Personality and Mental Health
Personality and Mental Health
7: 154–159 (2013)
Published online 4 September 2012 in Wiley Online Library
(wileyonlinelibrary.com) DOI 10.1002/pmh.1215

Psychopathy and deception detection

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ABSTRACT

Researchers have found that most people have difficulty detecting deception; however, certain individuals are able to consistently detect deception above the level of chance. This study examined whether psychopathic traits are related to deception detection. Undergraduate participants (n = 117) indicated whether individuals in video clips were lying or telling the truth and completed a measure of psychopathy. Overall, participants' performance was significantly greater than chance. Scores on the psychopathy measure were unrelated to participants' performance and their confidence on the lie detection task. Possible explanations for the findings are briefly discussed.

Introduction

Dishonesty is a hallmark trait of psychopaths (Willis, Herve, & Yuille, 2004). These individuals are known for being manipulative, pathologically lying and presenting themselves in a deceptive manner (Hare, Forth, & Hart, 1989). It is said that these behaviours occur frequently and without anxiety (Hare et al., 1989). Recent studies have aimed to test the commonly held belief that psychopaths are, in fact, superior at deception. Although there seems to be a strong clinical impression regarding the relationship between deception and psychopathy, there is little empirical evidence to support the notion that psychopaths are adept at deceiving others (Cogburn, 1993; Klaver, Lee, Spidel, & Hart, 2009) or beating a polygraph (Patrick & Iacono, 1989). In fact, Klaver et al. (2009) concluded that 'psychopathy was negatively related to successful deception and credibility' (p. 177). Yet, little is known about the relationship between psychopathic traits and the converse—deception detection.

Bond and DePaulo (2006) reported that the average deception detection rate was 54% in a normal population; results were comparable in law enforcement groups (e.g. Ekman & O'Sullivan, 1991). However, there is a considerable range in terms of performance (e.g. O'Sullivan & Ekman, 2004). Thus, researchers have attempted to identify particular characteristics that are associated with successful deception detection. Knowing which characteristics promote lie detection may improve the selection and training of employees in deception-dominated occupations (e.g. police officers). In addition, if accuracy were associated with specific, reliable traits, then there would be a resolution to current debate about whether individuals' performance should be attributed to chance or underlying ability (e.g. Bond & Uysal, 2007; O'Sullivan, 2007).

Certain groups are able to consistently detect deception far above the level of chance (e.g. Ekman

& O'Sullivan, 1991; Ekman, O'Sullivan, & Frank, 1999). Studies suggest that scores on measures of self-monitoring, shyness and the 'Big 5' are not predictive of accuracy (Porter, Campbell, Stapleton, & Birt, 2002; Vrij & Baxter, 1999; Zuckerman, DePaulo, & Rosenthal, 1981). Conversely, certain characteristics, such as social anxiety, dysphoria, aphasia and left handedness, are associated with better performance (DePaulo & Tang, 1994; Etcoff, Ekman, Magee, & Frank, 2000; Lane & DePaulo, 1999; Porter et al., 2002). Thus, natural variations in (mal)adaptive traits can be associated with individual differences in deception detection.

Because of the prolific nature of deception by psychopaths, could it be that they have enhanced deception detection abilities? According to interpersonal deception theory, deception is much more complex than simply formulating a lie; lie-tellers must alter their behaviours to conceal cues to deceit, analyze listeners' behaviours for signs of suspicion and make necessary adjustments (Buller & Burgoon, 1996). If psychopaths are more accustomed to monitoring and modifying their own deceptive behaviours, then perhaps they are better able to detect these same behaviours in others. The ability to identify subtle social cues or signs of suspicion, which allows psychopathic individuals to be 'more successful social predators', (Wheeler, Book, & Costello, 2009) may also be an asset in deception detection. Finally, research has found that individuals who score high on emotional empathy, interpersonal agreeableness, trust and sociability perform worse than others on deception detection tasks (Campbell & Porter, 2002; Peace, Porter, & Almon, 2010). Because psychopaths would undoubtedly score low on these personality traits, they might score higher than average on tests of deception detection. Conversely, psychopaths could be poor at detecting deception in others because of their relative deficits in assessing some emotional expressions and interpreting non-verbal cues (Dolan & Fullam, 2006; Newman, Brinkley, Lorenz, Hiatt, & MacCoon, 2004), two skills that some researchers argue are important for identifying the veracity of others (e.g. Ekman & O'Sullivan, 1991).

