

iSleepQuality: Impact of daily sleep measurement on sleep quality, mood, thought, and behaviour in a university population

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Research on personal sleep-trackers has focused primarily on tool accuracy, and not on the benefits to sleep-health. Research has yet to focus on the effects that sleep device data has on perceived sleep and sleep behaviours. The feedback that such devices provide is important because self-reported sleep quality is a key indicator of sleephealth and is linked to physical and mental health, sleep related safety behaviours are maladaptive coping strategies for poor-sleep, increased use maintains poor-sleep and predicts insomnia, and personality may be predictive of how people react to stressors such as sleep data that indicates poor sleep.

In this experiment, we tested the effects of feedback a university sample of self-reported poor-sleepers were randomly divided between two experimental groups: Good feedback and Poor feedback. Participants wore a sleep-monitor for 10-days but sleep feedback was experimentally manipulated according to their condition. We measured: daily self-reported sleep-quality, sleep related safety-behaviours, sleep-monitor results, and before/after study sleep-quality, and personality. As predicted, self-reported sleep quality changed, while objective sleep-tracker measures did not. Unexpectedly, poor sleep feedback decreased safety behaviour use while good sleep feedback decreased safety behaviours initially, followed by a sharp increase. Personality was also important with sleep feedback having a larger impact on perceived sleep quality for people with high neuroticism.