

Psychology 350: An introduction to R for Psychological Research

Week 7: Possible data sets

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Outline

Data sets

Trait measures of personality

- Personality structure

- Personality correlates

Emotion

- Structure of emotion

- Stress and emotion

Ability

- Structure of ability from the ICAR

- Longitudinal measures

Possible data sets to use for a final project

1. Ideally, your final project is based upon data that you (or your lab) has.
2. However, if you do not have any data, there are a number of data sets that are open source that you can use.
3. Some of these are already in the *psychTools* package, others are on <https://dataverse.org>.
4. Here I give a quick summary of possible data sets.

Personality structure

1. The number of dimensions of personality that are useful has been suggested to be 2 (Eysenck & Eysenck, 1964), 5 (Digman, 1990; Goldberg, 1990; Costa, McCrae & Dye, 1991), 16 (Cattell, 1966), 27 (Condon, 2018) or unlimited (Mottus, Kandler, Bleidorn, Riemann & McCrae, 2017).
2. This question can be explored with a number of different data sets.
 - The “SAPA Personality Inventory” items available as `spi` in *psychTools* has 4000 participants, 135 items and 10 criteria variables.
 - 696 Items from the SAPA inventory (Condon, 2018) are available on <https://dataverse.org> see Condon (2017); Condon, Roney & Revelle (2017); Condon (2017) for 126,884 participants
 - `epi` has 57 personality items from the Eysenck Personality Inventory (Eysenck & Eysenck, 1968) to measure Extraversion, Neuroticism and Lie.

Personality scales and items correlate with real criteria

1. Correlations [correlations with multiple](#) criteria: Revelle, Dworak & Condon (2021) using the spi and <https://dataverse.org> samples.
2. 10 criteria in the spi data set
3. 19 criteria in the <https://dataverse.org> set.

What is the structure of emotion?

1. Several competing models:

- Affect versus arousal ([Barrett & Russell, 1998](#); [Russell & Carroll, 1999](#))
- 12 point circumplex? ([Yik, Russell & Steiger, 2011](#))
- Positive affect and negative affect as separate dimensions ([Watson, Wiese, Vaidya & Tellegen, 1999](#); [Watson & Tellegen, 1985](#))
- Energetic and Tense arousal as the fundamental axes of mood ([Thayer, 1970, 1978, 2000](#))
- Consensual structure: not so fast ([Rafaeli & Revelle, 2006](#))

2. Data set to examine structural questions; The Motivational State Questionnaire, ([Revelle & Anderson, 1998](#)) as `msqR` in *psychTools*.

Personality and emotion

1. Trait correlations with dimensions of affect
 - Positive Affect and Extraversion
 - Negative Affect and Neuroticism
2. msqR data set has 75 mood items and 5 personality dimensions (from the EPI)

Does personality mediate the effect of environment on mood?

1. affect data is a subset of msqR with manipulations of affect
 - Do extraverts differentially respond to positive affect inductions [Larsen & Ketelaar \(1989\)](#)
 - Happy (Parenthood), Fear (Halloween), Sadness (Concentration camp) and control (nature film)
 - Reported in [Smillie, Cooper, Wilt & Revelle \(2012\)](#) testing hypothesis derived from [Larsen & Ketelaar \(1989\)](#) showing null effect unless approach is involved.

State Mood and traits

1. Analyses of `sai`, `tai`, and `msqR` allow for an examination of short term stability and long term decay of state-state and state-trait correlations.
2. `epiR` allows for test-retest correlations of the `epi` data.
3. Discussed in detail in [Revelle & Condon \(2019\)](#)

International Cognitive Ability Resource (ICAR)

1. Open source ability test (Condon & Revelle, 2014)
2. An international consortium Condon, Doebler, Holling, Gühne, Rust, Stillwell, Sun, Chan, Loe & Revelle (2014)
3. Widely used (Dworak, Revelle, Doebler & Condon, 2021)
4. Scores for 16 sample items and 1525 participants are in the ability data set.
 - What is the factor structure (use `fa`)
 - Hierarchical factor structure using the `omega` function

Longitudinal correlates of ability

1. Longitudinal correlation matrix from the Project Talent data set spengler
 - Data from Project Talent was collected in 1960 on a representative sample of American high school students. Subsequent follow up 11 and 50 years later are reported by [Spengler, Damian & Roberts \(2018\)](#) and others [Damian, Spengler, Sutu & Roberts \(2019\)](#)
 - ability and parental background at age 15
 - subsequent education and occupational outcomes at 26 and 55.
 - Nice application of mediation analysis

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Longitudinal measures

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