

Workshop:

Preventing and understanding missing data in experience sampling studies

Authors: Yong Zhang, Laura F. Bringmann

Affiliation: Department Psychometrics and Statistics, Faculty of Behavioural and Social Sciences, University of Groningen, the Netherlands

Experience sampling methods (ESM) are considered by many as effective for collecting ecologically valid data from participants' daily life. However, the other side of the rich ESM data is the high participant burden from complying with the intensive repeated measures. As a result, ESM data typically contain lots of missingness (average compliance being 79%, Wrzus & Neubauer, 2022). When the missingness is related to the underlying state (e.g., if the intensity of people's suicidal thoughts is related to their tendency to report suicidal thoughts; Karnick, 2026), ESM data will not provide an unbiased and accurate view of participants' daily life. Missing data is therefore a key threat to ESM data quality and requires more attention from researchers.

In this half-day, beginner-level workshop facing researchers, clinicians, and students, we will first present methodological advancements that aim to prevent, retrieve, and analyze ESM missing data. Participants will then form groups and practice implementing such techniques in different phases of ESM research during hands-on sessions using research scenarios and simulated data provided by us. Specifically, participants will learn how to set up their missingness-focused data collection using m-Path and conduct corresponding data analysis with R. Throughout the workshop, we encourage all participants to share their experiences with ESM missing data and actively shape the hands-on sessions to fit their research scenario better. After this workshop, participants will understand the risk of ignoring missing ESM data and be able to integrate the methodologies for retrieving and modelling missing data into their future study.

This workshop can accommodate at maximum 25 participants. Prior experiences in m-Path and R are recommended but not required.

The authors declare no conflict of interests.

References:

Karnick, A. (2026, February 4). Missing Data in Intensive Longitudinal Suicide Research: A Monte Carlo simulation study. Retrieved from osf.io/preprints/psyarxiv/zv7gh_v1

Wrzus, C., & Neubauer, A. B. (2022). Ecological Momentary Assessment: A Meta-Analysis on Designs, Samples, and Compliance Across Research Fields. *Assessment*, 10731911211067538. <https://doi.org/10.1177/10731911211067538>