**The Kernel of Truth in Text-Based Personality Assessment: A Meta-Analysis of the Relations Between the Big Five and the Linguistic Inquiry and Word Count (LIWC) – Supplemental Material**

# **Extra results**

Tables S1-S5 present the corrected and uncorrected effects sizes (applying the ‘mean – 1’ imputation method) for cue validity (self-reports) across the 52 LIWC categories. Tables S6-S10 present the same effect sizes for cue utilization (observer reports). Note, that the results for auxiliary verbs are based only on LIWC2007 and LIWC2015 (but not on LIWC2001, for which there were no available scores).

Tables S11-S20 present the 10 stronger moderation effects per personality trait. For cue validity, the Mehl et al. (2006; 2012) studies shared the same participants but involved different tasks. These tasks were captured by two categorical moderators of the present analysis (i.e., text mode and synchronicity). Averaging the effect sizes across different type of tasks would mask any moderator effects. Therefore, we performed the analysis twice, once excluding the 2012 and once excluding the 2006 datasets. Overall, results were very similar in both occasions.

Table S21 presents the explained variance of the full set of LIWC categories, function and content words (both for ‘narrow’ and ‘broad’ categories). When using the full set of LIWC categories, the linguistic category of ‘affective processes’ was dropped from the analysis because it strongly correlated with the ‘positive emotions’ category (*r* = .87) and caused the model to collapse (we also repeated the analysis keeping the category of ‘affective processes’ and dropping the ‘positive emotions’ category but the results did not change).

Table S22 shows the correlation between self- and observer reports (self-other agreement). Note, however, that this information was available only for two out of the five studies (Mehl et al., 2006; Sandy, 2013), and in one of those studies, observer ratings were based on a single observer (Sandy, 2013). Due to those limitations, we did not include self-other agreement in the main manuscript.

Table S23 presents the 20 linguistic categories that constitute the kernel of truth for effect sizes |ρ| ≥ .05, per personality trait (this information is similar to Figure 3 in the main manuscript).

Finally, in the OSF page of the project (<https://osf.io/7vszn/>), the excel file ‘meta-analysis\_both\_self\_observer\_studies.xlsx’ contains the comparison between the meta-analytic results of the main manuscript vs. the meta-analytic results of the three studies (Mehl et al., 2006; Qiu et al., 2012, Sandy, 2013) where both self- and observer reports were available.

# **Coding process**

The coding process followed a two-step process. First, the coding training. Coders received reading material and coding instructions prior to the training session. During the training session, coders were informed on the purpose of the meta-analysis. Then it was explained to them the code form, all the steps and methods of data extraction, and they were given some data extraction tips and tricks. The practice session finished with a short hands-on practice session, extracting data from two papers. Second, raters coded the assigned papers. Interrater agreement was calculated between coder 1 (the first author) and each of the four extra coders. The disagreements were 19.04% (e.g., typos, misplaced values in the excel code form, miscoding of (reverse) Neuroticism, failing to retrieve information from external sources like supplemental files). All disagreements were discussed and resolved in follow-up meetings.

The coding of language formality was performed between the first and third author. Three formality categories were created, defined as: *Informal language* = Written or spoken language that is produced in an informal environment (e.g., everyday discussion, social media), characterized by spontaneity, without necessarily taking care to avoid mistakes or to ensure fluency; *Nonformal language* = Written or spoken language that falls between the informal and formal ends of a language-formality spectrum; *Formal language* = Written or spoken language that is produced in a formal environment (e.g., student assignment, job interview), where someone is expected to perform at their best of their language ability, or when someone has time to think thoroughly or improve their final product. Since only 2 studies with self-reports (Hirsh2009, Holtrop2019; across the manuscript we refer to the included studies using only the last name of the first author followed without space by the year of publication) and one study with observer reports (Baek2020) were coded as formal, the ‘formal’ and ‘nonformal’ categories were merged under the name ‘nonformal’.

# **Manual imputation process per variable**

Below is described the manual imputation process for the variables of age (mean), age (standard deviation), percentage of women in the sample, text length (average), text length (standard deviation), and Cronbach’s alpha.

## Mean age (age\_m)

First, values in categorical form, were converted to continuous. In Abe2018, the average age for the categorical values was: categorical mean = 3.71 (4 categorical groups; 1 = 18-29; 2 = 30-44; 3 = 45-59; 4 = 60+). Values were converted to continuous as such: mean = 45 + (0.71\*14) => 54.94; [45 is the mean of categorical group 3; 0.71 is the distance from the beginning of the categorical mean 3.71; 14 is the distance between 45-59 in age group 3]. In Holtrop2019, the same process was followed: categorical mean = 2.23 (9 groups; 1=18-21; 2=22-25; 3=26-30; 4=31-34; 5=35-44; 6=45-54; 7=55-64; 8=65-74; 9=75+). Convert to continuous mean = 22 + (0.23\*3) => 22.69; [3 is the distance between 22-25 in age group 2]. For Holtrop2019, Age\_sd was considered as missing value.

Then, followed the manual imputation of missing values. There were two sample groups: students, general population. The average age of students (20.61) was manually imputed in missing data of student population, and the same for general population (35.49). The average value was calculated for independent samples (e.g, for studies with both self- and observer-scores, only one was used).

Students average age\_m = 20.61. Impute to: Graybeal2002; Pennebaker1999. General population average age\_m = 35.49. Impute to: Biel2013; Golbeck2011; Hall2017; Sumner2012.

## Standard deviation of age (age\_sd)

The approach was similar as to ‘age\_m’. It was necessary to calculate averages per group sample, because student samples were expected to have smaller variation, whereas general population samples are expected to have larger variation. Average value was calculated for independent samples (e.g., for studies with both self- and observer-scores, only one was used).

Students average age\_sd = 3.48. Impute to: Graybeal2002; Holtrop2019; Pennebaker1999. General population average age\_sd = 10.84. Impute to: Abe2018; Biel2013; Golbeck2011; Hall2017; Sumner2012.

## Percentage of women in the study (Women\_%)

When missing values, the average of ‘Women\_%” (63.06) was manually imputed. The average value was calculated for independent samples (e.g., for studies with both self- and observer-scores, only one was used). Impute to: Golbeck2011; Hall2017; Pennebaker1999; Sumner2012.

## Average text length (words\_m)

Text length was missing in two studies. The rationale of imputation was different per study. In Abe2018, the task instructions were: “"Please share your thoughts and feelings about the upcoming presidential elections this November. This question is optional, but a narrative of 100–200 words would be appreciated. [Survey Monkey study]" (p. 77)”. It was imputed the average of requested text length: 150. In Biel2013, text length was calculated after dividing the total number of tokens (246000; Table 2) with sample size (n=442; mean words = 556.56 per participant), as the best approximation.

## Standard deviation of text length (words\_sd)

The standard deviation of text length was calculated according to the following process. First, for written language, the ratio was calculated as: Words\_sd = 2155.97 / Words\_m = 7549.87 => ratio = 0.286. The, multiply each study’s ‘words\_m” with the ratio 0.286 to calculate words\_sd (controlling for text length).

Impute to (words\_m \* .286): Abe2018: 150 \* 0.286 = 42.90; Golbeck2011: 1914 \* 0.286 = 547.40; GolbeckRoblesTurner2011: 42.6 \* 0.286 = 12.18; Hirsh2009: 16448 \* 0.286 = 4704.13; Pennebaker1999: 766.4 \* 0.286 = 219.19; Schwartz2013: 4129 \* 0.286 = 1180.89; Yarkoni2010: 115423 \* 0.286 = 33010.98.

For spoken language the same process was followed. Spoken words ratio: Words\_sd = 890.72 / Words\_m = 1432.03 => ratio = 0.622. Multiply each study’s ‘words\_m” with the ratio 0.622 to calculate words\_sd (controlling for text length). Impute to (words\_m \* 0.622): Biel2013: 556.56 \* 0.622 = 346.18.

## Cronbach’s alpha

In Mehl2012, missing Cronbach’s alpha for O, C, A were imputed from Mehl2006 (self-reports), since they share the same sample. In Schwartz2013, missing Cronbach’s alpha were imputed from Kern2014, since they both analyzed the ‘MyPersonality’ dataset. For the remaining studies, missing Cronbach’s alpha were imputed following difference approaches depending the personality instrument per study. The process is described below.

### ***BFI-44***

For cue validity, the average Cronbach’s alpha was calculated per personality trait. Tackman2020 was not included, because reported alphas are an amalgamation of both BFI-44 and TIPI (within square brackets, the Cronbach’s alpha as reported in the Manual; John & Srivastava, 1999; Table 4.3, p. 117): O: .79 [.81]; C: .81 [.82]; E: .87 [.88]; A: .77 [.79]; N: .83 [.84]. Impute to: Hall2017; Hawkins2017\_study3; Pennebaker1999

For cue utilization, there were available values from 1 study, and missing data also in 1 study (Qiu2012). Impute to: Qiu2012

### ***TIPI-10***

For cue validity, the average Cronbach’s alpha was calculated per personality trait from 2 studies (Neuroticism only from 1 study). Tackman2020 was not included, because reported alphas are an amalgamation of both BFI-44 and TIPI (within square brackets, the Cronbach’s alpha as reported in the Manual; Gosling et al., 2003; p. 516): O: .40 [.45]; C: .59 [.50]; E: .73 [.68]; A: .41 [.40]; N: .74 [.73].

Since average scores were based only on 2 studies (in the case of Neuroticism, only in 1 study), Cronbach’s alphas as reported in the manual were preferred and imputed instead. Impute to: Abe2018 (only Neuroticism); Krieger2016; Hawkins2017\_study1; Hawkins2017\_study2; Sumner2012

For cue utilization, there are available values from 1 study, and missing data for 2 studies (Baek2020; Biel2013). Impute to: Baek2020; Biel2013.

### ***BFI-45***

Golbeck2011 and GolbeckRoblesTurner2011 used the BFI-45. The reference in both studies was ‘O. D. John. Big five inventory, 2000.’. This is a not-valid citation. Probably they refer to BFI-44, therefore in place of missing Cronbach’s alpha were imputed BFI-44’s average Cronbach alpha from available studies (see above). Impute to: Golbeck2011; GolbeckRoblesTurner2011.

### ***NEO-PI-R-240***

There are no available data to calculate average values. Therefore, Cronbach’s alpha was imputed from the manual (Costa, 1996; Table 1, p. 228): O: .87; C: .90; E: .89; A: .86; N: .92. Impute to: Krieger2016.

