



Will get fooled again: Emotionally intelligent people are easily duped by high-stakes deceivers

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Purpose. There is major disagreement about the existence of individual differences in deception detection or naturally gifted detection 'wizards' (see O'Sullivan & Ekman, 2004 vs. Bond & Uysal, 2007). This study aimed to elucidate the role of a specific, and seemingly relevant individual difference – emotional intelligence (EI) and its subcomponents – in detecting high-stakes, emotional deception.

Methods. Participants ($N = 116$) viewed a sample of 20 international videos of individuals emotionally pleading for the safe return of their missing family member, half of whom were responsible for the missing person's disappearance/murder. Participants judged whether the pleas were honest or deceptive, provided confidence ratings, reported the cues they utilized, and rated their emotional response to each plea.

Results. EI was associated with overconfidence in assessing the sincerity of the pleas and greater self-reported sympathetic feelings to deceptive targets (enhanced gullibility). Although total EI was not associated with discrimination of truths and lies, the ability to perceive and express emotion (a component of EI), specifically, was negatively related to detecting deceptive targets (lower sensitivity [d']). Combined, these patterns contributed negatively to the ability to spot emotional lies.

Conclusions. These findings collectively suggest that features of EI, and subsequent decision-making processes, paradoxically may impair one's ability to detect deceit.

Deception is a common feature of daily social interaction and often serves to promote social cohesion (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996; Vrij, 2008). Most lies are trivial; however, 'big lies' in personal (e.g., infidelity), security, corporate, political, and legal settings can have disastrous consequences if undetected. According to the Supreme Court of Canada (*R. v. Marquard*, 1993), credibility assessment requires no special tools or training: 'Credibility is a matter within the competence of laypeople. Ordinary people draw conclusions about whether someone is lying or telling the truth on a daily basis' (p. 248). Empirical research, on the other hand, suggests that credibility assessments hardly seem to be 'common sense' as evidenced by various studies indicating

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that people rarely perform above chance when detecting deceit (e.g., Vrij, Granhag, & Porter, 2011). A meta-analysis by Bond and DePaulo (2006) found that the average accuracy in discriminating liars from truth-tellers was 54%, with a bias towards classifying individuals as truthful. While the detection of low consequence, often altruistic lies may not be advantageous for the observer, there is evidence to suggest that the detection of high-stakes lies too is an inaccurate task. Despite support for the motivational impairment effect – finding that high motivation to be believed actually results in less believable lie-telling behaviour (DePaulo, Kirkendol, Tang, & O'Brien, 1988) – even high-stakes lies often go undetected by professional lie catchers (Vrij & Mann, 2001; see Porter & ten Brinke, 2010).

Individual differences in deception detection

While most studies suggest that laypersons and professionals alike are generally poor at detecting deception, some researchers have proposed the existence of deception detection ‘wizards’ who can consistently and accurately detect deception (e.g., O’Sullivan & Ekman, 2004). However, this proposition has stimulated a great deal of controversy; other researchers suggest that studies identifying ‘wizards’ have significant methodological and statistical issues, and that it is premature to assume the validity of this subset of detectors (Bond & Uysal, 2007). Bond and DePaulo (2008) conducted psychometric analyses of 247 samples and found that individual differences in detection were miniscule; standard deviations (*SDs*) in judgment ability were less than 1%, ranging no more widely than would be expected by chance.

Although the existence of wizards continues to be a source of contention, there remains a possibility that particular individual differences play an important role in the ability to discriminate lies from truth (e.g., Bond & DePaulo, 2006; Etkoff, Ekman, Magee, & Frank, 2000). For example, Ekman and O’Sullivan (1991) investigated the detection ability of various groups, including Secret Service agents, federal officers, clinical psychologists, college students, and working adults; results indicated that all groups performed at chance level except the Secret Service agents. As speculated by the authors, this enhanced accuracy was likely due to their greater emotional understanding and focus on reliable non-verbal cues, including emotional facial information. There also is the possibility that wizards may be proficient specifically in detecting powerful emotional lies, relating to crime, for example. Past research on lies predominantly has concerned highly innocuous, non-emotional material. It is possible that individual differences could facilitate or impair observers’ ability to discriminate true and false emotional stories, specifically. The potency of the story’s emotional content or the emotion of the speaker may interact with the emotional functioning and personality of the observer to influence credibility judgments. For example, Peace, Porter, and Almon (2011) found that certain personality factors were associated with the ability to discriminate real and fabricated transcripts of rape narratives; openness to experience and neuroticism were positively associated with accuracy, whereas extraversion was negatively related to accuracy. Similarly, research has found that those scoring high in sociability and trust were less accurate at detecting videotaped false versus genuine memories of emotional childhood experiences (Campbell & Porter, 2002). Further, some personality characteristics may influence decision making, but not necessarily accuracy, in deception detection tasks. In particular, Peace and Sinclair (2012) found that while psychopathic personalities were not more accurate, psychopaths utilized more structural cues (i.e., hesitations, repetitions, uneven flow) as opposed to emotion/cognitive cues