Despite these theoretical musings, little research has been conducted. To our knowledge, only two studies have directly examined the relationship between psychopathic traits and deception detection. Hare et al. (1989) had psychopaths and non-psychopaths watch videotaped reports of individuals discussing a film. Participants were then asked to rate the truthfulness of the individuals on the videotapes. Hare et al. (1989) failed to find significant differences between participant groups in terms of deception detection accuracy. More recently, Peace and Sinclair (2012) tested undergraduate students on their ability to judge the truthfulness of written reports. The authors also found that participants' deception detection performance could not be linked to their scores on a measure of psychopathy. However, both studies may have lacked ecological validity. Lie-telling and truth-telling targets were explicitly told to behave in a particular way; thus, they may not have acted naturally. Moreover, these targets may not have feared any consequences associated with being caught, and thus, they may have lacked motivation to lie. Consequently, the ability of participants to detect these targets' lies may have been constrained.

In the current study, we investigated whether psychopathic traits were related to deception detection. More specifically, we were interested in examining whether psychopathic traits in a sample of undergraduate university students were related to their abilities to detect lying in others. Unlike Harris, Rice, and Quinsey's (1994) declaration that psychopathy is taxonic, more recent studies (i.e. Edens, Marcus, Lilienfeld, & Poythress, 2006) provide strong evidence that it is more appropriate to view psychopathy along a continuum and, thus, support the use of non-criminal samples for research purposes.

This study was different from the work of Hare et al. (1989) in that we measured psychopathic traits in a non-criminal sample. Individuals high in psychopathy, yet living in the community, may be considered by some to be 'successful psychopaths' and, thus, may have superior lie detection skills

DOI: 10.1002/pmh

than psychopaths found in the correctional system. Therefore, testing a non-criminal sample may provide different results compared with the original study of Hare et al. (1989). Similarly, our study differed from Peace and Sinclair (2012) because we used videos—rather than written accounts—of naturalistic deception. Targets were not instructed to lie or tell the truth; they performed volitionally and expressed a full range of verbal and non-verbal behaviours. Although there is some evidence to suggest that individuals whose personalities include higher levels of psychopathic traits may be inferior to others at deception detection, other research suggests that it is possible that psychopaths may actually have superior abilities at detecting lies. We tested both hypotheses.

Method

Participants

One hundred and seventeen undergraduate students (64 women and 53 men) completed the study in exchange for extra credit. The mean age was 19.81 years (standard deviation (SD) = 3.01). Participants indicated that they belonged to the following ethnic groups: Aboriginal ($n = 1$), Arab/West Asian ($n = 10$), Black ($n = 7$), Chinese ($n = 11$), Filipino ($n = 34$), White ($n = 8$), South Asian ($n = 43$), South East Asian ($n = 3$).

Materials

Video clips. The video clips used in this study were obtained in a previous research project (Leach, 2011). Hidden video footage had been collected of undergraduate students who were tempted to cheat on a difficult test. Targets were tested in pairs; however, one member of each pair was a confederate. The experimenter told the pairs that they would be completing a series of logic problems (i.e. they did not know that they were participating in a deception study). Before leaving the room, the experimenter explicitly stated that they must not share answers during the task.[1] Although she was out of the room for 20 min, the confederate either asked for help (i.e. tempted the target to cheat) or remained silent. The experimenter remained blind to condition (i.e. she did not know which targets had been randomly assigned to the 'cheating' and 'silence' conditions or which targets had actually cheated). When she returned, she stated that the pair's responses on the tests were similar and separated the individuals. Then, the experimenter stated that she had contacted the professor in charge of the project and that the incident might be considered cheating. She explained that she was trying to determine what had actually occurred and proceeded to ask the following, critical, questions: *Did you ask her (the confederate) for help?; Did she ask you for help?; Did you share answers?; Did you cheat on the test?*

For the purposes of the present study, we selected video clips of 15 lie-tellers and 30 truth-tellers. Lie-tellers had been induced to cheat by the confederate, cheated on the test and denied cheating during the interrogation. Truth-tellers had not been induced to cheat, did not cheat and denied cheating during the interrogation. Only the interrogation (i.e. targets responding to the critical questions) was shown.

Psychopathic Personality Inventory-Revised (Lilienfeld & Widows, 2005). The Psychopathic Personality Inventory-Revised (PPI-R) is a 154-item self-report questionnaire that measures psychopathic traits. Each item is rated on a four-point scale: false, mostly false, mostly true and true. Both a global psychopathy score and factor subscores are generated. Rather than focus on criminal and/or anti-social behaviours, the PPI-R is tailored to

[1]The experimenter also mentioned that the lighting in the room would induce arousal or relaxation or have no side-effects. This manipulation was part of another project and had no effect on the current findings. Thus, all reported analyses are collapsed across lighting condition. Readers interested in this manipulation may contact the second author for additional information.