### ***IPIP***

For IPIP-20, IPIP-50, IPIP-100, and IPIP-300, information on Cronbach’s alpha can be found in the online Manuals (<https://ipip.ori.org/newMultipleconstructs.htm>). For IPIP-41 info can be found in the published manual (Buchanan et al., 2005; Cronbach’s alpha taken from Study 1; n = 2448; vs n = 249 study 2; Table 2, p. 123). Cronbach’s alpha across all IPIP versions are summarized in the table below (in the table, each IPIP version has a hyperlink with the manual’s url).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | [IPIP-20](https://ipip.ori.org/newNEO_DomainsTable.htm) | [IPIP-41](https://econtent.hogrefe.com/doi/abs/10.1027/1015-5759.21.2.115) | [IPIP-50](https://ipip.ori.org/newBigFive5broadTable.htm) | [IPIP-100](https://ipip.ori.org/newBigFive5broadTable.htm) | [IPIP-300](https://ipip.ori.org/IPIP300-120ComparisonTable_Maples_etal.htm) |
| O | .89 | .74 | .84 | .90 | .92 |
| C | .90 | .84 | .79 | .88 | .92 |
| E | .91 | .88 | .87 | .91 | .92 |
| A | .85 | .76 | .82 | .88 | .90 |
| N | .91 | .83 | .86 | .91 | .93 |

Cronbach’s alpha values were imputed as follows: In Gill2006, values from IPIP-41 were imputed; For Yarkoni2010, since both IPIP-50 and IPIP-300 were employed, it was calculated (and imputed) the average Cronbach’s alpha between the two versions (see table above): O: (.84+.92) => .88; C: (.79+92) => .855; E: (.87+.92) => .895; A: (.82+90) => .86; N: (.86+.93) => .895.

# References

Buchanan, T., John A. J., & Goldberg, L.R. (2005). Implementing a five-factor personality inventory for use on the internet. *European Journal of Psychological Assessment 21*(2), 115-127. <https://doi.org/10.1027/1015-5759.21.2.115>

Costa Jr, P. T. (1996). Work and personality: Use of the NEO‐PI‐R in industrial/organisational psychology. *Applied Psychology, 45*(3), 225-241. <https://doi.org/10.1111/j.1464-0597.1996.tb00766.x>

Gosling, S. D., Rentfrow, P. J., & Swann, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality, 37*, 504-528. <https://doi.org/10.1016/S0092-6566(03)00046-1>

John, O. P., & Srivastava, S. (1999). *The Big-Five trait taxonomy: History, measurement, and theoretical perspectives* (Vol. 2, pp. 102-138). Berkeley: University of California.

# **Table S1**

*Meta-analytical effect sizes for self-reported Openness to Experience – cue validity*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LIWC category | *r* | ρ | 95% CI lower | 95% CI upper |
| Sixltr | .09 | .11 | .09 | .12 |
| Dic | -.08 | -.09 | -.12 | -.06 |
| Article | .08 | .09 | .05 | .13 |
| Family | -.07 | -.08 | -.12 | -.05 |
| Pronoun | -.07 | -.08 | -.13 | -.03 |
| Home | -.07 | -.08 | -.11 | -.06 |
| Present | -.06 | -.07 | -.12 | -.03 |
| I | -.06 | -.07 | -.12 | -.02 |
| WC | .06 | .07 | .05 | .10 |
| Motion | -.06 | -.07 | -.10 | -.03 |
| Death | .05 | .06 | .03 | .09 |
| Time | -.06 | -.06 | -.10 | -.01 |
| Social | -.04 | -.05 | -.09 | -.02 |
| Auxverb | -.04 | -.05 | -.12 | .01 |
| Negate | -.03 | -.04 | -.08 | .00 |
| Past | -.04 | -.04 | -.08 | -.01 |
| Sexual | .03 | .04 | .02 | .07 |
| Anger | .04 | .04 | .02 | .06 |
| Future | -.03 | -.04 | -.08 | .01 |
| Insight | .03 | .04 | -.01 | .08 |
| Discrep | -.03 | -.03 | -.06 | .00 |
| Leisure | -.03 | -.03 | -.06 | .00 |
| Posemo | -.02 | -.03 | -.06 | .00 |
| Space | .02 | .03 | -.01 | .07 |
| Cause | .02 | .03 | -.02 | .07 |
| Certain | .02 | .03 | -.01 | .06 |
| Feel | .02 | .02 | -.01 | .05 |
| Friends | -.03 | -.02 | -.06 | .01 |
| Job/work | .01 | .02 | -.01 | .05 |
| Eating | -.02 | -.02 | -.06 | .01 |
| Swear | .02 | .02 | .00 | .04 |
| Preps | .02 | .02 | -.02 | .06 |
| Number | -.01 | -.02 | -.06 | .03 |
| Senses | .02 | .02 | -.02 | .06 |
| Affect | -.02 | -.02 | -.04 | .01 |
| Tentat | .01 | .01 | -.02 | .05 |
| See | .01 | .01 | -.02 | .04 |
| You | -.01 | -.01 | -.05 | .02 |
| Negemo | .01 | .01 | -.02 | .04 |
| Relig | .01 | .01 | -.02 | .04 |
| Fillers | .00 | -.01 | -.04 | .02 |
| Nonfl | -.01 | -.01 | -.03 | .01 |
| Cogmech | .01 | .01 | -.04 | .05 |
| Anx | -.01 | -.01 | -.05 | .04 |
| Hear | .00 | .01 | -.03 | .04 |
| Money | .00 | -.01 | -.04 | .03 |
| Physcal | .00 | .01 | -.02 | .03 |
| Body | .00 | .00 | -.03 | .03 |
| Achieve | .00 | .00 | -.03 | .03 |
| Sad | .01 | .00 | -.02 | .02 |
| We | .00 | .00 | -.03 | .03 |
| Assent | -.01 | .00 | -.03 | .03 |

*Note*. Effect sizes after imputation with the ‘mean - 1’ method; *k* = 25, *n* = 84,084; *r* = attenuated effect sizes; ρ = disattenuated effect sizes (corrected for personality, but not for LIWC unreliability); 95% CIs refer to ρ.

# **Table S2**

*Meta-analytical effect sizes for self-reported Conscientiousness – cue validity*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LIWC category | *r* | ρ | 95% CI lower | 95% CI upper |
| Negemo | -.10 | -.12 | -.15 | -.09 |
| Swear | -.10 | -.11 | -.14 | -.08 |
| Anger | -.09 | -.10 | -.13 | -.07 |
| Job/work | .06 | .08 | .05 | .10 |
| Time | .06 | .07 | .05 | .09 |
| Achieve | .06 | .07 | .03 | .10 |
| Fillers | -.05 | -.06 | -.09 | -.03 |
| Negate | -.06 | -.06 | -.09 | -.04 |
| Body | -.05 | -.06 | -.09 | -.04 |
| Tentat | -.05 | -.06 | -.09 | -.03 |
| Posemo | .05 | .05 | .02 | .09 |
| Home | .05 | .05 | .02 | .08 |
| Family | .04 | .05 | .02 | .08 |
| Preps | .04 | .05 | .02 | .08 |
| We | .04 | .04 | .01 | .07 |
| Hear | -.04 | -.04 | -.07 | -.01 |
| Sexual | -.04 | -.04 | -.06 | -.01 |
| Senses | -.03 | -.04 | -.06 | -.01 |
| Anx | -.03 | -.04 | -.06 | -.01 |
| Leisure | .04 | .04 | .01 | .06 |
| Social | .03 | .04 | .01 | .06 |
| Discrep | -.03 | -.03 | -.07 | .00 |
| Cogmech | -.03 | -.03 | -.07 | .01 |
| Dic | .03 | .03 | .00 | .06 |
| Physcal | -.03 | -.03 | -.05 | -.01 |
| Relig | -.02 | -.03 | -.07 | .02 |
| Sad | -.03 | -.03 | -.06 | .00 |
| Motion | .03 | .03 | .00 | .06 |
| Death | -.03 | -.03 | -.06 | .01 |
| Number | .02 | .03 | .00 | .05 |
| I | -.02 | -.03 | -.06 | .01 |
| Sixltr | .02 | .02 | -.01 | .06 |
| Insight | -.02 | -.02 | -.05 | .01 |
| Cause | -.02 | -.02 | -.04 | .00 |
| Feel | -.02 | -.02 | -.04 | .00 |
| Space | .02 | .02 | -.01 | .04 |
| Article | .02 | .02 | -.02 | .05 |
| See | -.02 | -.02 | -.04 | .01 |
| Assent | -.02 | -.02 | -.05 | .02 |
| Future | .01 | .02 | -.01 | .04 |
| Friends | .01 | .01 | -.02 | .05 |
| Affect | -.01 | -.01 | -.04 | .01 |
| Nonfl | -.01 | -.01 | -.03 | .01 |
| You | -.01 | -.01 | -.04 | .02 |
| Past | .00 | -.01 | -.03 | .01 |
| Auxverb | -.01 | -.01 | -.06 | .04 |
| Certain | .01 | .01 | -.03 | .04 |
| Pronoun | .00 | .00 | -.04 | .03 |
| Money | .00 | .00 | -.03 | .04 |
| WC | .01 | .00 | -.02 | .02 |
| Eating | .00 | .00 | -.01 | .01 |
| Present | .00 | .00 | -.03 | .03 |

*Note*. Effect sizes after imputation with the ‘mean - 1’ method; *k* = 25, *n* = 84,056; *r* = attenuated effect sizes; ρ = disattenuated effect sizes (corrected for personality, but not for LIWC unreliability); 95% CIs refer to ρ.