(i.e., emotional details) in discriminating true and false emotional narrative transcripts. This lack of emotion is evident in psychopaths' own descriptions of emotional events, and reflects their shallow emotional processing more generally (Hancock, Woodworth, & Porter, 2011; Hare, 2006). Thus, while a variety of paradigms have been utilized, no research yet has examined the possibility that individual differences contribute to the ability to detect video of high-stakes emotional lies where observers have access to both verbal and non-verbal information, an ecologically valid test of the 'wizard' concept.

Emotional intelligence (EI) and the ability to 'read' sincerity in others

Of interest in the current study is EI – the ability to perceive, process, manage, and regulate emotion (Salovey & Grewal, 2005). This set of skills results in accurate emotional reasoning, including the ability to use emotions and emotional knowledge to enhance thought (Mayer, Roberts, & Barsade, 2008), which may influence deception detection strategies and accuracy in detecting emotional, high-stakes lies. In a recent investigation, we found that emotionally intelligent individuals had emotional expertise when it came to *adopting* deceptive facial expressions (i.e., simulated more convincing deceptive emotions and maintained these displays for longer durations), relative to low EI participants (Porter, ten Brinke, Baker, & Wallace, 2011). Further, Grieve (2011) found that varying levels of personality traits (e.g., high self-monitoring, low sincerity) contributed to efficient emotional manipulation. Some scholars have suggested that expertise at deceiving may translate into enhanced deception detection skills (Fiori, 2009; O'Sullivan, 2005). For example, more experienced deceivers such as criminal offenders do somewhat better at detecting deception than others (Hartwig, Granhag, Stromwall, & Anderson, 2004). Just as highly emotionally intelligent individuals are able to use their enhanced emotional processing skills – paired with their superior emotional knowledge – for effective emotional deception, these skills could assist in the detection of emotional deceit by others. Further, research suggests that performance on an emotional labelling task, indirectly measuring EI, is positively related to accuracy in detecting emotional, but not unemotional, lies (Warren, Schertler, & Bull, 2009). EI also was found to positively predict job performance among criminal investigators (Ono, Sachau, Deal, Englert, & Taylor, 2011). Of course, one component of an investigator's job is detecting deception, but one where they receive little feedback on accuracy (DePaulo & Pfeifer, 1986; Porter, McCabe, Woodworth, & Peace, 2007). If EI were found to reliably predict deception detection, it would be a valuable trait to 'screen in' when selecting professional lie catchers such as police, parole officers, or judges.

On the other hand, the inherent characteristics that make an individual emotionally intelligent could be detrimental in assessing another person's sincerity. Reviews (see Mayer *et al.*, 2008) have indicated that EI has its highest relation with the Agreeableness component of the Big Five ($r = .21$ to $.28$); as such, high EI individuals may be overly compassionate or even gullible that could compromise their ability to detect deception. Research also has indicated that being in a positive (vs. negative) mood impairs sincerity assessments by increasing gullibility (Forgas & East, 2009). High EI individuals generally report higher levels of happiness and positive mood than others (Furnham & Petrides, 2003), further suggesting the possibility that they could be more trusting and gullible than others.

Also contributing to (in)accuracy in deception detection tasks are common decision biases. As previously mentioned, observers tend to perceive others as being truthful as the 'default' that often contributes to poor detection abilities (i.e., truth bias; Vrij, 2008).

In contrast, professional lie catchers tend to show a deception bias. While experience in professional lie catching does not contribute to accuracy, it is associated with a deception bias and an inflated confidence in these cynical decisions (Meissner & Kassin, 2002). Not surprisingly, research has highlighted that both truth and deception biases negatively influence an individual's discrimination abilities (Levine & McCornack, 1992; Vrij *et al.*, 2011). As such, O'Sullivan (2005) suggested that emotionally intelligent 'wizards' would not hold a truth or lie bias, as this would impede their ability to be highly accurate assessors of veracity.

Another issue relating to EI and the 'reading' of others relates to confidence. Some have argued that trait EI essentially concerns confidence, and not necessarily competence, in one's emotional abilities (Petrides, Pérez-González, & Furnham, 2007). As such, an untested hypothesis is that high EI individuals may have high confidence in their abilities to assess others' sincerity. The deception literature indicates that a common pitfall in detecting lies is overconfidence, often paired with a high motivation to detect lies and tunnel vision decision making (e.g., Bond & DePaulo, 2006; Porter & ten Brinke, 2010). However, if emotionally intelligent individuals actually do show superiority over others in assessing emotional sincerity, these decisions may be accompanied by a justified high degree of confidence, lending support to the notion of the detection 'wizard'.

