

## Development of Sleep Quality Index Using Heart Rate

**Authors :** Dongjoo Kim, Chang-Sik Son, Won-Seok Kang

**Abstract :** Adequate sleep affects various parts of one's overall physical and mental life. As one of the methods in determining the appropriate amount of sleep, this research presents a heart rate based sleep quality index. In order to evaluate sleep quality using the heart rate, sleep data from 280 subjects taken over one month are used. Their sleep data are categorized by a three-part heart rate range. After categorizing, some features are extracted, and the statistical significances are verified for these features. The results show that some features of this sleep quality index model have statistical significance. Thus, this heart rate based sleep quality index may be a useful discriminator of sleep.

**Keywords :** sleep, sleep quality, heart rate, statistical analysis

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