# **Table S3**

*Meta-analytical effect sizes for self-reported Extraversion – cue validity*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LIWC category | *r* | ρ | 95% CI lower | 95% CI upper |
| Social | .07 | .08 | .06 | .11 |
| Tentat | -.07 | -.07 | -.10 | -.05 |
| Friends | .06 | .07 | .05 | .09 |
| Posemo | .06 | .07 | .03 | .10 |
| We | .06 | .06 | .04 | .09 |
| Sexual | .05 | .06 | .03 | .09 |
| Negate | -.04 | -.05 | -.07 | -.03 |
| You | .04 | .05 | .02 | .07 |
| Article | -.04 | -.04 | -.07 | -.01 |
| Death | -.03 | -.04 | -.06 | -.01 |
| Affect | .04 | .04 | .01 | .07 |
| Cogmech | -.01 | -.03 | -.05 | -.02 |
| WC | .03 | .03 | .01 | .06 |
| Insight | -.03 | -.03 | -.05 | -.01 |
| Negemo | -.03 | -.03 | -.05 | -.01 |
| Cause | -.03 | -.03 | -.05 | -.01 |
| Home | .03 | .03 | .02 | .04 |
| Pronoun | .03 | .03 | .00 | .05 |
| Discrep | -.03 | -.03 | -.05 | -.01 |
| Motion | .02 | .03 | .00 | .05 |
| Anx | -.02 | -.02 | -.04 | -.01 |
| Sixltr | -.02 | -.02 | -.05 | .00 |
| Anger | -.02 | -.02 | -.04 | .00 |
| Certain | .02 | .02 | .00 | .04 |
| Leisure | .02 | .02 | -.01 | .05 |
| Physcal | .02 | .02 | -.01 | .05 |
| Swear | .02 | .02 | .01 | .03 |
| Preps | -.01 | -.02 | -.03 | .00 |
| Number | -.02 | -.02 | -.04 | .01 |
| Relig | .01 | .02 | -.01 | .04 |
| Job/work | -.01 | -.01 | -.04 | .01 |
| Family | .02 | .01 | -.01 | .04 |
| Present | .02 | .01 | -.01 | .03 |
| Assent | .01 | .01 | -.02 | .04 |
| Future | -.01 | -.01 | -.04 | .01 |
| Dic | .01 | .01 | -.01 | .03 |
| Past | -.01 | -.01 | -.03 | .02 |
| Senses | -.01 | -.01 | -.03 | .01 |
| I | .01 | .01 | -.02 | .04 |
| Feel | .00 | -.01 | -.03 | .01 |
| Achieve | .01 | .01 | -.02 | .03 |
| Space | .01 | .01 | -.02 | .03 |
| Auxverb | .01 | .01 | -.02 | .04 |
| Fillers | .00 | -.01 | -.03 | .02 |
| Body | .00 | .00 | -.03 | .02 |
| Eating | .00 | .00 | -.02 | .02 |
| Nonfl | .00 | .00 | -.01 | .00 |
| Time | .00 | .00 | -.03 | .02 |
| Hear | .00 | .00 | -.03 | .03 |
| Money | .00 | .00 | -.01 | .01 |
| Sad | .00 | .00 | -.02 | .02 |
| See | .00 | .00 | -.01 | .01 |

*Note*. Effect sizes after imputation with the ‘mean - 1’ method; *k* = 25, *n* = 83,984; *r* = attenuated effect sizes; ρ = disattenuated effect sizes (corrected for personality, but not for LIWC unreliability); 95% CIs refer to ρ.

# **Table S4**

*Meta-analytical effect sizes for self-reported Agreeableness – cue validity*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LIWC category | *r* | ρ | 95% CI lower | 95% CI upper |
| Anger | -.11 | -.14 | -.17 | -.11 |
| Swear | -.09 | -.10 | -.14 | -.07 |
| Negemo | -.08 | -.10 | -.13 | -.07 |
| Posemo | .09 | .10 | .07 | .14 |
| Social | .06 | .08 | .06 | .11 |
| Dic | .05 | .07 | .05 | .10 |
| Home | .05 | .07 | .04 | .09 |
| We | .06 | .07 | .04 | .10 |
| Family | .06 | .07 | .03 | .10 |
| Negate | -.05 | -.06 | -.09 | -.03 |
| Friends | .04 | .05 | .03 | .08 |
| Certain | .04 | .04 | .02 | .06 |
| Tentat | -.03 | -.04 | -.07 | -.02 |
| Affect | .03 | .04 | .01 | .07 |
| Death | -.03 | -.04 | -.07 | .00 |
| See | .02 | .03 | .01 | .05 |
| Pronoun | .02 | .03 | .01 | .05 |
| Time | .03 | .03 | .00 | .06 |
| Achieve | .03 | .03 | .01 | .05 |
| Article | -.02 | -.03 | -.06 | .00 |
| Leisure | .03 | .03 | .01 | .05 |
| Money | -.02 | -.03 | -.05 | -.01 |
| Assent | .03 | .03 | .02 | .04 |
| Preps | .02 | .02 | .00 | .05 |
| Senses | .02 | .02 | .02 | .03 |
| Cause | -.01 | -.02 | -.04 | -.01 |
| Fillers | -.02 | -.02 | -.05 | .01 |
| Relig | .02 | .02 | -.01 | .05 |
| WC | .00 | .02 | -.01 | .04 |
| Auxverb | .02 | .02 | -.02 | .06 |
| Motion | .02 | .01 | -.02 | .05 |
| Physcal | .01 | .01 | -.02 | .04 |
| Feel | .01 | .01 | -.01 | .04 |
| I | -.01 | -.01 | -.04 | .01 |
| Discrep | .00 | -.01 | -.03 | .01 |
| Number | -.01 | -.01 | -.04 | .02 |
| Present | .01 | .01 | -.02 | .04 |
| You | .01 | .01 | -.02 | .04 |
| Insight | .02 | .01 | -.01 | .02 |
| Nonfl | .01 | .01 | -.01 | .03 |
| Space | .01 | .01 | -.02 | .04 |
| Cogmech | .01 | .01 | -.02 | .03 |
| Sixltr | .00 | -.01 | -.03 | .02 |
| Hear | -.01 | .00 | -.03 | .02 |
| Job/work | .00 | .00 | -.03 | .02 |
| Sexual | .00 | .00 | -.02 | .03 |
| Anx | -.02 | .00 | -.02 | .01 |
| Body | .00 | .00 | -.04 | .03 |
| Past | .01 | .00 | -.02 | .03 |
| Sad | -.02 | .00 | -.03 | .02 |
| Future | .02 | .00 | -.02 | .02 |
| Eating | -.01 | .00 | -.02 | .02 |

*Note*. Effect sizes after imputation with the ‘mean - 1’ method; *k* = 25, *n* = 84,047; *r* = attenuated effect sizes; ρ = disattenuated effect sizes (corrected for personality, but not for LIWC unreliability); 95% CIs refer to ρ.

# **Table S5**

*Meta-analytical effect sizes for self-reported Emotional Stability – cue validity*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LIWC category | *r* | ρ | 95% CI lower | 95% CI upper |
| Negemo | -.11 | -.12 | -.14 | -.09 |
| I | -.09 | -.10 | -.13 | -.06 |
| Anx | -.09 | -.09 | -.12 | -.07 |
| Negate | -.07 | -.08 | -.11 | -.05 |
| Pronoun | -.07 | -.08 | -.10 | -.05 |
| Present | -.06 | -.07 | -.10 | -.04 |
| Discrep | -.06 | -.07 | -.09 | -.05 |
| Anger | -.06 | -.06 | -.09 | -.04 |
| Physcal | -.06 | -.06 | -.09 | -.04 |
| Sad | -.06 | -.06 | -.09 | -.03 |
| Feel | -.05 | -.06 | -.08 | -.04 |
| Body | -.05 | -.05 | -.08 | -.03 |
| Article | .05 | .05 | .03 | .08 |
| We | .05 | .05 | .05 | .06 |
| WC | -.05 | -.05 | -.06 | -.04 |
| Sixltr | .04 | .05 | .02 | .07 |
| Affect | -.04 | -.05 | -.07 | -.02 |
| Swear | -.04 | -.05 | -.07 | -.02 |
| Auxverb | -.04 | -.05 | -.08 | -.01 |
| Achieve | .04 | .04 | .02 | .07 |
| Senses | -.04 | -.04 | -.07 | -.02 |
| Cogmech | -.04 | -.04 | -.06 | -.02 |
| Dic | -.04 | -.04 | -.07 | -.01 |
| Number | .03 | .04 | .01 | .07 |
| Family | -.03 | -.04 | -.06 | -.01 |
| Space | .03 | .04 | .02 | .05 |
| Tentat | -.03 | -.03 | -.05 | -.02 |
| Insight | -.03 | -.03 | -.05 | -.01 |
| Fillers | -.03 | -.03 | -.05 | -.01 |
| Preps | .02 | .03 | .02 | .04 |
| Hear | -.03 | -.03 | -.05 | .00 |
| Money | .03 | .03 | .02 | .04 |
| Past | -.03 | -.03 | -.05 | .00 |
| Leisure | .03 | .03 | .00 | .05 |
| Sexual | -.03 | -.03 | -.06 | .00 |
| Job/work | .02 | .02 | .00 | .05 |
| Assent | -.02 | -.02 | -.05 | .01 |
| Posemo | .02 | .02 | -.01 | .05 |
| Eating | -.02 | -.02 | -.04 | .01 |
| Cause | -.02 | -.02 | -.04 | .00 |
| Home | -.01 | -.02 | -.03 | .00 |
| Social | -.01 | -.01 | -.04 | .01 |
| Motion | .01 | .01 | -.01 | .04 |
| Relig | .01 | .01 | -.01 | .04 |
| Friends | -.01 | -.01 | -.03 | .01 |
| Time | .01 | .01 | -.01 | .03 |
| Future | -.01 | -.01 | -.02 | .01 |
| Nonfl | .00 | .01 | -.02 | .03 |
| Certain | -.01 | -.01 | -.03 | .02 |
| Death | -.01 | -.01 | -.03 | .02 |
| See | .00 | .00 | -.03 | .02 |
| You | .00 | .00 | -.03 | .03 |

*Note*. Effect sizes after imputation with the ‘mean - 1’ method; *k* = 25, *n* = 83,243; *r* = attenuated effect sizes; ρ = disattenuated effect sizes (corrected for personality, but not for LIWC unreliability); 95% CIs refer to ρ.

# **Table S6**

*Meta-analytical effect sizes for observer-reported Openness to Experience – cue utilization*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LIWC category | *r* | ρ | 95% CI lower | 95% CI upper |
| WC | .14 | .18 | .13 | .22 |
| Leisure | .11 | .17 | .06 | .28 |
| Tentat | .13 | .16 | .05 | .28 |
| Swear | -.10 | -.16 | -.30 | -.02 |
| Insight | .12 | .15 | .05 | .26 |
| Senses | .08 | .14 | -.03 | .32 |
| Money | -.10 | -.14 | -.23 | -.04 |
| Anx | .08 | .14 | -.01 | .28 |
| See | .07 | .13 | .02 | .25 |
| Feel | .07 | .11 | .04 | .19 |
| Time | -.07 | -.11 | -.18 | -.04 |
| Friends | .07 | .10 | .01 | .20 |
| Nonfl | -.06 | -.10 | -.26 | .06 |
| Discrep | .07 | .10 | .02 | .18 |
| Pronoun | -.08 | -.10 | -.20 | .01 |
| Number | -.06 | -.09 | -.15 | -.03 |
| Relig | -.05 | -.09 | -.26 | .07 |
| Sixltr | .07 | .09 | .04 | .14 |
| Negemo | -.06 | -.09 | -.17 | .00 |
| You | -.08 | -.09 | -.16 | -.02 |
| Hear | .05 | .08 | -.07 | .23 |
| Anger | -.05 | -.08 | -.20 | .04 |
| Cogmech | .06 | .08 | .02 | .13 |
| Sad | -.05 | -.08 | -.18 | .03 |
| Fillers | .06 | .07 | .02 | .12 |
| Achieve | -.05 | -.07 | -.12 | -.02 |
| Future | .03 | .06 | -.02 | .15 |
| Family | .05 | .06 | .00 | .12 |
| Preps | .05 | .06 | .01 | .11 |
| Past | -.05 | -.06 | -.16 | .05 |
| Body | -.02 | -.05 | -.15 | .04 |
| Article | .03 | .04 | -.01 | .09 |
| Sexual | .03 | .04 | -.08 | .16 |
| Home | -.03 | -.04 | -.09 | .01 |
| Death | -.02 | -.04 | -.13 | .06 |
| Negate | -.03 | -.04 | -.08 | .01 |
| Auxverb | -.04 | -.04 | -.12 | .05 |
| Certain | -.03 | -.03 | -.08 | .02 |
| We | -.02 | -.03 | -.08 | .02 |
| Posemo | .02 | .03 | -.02 | .08 |
| Assent | .02 | .03 | -.03 | .08 |
| Dic | -.04 | -.03 | -.10 | .05 |
| Space | .02 | .03 | -.02 | .08 |
| Social | .00 | .03 | -.13 | .18 |
| Physcal | -.01 | -.03 | -.13 | .08 |
| Present | .01 | .01 | -.09 | .12 |
| Job/work | -.02 | -.01 | -.10 | .08 |
| Cause | .00 | .00 | -.05 | .05 |
| Eating | -.01 | .00 | -.05 | .05 |
| I | .00 | .00 | -.07 | .08 |
| Motion | .02 | .00 | -.11 | .11 |
| Affect | .00 | .00 | -.05 | .05 |

*Note*. Effect sizes after imputation with the ‘mean - 1’ method; *k* = 5*, n* = 1,637; *r* = attenuated effect sizes; ρ = disattenuated effect sizes (corrected for personality, but not for LIWC unreliability); 95% CIs refer to ρ.