Behavioural cues to emotional deception

Due to the direct relation between affective processes in the brain and the complex musculature of the human face, the face long has been considered a rich source of valuable information in revealing one's true emotional state (Darwin, 1872; Ekman & Friesen, 1969; ten Brinke & Porter, 2011). Although many motivated deceivers alter their facial expressions to reflect their intended disingenuous feelings (Livingstone-Smith, 2004), they are unable to adequately control all dynamic aspects of their faces. In his *inhibition hypothesis*, Darwin (1872) proposed that some muscle activations associated with genuine emotion are beyond voluntary control and cannot be completely suppressed, resulting in 'leakage' of genuine emotion. He also proposed that humans cannot fully simulate facial expressions in the absence of a genuine affective experience. In a related proposition, Ekman proposed that genuine emotions manifest themselves as micro-expressions - full-face expressions lasting 1/25th - 1/5th of a second and reflecting one's true inner emotion (e.g., Ekman & Friesen, 1969; Ekman, 2006). Recent research, finally putting Darwin's basic contentions about facial communication to the test, suggested that individuals indeed are likely to 'leak' signals of their duplicity. In particular, deceivers generally are less successful at false displays of negative emotion than adopting a false 'happy face' and stronger emotions are more likely to be revealed on the face, relative to weaker affective states (Porter & ten Brinke, 2008; Porter, ten Brinke, & Wallace, 2012). Further, ten Brinke and Porter (2011) found strong support for the face as a critical cue to veracity in a sample of high-stakes emotional deceivers. Videos of individuals pleading for the safe return of their missing family member - half of whom were later found to be responsible for the missing person's demise based on overwhelming evidence - were meticulously coded for the presence of emotional expressions. Deceptive pleas were characterized by failed attempts to appear sad, related to uncontrollable muscles in the upper face (ten Brinke, Porter, & Baker, 2011), and leakage of happiness in the lower face (e.g., smirks). Overall, the deceptive pleaders showed a greater range of emotion (partial distress, partial happiness, and occasional disgust and anger) relative to the consistent distress and neutral emotions seen in the

faces of the sincere pleaders. Thus, there is reliable behavioural information available to skilled detectors, if they naturally exist. These videos were used in the present study to examine the relation between EI and deception detection ability.

The present study

The current study was an exploratory investigation of the relationship between EI and the detection of high-stakes emotional lies. Individuals pleading for assistance in the safe return of their missing relative - half of whom were guilty of murdering that individual (see ten Brinke & Porter, 2011) - were assessed by naïve lie detectors ranging in trait levels of EI. While it is possible that the emotionally intelligent lie detector could perceive failed emotional simulations and leakage of genuine emotion, a more detailed understanding of emotional facial cues to deception likely is necessary to delineate genuine and deceptive pleaders. First, we examined the relationship between EI and the ability to discriminate genuine and truthful pleaders. Further, while some research suggests that EI may be related to gullibility (i.e., a truth bias), the conceptualization of a highly accurate and emotionally intelligent deception detection wizard precludes the presence of any systematic biases in decision making; this was next examined. Regardless of their ability to discriminate veracity and biases in doing so, it was expected that high EI would be associated with greater attention to the face as a cue to emotional deception and greater confidence in their ability to assess sincerity relative to low EI judges.

Method

Participants

Undergraduate participants ($N = 116$) attending a Canadian university were recruited through an online research participant pool and received course credit for completion of the study. The sample consisted of 83 females and 32 males (1 participant did not indicate gender) with a mean age of 20.1 years ($SD = 3.2$ years).

Materials

Stratified (veracity, gender) random sampling was used to select 20 videos of individuals pleading for the safe return of a missing family member from a larger sample (ten Brinke & Porter, 2011). Videos were collected from news agencies in Australia, Canada, the United Kingdom, and the United States. Each videotaped individual made a direct appeal to the (supposed) perpetrator to release the missing person, the missing person to make contact, or to the public for information/search party assistance. Five male and five female deceptive individuals ($n = 10$; 5 male, 5 female) were eventually convicted based on overwhelming evidence (e.g., DNA). In cases of genuine pleaders ($n = 10$), someone else had been convicted based on similarly overwhelming evidence or the missing person was later located in the absence of foul play; see ten Brinke and Porter (2011) for more information on ground truth determination.

