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Psychopathy as a predisposition to lie hedonistically
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ABSTRACT
Excessive lying is generally considered to be a hallmark of psychopathy. Meanwhile, the empirical evidence for the association between psychopathy and lying is somewhat limited. In the present study, non-clinical volunteers completed a measure of psychopathy, and were then brought in an experimental situation (a puzzle task) in which they could opt to lie for potential personal gain (i.e. monetary reward). Findings suggest that 19% of participants (i.e. 31 out of 166) lied about their performance in the puzzle task, thus increasing their likelihood of gaining additional reward. These lying participants scored significantly higher on psychopathy than did their honest peers. Thus, the findings support the hypothesis that psychopathy is characterised by deceitful behaviour. Particularly, psychopathic boldness was associated with lying.

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KEYWORDS
Psychopathy; triarchic model; lying; behavioural measure of deception

Introduction
Psychopathy is a multifaceted concept, encompassing various antisocial behaviours such as crime and manipulating, but also affective malfunctions such as lack of remorse and lack of empathy. The fact that psychopathy is an umbrella phenomenon makes it difficult to gain insight in its core features and their correlates. Rosenberg Larsen et al. (2020) recently conducted several systematic reviews of the literature, and found little evidence for many of the currently generally assumed core features and associates of psychopathy as measured with Hare’s (1980) Psychopathy Checklist PCL, and its revised version (PCL-R; Hare & Neumann, 2008). These authors found ‘no consistent, well-replicated evidence of observable deficits in conscience, remorse, empathy or moral judgments’ (p. 305). Neither did they find consistent evidence for the idea that psychopaths are difficult to treat, nor that the PCL-R is in all instances a good measure of risk assessment (for which it was not designed in the first place).

One of the theoretical core features of psychopathy is excessive lying (Hare, 1980; Hare & Neumann, 2008). For example, the original Cleckley (1976) criteria included unreliability, untruthfulness, and insincerity as key indicators. Likewise, from the beginning, Hare’s
original PCL included pathological lying, deception, and insincerity. Meanwhile, it should be acknowledged that there are different kinds of lies, such as altruistic lies (for the benefit of others) and hedonistic lies (for personal gain or avoidance of misfortune), lies about emotions, knowledge, or transgressions, straight-out lies, exaggerations and silences, and of course small lies and big ones. Further, it should be noted that while lying is a core characteristic of psychopathy, many if not most people in the general community lie occasionally or even frequently without being classified as a psychopath (DePaulo et al., 1996; Gerlach et al., 2019; Serota et al., 2010).

In fact, while it seems intuitively plausible that psychopaths lie often, there is surprisingly little empirical evidence for the relationship between psychopathy and deceit. That is, most of the scientific evidence relies on self-report measures. For example, Glenn et al. (2009) found positive correlations between self-reported psychopathy and self-reported predisposition to behave immorally (see also Zágon & Jackson, 1994). Baughman et al. (2014) obtained similar positive correlations between scores on the Short Dark Triad (SD3; Jones & Paulhus, 2014), a self-report measure that taps psychopathy, in addition to Machiavellianism and Narcissism, and self-reported lying in intimate and academic contexts (see also Jonason et al., 2014). Azizli et al. (2016) found correlations between psychopathy as measured with the SD3 and self-reported lying.

Halevy et al. (2013) found a positive correlation between self-reported lying and another self-report scale of psychopathy. In their second study, they found an association between self-reported psychopathy and actual lying in a behavioural paradigm in which participants had to self-report the number of word scrambles they untangled. Notably, participants had been instructed that the more puzzles they were able to solve, the higher the likelihood would be that they received additional reward. That is, participants who reported an unrealistically high number of solved puzzles (in fact, some of the scrambles were unsolvable), self-reported more psychopathic characteristics than did their peers who registered a more realistic number of completed scrambles (see also Wiltermuth, 2011). However, they found no association between self-reported psychopathy and a die roll task, in which participants had to report how often they had thrown six eyes (with more sixes increasing the likelihood of gaining additional reward). That is, participants who reported an unrealistically high number of six-eye-rolls did not score differently on the psychopathy self-report measure from those who probably registered a truthful number.

