

Name of the tool:	Short PSQI
Purpose:	The objective, therefore, was to shorten the Pittsburgh Quality Sleep Index (PSQI) for young adults.
How was it conceptualized?	Lengthy surveys have the potential to burden users and can lead to inaccuracies. Conducting analyses to shorten existing validated surveys is beneficial.
What were the steps in development (including face/content validation, cognitive interviews, psychometrics, etc.)?	<p>PSQI is a previously developed tool. An exploratory factor analysis (FA) was utilized to shorten survey after dropping select items. Nonparametric correlation analysis (Spearman's rho) was conducted between the global sleep scores of the shortened and original surveys. Agreements tests (Kappa and McNemar's test) measured the agreement of the surveys and sensitivity and specificity were evaluated.</p> <p>Six factors were examined using maximum likelihood factoring method, applying squared multiple correlations with Promax rotation to allow for correlated variables. FA with six factors explained 100% of shared variance based on eigenvalues and accounted for 61% of variability based on variables. The FA resulted in 13 selected questions ("shortPSQI"), corresponding to 5 of the 7 components of the original survey. High correlation was found between the global scores of the original survey and the "shortPSQI" ($\rho = 0.94, p < 0.001$). When the global score was converted to the categorical variable of good or poor sleepers, the agreement test indicated strong agreement (Kappa 0.83, 95% CI 0.79–0.86, $p < 0.0001$).</p>
Who was it tested with? (initial sampling)	1246 students completed the PSQI survey
How is it scored?	The same method was applied to the "shortPSQI" where we first scored our six of the nine remaining questions in this component ((Q5b) wake up in the middle of the night or early morning; (Q5d) can't breathe comfortably; (Q5e) cough or snore loudly; (Q5g) feel too hot; (Q5h) have bad dreams; and (Q5i) have pain) on a 0–3 scale and then summed the questions' scores to generate a total between 0 and 18. By dividing this into three equal subsets and a zero category, we derived the following: 0, ≥ 1 and ≤ 6 corresponding to 1, >6 and ≤ 12 corresponding to 2, and >12 corresponding to final component score of 3.

How has it been used since?	Studies including: food insecurity college, young adults, athletes, older adults in long-term care, crohns disease, COVID, screen time, among many others
Limitations for use:	If choosing between the assessment tools, it is important to consider the extent of sleep quality analysis the researcher hopes to achieve from their sample population. The 19-item survey defines more levels of sleep disturbances than does the 13-item survey ("shortPSQI").
Potential applications and future applications:	Broad – shortened version of a tool.