Procedure

A 42-inch LCD television displayed the videos in randomized order. Participants in groups of up to five people were situated around a table in front of the television and

were given instructions not to communicate with other participants. After viewing each video, participants were given 3 min to judge whether the pleader was being genuine or deceptive and to rate their confidence in the decision on a 7-point scale, ranging from 1 (*not at all*) to 7 (*extremely*). Participants also were asked to report the main cues (up to three) they used to come to their decision regarding veracity in an open-ended format. Three cues reported by participants were coded as verbal (content), verbal (speech), non-facial behavioural, facial, vague (i.e., intuition, gut feeling), or 'other' in nature to examine deception detection strategies. Further, participants rated their emotional response (i.e., level of sympathy) to each video on a 7-point scale, ranging from 1 (*not at all*) to 7 (*extremely*). After all the videos had been presented and veracity decisions made, participants completed a measure of EI. Participants were asked to indicate if they had previously encountered the cases and if a case was identified, associated data were removed from analyses.

Measure

Trait EI Questionnaire - Short Form (TEIQue-SF; Cooper & Petrides, 2010; Petrides & Furnham, 2006). Participants completed the TEIQue-SF, a reliable (Cronbach's alpha of .89 and .92 for females and males, respectively) and valid 30-item measure of trait EI (Mikolajczak, Luminet, Leroy, & Roy, 2007; Petrides & Furnham, 2003, 2006). The measure derives from the TEIQue long form and taps into four factors: well-being, self-control, emotionality, and sociability. The well-being factor measures happiness, optimism, and self-esteem. Self-control surmises emotional regulation and impulse control. Of particular interest, emotionality includes emotional perception, expression, and empathy. Lastly, sociability taps emotional management and social awareness. Reliability analyses indicate Cronbach's alphas for the well-being, self-control, emotionality, and sociability factors as .79, .72, .68, and .59, respectively.

Results

EI: Descriptive statistics

On average, participants had TEIQue-SF total scores of 152.82 ($SD = 18.83$) and mean emotionality scores of 40.53 ($SD = 6.55$). Gender differences were identified in levels of emotionality, $t(113) = -2.99$, $p < .01$, 95% CI $(-6.5, -1.3)$, $\eta^2 = .07$, with females rating themselves as better at perceiving and expressing emotion ($M = 41.67$; $SD = 5.83$) than males ($M = 37.72$; $SD = 7.53$).

Confidence in assessments of veracity

Confidence was positively related to both TEIQue-SF total scores ($r = .23$, $p < .05$) and emotionality factor scores ($r = .19$, $p < .05$).¹ However, in general, mean confidence ratings were negatively correlated with ability to discriminate genuine and deceptive pleaders (d') ($r = -.19$, $p < .05$). These ratings did not differ across gender, $p > .05$.

¹ The application of family-wise Bonferroni adjustments rendered these relationships non-significant.

Overall deception detection accuracy (%)

A one sample t test indicated that overall participant accuracy rates were not significantly different from chance ($M = 48.86\%$; $SD = 9.95\%$), $t(115) = -1.25$, $p > .05$, 95% CI (-2.99, .68). However, a truth bias was detected using a one-sample t test comparing the frequency of 'genuine' responses to the actual base rate ($n = 10$), $t(115) = 7.89$, $p < .001$, 95% CI (1.58, 2.64), $d = .73$. On average, participants decided that 12.11 ($SD = 2.88$) pleaders were genuine.

Signal detection: Deception detection discrimination and bias

Given that overall accuracy rates (% correct) do not account for potential biases in decision making, signal detection analyses were favoured for subsequent investigations. Signal detection theory (SDT) yields estimates of participants' ability to discriminate between the two target types (e.g., genuine and deceptive), statistic d' , often referred to as 'sensitivity'. Further, SDT indicates the criterion (c), or threshold, at which the participant decides to label a pleader deceptive using a statistic. Once converted to standardized z scores, the overall hit rate (correct detection of deceptive pleaders) and false alarm rate (genuine pleaders labelled as deceptive) were used to create d' and c scores.²

When d' scores are positive (and high), participants are displaying good discrimination accuracy; they are most often correctly labelling genuine and deceptive pleaders as such. When d' is near zero, the participant is not discriminating between deceptive and truthful stimuli (i.e., guessing) and if d' is negative, the participant is judging deceptive individuals to be truthful and vice versa. c provides a measure of the degree of evidence required for a participant to decide that deceptive communication is being observed. A positive c value indicates that a participant has a liberal response bias (i.e., a lie bias). In contrast, a negative value indicates that a participant has a tendency to conclude that deceptive behaviour is not being observed (i.e., a truth bias). When c is near zero, the participant shows no response bias, with misses and false alarms being approximately equal (Porter, Juodis, ten Brinke, Klein, & Wilson, 2010).

