sleep ◆ number.

Sleep Number Presents Research on Snoring, Apnea, Excessive Daytime Sleepiness and Cardiovascular Health at SLEEP 2024

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The studies, which used data from Sleep Number® smart beds and a Smart Sleeper Panel, provide valuable insights that can potentially guide recommendations for better sleep habits and improved health outcomes

Sleep Number's research partners, the University of Pittsburgh and the American Cancer Society, will also present new studies in collaboration with Sleep Number

MINNEAPOLIS--(BUSINESS WIRE)-- Today, **Sleep Number Corporation** (Nasdaq: SNBR), a sleep wellness technology leader, announced it will present new research at SLEEP 2024 in Houston. Findings will show results of four studies leveraging smart bed data collected in a real-world, home environment, and the Smart Sleeper Panel, a cohort of more than 468,000 Sleep Number smart bed sleepers who've opted to participate in sleep science research. These studies further demonstrate the research capabilities of Sleep Number smart beds to understand the impact of sleep on health and advance sleep science without an in-lab sleep study. Sleep Number's wellness technology platform, used by global research institutions, plus its 26 billion hours' worth of highly accurate sleep and biosignal data from millions of smart sleepers could, in the future, revolutionize the way sleepers screen for health risks at home. They can also simplify the way healthcare providers detect and monitor sleep disorders.

Sleep Number's findings at SLEEP 2024 will show results of four studies leveraging smart bed data collected in a real-world, home environment, and the Smart Sleeper Panel, a cohort of more than 468,000 Sleep Number smart bed sleepers who've opted to participate in sleep science research. (Graphic: Business Wire)

"Sleep Number is continuously introducing data-driven approaches for improved sleep and health care outcomes," said Annie Bloomquist, Executive Vice

President and Chief Innovation Officer, Sleep Number. "Our smart bed ecosystem and one-of-a-kind research capabilities can link our data into clinical practices. We anticipate that our continued advancements in the field of sleep research will revolutionize the way chronic sleep disorders and other health conditions are identified, diagnosed and monitored."

Highlights of the new research include:

Snoring and obstructive sleep apnea associations through the lens of a smart bed platform

This research aimed to examine the relationship between snoring, sleep metrics, sleeper demographics and obstructive sleep apnea (OSA). Researchers used Sleep Number smart bed data and responses from an IRB-approved survey distributed to the brand's Smart Sleeper Panel.

The findings revealed a significant portion of people with sleep apnea snore, and detailed sleep data can help identify the risk of apnea more accurately among those snorers. Additionally, data from Sleep Number smart beds, combined with sleepers' demographic information and snoring habits, can be used to screen for OSA risk from home, creating a non-intrusive and accessible way to alert individuals to possible health issues.

Influence of sleep regularity, chronotype, and sleep duration on daytime sleepiness caused by sleep disorders

This study looked at how keeping a regular sleep schedule, the total time spent sleeping and whether someone is an early bird or night owl can affect the link between sleep disorders and daytime sleepiness. The brand's researchers coupled longitudinal Sleep Number smart bed data with responses from a one-time survey of its Smart Sleeper Panel.

The study found that daytime sleepiness is significantly linked with untreated sleep disorders. How regular, early or long individuals sleep doesn't change how sleepy they feel during the day if they have a sleep disorder. However, for healthy sleepers, going to sleep early and sleeping longer was linked to feeling more alert during the day. This suggests that not only is treating sleep disorders important for reducing daytime sleepiness, but for those without sleep disorders, maintaining good sleep habits can also make a big difference in how awake and alert they feel throughout the day.

Is snoring associated with lower sleep quality? If yes, does that association depend on treated or untreated sleep apnea?

Snoring is a common sign of sleep apnea and is strongly linked to daytime sleepiness and cardiovascular health.

This research aimed to examine the relationship between snoring and sleep quality in sleepers with treated or untreated apnea. To do so, Sleep Number used objective data collected from its smart beds and survey responses from its Smart Sleeper Panel.

The research suggests that sleepers who snore—whether they are getting treatment for apnea or not—tend to have slightly worse sleep quality than healthy sleepers who don't snore. And, sleep quality decreases as snoring becomes severe enough to be accompanied by diagnosed apnea. This could suggest that snoring may be a marker for sleep problems, even if the individual doesn't have a diagnosed sleep disorder.

Unobtrusive detection of heart-rate-dipping during sleep based on force sensors in a smart bed

During sleep, one's heart rate (HR) typically dips and goes up again in a regular pattern; the absence of this pattern is linked to a higher risk of mortality. Unobtrusive and longitudinal monitoring of HR patterns could be valuable for early detection of cardiovascular risk and to understand the health of sleepers with apnea. In this study, Sleep Number researchers developed an algorithm that estimates HR instantaneously about 92.6% of the time during sleep, allowing them to characterize HR patterns using data from a Sleep Number smart bed.

This study demonstrates a novel method for unobtrusive, longitudinal and accurate monitoring of HR patterns during sleep using a Sleep Number smart bed equipped with force sensors. And, the development of an algorithm that estimates HR instantaneously allows for the characterization of HR patterns, which is valuable for the early detection of cardiovascular risk and intervention for individuals at risk for cardiovascular issues.

"Sleep Number continues to be at the forefront of sleep research, harnessing the power of our wellness technology to uncover new links between sleep and overall health," said Rajasi Mills, Vice President, SleepIQ Health and Research, Sleep Number. "We are excited about the possibilities of this research as we pioneer new, connected sleep health and wellness solutions."

Sleep Number's real-world, longitudinal and individualized approach to sleep research is analogous to the company's smart beds, which are focused on meeting everyone's unique needs. The accuracy of Sleep Number's data, from more than three billion sleep sessions, provides healthcare professionals with invaluable insights into individuals' sleep patterns, which could enable enhanced treatment strategies and management of sleep-related health conditions.

This research also further differentiates the Sleep Number smart bed as a valid and reliable data collection platform – a key advantage to securing new partnerships and large-scale research globally.

Sleep Number's research partners, the University of Pittsburgh and the American Cancer Society, will also present new studies in collaboration with Sleep Number, which leverage data from the brand's Smart Sleeper Panel.

To learn more and view the study posters, visit **sleepnumber.com/science**.

About Sleep Number Corporation

Sleep Number is a sleep wellness technology leader. Our life-changing innovations revolutionized the commoditized sleep industry and awakened consumers to the possibility of proven quality sleep. Sleep Number® smart beds integrate physical and digital innovations for unparalleled comfort; they automatically respond to the needs of each sleeper with ideal firmness, position and temperature benefits. To date, we have improved over 15 million lives, and 94% of smart sleepers report better sleep versus a non-smart bed.*

We are guided by our purpose to improve the health and wellbeing of society through higher quality sleep. This is demonstrated through lifelong relationships with millions of highly engaged Smart Sleepers and partnerships with global research institutions who use our almost 27 billion hours of longitudinal data to study sleep's impact on health. Furthermore, our purpose is exemplified through 4,000 mission-driven team members; they passionately innovate to drive value creation through our vertically integrated business model, including exclusive direct-to-consumer selling in over 650 stores and online.

To learn more about life-changing, individualized sleep, visit a Sleep Number® store near you, our **newsroom** and **investor relations** sites, or **SleepNumber.com**.

*Based on self-reported data from 90 incentivized, first-time users 3/23-6/23; 6 weeks with smart bed features disabled, then 6 weeks enabled.

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