DOI: 10.1002/pmh

measure the continuum of psychopathic traits, thereby making it valid in a wide range of populations, including college and community samples. Psychometric analyses indicate good internal consistency with coefficient alphas ranging from .78 to .92 in a community/college sample (Lilienfeld & Widows, 2005). The PPI-R demonstrates excellent temporal stability of both the Total and Content Scales, with scores ranging from .82 to .93 for a subset of the community/college sample over an average test–retest period of 19.94 days (Lilienfeld & Widows, 2005). Scores on the PPI-R are comparable with scores obtained on other psychopathy measures, such as Hare's Self-Report Psychopathy Scale–II Total score and Levenson's Self-Report Psychopathy Scale primary and secondary psychopathy scores in community/college and offender samples (Lilienfeld & Widows, 2005).

Procedure

Participants were tested individually in a small, quiet room. The entire study was conducted on a computer using MediaLab (Jarvis, 2006). First, participants completed the PPI-R and answered a series of demographics questions (e.g. age, gender). Then, participants were told that they would be shown adults answering a series of questions about whether they had shared answers while an experimenter was out of the room. They were informed that, whereas some of the adults were lying and others were telling the truth, the clips would be presented randomly (e.g. if the person in the first clip was lying, then there was still a chance that the person in the second clip was telling the truth). After each clip, participants were asked to indicate whether the individual in the video clip was lying or telling the truth using a forced-choice paradigm. Participants were also asked to indicate their level of confidence in their decisions as a percentage (from 0% to 100% confident). The entire procedure took approximately 1 h to complete. Ethics approval was obtained for this study.

Results

Signal detection analyses

Analyzing overall accuracy was not advisable because of the unequal numbers of lie-tellers and truth-tellers and a previously reported tendency for individuals to indicate that targets were telling the truth (e.g. Granhag & Vrij, 2005; Hartwig, Granhag, Stromwall, & Vrij, 2004; Levine, Park, & McCormack, 1999). Thus, we decided to use a signal detection approach to investigate the two independent components underlying accuracy: discrimination and bias.

Overall, participants' discrimination between lie-tellers and truth-tellers ($M = 0.16$, $SD = 0.35$) was significantly greater than chance (i.e. $d' = 0.00$), $t(116) = 4.89$, $p < .001$. We also compared participants' β values to a score of one (i.e. no bias). Contrary to our expectations, participants did not exhibit any biases ($M = 1.03$, $SD = 0.52$), $t(116) = 0.68$, $p = .498$.

Psychopathy

The mean level of psychopathic traits (PPI-R total score) was 347.15 ($SD = 66.9$). This average total score was significantly higher than the mean provided in the PPI-R manual for an offender sample (i.e. $M = 283.86$, $SD = 35.88$; Lilienfeld & Widows, 2005), indicating that our sample included many individuals who scored high on psychopathy even when compared with criminal populations. The PPI-R also assessed clusters of traits within three factor subscales: coldheartedness ($M = 31.08$; $SD = 12.03$), self-centred impulsivity ($M = 151.3$; $SD = 35.42$), and fearless dominance ($M = 121.25$; $SD = 34.36$).

Deception detection and psychopathic traits

Analyses were conducted to determine whether there was a relationship between psychopathic traits and deception detection. Correlations between global psychopathy, factor, individual content scale scores and discrimination scores

DOI: 10.1002/pmh

failed to reach statistical significance (all $ps > .05$). In addition, there was no relationship between PPI-R scores and participants' confidence in their decisions (all $ps > .05$).

Discussion

We examined whether psychopathic traits were related to deception detection. Two previous studies that tested this issue were unable to find significant differences between groups and concluded that psychopathy was unrelated to one's ability to detect deception. However, our study focused on a more naturalistic deceptive context. Despite this difference, we did not find any relationships between deception detection and psychopathic traits.

There are several explanations for these results. First, psychopathic traits may not present an advantage in deception detection. Second, it is possible that there was not a sufficient range of psychopathic traits represented in the population that we sampled. Had we focused specifically on individuals who were high or low on the PPI-R scale, there might have been differences between the groups. Third, individuals with psychopathic traits might rely on interpersonal interactions and feedback to make decisions. A static procedure, such as viewing video footage, would not allow these individuals to fully assess the targets. Face-to-face interactions might reveal differences in performance. All of these ideas could be explored in future research.

In sum, we failed to find any relationship between psychopathic traits and deception detection. These results suggest that previous research is generalizable to more ecologically valid lie detection contexts. To date, it does not appear that individual differences in psychopathy can account for variability in deception detection performance.

Acknowledgements

We would like to thank Erin Billinger, Katherine Bouchard, Natasha Doelman, Nikki England, Summer McMahon, Melanie Morris, Ashley Morrison, Kerry Morrison, Phi Nguyen, Chris Olivier, Jessica Pauze, Laura Remigio, Andrea Steadman, Jessica Schmid, Renee Snellings, and Maiken Ueland for helping us with data collection.

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