A series of independent samples t tests were conducted to explore potential differences in d' across high and low quartiles (top and bottom 25% of sample, respectively) on TEIQue-SF total and emotionality factor scores. A significant difference in sensitivity to deception between high and low scorers on the emotionality factor was revealed, $t(67) = 2.12$, $p < .05$, 95% CI (.03, 1.1), $\eta^2 = .06$. Emotionally intelligent individuals, particularly those high in emotionality, were less sensitive in detecting deceptive pleaders ($M = -.32$; $SD = 1.12$) relative to low scorers ($M = .25$; $SD = 1.10$).³ One sample t tests comparing each group's mean d' to 0, however, were not statistically significant, $ps > .05$. A series of Pearson correlations examining the relationship between sensitivity (d') and EI (TEIQue-SF total and factor scores) were conducted. Of these, only emotionality was significantly related to d' , $r(69) = -.25$, $p < .05$.

² Equation used to calculate SDT statistics: $d' = z \text{ hit rate} - z \text{ false alarm}$, and $c = -.5 \times (z \text{ false alarm} + z \text{ hit rate})$ (Correll et al., 2007).

³ For all hypotheses, Bonferroni adjustments were applied to control family-wise error rate. While the majority of findings remained unchanged, this difference was no longer statistically significant.

To examine potential biases in decision making, a series of Pearson correlations, examining relationships between the criterion variable (c) and EI, was conducted. Analyses revealed that c was negatively related to TEIQue-SF total scores, $r(113) = -.16, p < .05$, indicating that highly emotionally intelligent participants held a lower threshold for labelling a target deceptive. An independent sample t test, however, did not indicate that high and low TEIQue-SF total quartiles held significantly different criteria, $p > .05$. Further, one sample t tests comparing each quartile's mean c to 0 were not significant, $ps > .05$.

Independent samples t tests also were conducted to examine the effect of gender on SDT variables. Although no significant gender relationship was identified in regards to discrimination ($p > .05$), an independent samples t test revealed a significant difference in criterion across gender, $t(113) = -3.40, p = .001, 95\% \text{ CI } (-.88, -.23), \eta^2 = .09$. Male participants held a lower criterion for labelling pleaders deceptive ($M = -.40, SD = 1.0$) relative to females ($M = .15, SD = .69$). One sample t tests revealed that each of these mean criterion levels were significantly different than 0. The mean male criterion was significantly lower than 0, $t(31) = -2.29, p < .05, 95\% \text{ CI } (-.77, -.04), d = -.89$, while female criterions, on average, were significantly higher than 0, $t(82) = 2.02, p < .05, 95\% \text{ CI } (-.002, .30), d = .22$.

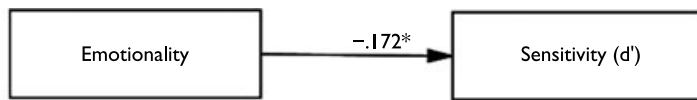
Emotional response and cues

A series of planned Pearson correlations was conducted to examine the relationship between emotional response, cue usage, and TEIQue-SF total and emotionality factor scores. Measures of EI were not associated with an increased likelihood of citing emotional facial cues as a primary factor in credibility assessment decision making, $ps > .05$. The use of facial cues to direct credibility assessments was not significantly related to overall detection ability (i.e., discrimination), nor were any significant gender differences identified, $ps > .05$. No other cues were significantly related to discrimination ability or emotionality, $ps > .05$. However, the relationship between self-reported 'vague' cues and sensitivity was approaching significance ($r = -.18, p = .051$).

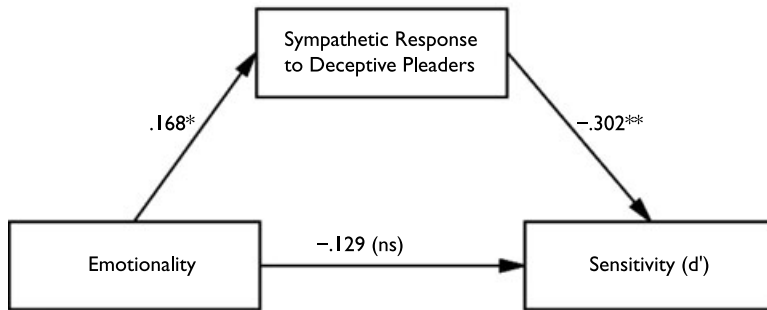
Emotionality factor scores were positively related to self-reported sympathy in response to deceptive pleaders, specifically $r = .17, p < .05^3$. However, self-reported sympathy for genuine pleaders was not related to emotionality, $r = .11, p > .05$. Independent samples t tests indicated gender differences in sympathetic responses to both genuine ($t(111) = -3.03, p < .01, 95\% \text{ CI } [-1.22, -.25], \eta^2 = .08$) and deceptive pleaders ($t(111) = -2.65, p < .05, 95\% \text{ CI } [-1.22, -.18], \eta^2 = .06$). Females report greater sympathy for both genuine ($M = 3.83, SD = 1.11$) and deceptive ($M = 3.75, SD = 1.25$) pleaders relative to males (genuine: $M = 3.10, SD = 1.26$; deceptive: $M = 3.05, SD = 1.24$). In general, sympathetic emotional responses were negatively correlated to the sensitivity variable ($r = -.30, p = .001$).