Roeser et al. (2016) had 195 participants complete the SD3. Next, participants completed a communication game that they could win by lying to a fictitious other game player, and a matrix task in which they had to report the number of puzzles they solved. In the latter task, some of the puzzles were unsolvable, so the researchers could easily find out whether participants had exaggerated (lied about) their performance. Again, findings were mixed in that psychopathy was not directly associated with lying in the communication game, nor with lying or not in the matrix task, but it was positively correlated with the number of exaggerations/lies in the latter task. Finally, Jones and Paulhus (2017) found small but significant positive correlations between scores on SD3-psychopathy and cheating on a coin flip task, that is, a task in which participants can cheat by flipping the coin additional times until the desired outcome is reached, even though they should flip it only once.

In sum, there is ample evidence for the psychopathic predisposition to lie, when looking at self-reported lying, but the evidence based on behavioural measures of lying
is modest, primarily based on psychopathy as measured by the SD3, and slightly inconsistent. The purpose of the present study was to further explore the association between lying and psychopathy, using a more elaborate measure of psychopathy and using a behavioural measure of deceit. Particularly, we used the Triarchic Psychopathy Measure (TriPM; Patrick, 2010; Van Dongen et al., 2017) in which psychopathy is defined in terms of three concepts, namely boldness (i.e. fearlessness), meanness (cf. lack of empathy and remorse), and disinhibition (recklessness; Patrick, 2010). By including the TriPM, we hoped to shed more light on the link between lying and psychopathy. As a behavioural measure of deceit, a puzzle task was included in which participants eventually had to report the number of puzzles they had solved (see Roeser et al., 2016). Unknown to participants, some puzzles were unsolvable, so it was possible to detect exaggeration of performance which was construed as a hedonistic lie (i.e. a lie for personal benefit). It was hypothesised that lying in the puzzle task is associated with higher scores on the psychopathy measure.

Method

Participants

One hundred and sixty-six general community volunteers (106 women; 64%) participated in this study. The mean age in this sample was 28.57 years ($SD = 12.11$, range: 16–71). The sample consisted of individuals from the general population recruited by the research assistant via her network and social media. Participants completed the study individually, and did not receive any compensation.

Measures

Participants completed the Dutch version of the Triarchic Psychopathy Measure (TriPM; Van Dongen et al., 2017). This scale consists of 58 items (e.g. ‘I have stolen something from a vehicle’) answered on a 4-pointscale (0 = false; 1 = somewhat false; 2 = somewhat true; 3 = true). Hence, total scores range between 0 and 174 with higher scores indicating higher levels of psychopathic traits. The TriPM also allows for computation of three subscales tapping boldness, meanness, and disinhibition.

After filling out the TriPM, participants completed a puzzle task as described by Roeser et al. (2016) in which they were invited to solve as many puzzles as they could out of twenty, with a time limit of 15 s per puzzle. Figure 1 present an example of two puzzles. In this task, the goal was to find two numbers that add up to ten. Eventually, participants were asked to report how many of the twenty puzzles they had been able to solve, that is, in how many puzzles they had found two numbers adding up to ten.

![Figure 1. Examples of solvable (left) and unsolvable (right) puzzles.](image-url)
They were also informed that their report would not be checked, and that a small amount of money would be granted to the participant who solved the most puzzles. Unknown to participants, the first thirteen puzzles were solvable, but the latter seven were unsolvable. Hence, participants who reported to have solved more than thirteen puzzles were classified as liars. These participants were considered to have lied to increase their chance of financial gain.

Results

The data were analysed with JASP (free Bayesian software available at www.jasp-stats.org). JASP allows for both inferential null hypothesis significant testing and Bayesian analysis. Both are reported below. Crucially, the latter analysis yields a Bayes factor which represents the likelihood ratio for the fit of the data in the null and in the alternative hypothesis. $BF_{10}$ smaller than 1 indicate that the data fit better in the null hypothesis than in the alternative hypothesis. $BF_{10}$ larger than 1 suggest that the alternative hypothesis predicts the data better. $BF_{10}$ larger than 3 can be interpreted as positive/substantial support for the alternative hypothesis. $BF_{10}$ larger than 10 represent positive/strong support, and $BF_{10}$ larger than 20 provide strong support for the alternative hypothesis (Jarosz & Wiley, 2014). In the current analyses, the prior odds were left undefined and thus set at 1.0.

