

Can People With Higher Versus Lower Scores on Impression Management or Self-Monitoring be Identified Through Different Traces Under Faking?

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INTRO

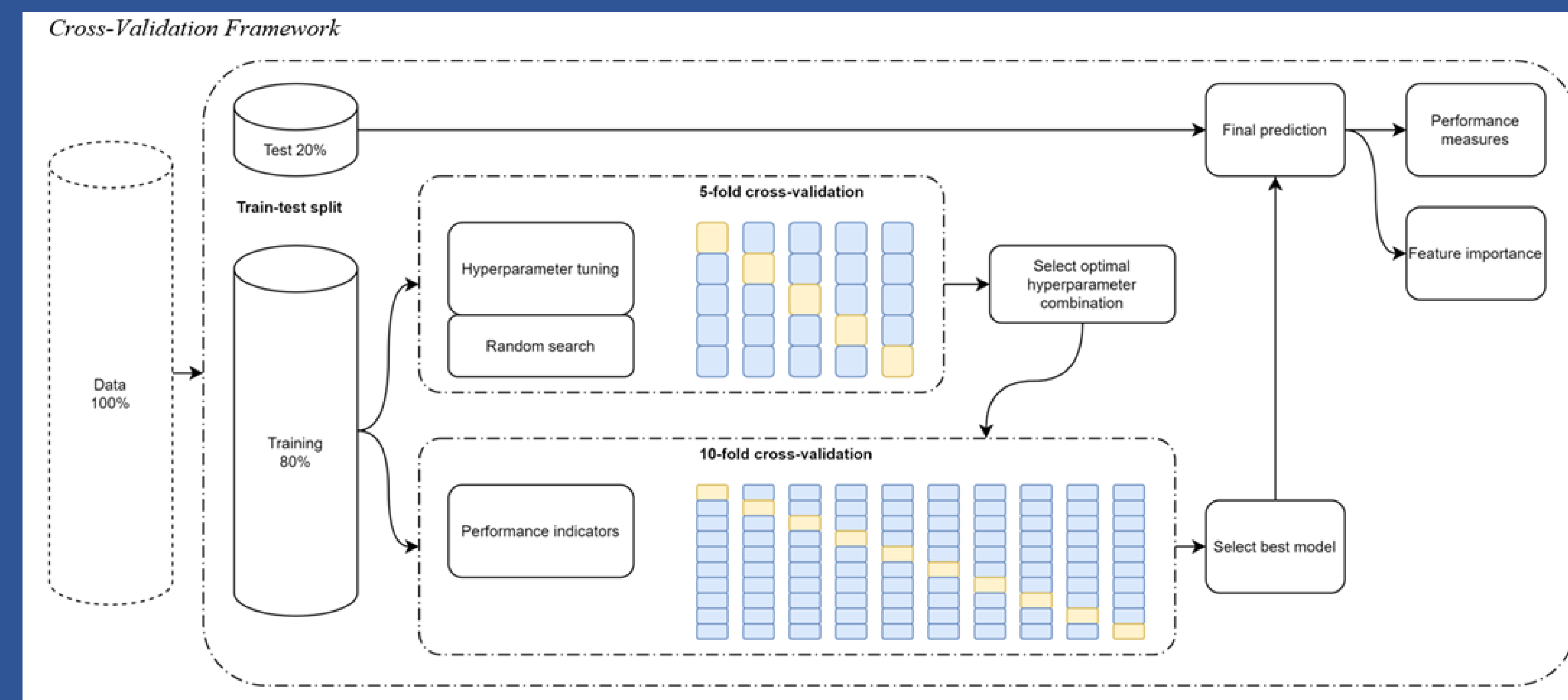
- Faking can be more accurately understood at an item-level (Brown & Böckenholt, 2022)
- Few studies have applied this approach to study individual differences in faking (Röhner et al., 2022)
- We investigated whether people with higher versus lower scores on impression management (IM) or self-monitoring (SM) can be identified through different traces under faking (of an extraversion scale, E-scale)

HYPOTHESES

- H1:** IM scales ('lie scales') should be related to faking, but recent research has called this association into question (Connelly & Chang, 2016). We tested these contrasting hypotheses against each other. If fakers leave different traces based on their IM scores, it should be possible to use the traces to reveal their IM scores above chance levels.
- H2:** Individuals with higher (vs. lower) SM scores should be more likely to fake (Roulin et al., 2016). However, the findings (on test scores) were not consistent. We expected that individuals with higher versus lower SM scores would leave different traces (response patterns when faking on an E-scale), allowing us to use their traces to predict their SM scores above chance levels with machine learning.