Mediation model

A mediation model was tested to examine whether sympathetic emotional responses mediate the relationship between emotionality and sensitivity (Baron & Kenny, 1986). Once sympathetic emotional responses were controlled for in a partial correlation analysis, the previously significant relationship between emotionality and sensitivity was no longer present, $r(111) = -.13, p > .05$ (Figure 1).



a) Direct Pathway



b) Mediated Pathway

Figure 1. Results of the mediation model, with sympathetic emotional responses to deceptive pleaders serving as a mediating variable between emotionality scores and sensitivity in discriminating pleader sincerity.

Discussion

The consequences of failed detection of 'big lies' in legal settings can be dramatic; thus, a greater understanding of how to detect highly emotional lies, and who is best suited to detect them, is imperative. Consider Michael White who publicly pleaded for the safe return of his pregnant missing wife, Liana, on national television. After overwhelming evidence surfaced that implicated White to his wife's murder, Liana's mother claimed that the plea 'had fooled us all' (The Canadian Press, 2006). Some scholars suggest that trait EI may assist the lie detector and recent research suggests that EI is positively related to job performance for criminal investigators, who often are tasked with difficult credibility assessments (Ono *et al.*, 2011). However, even law enforcement officials often fail in detecting deceptive murderers such as Michael White (e.g., Vrij & Mann, 2001). Although most people are poor at detecting deceit (Bond & DePaulo, 2006), variation in deception detection ability may be related to the observer's emotional processing proficiency (Ekman & O'Sullivan, 1991).

El and discrimination of lies

Some scholars have suggested that EI, via processing of emotional facial cues, contributes to enhanced deception detection ability (e.g., Fiori, 2009; O'Sullivan, 2005). On the

contrary, the present study suggests that EI, particularly high scores on emotionality, is associated with impairment in evaluating sincerity. Results further suggest that heightened affect experienced by emotionally intelligent individuals may have been affecting their decision making. Indeed, these individuals were highly sympathetic towards deceptive pleaders, in particular, heightening their gullibility. Our findings highlight that sympathetic responses influence their veracity decision by mediating the relationship between discrimination ability (sensitivity, d') and emotionality. Some research has suggested that the taxing nature of decision making, in combination with emotional experience, may deplete working memory resources (Blanchette & Richards, 2010). For example, Channon and Baker (1994) found that negative mood was associated with errors in information integration. From this perspective, it may be that high EI individuals' decision-making processes are hindered due to their depleted working memory, resulting from their sympathetic emotional state. Further, emotionally intelligent individuals may be unable to be analytical of the pleas with emotionally salient content because of an inability to suppress their emotion-focused processing. Interestingly, emotionality was related to heightened sympathy only for deceptive, and not genuine, pleaders.⁴ We suggest that high EI individuals perceived the emotional turbulence associated with deceptive pleas and empathized with this tumultuous emotional experience (false sadness infused with leakage of disgust and masking smiles), rather than interpreting this behavioural presentation as an indicator of deception (ten Brinke *et al.*, 2011; ten Brinke & Porter, 2011). In other words, all emotional facial expressions and the frequency of emotional expressions were interpreted as genuine indicators of affect, and given that deceptive pleaders showed a somewhat greater range of emotional expression than truth-tellers, deceptive killers engendered more sympathy from high EI individuals.

As posited by Darwin (1872) and Ekman (2006), involuntary facial actions can betray hidden emotions via leakage in falsified expressions and can reveal one's covert emotions. Indeed, research suggests that the deceptive pleaders examined in this study did leak signals of falsified sadness and discordant emotions, such as happiness and disgust (ten Brinke & Porter, 2011). While we hypothesized that emotionally intelligent people would report relying more on facial cues during the decision-making process, self-reported cues did not confirm this notion. However, to achieve a negative discrimination score, high emotionality scorers must have been observing some cues to deception, but interpreting them as indices of truthfulness. Specifically, the emotional turbulence, decreased plea length and tentative word use, displayed by deceptive pleaders may have been perceived and interpreted as signals of truth (ten Brinke *et al.*, 2011; ten Brinke & Porter, 2011). Despite their poor discrimination ability, participants, in general, and high emotionality participants, specifically, were highly confident in their assessments, further supporting the large body of research exploring this relationship (see Vrij *et al.*, 2011).