# **Table S7**

*Meta-analytical effect sizes for observer-reported Conscientiousness – cue utilization*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LIWC category | *r* | ρ | 95% CI lower | 95% CI upper |
| Swear | -.28 | -.35 | -.59 | -.10 |
| Anger | -.26 | -.32 | -.55 | -.09 |
| Negemo | -.25 | -.30 | -.53 | -.08 |
| Sexual | -.24 | -.29 | -.48 | -.11 |
| Physcal | -.24 | -.28 | -.47 | -.09 |
| Job/work | .17 | .23 | -.02 | .47 |
| I | -.16 | -.21 | -.38 | -.04 |
| Sixltr | .16 | .20 | .01 | .39 |
| Body | -.14 | -.19 | -.36 | -.02 |
| Pronoun | -.12 | -.17 | -.28 | -.06 |
| Eating | -.14 | -.17 | -.30 | -.03 |
| Cogmech | .12 | .16 | .07 | .24 |
| Preps | .11 | .15 | -.04 | .33 |
| Friends | -.12 | -.14 | -.29 | .01 |
| Insight | .11 | .13 | .02 | .24 |
| Tentat | .11 | .13 | .08 | .18 |
| Cause | .10 | .12 | .00 | .25 |
| Time | -.08 | -.12 | -.24 | .00 |
| Senses | -.09 | -.11 | -.23 | .01 |
| Fillers | -.08 | -.11 | -.32 | .10 |
| Past | -.08 | -.10 | -.17 | -.04 |
| Affect | -.08 | -.10 | -.20 | .01 |
| Achieve | .07 | .09 | -.09 | .27 |
| Sad | -.07 | -.09 | -.21 | .04 |
| Negate | -.06 | -.08 | -.23 | .07 |
| Discrep | .06 | .08 | -.01 | .16 |
| Article | .05 | .07 | -.02 | .15 |
| Family | -.05 | -.07 | -.18 | .04 |
| See | -.05 | -.06 | -.18 | .05 |
| Leisure | -.05 | -.06 | -.11 | -.01 |
| Assent | -.04 | -.06 | -.26 | .14 |
| Nonfl | .05 | .06 | -.02 | .14 |
| Present | -.04 | -.06 | -.19 | .08 |
| Space | -.05 | -.05 | -.13 | .02 |
| Future | .03 | .05 | -.02 | .11 |
| Hear | -.04 | -.05 | -.10 | .00 |
| Death | -.04 | -.05 | -.11 | .01 |
| Auxverb | -.03 | -.05 | -.19 | .08 |
| Anx | -.03 | -.04 | -.13 | .05 |
| We | .03 | .04 | -.04 | .11 |
| Dic | .03 | .04 | -.01 | .09 |
| Home | -.03 | -.03 | -.08 | .02 |
| Money | -.03 | -.03 | -.11 | .05 |
| Posemo | .03 | .03 | -.02 | .09 |
| You | -.03 | -.03 | -.08 | .02 |
| Number | .01 | .02 | -.03 | .07 |
| WC | -.01 | -.02 | -.12 | .08 |
| Certain | .01 | .02 | -.04 | .07 |
| Relig | -.02 | -.01 | -.13 | .10 |
| Feel | -.01 | -.01 | -.06 | .04 |
| Social | .01 | .01 | -.06 | .07 |
| Motion | .01 | .00 | -.06 | .06 |

*Note*. Effect sizes after imputation with the ‘mean - 1’ method; *k* = 5*, n* = 1,637; *r* = attenuated effect sizes; ρ = disattenuated effect sizes (corrected for personality, but not for LIWC unreliability); 95% CIs refer to ρ.

# **Table S8**

*Meta-analytical effect sizes for observer-reported Extraversion – cue utilization*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LIWC category | *r* | ρ | 95% CI lower | 95% CI upper |
| WC | .27 | .31 | .10 | .51 |
| Affect | .18 | .21 | .05 | .37 |
| Swear | .16 | .19 | .02 | .35 |
| Anger | .15 | .17 | .04 | .30 |
| Posemo | .14 | .17 | .03 | .32 |
| Sexual | .13 | .16 | .10 | .21 |
| Job/work | -.12 | -.14 | -.25 | -.02 |
| Insight | -.11 | -.14 | -.29 | .02 |
| Cause | -.11 | -.13 | -.32 | .05 |
| Eating | .11 | .13 | .01 | .25 |
| Negemo | .11 | .12 | .01 | .23 |
| Physcal | .10 | .11 | .00 | .23 |
| Present | .08 | .10 | .01 | .20 |
| See | .09 | .10 | -.04 | .25 |
| Cogmech | -.07 | -.08 | -.19 | .02 |
| Tentat | -.07 | -.08 | -.18 | .02 |
| Preps | -.07 | -.08 | -.21 | .05 |
| Senses | .06 | .08 | -.06 | .21 |
| Assent | .06 | .07 | -.09 | .24 |
| Friends | .07 | .07 | .03 | .12 |
| Motion | .06 | .07 | .00 | .14 |
| Family | .06 | .07 | -.01 | .15 |
| Social | .06 | .07 | -.05 | .19 |
| Space | .07 | .07 | -.01 | .15 |
| Article | -.05 | -.07 | -.17 | .04 |
| Death | -.05 | -.06 | -.18 | .06 |
| Fillers | .05 | .06 | .01 | .11 |
| Anx | -.04 | -.05 | -.15 | .05 |
| Negate | -.06 | -.05 | -.10 | .00 |
| Feel | .04 | .05 | -.02 | .11 |
| Time | -.05 | -.05 | -.11 | .02 |
| Leisure | .04 | .05 | .00 | .09 |
| Body | .04 | .04 | -.01 | .09 |
| Sad | .03 | .04 | -.01 | .09 |
| I | .03 | .04 | -.06 | .14 |
| Money | -.03 | -.04 | -.08 | .01 |
| Discrep | .02 | .03 | -.12 | .19 |
| Sixltr | -.03 | -.03 | -.11 | .05 |
| Achieve | -.03 | -.03 | -.13 | .06 |
| Certain | .03 | .03 | -.02 | .08 |
| Number | -.02 | -.03 | -.08 | .02 |
| Relig | .03 | .03 | -.11 | .17 |
| Pronoun | .01 | .02 | -.06 | .10 |
| Nonfl | -.02 | -.02 | -.15 | .12 |
| Past | -.01 | -.01 | -.11 | .09 |
| Dic | -.02 | -.01 | -.07 | .05 |
| Hear | .01 | .01 | -.09 | .11 |
| Home | -.01 | -.01 | -.06 | .04 |
| We | -.01 | -.01 | -.08 | .06 |
| Auxverb | .00 | .01 | -.06 | .08 |
| Future | .00 | .00 | -.06 | .06 |
| You | .00 | .00 | -.13 | .13 |

*Note*. Effect sizes after imputation with the ‘mean - 1’ method; *k* = 5*, n* = 1,637; *r* = attenuated effect sizes; ρ = disattenuated effect sizes (corrected for personality, but not for LIWC unreliability); 95% CIs refer to ρ.

# **Table S9**

*Meta-analytical effect sizes for observer-reported Agreeableness – cue utilization*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LIWC category | *r* | ρ | 95% CI lower | 95% CI upper |
| Swear | -.32 | -.39 | -.71 | -.07 |
| Anger | -.29 | -.35 | -.68 | -.03 |
| Negemo | -.29 | -.35 | -.66 | -.03 |
| Sexual | -.25 | -.29 | -.53 | -.05 |
| Posemo | .16 | .19 | .04 | .34 |
| Physcal | -.16 | -.19 | -.36 | -.01 |
| Insight | .11 | .13 | .01 | .25 |
| Death | -.09 | -.12 | -.16 | -.07 |
| Senses | -.10 | -.11 | -.24 | .01 |
| Assent | .09 | .11 | .03 | .19 |
| Pronoun | -.08 | -.11 | -.18 | -.03 |
| Cogmech | .08 | .10 | .04 | .16 |
| Negate | -.07 | -.08 | -.18 | .01 |
| Eating | -.07 | -.08 | -.20 | .04 |
| Body | -.07 | -.08 | -.21 | .06 |
| Money | -.06 | -.07 | -.14 | .00 |
| Sixltr | .06 | .07 | .00 | .14 |
| Sad | -.05 | -.07 | -.14 | .01 |
| Past | -.05 | -.06 | -.17 | .05 |
| Family | -.04 | -.05 | -.10 | -.01 |
| Anx | -.04 | -.05 | -.17 | .07 |
| Certain | .04 | .05 | .00 | .10 |
| Tentat | .04 | .05 | -.03 | .13 |
| I | -.04 | -.05 | -.21 | .11 |
| Leisure | -.03 | -.05 | -.13 | .03 |
| Motion | .03 | .05 | .00 | .10 |
| Auxverb | -.04 | -.05 | -.10 | .00 |
| Space | -.03 | -.04 | -.12 | .04 |
| Affect | -.03 | -.04 | -.18 | .10 |
| You | -.04 | -.04 | -.11 | .03 |
| Social | -.03 | -.04 | -.16 | .09 |
| Preps | .03 | .04 | -.01 | .08 |
| Hear | -.03 | -.03 | -.13 | .06 |
| Achieve | -.02 | -.03 | -.12 | .06 |
| Cause | .02 | .02 | -.03 | .07 |
| Friends | .02 | .02 | -.06 | .11 |
| Job/work | .02 | .02 | -.07 | .11 |
| Present | -.01 | -.02 | -.07 | .03 |
| Future | .02 | .02 | -.05 | .08 |
| Discrep | .02 | .02 | -.03 | .06 |
| Number | -.01 | -.02 | -.07 | .03 |
| Nonfl | -.01 | -.01 | -.06 | .04 |
| Relig | -.01 | -.01 | -.15 | .13 |
| See | .00 | -.01 | -.09 | .07 |
| Time | -.01 | -.01 | -.09 | .08 |
| Fillers | .00 | .01 | -.04 | .06 |
| Feel | .01 | .01 | -.04 | .05 |
| We | .00 | .00 | -.12 | .11 |
| Dic | .00 | .00 | -.07 | .07 |
| Home | .00 | .00 | -.05 | .05 |
| Article | .00 | .00 | -.12 | .12 |
| WC | .00 | .00 | -.11 | .12 |

*Note*. Effect sizes after imputation with the ‘mean - 1’ method; *k* = 5*, n* = 1,637; *r* = attenuated effect sizes; ρ = disattenuated effect sizes (corrected for personality, but not for LIWC unreliability); 95% CIs refer to ρ.