MACHINE LEARNING

- Allows systematic item-level analyses of faking (as opposed to analyses at the level of test scores)
- Elastic net regression and random forest regression
- Dependent variable: IM or SM
- Features: individuals' faked response patterns (differences in the item scores between baseline and faking on extraversion)
- Cross-validation framework: plotted on the right side
- Performance evaluation: R^2 , RMSE, MAE, and MSE



Performance Evaluation of the Machine Learning Process

Algorithms		Performance evaluation					
Personality variable	Faking direction	N_train	N_test	R ²	RMSE	MAE	MSE
<i>Elastic net regression</i>							
IM	Low	70	18	-.30	7.52	5.93	56.48
IM	High	68	18	-.08	9.93	8.43	98.67
SM	Low	70	18	.32	2.94	2.39	8.62
SM	High	68	18	.11	3.40	2.85	11.54
<i>Random forest regression</i>							
IM	Low	70	18	-.09	6.87	5.19	47.18
IM	High	68	18	.07	9.22	8.18	85.03
SM	Low	70	18	.10	3.38	2.67	11.41
SM	High	68	18	.04	3.53	2.99	12.46

Note. IM = impression management. SM = self-monitoring. N_train = Number of participants in the training data set. N_test = Number of participants in the testing data set. R² = relative improvement in prediction over the mean model. RMSE = root mean square error. MAE = mean average error. MSE = mean square error.