The mean total score on the TriPM in the whole sample was 55.11 ($SD = 15.92$, Cronbach’s $\alpha = .87$), for Boldness 31.08 ($SD = 7.81$, $\alpha = .75$), for Meanness 11.77 ($SD = 7.49$, $\alpha = .81$), and for Disinhibition 12.25 ($SD = 7.09$, $\alpha = .88$).

Of the 166 participants, 31 (i.e. 19%) reported to have solved more than 13 puzzles, and were thus classified as liars. Twenty-one (68%) of these were men: $X^2(1) = 16.49, p < .001; BF_{10} = 409$.

The scores of truth tellers and liars are presented in Table 1. As can be seen, liars scored significantly higher on the TriPM (and its subscales) than did truth tellers. Figure 2 presents the distribution of TriPM total scores for truth tellers and liars (in percentages).

Table 2 presents correlations (controlling for gender) between all variables. Our primary reason to use the TriPM was that our research team was well-familiar with this instrument. We did not have clear predictions beforehand about the relations between the subscales and deceitful behaviour. Nonetheless, in follow-up to the correlational analyses, we ran a logistic regression analysis in which lying was predicted by the three

<table>
<thead>
<tr>
<th></th>
<th>Truth tellers ($n = 135$)</th>
<th>Liars ($n = 31$)</th>
<th>$p$</th>
<th>Cohen’s $d$ (CI)</th>
<th>$BF_{10}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-reported number</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of completed puzzles</td>
<td>8.08 (3.34)</td>
<td>15.87 (1.71)</td>
<td>.001</td>
<td>2.52 (2.03–2.98)</td>
<td>&gt;3,796,000</td>
</tr>
<tr>
<td>TriPM total score</td>
<td>52.43 (15.15)</td>
<td>66.81 (14.00)</td>
<td>.001</td>
<td>0.96 (0.56–1.37)</td>
<td>4800</td>
</tr>
<tr>
<td>TriPM boldness</td>
<td>29.84 (7.36)</td>
<td>36.52 (7.47)</td>
<td>.001</td>
<td>0.91 (0.50–1.31)</td>
<td>1572</td>
</tr>
<tr>
<td>TriPM meanness</td>
<td>10.78 (7.01)</td>
<td>16.10 (8.08)</td>
<td>.001</td>
<td>0.74 (0.34–1.13)</td>
<td>83</td>
</tr>
<tr>
<td>TriPM disinhibition</td>
<td>11.81 (7.21)</td>
<td>14.16 (6.31)</td>
<td>.097</td>
<td>0.33 (−0.06–0.72)</td>
<td>0.72</td>
</tr>
</tbody>
</table>
subscales. The three subscales of the TriPM were entered into the regression simultaneously together with gender, and yielded Betas of 1.01 (Wald = 4.55; \( p < .033 \)) for gender, .10 (Wald = 8.90; \( p < .003 \)) for boldness, .05 (Wald = 1.62; \( p = .202 \)) for meanness, and .02 (Wald = .21; \( p = .645 \)) for disinhibition (\( R^2 = 0.28 \)).

Finally, to test the association between psychopathy and the number of lies told, correlations were computed between TriPM scores and the self-reported number of solved puzzles in the subsample of cheating participants (\( n = 31 \)). Strikingly, the number of lies correlated negatively with total TriPM scores (\( r = -.51, p = .003 \)), Meanness (\( r = -.41, p = .023 \)), and Disinhibition (\( r = -.40, p = .027 \)), but not significantly with Boldness (\( r = -.19, p = .318 \)).

**Discussion**

Despite that lying is generally considered to be a hallmark of psychopathy, the empirical evidence for the relation is not as strong as one might expect. Many positive findings solely rely on self-report measures of lying, and the studies in which a behavioural measure of lying was included, measured psychopathy most often with the SD3. The current study sought to contribute to the literature in two ways. First, we used the TriPM (instead of the SD3), a more elaborated self-report measure of psychopathy, and second, we used a behavioural measure of lying. That is, by exaggerating their performance in the puzzle task (cf. lying), participants could increase the likelihood of gaining
financial reward. Findings firstly suggest that 19% of our participants lied. This proportion of liars is relatively small in comparison with the grand mean base rate of 48% of liars in this kind of studies (Gerlach et al., 2019). In line with previous research, men were over-represented in our subsample of liars.

