PROMS User Guide

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1. About the test

The Profile of Music Perception Skills (PROMS; Law & Zentner, 2012) is a novel musical test battery that measures perceptual musical skills objectively across nine different modalities (Melody, Pitch, Timbre, Tuning, Rhythm, Embedded Rhythm, Metric Accent, Tempo, and Loudness). For each task, participants are asked to indicate whether stimuli presented are same or different.

Distinctive Features

- Objective test-battery for the comprehensive assessment of music perception skills
- First-ever subtests for timbre, tuning, and advanced rhythm discrimination skills
- Suited for online data collection (high stability across-browsers and OS)
- Personalized and illustrated performance feedback

Why choosing the PROMS?

- Suited for assessing musical ability in musicians and non-musicians alike
- Configurable to have selected subtests and various test durations (5 to 60 minutes)
- Culture-fair stimuli make it suitable for cross-cultural comparisons
- Extensive evidence in support of reliability and validity

What's more?

- Researchers manage their own data collection
- Fully computerized administration and scoring

- Direct data export to most common statistical programs available in several languages

2. Current Test Versions

- **Full-PROMS:** The Full-PROMS is the original test version. It has all 9 subtests and takes about 60 minutes to complete.
- **PROMS-S:** This version is a short version of the Full-PROMS. It includes 8 subtests ('Melody', 'Rhythm', 'Embedded Rhythm', 'Tuning', 'Accent', 'Timbre', 'Tempo', and 'Pitch') and takes about 35 minutes to complete.
- **Modular-PROMS:** This version allows the subtests of the PROMS to be configured in a customized way.
- **Mini-PROMS:** This version is a short version of the Brief-PROMS. It includes the subtests 'Melody', 'Accent', 'Tempo', and 'Tuning' and takes about 15 minutes to complete.
- **Micro-PROMS**: A screening tool of musical ability that takes about 10 minutes to complete and provides an overall score of musical perception skills.

PROMS versions are available in the following languages:

- **Full-PROMS / Modular-PROMS / PROMS-S:**
  Arabic, Chinese, English, French, German, Greek, Indonesian, Italian, Japanese, Norwegian, Portuguese (Brazil), Spanish, Turkish
- **Mini-PROMS:**
  Arabic, Chinese, Czech, Dutch, English, Finnish, French, German, Greek, Hebrew, Indonesian, Italian, Japanese, Korean, Norwegian, Portuguese, Portuguese (Brazil), Russian, Spanish, Turkish
- **Micro-PROMS:**
  Arabic, Dutch, English, Finnish, French, German, Greek, Indonesian, Italian, Japanese, Korean, Norwegian, Spanish, Portuguese (Brazil)

3. Psychometric Properties

The PROMS has satisfactory psychometric properties for the composite score (internal consistency and test-retest > .85) and fair to good coefficients for the individual subtests (.56 to.85). Convergent validity was established with the relevant dimensions of Gordon's

Advanced Measures of Music Audiation and Musical Aptitude Profile (melody, rhythm, tempo), the Musical Ear Test (rhythm), and sample instrumental sounds (timbre).

Criterion validity was evidenced by consistently sizeable and significant relationships between test performance and external musical proficiency indicators in all three studies (.38 to .62, $p < .05$ to $p < .01$). An absence of correlations between test scores and a nonmusical auditory discrimination task supports the battery's discriminant validity (−.05, ns). The interrelationships among the various subtests could be accounted for by two higher order factors, sequential and sensory music processing.

For details see:

1. Kunert, R., Willems, R. M., & Hagoort, P. (2016). An independent psychometric evaluation of the PROMS measure of music perception skills. *PLoS One*, *11*(7), e0159103. https://doi.org/10.1371/journal.pone.0159103 [Brief-PROMS]
2. Law, L. N., & Zentner, M. (2012). Assessing musical abilities objectively: construction and validation of the profile of music perception skills. *PloS one*, *7*(12), e52508. https://doi.org/10.1371/journal.pone.0052508 [PROMS-S, Mini-PROMS]
3. Strauss, H., Reiche, S., Dick, M., & Zentner, M. (2024). Online assessment of musical ability in 10 minutes: Development and validation of the Micro-PROMS. *Behavior Research Methods, 56*(3), 1968-1983. https://doi.org/10.3758/s13428-023-02130-4 [Micro-PROMS]
4. Zentner, M., & Strauss, H. (2017). Assessing musical ability quickly and objectively: Development and validation of the Short-PROMS and the Mini-PROMS. *Annals of the New York Academy of Sciences, 1440*, 33-45. https://doi.org/10.1111/nyas.13410 [Full-PROMS, Brief-PROMS]

4. PROMS Researcher Account

If you would like to use the PROMS battery in your academic research project, we can set up a research account for you. This will enable
you to use the battery to collect your own data.

To get your own research account, simply click on the link below and follow the instructions:

Get the PROMS

Further Information

For more information, please contact us via mail: musiquote-psychologie@uibk.ac.at.

Please note that the **PROMS is an online test** and thus an internet connection is required to administer the test. Please contact us via mail if you want to administer the PROMS offline.

5. Data Management and Export

To access the data of your research, open your PROMS version and select "**Responses"** in the survey menu. You will then see an overview of the responses as well as the raw data.

To export your data, click on the export icon and then choose "**Export responses"**. There you first need to choose your preferred format. If you select csv or Excel, make sure that all variables on the right-hand side are selected, so that the full data set is exported. We recommend using all default settings, except for the following:

- For "**Responses**", select "**Export responses as: Answer codes**". This way, answers are coded as described in the Scoring section below.
- For "**Headings**", select "**Export questions as: Question code**". This does not only make your dataset easier to navigate, but also allows you to use the > PROMS Scoring App to obtain sensitivity estimates (d-prime scores).

To export data to SPSS, click on the export icon and choose "**Export results to a SPSS/PASW command file**". Download both files. Open the SPSS syntax file and change the /FILE path to point to the data file (e.g. /FILE='C:/users/docs/survey1234_SPSS_data_file.dat'). Click "**Run > All**". You should be ready to go now.

6. Scoring

- correct answers are coded as '1' with 2 points
- correct but uncertain answers ('PP' or 'PS') are coded as P with 1 point
- all remaining answers that are not correct are coded as stated below ('DS', 'PS', 'NO', 'PD', or 'DD')
    - 'DS' means 'definitely same'
    - 'DD' means 'definitely different'
    - 'PS' means 'probably same'
    - 'PD' means 'probably different'
    - 'NO' means 'I don't know'

Scores are automatically computed by LimeSurvey and included in the exported data file.

Variables containing scores are labelled as followed:

- PROMSMELODYSCORE (Melody)
- PROMSRHYTHMSCORE (Rhythm)
- PROMSRMSCORE (Embedded Rhythm)
- PROMSTUNINGSCORE (Tuning)
- PROMSBEATSCORE (Metric Accent)
- PROMSTIMBRESCORE (Timbre)
- PROMSSPEEDSCORE (Tempo)
- PROMSPITCHSCORE (Pitch)
- PROMSTOTALSCORE (total score)

To manually compute the subscale scores, take the sum of all items within the scale and divide it by 2. For the total scale just add the subscale scores. If you work with IBM SPSS or R, we can send you a syntax/script to automatically compute scores for data analysis.