Sleep Score Labs™

Use of a Hybrid Mattress Improves Objective and Perceived Sleep Outcomes

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Introduction

- This study compared sleep on a hybrid mattress to participants' prior sleep on their original mattress (no more than 8 years old).
- Previous research has shown that comfort, including comfort of the sleep surface, is essential to sleep quality.
- More empirical research is needed to establish the impact of mattresses on both objective and self-reported measures of sleep.

Materials & Method

Sample & Design

- 39 healthy adults (81% female, ages 25-67) who reported sleeping hot.
- 10-week field study, within subjects, pre-post.

Intervention & Measures

- Serta iSeries mattress used for 6 weeks, including a 2-week adjustment period.
- SleepScore Max (RF tech, based on full motion and respiratory signals; validated against PSG) used nightly.
- Pre-post self-report.

Analyses

- Multilevel regression accounting for nested data (nights within subjects) and paired *t*-tests.

Conclusion

- Objectively measured sleep results showed an improvement in sleep when using the hybrid mattress compared to healthy adults' original mattresses.
- Qualitative and quantitative self-report results suggested that the intervention was perceived as comfortable and felt cool.
- These perceptions likely are what led to more time in bed, which in turn led to the key sleep improvements.

Results

Objective Results (*n* = 1408 nights)

	Observed		Estimated		
	Original Mattress	Hybrid Mattress	Constant	*beta*	*p*-value
SleepScore (0-100)	**77.03**	**79.60**	**77.12**	**2.15**	**0.002**
BodyScore (0-100)	80.32	81.21	80.48	0.69	0.269
MindScore (0-100)	**74.63**	**77.54**	**74.57**	**2.66**	**0.002**
Total Sleep Time (min)	**374.35**	**387.94**	**374.13**	**13.52**	**0.002**
Sleep Onset Latency (min)	24.84	24.03	24.73	-0.15	0.916
Number of Awakenings	5.14	4.97	5.03	0.18	0.155
Wake After Sleep Onset (min)	48.44	46.16	47.29	1.86	0.248
Time in Bed (min)	**452.76**	**462.53**	**451.23**	**14.33**	**0.001**
Sleep Efficiency	0.83	0.84	0.83	0.01	0.143
Sleep Maintenance	0.89	0.90	0.89	0.00	0.714
Light (min)	233.08	235.05	232.55	5.96	0.072
Deep (min)	72.53	78.42	73.02	2.62	0.090
REM (min)	**68.74**	**74.47**	**68.64**	**4.75**	**0.004**
% Light Sleep	55%	54%	54.80	-0.55	0.202
% Deep Sleep	18%	19%	17.94	0.03	0.940
% REM Sleep	**16%**	**17%**	**16.04**	**0.77**	**0.023**
% Wake After Sleep Onset	11%	10%	11.14	-0.22	0.535

Objective results showed that participants spent more time in bed, leading to longer sleep duration, as well as increased REM, both in duration and proportion of the night. Better sleep quality was indicated by higher SleepScore and MindScore.

Self Report Results (*n* = 1651 nights)

	Observed		Estimated		
	Original Mattress	Hybrid Mattress	Constant	*Beta*	*p*-value
Perceived Temperature	**61.29**	**57.17**	**61.18**	**-4.17**	**0.000**
Comfort in Bed (0-100)	**60.36**	**78.34**	**60.05**	**19.30**	**0.000**
Perceived Time to Fall Asleep (min)	**23.33**	**19.74**	**23.37**	**-4.22**	**0.000**
Perceived #Times Woke Up	**2.74**	**2.42**	**2.74**	**-0.35**	**0.002**
Perceived Time Awake After Falling Asleep (min)	**21.54**	**19.42**	**21.54**	**-2.91**	**0.007**
Perceived Sleep Quality (0-100)	**57.02**	**72.68**	**57.14**	**16.18**	**0.000**
Feeling Well-Rested in the Morning	**55.37**	**70.97**	**55.55**	**16.34**	**0.000**

Daily self-report showed greater coolness and comfort, as well as improvement in a variety of perceived sleep outcomes including falling asleep faster, waking up less often, spending less time awake after initially falling asleep, better sleep quality, and feeling more rested in the morning. Pre-post self-report also showed longer perceived duration of sleep.

Support
Mattress Firm