Interestingly, while previous research has revealed that most individuals have a truth bias that often contributes to low detection accuracy rates (e.g., Bond & DePaulo, 2006; Vrij, 2000), emotionally intelligent individuals in our sample appeared to be less susceptible to this error.⁵ In contrast, EI was related to holding a lower criterion for

⁴ Female participants were particularly sympathetic to pleaders, in general, potentially because they scored higher on emotionality.

⁵ In general, males held a lower criterion for labelling a pleader as deceptive while women were more conservative with deceptive decisions; this relationship likely is related to women's higher levels of emotionality.

labelling pleaders as deceptive. However, as evidenced by their poor discrimination abilities, this criterion level did not appear to enhance discrimination of genuine and deceptive pleaders. This finding suggests that this subset of individuals may have a more realistic view of the ubiquity of deception (at least in the present sample of videos) but are unable to utilize valid behavioural cues to translate this understanding of base-rate into enhanced deception detection abilities.

While the present research offers novel findings and enhances our understanding of the role of individual differences in deception detection, some consideration should be given to limitations of the current study. First, undergraduate participants may be less skilled detectors of deceit. O'Sullivan, Frank, Hurley, and Jaspreet (2009) suggest that such high-stakes lies may be better detected by police officers; however, conflicting findings by Vrij and Mann (2001) suggest otherwise. Although students likely have experience with trivial, everyday lies, they are less likely to have extensive experience with high-stakes deception. In addition, student samples may be less motivated to detect these lies than relevant professional groups. Follow-up research with professional groups invested in lie detection is necessary to further examine the issue at hand.

It also should be noted that we utilized a trait measure to define EI in the present research. In contrast to the current findings, Warren *et al.* (2009) found that performance on an emotional labelling task, indirectly measuring EI, was positively related to accuracy in detecting emotional lies. This divergence of findings may suggest that ability measures of EI are a more accurate representation of one's emotional aptitude, while trait measures are vulnerable to overconfident and misleading responding (Petrides *et al.*, 2007). In general, we suggest that research using an ability measure of EI may further explicate the relationship between emotionality and deception detection.

Conclusion

These findings further clarify the relation between individual differences – specifically, EI – and deception detection ability. While the present findings challenge the assumption that EI enhances one's ability to detect emotional deceit, they also shed light upon the decision-making process that leads these individuals astray. For example, it seems as though overly compassionate reactions to deceptive individuals' false emotional performances may confound the emotionally intelligent judge's decision-making process. The present findings suggest that a reliance on erroneous information about deception, combined with unfounded sympathy for deceptive pleaders leads to a highly confident, but incorrect assessment that crocodile tears are a reflection of genuine distress (consistent with propositions by Porter & ten Brinke, 2009). Collectively with our recent findings (Porter, ten Brinke, Baker *et al.*, 2011), this evidence suggests that features of EI contribute to the ability to engage in emotional deception but, surprisingly, impair the ability to detect emotional deception in others.

