

Supplementary Material: Explanatory Memo

Development and evaluation of a short-form of the sleep-related behaviors questionnaire in Chinese adults using item response theory

Dataset variable names / codes

1. Source: corresponding sample set
2. Age: age
3. Sex: 0=Male; 1=Female
4. Educational_level: 0= Secondary/Diploma; 1= Tertiary or higher
5. PSAS_S_total: Pre-sleep Arousal Scale – _Somatic
6. PSAS_C_total: Pre-sleep Arousal Scale – _Cognitive
7. DBAS_total: Dysfunctional Beliefs and Attitudes about Sleep scale
8. ISI_total: Insomnia Severity Index
9. ESS_total: Epworth Sleepiness Scale
10. SWLS_total: Satisfaction with Life Scale
11. DASS_dep_total: Depression Anxiety Stress Scales - Depression
12. DASS_anx_total: Depression Anxiety Stress Scales - Anxiety
13. DASS_str_total: Depression Anxiety Stress Scales - Stress
14. PSQI_Global: PSQI global score
15. SRBQ32: Original 32-item SRBQ
16. SRBQSF: the 23-item SRBQ derived based on AISP
17. SRBQRE: SRBQ Reduced Engagement/Avoidance subscale
18. SRBQPS: SRBQ Preoccupation with Sleep subscale
19. Item wise scores on SRBQ

R version used in analysis: 4.0.2

R packages used

1. *openxlsx* : Walker, A., & Braglia, L. (2018). Package 'openxlsx'.
<https://github.com/awalker89/openxlsx>
2. *dplyr* : Wickham H, François R, Henry L, Müller K, Vaughan D (2023). dplyr: A Grammar of Data Manipulation. <https://dplyr.tidyverse.org>, <https://github.com/tidyverse/dplyr>.
3. *tidyverse* : (Wickham et al., (2019). Welcome to the tidyverse. Journal of Open Source Software, 4(43), 1686, <https://doi.org/10.21105/joss.01686>
4. *car* : John Fox and Sanford Weisberg (2019). An {R} Companion to Applied Regression, Third Edition. Thousand Oaks CA: Sage. <https://socialsciences.mcmaster.ca/jfox/Books/Companion/>
5. *psych* : Revelle, W. (2021) psych: Procedures for Personality and Psychological Research, Northwestern University, Evanston, Illinois, USA, <https://CRAN.R-project.org/package=psych> Version = 2.1.9
6. *memisc* : Martin Elff (2021). memisc: Management of Survey Data and Presentation of Analysis Results. R package version 0.99.30.7. <https://CRAN.R-project.org/package=memisc>
7. *Hmisc* : Frank E Harrell Jr (2021). Hmisc: Harrell Miscellaneous. R package version 4.6-0. <https://CRAN.R-project.org/package=Hmisc>

8. *ltm* : Dimitris Rizopoulos (2006). ltm: An R package for Latent Variable Modelling and Item Response Theory Analyses, Journal of Statistical Software, 17 (5), 1-25. URL <https://doi.org/10.18637/jss.v017.i05>
9. *MASS* : Venables, W. N. & Ripley, B. D. (2002) Modern Applied Statistics with S. Fourth Edition. Springer, New York. ISBN 0-387-95457-0
10. *lavaan* : Yves Rosseel (2012). lavaan: An R Package for Structural Equation Modeling. Journal of Statistical Software, 48(2), 1-36. <https://doi.org/10.18637/jss.v048.i02>
11. *semTools* : Jorgensen, T. D., Pornprasertmanit, S., Schoemann, A. M., & Rosseel, Y. (2021). semTools: Useful tools for structural equation modeling. R package version 0.5-5. Retrieved from <https://CRAN.R-project.org/package=semTools>
12. *sem* : John Fox, Zhenghua Nie and Jarrett Byrnes (2021). sem: Structural Equation Models. R package version 3.1-13. <https://CRAN.R-project.org/package=sem>
13. *mirt* : R. Philip Chalmers (2012). mirt: A Multidimensional Item Response Theory Package for the R Environment. Journal of Statistical Software, 48(6), 1-29. doi:10.18637/jss.v048.i06
14. *eRm* : Mair, P., Hatzinger, R., & Maier M. J. (2021). eRm: Extended Rasch Modeling. 1.0-2. <https://cran.r-project.org/package=eRm>
15. *mokken* : L. Andries van der Ark (2007). Mokken Scale Analysis in R. Journal of Statistical Software, 20(11), 1-19. URL: <https://www.jstatsoft.org/article/view/v020i11>.
16. *CTT* : John T. Willse (2018). CTT: Classical Test Theory Functions. R package version 2.3.3. <https://CRAN.R-project.org/package=CTT>
17. *correlation* : Makowski, D., Ben-Shachar, M. S., Patil, I., & Lüdtke, D. (2019). Methods and Algorithms for Correlation Analysis in R. Journal of Open Source Software, 5(51), 2306. doi:10.21105/joss.02306
18. *compareGroups* : Isaac Subirana, Hector Sanz, Joan Vila (2014). Building Bivariate Tables: The compareGroups Package for R. Journal of Statistical Software, 57(12), 1-16. URL <https://www.jstatsoft.org/v57/i12/>.