Personality Characteristics and Lie Detection – Introverts v. Extroverts

Bryor Brown
Faculty Mentor: Dr. Kimdy Le
Indiana University Purdue University - Columbus

INTRODUCTION

Past studies related to lying indicate how others perceive lies, DePaulo et al. (1996). Later, DePaulo et al. (2003) discovered that cues to deception are rather subjective when determining if someone is lying. When attempting to measure lie detection, Sanchez (2011) found that those with an ENTP personality were most accurate with lie detection in comparison to others in the MBTI personality spectrum. Then, Elaad and Reizer (2015) saw results to support that those with lower Agreeableness and higher Openness/Extraversion scores are more likely to perceive themselves as better lie detectors than the average person. Spencer (2017) more reliably tested that assumption using the BFI, with no results showing significance when measuring lie detection accuracy against any of the major 5 BFI categories. Thus, this study was designed to test facets of a BFI measure in order to gather evidence toward a potential connection between lie detection accuracy and personality – Extraversion specifically.

HYPOTHESES

1. Negative correlation between Extraversion and lie detection accuracy
2. No correlation between lie detection accuracy and gender
3. No correlation between lie detection accuracy and age
4. No correlation between lie detection accuracy and confidence level

METHODS

Sample and Procedures

Data analysis for this survey design was conducted on a sample of 146 participants (116 female, 29 male, and 1 non-binary/other). Ages ranged from 18-80, although mean age for participants was 37 years old. Participants were selected based on a convenience sample through social media and email outreach.

Participants first answered demographic questions related to age and gender. Next, they completed a 28-item personality measure designed to specifically target their Extraversion qualities. After this, participants watched a series of short videos and answered a few questions about the nature of the videos. Lastly, they were debriefed about the purpose of the study before being prompted to submit and complete their participation.

Measures

The personality measure for this study was taken from the BFI-2, a shortened version of the BFI, in order to help curb respondent fatigue. Thus, only a 28-item personality measure was used, and the last 4 facets were chosen by the researcher in accordance with facets that might most relate to lie detection.

Extraversion (Sociability, Energy Level, Assertiveness) – 12 items
Agreeableness (Trust) – 4 items
Conscientiousness (Responsibility) – 4 items
Neuroticism (Anxiety) – 4 items
Openness (Intellectual Curiosity) – 4 items

Video Stimuli – Participants watched a series of 8 videos that were no longer than 2-minutes in length. Each video consisted of a person telling a story in which they got caught or almost got caught doing something wrong. Participants were asked if they believed the person was telling the truth (yes or no) and how confident they were in that answer using a 7-point Likert scale. Of the 8 videos, 4 were truthful stories and 4 were lies. Of these videos, 4 consisted of males telling stories and 4 consisted of females telling stories. To further breakdown these videos: 3 females and 1 male told lies, whereas 1 female and 3 males told truthful stories.

RESULTS

Table 1. Correlations and Descriptive Statistics between Lie Detection Accuracy, Extraversion, Gender, Age, and Lie Detection Confidence

	EXTRA	Gender	Age	CONF.	M (SD)
Accuracy	-.076	.115	-.043	.025	4.3 (1.1)
M (SD)	9.8 (2.1)	116*	37.3 (16.3)	40.1 (6.1)	

* For Gender, there were 116 females
+ p < .05

From Table 1, the data from this study shows that there is no significance or correlation between Accuracy and Extraversion, Accuracy and Gender, Accuracy and Age, or Accuracy and Confidence

Other correlations were run but no findings from the data prove significance among lie detection accuracy, confidence, and any of the personality characteristics measured in the study.

CONCLUSION

After data analysis, not enough evidence was found to support hypothesis 1. On the other hand, results for hypotheses 2, 3, and 4 were consistent with null hypothesis predictions. Results supported prior research in communicating that there have yet to be any personality characteristics that are able to predict and determine who is and is not a good lie detector. Even though this study took focus to specific facets of personality, and even Extraversion as a whole, there is still no evidence (as of now) to support a link between personality and lie detection accuracy.

Strengths of this study include the well tested, yet concise, personality measure that is provided by the BFI-2. This test can quickly assess personality while taking a shorter amount of time than the shortest version of the BFI, which is 44 items. Furthermore, videos in this study are very similar to those used in past research from Sanchez (2011) and Spencer (2017). This allows for similar research with a more focused design on one category of personality overall.

Limitations of this study include sample size and time constraints for studying participants more in a more in-depth fashion. Only 146 participants were collected. Although this number is more than enough to complete data analysis, sample sizes from Spencer (2017) were larger. Because this study already took many participants 30-40 minutes to complete, many dropped out. In fact, a larger number of participants started – and failed – to complete the study than those who did complete it. No incentive was given to participate, and participation was voluntary, so gaining a large sample size with such a large time commitment was difficult. In the future, a longer personality measure (like the IPIP-300 test) would be an ideal.

References

DePaulo, B. M., Kirkendol, S. E., Kashy, D. A., Wyer, M. M., & Epstein, J. A. (1996). Lying in Everyday Life. *Journal of Personality and Social Psychology*, *70*(5), 979–995.
DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to Deception. *Psychological Bulletin*, *129*(1), 74–118. https://doi.org/10.1037/0033-2909.129.1.74
Elaad, E., & Reizer, A. (2015). Personality Correlates of the Self-Assessed Abilities to Tell and Detect Lies, Tell Truths, and Believe Others. *Journal of Individual Differences*, *36*(3), 163–169. https://doi.org/10.1027/1614-0001/a000168
Sanchez, T. (2011). To Catch a Liar: A Signal Detection Analysis of Personality and Lie Detection. *Poster Presented at 39th Annual Western Pennsylvania Undergraduate Psychology Conference*.
Soto, C. J., & John, O. P. (2017). The Next Big Five Inventory (BFI-2): Developing and Assessing a Hierarchical Model with 15 Facets to Enhance Bandwidth, Fidelity, and Predictive Power. *Journal of Personality and Social Psychology*, *113*(1), 117–143. https://doi.org/10.1037/pspp0000096
Spencer, S. D. (2017). Examining Personality Factors in Deception Detection Ability. *Psi Chi Journal of Psychological Research*, 22(2), 106–113. https://doi.org/10.24839/2325-7342.jn22.2.106