

As Predicted PreRegistration

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Submission

1) Have any data been collected for this study already?

- ☐ Yes, we already collected the data.
- ☐ No, no data have been collected for this study yet.
- ☒ It's complicated. We have already collected some data but explain in Question 8 why readers may consider this a valid pre-registration nevertheless.
(Note: "Yes" is not an acceptable answer.)

2) Hypothesis. What's the main question being asked or hypothesis being tested in this study?

The main research question is whether the disintegration factor separates from HEXACO six factors evaluated across three different cultural groups: Serbs, UK, and Germans.

H1. Disintegration facets will form expected disintegration factor separate from HEXACO factors in each of the three samples. The structure of the expected seven-factor solution will be similar in these three samples. Exploratory Structure Equation Modelling (ESEM) will reveal its weak factorial invariance at least.

H2. Even if factor analysis is done at the item level, seven-factor solution assuming the existence of the disintegration factor separate from HEXACO will explain the covariance structure the best. This applies to the item level factor analysis within each of the samples as well as to the factor analysis on all of the subjects.

H3. A separate scale measuring mood swings is added to initial nine Disintegration subscales to test the following hypothesis: mood swings scale will have higher loadings on the disintegration factor than the three scales measuring emotional aspects of disintegration separately (depression, flattened affect, and mania), and will not have secondary loadings on the other six factors.

3) Dependent variable. Describe the key dependent variable(s) specifying how they will be measured.

It is not an experimental, but correlational design. The logic of dependent/independent variables is not applicable. All variables are listed here.

1. HEXACO 100-item inventory (Lee, & Ashton, 2016), with 5 alternatives from 1 – strongly disagree to 5 – strongly agree, measuring 24 facets within 6 basic personality domains and interstitial Altruism scale (total 25 facets):

Honesty-Humility (Sincerity, Fairness, Greed Avoidance, Modesty – 16 items altogether)

Emotionality (Fearfulness, Anxiety, Dependence, Sentimentality - 16 items altogether)

Extraversion (Social Self-Esteem, Social Boldness, Sociability, Liveliness - 16 items altogether)
Agreeableness (Forgiveness, Gentleness, Flexibility, Patience - 16 items altogether)
Conscientiousness (Organization, Diligence, Perfectionism, Prudence - 16 items altogether)
Openness to Experience (Aesthetic Appreciation, Inquisitiveness, Creativity, Unconventionality - 16 items altogether), and Altruism (4 items)

2. DELTA 20-item Likert-type scale (Knezevic, Savic, Kutlesic & Opacic, 2017), with 5 alternatives from 1 – strongly disagree to 5 – strongly agree, measuring 9 disintegration facets within the domain of disintegration:

Perceptual Distortion (3 items)
General cognitive/executive impairments (3 items)
Paranoia (2 items)
Mania (2 items)
Apathy/Depression (2 items)
Flattened Affect (2 items)
Somatoform Dysregulation (2 items)
Enhanced Awareness (2 items)
Magical Thinking (2 items)

The additional four-item scale of mood swings (4 items) will be administered to German and UK samples

Socio-demographic data

1. Gender (3 categories: female, male, other)
2. Age in years
3. Educational level
 1. 1 - 8 years (elementary school and lower)
 2. 9 – 12 (secondary school, vocational)
 3. More than 12 years of education (college, university, Ph.D.)

4) Conditions. How many and which conditions will participants be assigned to?

The study uses a correlational design. Participants complete two measures (HEXACO, 100-item version; DELTA, 20-item version) in individualized random order.
There will be three different cultural groups: subjects from Serbia, UK, and Germany.

5) Analyses. Specify exactly which analyses you will conduct to examine the main question/hypothesis.

H1. Multi-group Exploratory Structure Equation Modelling (ESEM) of 24 HEXACO facets and 9 DELTA facets will reveal seven-factor structure (six HEXACO + disintegration factor) which will show at least weak factorial invariance across three samples.
H2. Multi-group Exploratory Structure Equation Modelling (ESEM) of 100HEXACO items and 20 DELTA items will reveal seven-factor structure (six HEXACO + disintegration factor) on the overall 1080 respondents.
H3. The same aforementioned analyses will be done on 7 DELTA subscales instead of 9 (depression, flattened affect, and mania scales replaced by mood swings scale) + 24 HEXACO subscales.

Congruence coefficients (Orthogonal Procrustean Rotation) between the item-level seven-factor EFA solutions in the UK and German samples and the target (Serbian) seven-factor EFA solution will be above .90.

6) Outliers and Exclusions. Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

We exclude participants indicating more than 50% of missing answers.

7) Sample size. How many observations will be collected or what will determine sample size?

No need to justify the decision, but be precise about exactly how the number will be determined.

In each of the samples (country), we will have 360 respondents.

As we have 34 facets in the factor analysis (25 HEXACO+9 isintegration) the optimal 1:10 variable:subject ratio will be achieved by having 340 respondents. Because we would like to do factor analysis at the item level within each of the samples, by having 360 respondents the variable:subject ratio will be 1:3 (given that the number of items is 120), the minimal variable:subject ratio for a proper factor analysis.

8) Other. Anything else you would like to pre-register?

(e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

The data that were already collected in Serbia on the sample representative for the general population for the exploratory purposes. Serbian sample consists of 367 respondents, 202 female, average age 42.7 years.

The data that will be collected in the UK and Germany will serve for confirmatory analyses – the replication of the findings obtained in the exploratory sample and cross-cultural validation of the seven-factor structure.

We will investigate whether a more robust and clearer factorial structure (less secondary loadings) is obtained if the tree disintegration scales (depression, mania, and flattened affect) are replaced by mood swings scale (UK and German samples).

9) Name. Give a title for this AsPredicted pre-registration

Seven-factor model of personality space – evidence from a cross-cultural study

Finally. For record keeping purposes, please tell us the type of study you are pre-registering.

- ☐ Class project or assignment
- ☐ Experiment
- ☒ Survey
- ☐ Observational/archival study
- ☐ Other:

References

- Knezevic, G., Savic, D., Kutlesic, V., & Opacic, G. (2017). Disintegration: A Reconceptualization of Psychosis Proneness as a Personality Trait Separate from the Big Five. *Journal of Research in Personality*. 70, 187-201. <http://dx.doi.org/10.1016/j.jrp.2017.06.001>
- Lee, K., & Ashton, M. C. (2016). Psychometric properties of the HEXACO-100. *Assessment*, 25(5), 543-556. <https://doi.org/10.1177/1073191116659134>