# **Table S10**

*Meta-analytical effect sizes for observer-reported Emotional Stability – cue utilization*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LIWC category | *r* | ρ | 95% CI lower | 95% CI upper |
| I | -.24 | -.29 | -.49 | -.10 |
| Pronoun | -.21 | -.27 | -.41 | -.12 |
| Negemo | -.17 | -.26 | -.60 | .09 |
| Anger | -.09 | -.15 | -.47 | .18 |
| Anx | -.10 | -.13 | -.26 | .00 |
| Relig | .10 | .13 | .00 | .25 |
| Swear | -.07 | -.13 | -.46 | .20 |
| Negate | -.09 | -.13 | -.24 | -.01 |
| Space | .09 | .12 | .04 | .19 |
| Achieve | .07 | .11 | -.02 | .24 |
| Hear | -.08 | -.11 | -.17 | -.04 |
| Family | -.09 | -.11 | -.21 | .00 |
| Money | .08 | .10 | .02 | .18 |
| Job/work | .06 | .10 | .00 | .20 |
| Sexual | -.06 | -.10 | -.38 | .19 |
| Eating | .07 | .10 | .04 | .15 |
| Senses | -.07 | -.09 | -.18 | -.01 |
| Article | .07 | .09 | .01 | .18 |
| Sad | -.06 | -.09 | -.18 | -.01 |
| Time | -.06 | -.09 | -.16 | -.02 |
| Motion | .07 | .09 | .02 | .15 |
| Future | -.06 | -.08 | -.13 | -.03 |
| Insight | -.06 | -.08 | -.21 | .05 |
| Assent | .06 | .08 | .03 | .13 |
| Sixltr | .05 | .08 | .01 | .14 |
| Fillers | -.06 | -.07 | -.19 | .04 |
| Home | -.06 | -.07 | -.12 | -.02 |
| Posemo | .06 | .07 | .02 | .12 |
| Certain | .05 | .06 | .01 | .11 |
| You | -.04 | -.06 | -.11 | .00 |
| Body | -.04 | -.06 | -.17 | .06 |
| Auxverb | -.05 | -.06 | -.11 | -.01 |
| Dic | -.04 | -.05 | -.10 | -.01 |
| Past | -.03 | -.05 | -.12 | .02 |
| Friends | -.03 | -.05 | -.15 | .06 |
| Leisure | .03 | .04 | -.09 | .18 |
| Nonfl | .02 | .04 | -.04 | .12 |
| Present | -.03 | -.04 | -.12 | .04 |
| Discrep | -.03 | -.04 | -.17 | .10 |
| Preps | .03 | .04 | -.01 | .08 |
| Death | -.03 | -.03 | -.12 | .06 |
| Physcal | -.02 | -.03 | -.22 | .15 |
| Feel | -.02 | -.03 | -.14 | .08 |
| Cogmech | -.01 | -.03 | -.12 | .06 |
| We | .02 | .03 | -.05 | .11 |
| Cause | -.03 | -.03 | -.15 | .09 |
| Affect | -.01 | -.02 | -.14 | .09 |
| Number | -.01 | -.01 | -.07 | .04 |
| See | -.01 | -.01 | -.09 | .07 |
| Social | .00 | .01 | -.10 | .12 |
| Tentat | .00 | .00 | -.09 | .08 |
| WC | .00 | .00 | -.14 | .14 |

*Note*. Effect sizes after imputation with the ‘mean - 1’ method; *k* = 5*, n* = 1,637; *r* = attenuated effect sizes; ρ = disattenuated effect sizes (corrected for personality, but not for LIWC unreliability); 95% CIs refer to ρ.

# **Table S11**

*Top 10 moderator effects for ‘language formality’ as a moderator (for cue-validity)*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | *Formal* | | | | *Informal* | | | |
| LIWC category | Personality trait | Meta-analytic ρ | *k* | ρ | 95 % lower | 95% upper | *k* | ρ | 95 % lower | 95% upper |
| *Without Mehl 2012* |  |  |  |  |  |  |  |  |  |  |
| Social | A | .09 | 13 | .13 | .08 | .18 | 12 | .05 | .02 | .08 |
| Anger | C | -.10 |  | -.05 | -.12 | .01 |  | -.15 | -.17 | -.12 |
| Money | C | .00 |  | -.05 | -.08 | -.01 |  | .04 | .00 | .07 |
| Sexual | A | .00 |  | .04 | .00 | .09 |  | -.02 | -.05 | .01 |
| Social | O | -.06 |  | -.08 | -.14 | -.02 |  | -.02 | -.05 | .01 |
| Sexual | C | -.04 |  | .00 | -.04 | .03 |  | -.06 | -.09 | -.03 |
| 1st person plural pronouns | A | .06 |  | .11 | .06 | .16 |  | .03 | -.01 | .07 |
| Space | C | .02 |  | -.01 | -.05 | .03 |  | .04 | .02 | .07 |
| Biological processes | ES | -.06 |  | -.02 | -.07 | .02 |  | -.09 | -.13 | -.06 |
| Death | E | -.04 |  | .00 | -.04 | .03 |  | -.06 | -.09 | -.03 |
| *Without Mehl 2006* |  |  |  |  |  |  |  |  |  |  |
| Social | A | .08 | 13 | .13 | .08 | .18 | 12 | .05 | .02 | .08 |
| Money | C | .00 |  | -.05 | -.08 | -.01 |  | .04 | .00 | .07 |
| Social | O | -.05 |  | -.05 | -.12 | .01 |  | -.15 | -.17 | -.12 |
| Anger | C | -.10 |  | .04 | .00 | .09 |  | -.02 | -.05 | .01 |
| Space | C | .02 |  | .00 | -.04 | .03 |  | -.06 | -.09 | -.03 |
| Sexual | A | .01 |  | -.08 | -.14 | -.02 |  | -.02 | -.05 | .01 |
| Death | E | -.04 |  | .11 | .06 | .16 |  | .03 | -.01 | .07 |
| Sexual | ES | -.03 |  | -.01 | -.05 | .03 |  | .04 | .02 | .07 |
| Biological processes | ES | -.06 |  | -.02 | -.07 | .02 |  | -.09 | -.13 | -.06 |
| Sexual | C | -.04 |  | .00 | -.04 | .03 |  | -.06 | -.09 | -.03 |

*Notes*. All reported moderation analyses were statistically significant; moderators are sorted in descending order based on the QM Wald-type test statistic (not shown in this table); O = Openness to Experience, C = Conscientiousness, E = Extraversion, A = Agreeableness, ES = Emotional Stability.

# **Table S12**

*Top 10 moderator effects for ‘LIWC version’ as a moderator (for cue-validity)*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | *LIWC2001* | | | | | *LIWC2007* | | | | | *LIWC2015* | | | | |
| LIWC category | Personality trait | Meta-analytic ρ | *k* | ρ | 95 % lower | 95% upper | *k* | | ρ | 95 % lower | 95% upper | *k* | | ρ | 95 % lower | 95% upper |
| *Without Mehl 2012* |  |  |  |  |  |  |  | |  |  |  |  | |  |  |  |
| Home | O | -.08 | 9 | -.16 | -.20 | -.12 | 7 | | -.07 | -.08 | -.06 | 9 | | -.03 | -.07 | .00 |
| Positive emotions | C | .05 |  | .03 | .00 | .06 |  | | .10 | .07 | .14 |  | | .02 | -.01 | .06 |
| Body | C | -.06 |  | -.04 | -.07 | -.01 |  | | -.11 | -.12 | -.10 |  | | -.05 | -.09 | .00 |
| Affect | C | -.01 |  | -.06 | -.09 | -.03 |  | | .02 | -.01 | .04 |  | | -.02 | -.06 | .02 |
| Assent | E | .01 |  | .02 | -.01 | .05 |  | | .06 | .04 | .08 |  | | -.05 | -.09 | -.01 |
| Motion | O | -.07 |  | -.17 | -.22 | -.12 |  | | -.03 | -.07 | .01 |  | | -.03 | -.07 | .02 |
| Space | C | .02 |  | .01 | -.02 | .05 |  | | .06 | .05 | .07 |  | | -.02 | -.06 | .02 |
| Cognitive mechanisms | A | .01 |  | -.02 | -.05 | .01 |  | | .03 | .01 | .06 |  | | .00 | -.04 | .04 |
| Insight | E | -.03 |  | -.01 | -.04 | .03 |  | | -.06 | -.07 | -.05 |  | | -.02 | -.06 | .02 |
| Past tense | E | -.01 |  | -.06 | -.10 | -.01 |  | | -.02 | -.03 | -.01 |  | | .05 | -.01 | .10 |
| *Without Mehl 2006* |  |  |  |  |  |  |  | |  |  |  |  | |  |  |  |
| Home | O | -.08 | 9 | -.16 | -.20 | -.11 | 7 | | -.07 | -.08 | -.06 | 9 | | -.03 | -.07 | .00 |
| Body | C | -.06 |  | -.04 | -.07 | -.01 |  | | -.11 | -.12 | -.10 |  | | -.05 | -.09 | .00 |
| Affect | C | -.01 |  | -.06 | -.09 | -.03 |  | | .02 | -.01 | .04 |  | | -.02 | -.06 | .02 |
| Positive emotions | C | .06 |  | .03 | .00 | .06 |  | | .10 | .07 | .14 |  | | .02 | -.01 | .06 |
| Assent | E | .01 |  | .02 | -.01 | .05 |  | | .06 | .04 | .08 |  | | -.05 | -.09 | -.01 |
| Space | C | .02 |  | .01 | -.02 | .05 |  | | .06 | .05 | .07 |  | | -.02 | -.06 | .02 |
| Motion | O | -.07 |  | -.16 | -.22 | -.11 |  | | -.03 | -.07 | .01 |  | | -.03 | -.07 | .02 |
| Cognitive mechanisms | A | .00 |  | -.03 | -.06 | .00 |  | | .03 | .01 | .06 |  | | .00 | -.04 | .04 |
| Anger | C | -.10 |  | -.11 | -.17 | -.04 |  | | -.16 | -.17 | -.15 |  | | -.04 | -.09 | .02 |
| Leisure | O | -.03 |  | -.08 | -.14 | -.02 |  | | .01 | .00 | .02 |  | | -.06 | -.12 | .01 |

*Notes*. All reported moderation analyses were statistically significant; moderators are sorted in descending order based on the QM Wald-type test statistic (not shown in this table); O = Openness to Experience, C = Conscientiousness, E = Extraversion, A = Agreeableness, ES = Emotional Stability.

