

README – Data Description, Analytical Scope, and Interpretation Guidelines

1. Purpose of Data Sharing

This dataset is provided in accordance with the journal’s data transparency policy, with the objective of allowing verification of the analyses reported in the manuscript:

“Variability in resting heart rate in older women practicing Tai Chi Chuan versus non-exercising controls: a cross-sectional comparative study”

The dataset reflects the full set of variables collected during the study, including measures not directly explored in the final manuscript.

2. Study Design and Analytical Scope

The study was designed to investigate differences in cardiac autonomic modulation between physically active and non-exercising women using symbolic analysis of heart rate variability (HRV).

Importantly, the **analytical scope of the manuscript was predefined and hypothesis-driven**, focusing exclusively on:

- **Between-group comparisons (active vs non-exercising)**
- **Baseline (pre-condition) measurements**
- **Specific symbolic indices reflecting autonomic modulation**

All statistical inferences and conclusions presented in the manuscript are strictly limited to this predefined analytical framework.

3. Dataset Structure

3.1 Group Classification

- **Class**
 - 1 = Physically active participants
 - 0 = Sedentary participants

3.2 HRV Symbolic Analysis Variables

- **TC40 (0V%)**
 - Variables:
 - TC40V1_pre
 - TC40V2_pre
 - TC40V1_pos
 - TC40V2_pos
 - Interpretation: **predominantly sympathetic modulation**

- **TC42ULV (2ULV%)**
 - Variables:
 - TC42ULV1_pre
 - TC42ULV2_pre
 - TC42ULV1_pós
 - TC42ULV2_pós
 - Interpretation: **predominantly parasympathetic modulation**

3.3 Measurement Moments

- **V1 and V2**
 - Represent distinct recording segments of HRV data
 - Correspond to “moment 1” and “moment 2” in the manuscript
- **pre**
 - Baseline resting condition (used in the manuscript)
- **pos**
 - Post-condition measurement (included in dataset but خارج the scope of reported analyses)

4. Correspondence Between Dataset and Manuscript

To ensure accurate interpretation, it is essential to note:

- The manuscript reports results **exclusively from pre-condition (baseline) variables**
- These include:
 - TC40V1_pre
 - TC40V2_pre
 - TC42ULV1_pre
 - TC42ULV2_pre

Variables with suffix “_pos” are included:

- To ensure **full data transparency**
- But were **not part of the inferential analyses or conclusions of the manuscript**

Their presence in the dataset should not be interpreted as omission, but rather as **inclusion beyond the scope of the reported hypothesis-driven analysis**

5. Statistical Approach

The manuscript employed:

- **Independent samples t-tests**
- Group comparison: active vs sedentary
- Conducted separately for each symbolic index and time segment

Statistical threshold:

- **$p < 0.05$ (two-tailed)**

No multiple comparison correction was applied, consistent with the exploratory physiological nature of symbolic HRV indices in small samples.

6. Data Integrity and Presentation

The dataset contains the **original numerical outputs** derived from HRV symbolic analysis.

Values reported in the manuscript may differ slightly due to:

- Rounding procedures
- Formatting adjustments for publication
- Presentation conventions

These differences do **not affect statistical outcomes or interpretations**

7. Measurement Reliability and Additional Analyses

Supplementary analyses (e.g., Cronbach's alpha, Intraclass Correlation Coefficients – ICC) are included in the SPSS output files.

These analyses:

- Were conducted as part of internal methodological assessment
- Were **not included in the manuscript**, as they fall outside the primary research objectives

Given the **known variability inherent to HRV symbolic indices**, reliability estimates should be interpreted cautiously, particularly in small samples.

8. Interpretation Guidelines

Users of this dataset should consider the following:

1. The manuscript is based on a **predefined analytical subset of variables**
2. The dataset includes **additional variables not intended for confirmatory inference**
3. Independent reanalysis using alternative approaches may yield different results due to:
 - Sample size constraints
 - Physiological variability of HRV
 - Lack of adjustment for multiple comparisons

- Context-dependent interpretation of symbolic indices

Therefore, conclusions drawn outside the scope of the original analytical design should be interpreted as **exploratory**

9. Limitations

- Modest sample size
- Physiological variability of HRV-derived indices
- Symbolic analysis metrics may present moderate reproducibility depending on conditions and segmentation

These limitations were considered during study design and interpretation of results.

10. Final Statement

This dataset is shared in the interest of transparency and scientific integrity.

The authors emphasize that:

- The manuscript conclusions are based on a **clearly defined analytical framework**
- The dataset includes **additional information beyond that framework**
- Proper interpretation requires alignment with the study design and stated objectives

11. Contact

For clarification regarding dataset structure, analysis, or interpretation, please contact the corresponding author.

End of Document