

Supporting Table 2. Prediction results when selecting features via differential language analysis.

features	Gender <i>accuracy</i>	Age <i>R</i>	Extraversion <i>R</i>	Agreeableness <i>R</i>	Conscientious. <i>R</i>	Neuroticism <i>R</i>	Openness <i>R</i>
<i>LIWC</i>	77.7%	.65	.25	.25	.29	.22	.28
<i>Topics</i>	88.2%	.79	.34	.28	.34	.28	.39
<i>WordPhrases</i>	91.8%	.81	.37	.27	.34	.28	.40
<i>WordPhrases + Topics</i>	92.0%	.82	.38	.29	.35	.30	.41
<i>Topics + LIWC</i>	89.2%	.80	.35	.28	.34	.28	.40
<i>WordPhrases + LIWC</i>	91.8%	.81	.38	.28	.34	.29	.40
<i>WordPhrases + Topics + LIWC</i>	92.0%	.82	.38	.30	.35	.30	.41

accuracy: percent predicted correctly (for discrete binary outcomes). *R*: Square-root of the coefficient of determination (for sequential / continuous outcomes). *LIWC*: *A priori* word-categories from Linguistic Inquiry and Word Count. *Topics*: Automatically created *LDA* topic clusters. *WordPhrases*: words and phrases (n-grams of size 1 to 3 passing a collocation filter). Bold indicates significant ($p < .01$) improvement over the baseline set of features (use of *LIWC* alone). Differential language analysis was run over the training set, and only those features significant at Bonferonni-corrected $p < 0.001$ were included during training and testing. No controls were used so as to be consistent with the evaluation in the main paper, and so one could consider this a univariate feature selection. On average results are just below those of not using *differential language analysis* to select features but there is no significant difference.