Common and Unique Latent Transition Analysis (CULTA) as a Way to Examine the Trait-State Dynamics of Alcohol Intoxication

Ivan Jacob Agaloos Pesigan

Description

Research compendium for the manuscript Pesigan, I. J. A., Russell, M. A., & Chow, S.-M. (2025). Common and Unique Latent Transition Analysis (CULTA) as a Way to Examine the Trait-State Dynamics of Alcohol Intoxication. *Psychology of Addictive Behaviors*, *39*(8), 743–762. https://doi.org/10.1037/adb0001106

Acknowledgments

This research was made possible by the Prevention and Methodology Training Program (PAMT) funded by a T32 training grant (T32 DA017629, MPIs: J. Maggs & S. Lanza) from the National Institute on Drug Abuse (NIDA); the National Center for Advancing Translational Sciences grant UL1TR002014-06; and pilot mentoring and professional development awards through P50DA039838 awarded to Michael A. Russell (National Institute on Drug Abuse, PI: L. Collins), as well as support from the Social Science Research Institute at Penn State and departmental funds awarded to Michael A. Russell.

Computations for this research were performed on the Pennsylvania State University's Institute for

Computational and Data Sciences' Roar supercomputer using SLURM for job scheduling (Yoo et al., 2003), GNU Parallel to run the simulations in parallel (Tange, 2021), and Apptainer to ensure a reproducible software stack (Kurtzer et al., 2017, 2021).

Installation

You can install the released version of `manCULTA` from GitHub with:

```
install.packages("remotes")

remotes::install_github("jeksterslab/manCULTA")
```

See Containers for containerized versions of the package.

Author-Accepted Manuscript

See https://github.com/jeksterslab/manCULTA/blob/main/.setup/latex/manCULTA-manuscript.Rtex for the latex file of the manuscript. See https://github.com/jeksterslab/manCULTA/blob/latex/manCULTA-manuscript.pdf for the compiled PDF.

More Information

See GitHub Pages for package documentation.

References

Kurtzer, G. M., cclerget, Bauer, M. W., Kaneshiro, I., Trudgian, D., & Godlove, D. (2021). hpcng/singularity: Singularity 3.7.3. https://doi.org/10.5281/ZENODO.1310023

Kurtzer, G. M., Sochat, V., & Bauer, M. W. (2017). Singularity: Scientific containers for mobility of compute. *PLOS ONE*, *12*(5), e0177459. https://doi.org/10.1371/journal.pone.0177459

Pesigan, I. J. A., Russell, M. A., & Chow, S.-M. (2025). Common and unique latent transition analysis (CULTA) as a way to examine the trait-state dynamics of alcohol intoxication. *Psychology of Addictive Behaviors*, *39*(8), 743–762. https://doi.org/10.1037/adb0001106

R Core Team. (2025). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria. https://www.R-project.org/

Tange, O. (2021). GNU Parallel 20210922 ('Vindelev') [stable]. https://doi.org/10.5281/ZENODO.5523272

Yoo, A. B., Jette, M. A., & Grondona, M. (2003). SLURM: Simple Linux Utility for Resource Management. In D. Feitelson, L. Rudolph, & U. Schwiegelshohn (Eds.), *Job scheduling strategies for parallel processing* (pp. 44–60). Springer Berlin Heidelberg. https://doi.org/10.1007/10968987_3