morningness-eveningness to assess chronotype, the Eysenck Personality
Inventory (EPI) to assess Extroversion and Neuroticism, the Epworth sleepiness scale to assess pathological
daytime sleepiness, and questionnaires to assess perceived competence, optimism, depressive symptoms,
exercise, and work habits.

Results and Conclusions
Few measures showed reliable differences between naturally short sleepers and controls except the obvious ones
related to sleep duration. There was however some evidence for subclinical hypomanic symptoms in naturally
short sleepers. The incidence of naturally short sleepers in an alumni sample was about 3% after shift work,
daytime sleepiness, psychopathology and sleep disorders had been controlled

FUTURE PLANS
In future studies we shall compare the laboratory determined sleep and circadian rhythm parameters of naturally
short sleepers with age and gender matched controls, thus exploring the biological and psychophysiological
underpinnings of the naturally short sleeper phenomenon.

INDEX TERMS
Human, circadian rhythms, sleep, personality, rest, sleepiness.