# **Table S13**

*Top 10 moderator effects for ‘sample composition’ as a moderator (for cue-validity)*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | *General population* | | | | *Students* | | | |
| LIWC category | Personality trait | Meta-analytic ρ | *k* | ρ | 95 % lower | 95% upper | *k* | ρ | 95 % lower | 95% upper | |
| *Without Mehl 2012* |  |  |  |  |  |  |  |  |  |  | |
| Sexual | O | .04 | 13 | .00 | -.01 | .01 | 12 | .08 | .05 | .11 | |
| Fillers | A | -.02 |  | -.05 | -.06 | -.04 |  | .03 | -.01 | .07 | |
| Leisure | C | .04 |  | .06 | .03 | .08 |  | .00 | -.03 | .02 | |
| Biological processes | C | -.03 |  | -.06 | -.07 | -.05 |  | .00 | -.04 | .03 | |
| Swear | O | .02 |  | .00 | -.03 | .03 |  | .06 | .04 | .09 | |
| Feel | C | -.02 |  | -.04 | -.06 | -.02 |  | .01 | -.02 | .04 | |
| Future tense | ES | -.01 |  | -.02 | -.03 | -.01 |  | .02 | -.01 | .06 | |
| Achievement | A | .03 |  | .05 | .02 | .07 |  | .00 | -.02 | .03 | |
| Biological processes | O | .01 |  | -.03 | -.08 | .01 |  | .05 | .01 | .09 | |
| Word count | A | .02 |  | .00 | -.01 | .01 |  | .06 | .02 | .10 | |
| *Without Mehl 2006* |  |  |  |  |  |  |  |  |  |  | |
| Sexual | O | .04 | 13 | .00 | -.01 | .01 | 12 | .08 | .05 | .11 | |
| Fillers | A | -.02 |  | -.05 | -.06 | -.04 |  | .02 | -.01 | .05 | |
| Biological processes | C | -.03 |  | -.06 | -.07 | -.05 |  | .00 | -.03 | .02 | |
| Achievement | A | .03 |  | .05 | .02 | .07 |  | .01 | -.02 | .03 | |
| Leisure | C | .04 |  | .06 | .03 | .08 |  | .00 | -.03 | .02 | |
| Future tense | ES | -.01 |  | -.02 | -.03 | -.01 |  | .02 | -.01 | .06 | |
| Feel | C | -.02 |  | -.04 | -.06 | -.02 |  | .01 | -.02 | .04 | |
| Affect | E | .04 |  | .08 | .06 | .09 |  | -.01 | -.06 | .05 | |
| Swear | O | .02 |  | .00 | -.03 | .03 |  | .05 | .02 | .09 | |
| Sadness | C | -.03 |  | -.06 | -.07 | -.05 |  | .01 | -.04 | .06 | |

*Notes*. All reported moderation analyses were statistically significant; moderators are sorted in descending order based on the QM Wald-type test statistic (not shown in this table); O = Openness to Experience, C = Conscientiousness, E = Extraversion, A = Agreeableness, ES = Emotional Stability.

# **Table S14**

*Top 10 moderator effects for ‘synchronicity’ as a moderator (for cue-validity)*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | *Asynchronous* | | | | *Synchronous* | | | |
| LIWC category | Personality trait | Meta-analytic ρ | *k* | ρ | 95 % lower | 95% upper | *k* | ρ | 95 % lower | 95% upper |
| *Without Mehl 2012* |  |  |  |  |  |  |  |  |  |  |
| Non-fluencies | N | .01 | 21 | -.02 | -.03 | -.01 | 4 | .09 | .04 | .15 |
| Time | C | .07 |  | .10 | .09 | .11 |  | .00 | -.05 | .05 |
| Space | A | .01 |  | .03 | .00 | .05 |  | -.09 | -.17 | -.01 |
| Word count | E | .03 |  | .03 | .02 | .04 |  | .17 | .03 | .32 |
| Leisure | C | .04 |  | .05 | .03 | .06 |  | -.05 | -.10 | .00 |
| Fillers | A | -.02 |  | -.04 | -.06 | -.02 |  | .06 | -.02 | .14 |
| Prepositions | A | .02 |  | .04 | .02 | .06 |  | -.05 | -.10 | .00 |
| Word count | A | .02 |  | .01 | -.01 | .03 |  | .08 | .03 | .13 |
| Prepositions | C | .05 |  | .06 | .04 | .09 |  | -.02 | -.10 | .06 |
| Motion | C | .03 |  | .05 | .02 | .08 |  | -.04 | -.09 | .01 |
| *Without Mehl 2006* |  |  |  |  |  |  |  |  |  |  |
| Time | C | .07 | 22 | .11 | .10 | .11 | 3 | .00 | -.05 | .05 |
| Non-fluencies | N | .01 |  | -.02 | -.03 | -.01 |  | .09 | .02 | .15 |
| Space | A | .01 |  | .03 | .00 | .05 |  | -.07 | -.16 | .02 |
| Leisure | C | .04 |  | .05 | .03 | .06 |  | -.05 | -.10 | .00 |
| Prepositions | A | .03 |  | .04 | .02 | .06 |  | -.04 | -.11 | .02 |
| Word count | E | .03 |  | .03 | .02 | .04 |  | .14 | -.02 | .30 |
| Fillers | A | -.02 |  | -.04 | -.06 | -.02 |  | .04 | -.03 | .11 |
| Motion | A | .01 |  | .03 | .00 | .06 |  | -.08 | -.13 | -.03 |
| Dictionary | N | -.03 |  | -.05 | -.08 | -.02 |  | .07 | -.04 | .18 |
| 2nd person pronouns | N | .00 |  | .01 | -.02 | .04 |  | -.11 | -.27 | .05 |

*Notes*. All reported moderation analyses were statistically significant; moderators are sorted in descending order based on the QM Wald-type test statistic (not shown in this table); O = Openness to Experience, C = Conscientiousness, E = Extraversion, A = Agreeableness, ES = Emotional Stability.

# **Table S15**

*Top 10 moderator effects for ‘text mode’ as a moderator (for cue-validity)*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | *Written* | | | | *Spoken* | | | |
| LIWC category | Personality trait | Meta-analytic ρ | *k* | ρ | 95 % lower | 95% upper | *k* | ρ | 95 % lower | 95% upper |
| *Without Mehl 2012* |  |  |  |  |  |  |  |  |  |  |
| Word count | E | .03 | 21 | .03 | .02 | .04 | 4 | .23 | .16 | .30 |
| Non-fluencies | ES | .01 |  | -.01 | -.02 | .01 |  | .15 | .04 | .26 |
| Assent | E | .01 |  | .03 | .00 | .05 |  | -.10 | -.17 | -.03 |
| 2nd person pronouns | ES | .00 |  | .02 | -.01 | .04 |  | -.07 | -.25 | .11 |
| Body | ES | -.05 |  | -.04 | -.07 | -.02 |  | -.15 | -.25 | -.06 |
| Hear | ES | -.03 |  | -.04 | -.06 | -.02 |  | .10 | -.05 | .25 |
| Senses | C | -.04 |  | -.05 | -.07 | -.02 |  | .06 | -.01 | .13 |
| Word count | A | .02 |  | .01 | -.01 | .03 |  | .11 | .03 | .18 |
| Anger | ES | -.06 |  | -.06 | -.08 | -.03 |  | -.13 | -.26 | -.01 |
| 1st person plural pronouns | C | .04 |  | .03 | .00 | .06 |  | .15 | .08 | .22 |
| *Without Mehl 2006* |  |  |  |  |  |  |  |  |  |  |
| Word count | E | .03 | 22 | .03 | .03 | .04 | 3 | .22 | .14 | .30 |
| 2nd person pronouns | ES | .00 |  | .01 | -.02 | .04 |  | -.16 | -.28 | -.04 |
| Anger | ES | -.07 |  | -.06 | -.08 | -.03 |  | -.20 | -.27 | -.12 |
| Hear | ES | -.03 |  | -.04 | -.06 | -.02 |  | .15 | -.02 | .33 |
| Past tense | ES | -.03 |  | -.04 | -.06 | -.01 |  | .09 | .02 | .17 |
| Non-fluencies | ES | .01 |  | -.01 | -.02 | .00 |  | .16 | .01 | .30 |
| Assent | O | .00 |  | .01 | -.02 | .05 |  | -.13 | -.23 | -.04 |
| Motion | ES | .01 |  | .02 | .00 | .04 |  | -.06 | -.20 | .08 |
| Body | ES | -.05 |  | -.04 | -.07 | -.02 |  | -.15 | -.27 | -.02 |
| 1st person plural pronouns | C | .04 |  | .03 | .00 | .06 |  | .16 | .09 | .24 |

*Notes*. All reported moderation analyses were statistically significant; moderators are sorted in descending order based on the QM Wald-type test statistic (not shown in this table); O = Openness to Experience, C = Conscientiousness, E = Extraversion, A = Agreeableness, ES = Emotional Stability.