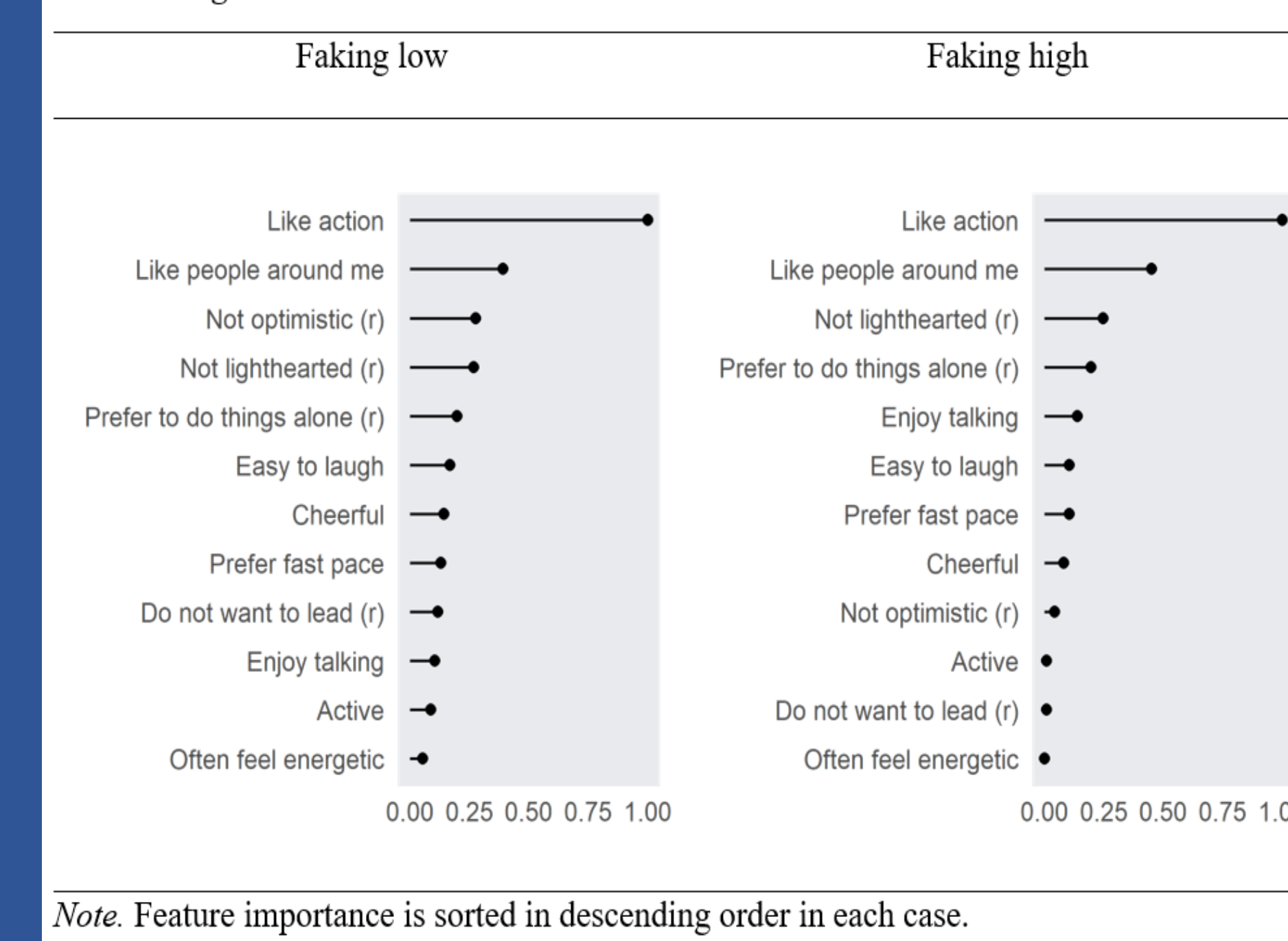
DISCUSSION AND CONCLUSION

- Analyses of response patterns offer valuable new insights into the faking process
- They provide a deeper look into scales' "sensitive spots"
- They offer new perspectives on the utility of "lie scales"
- IM: Findings support recent approaches that criticize the use of IM scales as lie scales
- SM: findings provide evidence for different response patterns among high and low scorers.
- Theoretical and practical implications (e.g., findings pave the way for more efficient faking detection)
- Limitation: Faking was examined on one measure (E-scale)

MAIN FINDINGS

- Response patterns revealed individuals' SM, but not IM
- H1:** Individuals had similar response patterns when they faked, irrespective of their IM scores (excluding the faking of high scores when random forest regression was used; see Table on the left side).
- H2:** Elastic net and random forest regression converged in revealing that individuals higher on SM differed from individuals lower on SM in how they faked
- Whereas some items were faked differently by individuals with higher versus lower SM scores, others were faked similarly (see Figure below).

Feature Importance When Predicting Participants' Scores on SM With Respect to Faking Low and High Scores on Extraversion



Note. Feature importance is sorted in descending order in each case.

Full paper of Röhner et al. (2023): <https://doi.org/10.1177/00131644231182598>

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METHODS

- Re-analyzed data (N = 260) from a study in which individuals completed the E-scale twice
- First occasion: E-scale under standard instructions; IM scale and the SM scale (random order)
- Second occasion: one of three conditions: control condition (n = 86), faking of high scores (n = 86), or faking of low scores (n = 88) on the E-scale (random assignment)
- Measures
 - Extraversion: NEO-Five Factor Inventory (Borkenau & Ostendorf, 2008; English version: Costa & McCrae, 1992)
 - IM: German adaption of the BIDR (Musch et al., 2002; English version: Paulhus, 1994)
 - SM: German adaption of the SM Scale (Graf, 2004; English version: Snyder, 1974)

MAIN REFERENCES

- Brown, A., & Böckenholt, U. (2022). Intermittent faking of personality profiles in high-stakes assessments: A grade of membership analysis. *Psychological Methods*, 27, 895–916.
- Connelly, B. S., & Chang, L. (2016). A meta-analytic multitrait multitrait separation of substance and style in social desirability scales. *Journal of Personality*, 84, 319–334.
- Costa, P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Psychological Assessment Resources.
- Paulhus, D. L. (1994). *Balanced Inventory of Desirable Responding: Reference manual for BIDR version 6*. Unpublished manuscript, University of British Columbia.
- Röhner, J., Thoss, P. J., & Schütz, A. (2022). Lying on the dissection table: Anatomizing faked responses. *Behavior Research Methods*, 54(6), 2878–2904.
- Röhner, J., Thoss, P. J., & Uziel, L. (2023). Can people with higher versus lower scores on impression management or self-monitoring be identified through different traces under faking? [Manuscript submitted for publication].
- Roulin, N., Krings, F., & Binggeli, S. (2016). A dynamic model of applicant faking. *Organizational Psychology Review*, 6, 145–170.
- Snyder, M. (1974). Self-monitoring of expressive behavior. *Journal of Personality and Social Psychology*, 30, 526–537.