Second, the findings provide strong support for the hypothesis that psychopathy is indeed associated with lying. Lying participants scored higher on total TriPM scores, as well as on the Boldness and Meanness subscales. Subsequent regression analysis revealed that Boldness made a distinct contributions to the prediction of lying. Meanwhile, it remains to be seen whether it is fruitful to construe psychopathy as a triarchic concept, since there are many concurrent approaches (e.g. Gatner et al., 2017). Crucially, psychopathy was associated with lying, but not, or even negatively with the number lies (as measured by the number of self-reported solved puzzles). This latter finding was unexpected and at odds with previous findings (e.g. Roeser et al., 2016). Perhaps, psychopathy is associated with a kind of cunningness not to overdo too much. Meanwhile, it should be kept in mind that this analysis was exploratory and based on a small sample (n = 31).

Interestingly, when comparing the TriPM scores of our truth telling and lying participants with those of Van Dongen et al. (2017), at face value, our former subsample scored more in accordance with the community average reported by those authors, while our lying participants seemed to have elevated scores. Particularly, while our subsample of liars (M = 66.81) scored somewhere in between Van Dongen et al.’s community sample (54.90) and their forensic sample (73.36) on the TriPM total score, our liars scored (36.52) at least as high as their forensic sample (30.59) on Boldness, and on Meanness (respective scores being 16.10 and 16.12).

Several limitations of the study deserve attention. First, while the TriPM is a more elaborated measure of psychopathy than the often used and popular SD3 (or SD4; Paulhus et al., 2021), it is still just one measure selected from a wider pool of candidates (e.g. Lilienfeld & Andrews, 1996). Computing correlations between various psychopathy measures, other than the TriPM, and behavioural measures of deceit is an interesting goal for future research. Further, it is important to note that measures of psychopathy tend to include items that tap deceit (given that deceitfulness is a core characteristic of psychopathy), and hence, correlations between such measures and measures of deceit might be inflated. However, the current scale (TriPM) includes only a handful of such items. Notably, most of those items (e.g. ‘I’ve often missed things I promised to attend’, and ‘I have conned people to get money from them’) are part of the Disinhibition scale (or Meanness). Interestingly however, the present data suggest that Boldness has the strongest relation with lying. Hence, this association does not seem to be the result of an artefact caused by the conceptual overlap between the measure of psychopathy including many items on lying, and actual lying (cf. Smedslund, 1988). That said, such overlap is central to any validation of psychological measures in general (cf. Ray, 1988).

Another limitation lies in the puzzle task, in that it is not completely sure that participants who reported to have solved more than thirteen puzzles actually lied. Alternatively, they might have made a mistake. In addition, participants who reported to have solved thirteen puzzles or less were classified as truth tellers, but might have exaggerated their performance nonetheless. Further, we did not include a manipulation check to establish with certainty that participants actually believed that their performance would not be checked. In fact, their performance was indeed not checked. Also, while
we assumed that cheating on the puzzle task is fuelled by a hedonistic desire to gain additional financial reward, it might as well be fuelled by other motives such as competition, self-presentation, or merely the thrill of cheating. These alternative motives to lie can still be construed as hedonistic.

Notwithstanding the limitations, the support for the hypothesized link between psychopathy and lying, borne out by the present findings, is important, particularly because of recent discussion in which the broad concept of psychopathy is put to question (Rosenberg Larsen et al., 2020). Indeed, whereas lack of morality, insensitivity to treatment, and increased risk of recidivism may not be as strongly associated with psychopathy as currently generally assumed, the present data at least provide empirical support for the link between psychopathy and unethical behaviour. Perhaps then, deception is indeed a core feature of psychopathy. The practical implication of the present findings thus is that conversational partners (e.g. psychotherapists) should always beware that individuals high on psychopathy may well lie when placed in a position where lying is beneficial to them. Further research is needed to explore the effect of contextual factors (e.g. the importance of consequences) on psychopaths’ readiness to lie. Further, it is of interest to research to what extent psychopathy is associated with lying driven by other than hedonistic motives.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

Data are available on OSF (open science framework): https://osf.io/4tdn8/.

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