# **Table S16**

*The 10 strongest moderator effects for ‘age’ as a moderator*

|  |  |  |  |
| --- | --- | --- | --- |
| LIWC category | Personality Trait | Meta-analytic ρ | *b* |
| *Cue validity (without Mehl 2012)* |  |  |  |
| Sadness | E | .00 | 0.004 |
| 1st person plural pronouns | E | .06 | 0.004 |
| Cognitive mechanisms | ES | -.04 | -0.003 |
| >6 letters | E | -.03 | 0.004 |
| Swear | ES | -.05 | -0.004 |
| Negations | O | -.04 | -0.005 |
| Biological processes | O | .01 | -0.004 |
| Sadness | O | .00 | -0.003 |
| Job/work | O | .02 | 0.004 |
| Biological processes | ES | -.06 | -0.004 |
|  |  |  |  |
| *Cue validity (without Mehl 2006)* |  |  |  |
| 1st person plural pronouns | E | .06 | 0.004 |
| Swear | ES | -.05 | -0.004 |
| Cognitive mechanisms | ES | -.04 | -0.003 |
| >6 letters | E | -.02 | 0.004 |
| Sadness | E | .00 | 0.003 |
| Negations | O | -.04 | -0.005 |
| Numbers | ES | .03 | 0.004 |
| Biological processes | O | .00 | -0.004 |
| Biological processes | ES | -.06 | -0.004 |
| Job/work | O | .02 | 0.003 |
|  |  |  |  |
| *Cue utilization* |  |  |  |
| 1st person singular pronouns | C | -.21 | -0.020 |
| Present tense | C | -.06 | -0.016 |
| 2nd person pronouns | E | .00 | 0.015 |
| Time | C | -.12 | -0.013 |
| Achievement | ES | .11 | 0.014 |
| Prepositions | C | .15 | 0.021 |
| Negations | ES | -.13 | -0.012 |
| Job/work | ES | .10 | 0.011 |
| Fillers | C | -.11 | -0.026 |
| Death | O | -.04 | -0.010 |

*Notes*. Effect sizes after imputation with the ‘mean - 1’ method; ρ = disattenuated effect size (corrected for personality, but not for LIWC unreliability); all reported moderation analyses were statistically significant; for cue validity *k* = 25; for cue utilization *k* = 5; moderators are sorted in descending order based on the QM Wald-type test statistic (not shown in this table); O = Openness to Experience, C = Conscientiousness, E = Extraversion, A = Agreeableness, ES = Emotional Stability.

# **Table S17**

*The 10 strongest moderator effects for ‘sample size’ as a moderator*

|  |  |  |  |
| --- | --- | --- | --- |
| LIWC category | Personality Trait | Meta-analytic ρ | *b* |
| *Cue validity (without Mehl 2012)* |  |  |  |
| Fillers | O | -.01 | < 0.001 |
| Religion | A | .02 | < 0.001 |
| Leisure | E | .02 | < 0.001 |
| Time | E | .00 | < 0.001 |
| Present tense | O | -.07 | < 0.001 |
| Death | ES | -.01 | < -0.001 |
| Time | C | .07 | < 0.001 |
| Sadness | E | .00 | < -0.001 |
| Religion | C | -.03 | < 0.001 |
| Cognitive mechanisms | A | .01 | < 0.001 |
|  |  |  |  |
| *Cue validity (without Mehl 2006)* |  |  |  |
| Fillers | O | -.01 | < 0.001 |
| Leisure | E | .02 | < 0.001 |
| Religion | A | .02 | < 0.001 |
| Time | E | .00 | < 0.001 |
| Death | ES | .00 | < -0.001 |
| Present tense | O | -.07 | < 0.001 |
| Time | C | .07 | < 0.001 |
| Religion | C | -.03 | < 0.001 |
| Achievement | A | .03 | < 0.001 |
| Pronouns | O | -.08 | < 0.001 |
|  |  |  |  |
| *Cue utilization* |  |  |  |
| Religion | O | -.09 | < 0.001 |
| 1st person singular pronouns | ES | -.29 | < 0.001 |
| Positive emotions | E | .17 | < -0.001 |
| Pronouns | ES | -.27 | < 0.001 |
| Swear | O | -.16 | < 0.001 |
| Body | A | -.08 | < 0.001 |
| Affect | E | .21 | < -0.001 |
| Insight | ES | -.08 | < 0.001 |
| Senses | A | -.11 | < 0.001 |
| Causation | C | .12 | < -0.001 |

*Notes*. Effect sizes after imputation with the ‘mean - 1’ method; ρ = disattenuated effect size (corrected for personality, but not for LIWC unreliability); all reported moderation analyses were statistically significant; when the *b*sare smaller than three decimal points, the sign indicates the direction of the slope; for cue validity *k* = 25; for cue utilization *k* = 5; moderators are sorted in descending order based on the QM Wald-type test statistic (not shown in this table); O = Openness to Experience, C = Conscientiousness, E = Extraversion, A = Agreeableness, ES = Emotional Stability.

# **Table S18**

*The 10 strongest moderator effects for ‘percentage of women’ as a moderator*

|  |  |  |  |
| --- | --- | --- | --- |
| LIWC category | Personality Trait | Meta-analytic ρ | *b* |
| *Cue validity (without Mehl 2012)* |  |  |  |
| Certainty | C | .01 | -0.007 |
| Family | ES | -.04 | 0.005 |
| Negations | C | -.06 | -0.006 |
| Feel | A | .01 | 0.005 |
| Certainty | ES | -.01 | -0.005 |
| Past tense | E | -.01 | -0.005 |
| Dictionary | C | .03 | -0.005 |
| Present tense | C | .00 | -0.005 |
| Leisure | A | .03 | 0.004 |
| Motion | O | -.07 | -0.005 |
|  |  |  |  |
| *Cue validity (without Mehl 2006)* |  |  |  |
| Present tense | C | -.03 | -0.006 |
| Family | ES | -.04 | 0.005 |
| Negations | C | -.06 | -0.005 |
| Past tense | E | -.01 | -0.005 |
| >6 letters | C | .02 | 0.006 |
| Feel | A | .01 | 0.005 |
| Past tense | O | -.04 | -0.006 |
| Certainty | C | .01 | -0.006 |
| Certainty | ES | -.01 | -0.005 |
| Dictionary | C | .03 | -0.006 |
|  |  |  |  |
| *Cue utilization* |  |  |  |
| Affect | A | -.04 | 0.021 |
| Insight | A | .13 | -0.017 |
| Tentativeness | O | .16 | -0.016 |
| Anxiety | E | -.05 | 0.014 |
| Family | ES | -.11 | 0.014 |
| Hear | A | -.03 | 0.014 |
| Eating | A | -.08 | 0.019 |
| Senses | A | -.11 | 0.016 |
| Senses | ES | -.09 | 0.011 |
| Insight | O | .15 | -0.013 |

*Note*. Effect sizes after imputation with the ‘mean - 1’ method; ρ = disattenuated effect size (corrected for personality, but not for LIWC unreliability); all reported moderation analyses were statistically significant; for cue validity *k* = 25; for cue utilization *k* = 5; moderators are sorted in descending order based on the QM Wald-type test statistic (not shown in this table); O = Openness to Experience, C = Conscientiousness, E = Extraversion, A = Agreeableness, ES = Emotional Stability.

# **Table S19**

*The 10 strongest moderator effects for ‘word count’ as a moderator*

|  |  |  |  |
| --- | --- | --- | --- |
| LIWC category | Personality Trait | Meta-analytic ρ | *b* |
| *Cue validity (without Mehl 2012)* |  |  |  |
| 2nd person pronouns | E | .05 | < 0.001 |
| Cognitive mechanism | ES | -.04 | < -0.001 |
| Certainty | ES | -.01 | < -0.001 |
| Leisure | A | .03 | < 0.001 |
| Home | A | .07 | < 0.001 |
| Friends | E | .07 | < 0.001 |
| Space | A | .01 | < 0.001 |
| Causation | C | -.02 | < -0.001 |
| Tentativeness | ES | -.03 | < -0.001 |
| Family | ES | -.04 | < 0.001 |
|  |  |  |  |
| *Cue validity (without Mehl 2006)* |  |  |  |
| 2nd person pronouns | E | .05 | < 0.001 |
| Cognitive mechanisms | ES | -.04 | < -0.001 |
| Home | A | .06 | < 0.001 |
| Leisure | A | .03 | < 0.001 |
| Certainty | ES | -.01 | < -0.001 |
| Friends | E | .07 | < 0.001 |
| Space | A | .01 | < 0.001 |
| Causation | C | -.02 | < -0.001 |
| Tentativeness | ES | -.03 | < -0.001 |
| Family | ES | -.04 | < 0.001 |
|  |  |  |  |
| *Cue utilization* |  |  |  |
| See | E | .10 | < 0.001 |
| Sadness | C | -.09 | < -0.001 |
| Job/work | E | -.14 | < -0.001 |
| Senses | C | -.11 | < -0.001 |
| Causation | C | .12 | < 0.001 |
| See | C | -.06 | < -0.001 |
| Social | A | -.04 | < 0.001 |
| Prepositions | E | -.08 | < -0.001 |
| Causation | E | -.13 | < -0.001 |
| Body | A | -.08 | < -0.001 |

*Note*. Effect sizes after imputation with the ‘mean - 1’ method; ρ = disattenuated effect size (corrected for personality, but not for LIWC unreliability); all reported moderation analyses were statistically significant; when the *b*sare smaller than three decimal points, the sign indicates the direction of the slope; for cue validity *k* = 25; for cue utilization *k* = 5; moderators are sorted in descending order based on the QM Wald-type test statistic (not shown in this table); O = Openness to Experience, C = Conscientiousness, E = Extraversion, A = Agreeableness, ES = Emotional Stability.

# **Table S20**

*The 10 strongest moderator effects for ‘year of publication’ as a moderator*

|  |  |  |  |
| --- | --- | --- | --- |
| LIWC category | Personality Trait | Meta-analytic ρ | *b* |
| *Cue validity (without Mehl 2012)* | | | |
| Home | O | -.08 | 0.007 |
| Dictionary | O | -.09 | 0.007 |
| Achievement | O | .00 | 0.006 |
| Negative emotions | ES | -.12 | 0.006 |
| Religion | O | .01 | -0.006 |
| Anger | C | -.10 | 0.008 |
| Anxiety | C | -.04 | -0.005 |
| Feel | A | .01 | -0.005 |
| Anxiety | ES | -.09 | 0.005 |
| Dictionary | ES | -.04 | 0.006 |
|  |  |  |  |
| *Cue validity (without Mehl 2006)* | | | |
| Home | O | -.08 | 0.008 |
| Dictionary | O | -.09 | 0.007 |
| Achievement | O | .00 | 0.006 |
| Negative emotions | ES | -.12 | 0.006 |
| Religion | O | .01 | -0.006 |
| Feel | A | .01 | -0.005 |
| Anxiety | ES | -.09 | 0.006 |
| Anxiety | C | -.04 | -0.004 |
| Anger | C | -.10 | 0.007 |
| Time | A | .03 | -0.006 |
|  |  |  |  |
| *Cue utilization* | | | |
| Word count | ES | .00 | -0.052 |
| Sexual | O | .04 | 0.040 |
| Past tense | A | -.06 | 0.039 |
| Past tense | O | -.06 | 0.039 |
| Swear | C | -.35 | 0.068 |
| Causation | ES | -.03 | 0.042 |
| Word count | E | .31 | -0.054 |
| Eating | C | -.17 | 0.040 |
| Friends | O | .10 | 0.033 |
| Anger | C | -.32 | 0.058 |

*Note*. Effect sizes after imputation with the ‘mean - 1’ method; ρ = disattenuated effect size (corrected for personality, but not for LIWC unreliability); all reported moderation analyses were statistically significant; for cue validity *k* = 25; for cue utilization *k* = 5; moderators are sorted in descending order based on the QM Wald-type test statistic (not shown in this table); O = Openness to Experience, C = Conscientiousness, E = Extraversion, A = Agreeableness, ES = Emotional Stability.

# **Table S21**

*Percentage of variance explained (R2) per personality trait by all LIWC categories, function, and content words*

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Personality trait | Effect sizes | Total LIWC categories  *R2* % | | |  | Function words  *R2* % | | |  | Content words  *R2* % | | |
|  |  | Narrow LIWC | Broad  LIWC | All  LIWC |  | Narrow LIWC | Broad  LIWC | All  LIWC |  | Narrow LIWC | Broad  LIWC | All  LIWC |
| *Cue validity* |  |  |  |  |  |  |  |  |  |  |  |  |
| Openness to Experience | Uncorrected | 5.03 | 4.51 | 5.28 |  | 1.05 | 1.03 | 1.07 |  | 3.32 | 2.38 | 3.38 |
| Corrected | 6.70 | 6.02 | 6.97 |  | 1.49 | 1.49 | 1.53 |  | 4.36 | 3.15 | 4.44 |
| Conscientiousness | Uncorrected | 3.93 | 3.02 | 4.05 |  | 0.69 | 0.59 | 0.76 |  | 3.41 | 2.46 | 3.49 |
| Corrected | 5.13 | 3.93 | 5.30 |  | 0.88 | 0.75 | 0.97 |  | 4.44 | 3.19 | 4.59 |
| Extraversion | Uncorrected | 2.75 | 1.92 | 3.59 |  | 0.99 | 0.50 | 1.00 |  | 1.92 | 1.15 | 2.66 |
| Corrected | 3.37 | 2.38 | 3.52 |  | 0.99 | 0.67 | 1.27 |  | 2.22 | 1.49 | 2.69 |
| Agreeableness | Uncorrected | 4.10 | 2.88 | 4.18 |  | 1.05 | 0.75 | 1.08 |  | 3.21 | 1.91 | 3.40 |
| Corrected | 6.45 | 4.72 | 6.59 |  | 1.53 | 1.13 | 1.67 |  | 4.60 | 2.94 | 5.03 |
| Emotional Stability | Uncorrected | 3.18 | 2.01 | 3.41 |  | 1.45 | 0.97 | 1.45 |  | 2.45 | 1.36 | 2.79 |
| Corrected | 3.72 | 2.32 | 3.91 |  | 1.67 | 1.15 | 1.67 |  | 2.92 | 1.59 | 3.25 |
| Mean | Uncorrected | 3.80 | 2.87 | 4.10 |  | 1.05 | 0.77 | 1.07 |  | 2.86 | 1.85 | 3.14 |
|  | Corrected | 5.07 | 3.87 | 5.26 |  | 1.31 | 1.04 | 1.42 |  | 3.71 | 2.47 | 4.00 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| *Cue utilization* |  |  |  |  |  |  |  |  |  |  |  |  |
| Openness to Experience | Uncorrected | 19.81 | 12.73 | 22.17 |  | 1.15 | 1.11 | 2.11 |  | 13.81 | 7.34 | 15.46 |
|  | Corrected | 38.77 | 25.67 | 44.28 |  | 1.55 | 1.64 | 2.91 |  | 30.00 | 16.74 | 33.14 |
| Conscientiousness | Uncorrected | 29.71 | 25.10 | 34.61 |  | 4.16 | 3.23 | 4.17 |  | 23.28 | 18.81 | 27.19 |
|  | Corrected | 47.32 | 40.47 | 54.55 |  | 7.37 | 5.86 | 7.41 |  | 36.18 | 29.58 | 42.15 |
| Extraversion | Uncorrected | 26.67 | 21.70 | 28.04 |  | 1.36 | 1.25 | 1.40 |  | 14.40 | 10.13 | 15.26 |
|  | Corrected | 35.91 | 28.99 | 37.55 |  | 1.71 | 1.62 | 1.73 |  | 19.89 | 13.97 | 21.04 |
| Agreeableness | Uncorrected | 26.69 | 19.26 | 45.05 |  | 1.79 | 2.21 | 2.32 |  | 24.25 | 15.36 | 40.89 |
|  | Corrected | 39.14 | 29.10 | 64.40 |  | 2.70 | 3.46 | 3.70 |  | 35.47 | 23.12 | 57.76 |
| Emotional Stability | Uncorrected | 18.09 | 16.69 | 23.25 |  | 7.60 | 6.72 | 8.02 |  | 11.37 | 6.13 | 13.59 |
|  | Corrected | 31.48 | 26.60 | 39.36 |  | 11.93 | 10.77 | 12.64 |  | 21.88 | 11.39 | 25.19 |
| Mean | Uncorrected | 24.19 | 19.10 | 30.62 |  | 3.21 | 2.90 | 3.60 |  | 17.42 | 11.55 | 22.48 |
|  | Corrected | 38.52 | 30.17 | 48.03 |  | 5.05 | 4.67 | 5.68 |  | 28.68 | 18.96 | 35.86 |

*Notes*. Total LIWC categories *n* = 51 (‘affect’ category removed); function words *n = ­*9 LIWC categories; content words *n* = 37 LIWC categories. Values refer to the corrected effect sizes after applying the ‘mean – 1’ imputation method.

# **Table S22**

*Correlation between self- and observer reported personality scores (self-other agreement)*

|  |  |  |  |
| --- | --- | --- | --- |
|  | Mehl et al., 2006  (*n* = 96, raters = 6) | Sandy, 2013  (*n* = 942, raters = 1) | Average *r* |
| Openness to Experience | .21\* | .05 | **.07** |
| Conscientiousness | .27\*\* | .06 | **.08** |
| Extraversion | .41\*\* | .13\*\* | **.16** |
| Agreeableness | .25\* | .03 | **.05** |
| Emotional Stability | .30\*\* | .05 | **.07** |

*Note*. Average *r* refers to average weighted *r,* after Fisher’s *r*-to-*z*-to-*r* transformation.

*\* p* < .05; \*\* *p* < .01

# **Table S23**

*Kernel of truth for effect sizes |*ρ*| ≥ .05, per personality trait*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Personality trait* | Cue Validity | | |  | Cue utilization | | |
| LIWC category | ρ | 95% CI lower | 95% CI upper |  | ρ | 95% CI lower | 95% CI upper |
| *Openness to Experience* |  |  |  |  |  |  |  |
| Word count | 0.07 | 0.05 | 0.10 |  | 0.18 | 0.13 | 0.22 |
| Time | -0.06 | -0.10 | -0.01 |  | -0.11 | -0.18 | -0.04 |
| Words >6 letters | 0.11 | 0.09 | 0.12 |  | 0.09 | 0.04 | 0.14 |
|  |  |  |  |  |  |  |  |
| *Conscientiousness* |  |  |  |  |  |  |  |
| Swear\*\* | -0.11 | -0.14 | -0.08 |  | -0.35 | -0.59 | -0.10 |
| Anger\*\* | -0.10 | -0.13 | -0.07 |  | -0.32 | -0.55 | -0.09 |
| Negative emotions\*\* | -0.12 | -0.15 | -0.09 |  | -0.30 | -0.53 | -0.08 |
| Body | -0.06 | -0.09 | -0.04 |  | -0.19 | -0.36 | -0.02 |
|  |  |  |  |  |  |  |  |
| *Extraversion* |  |  |  |  |  |  |  |
| Positive emotions | 0.07 | 0.03 | 0.10 |  | 0.17 | 0.03 | 0.32 |
| Sexual | 0.06 | 0.03 | 0.09 |  | 0.16 | 0.10 | 0.21 |
| Friends | 0.07 | 0.05 | 0.09 |  | 0.07 | 0.03 | 0.12 |
|  |  |  |  |  |  |  |  |
| *Agreeableness* |  |  |  |  |  |  |  |
| Swear\*\* | -0.10 | -0.14 | -0.07 |  | -0.39 | -0.71 | -0.07 |
| Anger\* | -0.14 | -0.17 | -0.11 |  | -0.35 | -0.68 | -0.03 |
| Negative emotions\* | -0.10 | -0.13 | -0.07 |  | -0.35 | -0.66 | -0.03 |
| Positive emotions\* | 0.10 | 0.07 | 0.14 |  | 0.19 | 0.04 | 0.34 |
|  |  |  |  |  |  |  |  |
| *Emotional Stability* |  |  |  |  |  |  |  |
| 1st person singular pronoun\* | -0.10 | -0.13 | -0.06 |  | -0.29 | -0.49 | -0.10 |
| Pronouns | -0.08 | -0.10 | -0.05 |  | -0.27 | -0.41 | -0.12 |
| Anxiety | -0.09 | -0.12 | -0.07 |  | -0.13 | -0.26 | -0.00 |
| Negations | -0.08 | -0.11 | -0.05 |  | -0.13 | -0.24 | -0.01 |
| Sadness | -0.06 | -0.09 | -0.03 |  | -0.09 | -0.18 | -0.01 |
| Articles | 0.05 | 0.03 | 0.08 |  | 0.09 | 0.01 | 0.18 |

*Notes*. All effect sizes are statistically significant and |ρ| ≥.05. \*Both cue validity and cue utilization are significant, and |ρ| ≥ .10. \*\*For both cue validity and cue utilization |ρ| ≥ .10, and lower 95% CI |ρ| ≥ .05.

In the end, we wanted to do something silly and pointless, so a) we analyzed the body of the main manuscript using LIWC2001 taking into account 50 of the LIWC categories of the present meta-analysis (excluding ‘auxiliary verbs’ and ‘dictionary’ categories), and b) we created a word cloud with the most frequently used words (see below). In total, the main manuscript (including abstract, but excluding references and tables) was 15,528 words long. The 10 more frequently LIWC categories were: words > 6 letters (33.44%; suggesting high Openness to Experience), prepositions (11.80%; suggesting high Conscientiousness), articles (6.46%; suggesting high Openness, high Emotional Stability, and low Extraversion), cognitive processes (5.46%; suggesting low Extraversion and low Emotional Stability), numbers (5.45%; suggesting high Openness and high Emotional Stability), present tense (4.45%; suggesting low Openness and low Emotional Stability), insight (3.46%; suggesting low Extraversion and low Emotional Stability), space (3.41%; suggesting high Emotional Stability), social (3.06%; suggesting high Agreeableness, high Conscientiousness, high Extraversion, and low Openness), and affect (2.69%; suggesting high Agreeableness, high Extraversion, and low Emotional Stability). Overall personality profile across six authors: it’s complicated.