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References

- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182. doi: 10.1037/0022-3514.51.6.1173
- Blanchette, I., & Richards, A. (2010). The influence of affect on higher level cognition: A review of research on interpretation, judgment, decision making and reasoning. *Cognition and Emotion*, *24*, 561–595. doi: 10.1080/02699930903132496
- Bond, C. F. Jr., & DePaulo, B. M. (2006). Accuracy of deception judgments. *Personality and Social Psychology Review*, *10*, 214–234. doi: 10.1207/s15327957pspr1003_2
- Bond, C. F., Jr., & DePaulo, B. M. (2008). Individual differences in judging deception: Accuracy and bias. *Psychological Bulletin*, *134*, 477–492. doi: 10.1037/0033-2909.134.4.477
- Bond, C. F., Jr., & Uysal, A. (2007). On lie detection “wizards”. *Law and Human Behavior*, *31*, 109–115. doi: 10.1007/s10979-006-9016-1
- Campbell, M. A., & Porter, S. (2002). Pinpointing reality: How well can people judge true and mistaken emotional childhood memories? *Canadian Journal of Behavioural Sciences*, *34*, 217–229. doi: 10.1037/h0087174
- Channon, S., & Baker, J. (1994). Reasoning strategies in depression: Effects of depressed mood on a syllogism task. *Personality and Individual Differences*, *17*, 707–711. doi: 10.1016/0191-8869(94)90148-1
- Cooper, A., & Petrides, K. V. (2010). A psychometric analysis of the Trait Emotional Intelligence Questionnaire-Short Form (TEIQue-SF) using Item Response Theory. *Journal of Personality Assessment*, *92*, 449–457. doi: 10.1080/00223891.2010.497426
- Correll, J., Park, B., Judd, C. M., Wittenbrink, B., Sadler, M. S., & Keesee, T. (2007). Across the thin blue line: Police officers and racial bias in the decision to shoot. *Journal of Personality and Social Psychology*, *92*, 1006–1023. doi: 10.1037/0022-3514.92.6.1006
- Darwin, C. (1872). *The expression of the emotions in man and animals*. Chicago, IL: University of Chicago Press.
- DePaulo, B. M., Kashy, D. A., Kirkendol, S. E., Wyer, M. M., & Epstein, J. A. (1996). Lying in everyday life. *Journal of Personality and Social Psychology*, *70*, 979–995. doi: 10.1037/0022-3514.70.5.979
- DePaulo, B. M., Kirkendol, S., Tang, J., & O'Brien, T. P. (1988). The motivational impairment effect in the communication of deception: Replications and extensions. *Journal of Nonverbal Behavior*, *12*, 177–202. doi: 10.1007/BF00987487
- DePaulo, B. M., & Pfeifer, R. L. (1986). On-the-job experience and skill at detecting deception. *Journal of Applied Social Psychology*, *16*, 249–267. doi: 10.1111/j.1559-1816.1986.tb01138.x
- Ekman, P. (2006). How to spot a terrorist on the fly. Retrieved from washingtonpost.com
- Ekman, P., & Friesen, W. V. (1969). Nonverbal leakage and clues to deception. *Psychiatry*, *32*, 88–106.
- Ekman, P., & O'Sullivan, M. (1991). Who can catch a liar? *American Psychologist*, *46*, 913–920. doi: 10.1037/0003-066X.46.9.913
- Etcoff, N., Ekman, P., Magee, J., & Frank, M. (2000). Lie detection and language comprehension. *Nature*, *405*, 139. doi: 10.1038/35012129
- Fiori, M. (2009). A new look at emotional intelligence: A dual-process framework. *Personality and Social Psychology Review*, *13*, 21–33. doi: 10.1177/1088868308326909
- Forgas, J. P., & East, R. (2009). On being happy and gullible: Mood effects on skepticism and the detection of deception. *Journal of Experimental Social Psychology*, *44*, 1362–1367. doi: 10.1016/j.jesp.2008.04.010
- Furnham, A., & Petrides, K. V. (2003). Trait emotional intelligence and happiness. *Social Behavior and Personality: An International Journal*, *31*, 815–823. doi: 10.2224/sbp.2003.31.8.815
- Grieve, R. (2011). Mirror mirror: The role of self-monitoring and sincerity in emotional manipulation. *Personality and Individual Differences*, *51*, 981–985. doi: 10.1016/j.paid.2011.08.004

- Hancock, J., Woodworth, M. T., & Porter, S. (2011). Hungry like the wolf: A word pattern analysis of the language of psychopaths. *Legal and Criminological Psychology*. Advance online publication. doi: 10.1111/j.2044-8333.2011.02025.x
- Hare, R. (2006). Psychopathy: A clinical and forensic overview. *Psychiatric Clinics of North America*, 29, 709-724. doi: 10.1016/j.psc.2006.04.007
- Hartwig, M., Granhag, P. A., Stromwall, L. A., & Anderson, L. O. (2004). Suspicious minds: Criminals' ability to detect deception. *Psychology, Crime and Law*, 10, 83-94. doi: 10.1080/1068316031000095485
- Levine, T. R., & McCornack, S. A. (1992). Linking love and lies: A formal test of the McCornack and Parks model of deception detection. *Journal of Social and Personal Relationships*, 9, 143-154. doi: 10.1177/0265407592091008
- Livingstone-Smith, D. (2004). *Why we lie: The evolutionary roots of deception and the unconscious mind*. New York: St Martin's Press.
- Mayer, J. D., Roberts, R. D., & Barsade, S. G. (2008). Human abilities: Emotional intelligence. *Annual Review of Psychology*, 59, 507-536. doi: 10.1146/annurev.psych.59.103006.093646
- Meissner, C. A., & Kassin, S. M. (2002). "He's guilty!": Investigator bias in judgments of truth and deception. *Law and Human Behavior*, 26, 469-480. doi: 10.1023/A:1020278620751
- Mikolajczak, M., Luminet, O., Leroy, C., & Roy, E. (2007). Psychometric properties of the Trait Emotional Intelligence Questionnaire: Factor structure, reliability, construct, and incremental validity in French-Speaking population. *Journal of Personality Assessment*, 88, 338-353. doi: 10.1080/00223890701333431
- O'Sullivan, M. (2005). Emotional intelligence and deception detection: Why most can't 'read' others, but a few can. In R. E. Riggio & Feldman, R. (Eds.), *Applications of nonverbal communication* (pp. 215-310). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- O'Sullivan, M., & Ekman, P. (2004). The wizards of deception detection. In P. A. Granhag & L. A. Stromwall (Eds.), *Deception detection in forensic contexts* (pp. 269-286). Cambridge, UK: Cambridge Press.
- O'Sullivan, M., Frank, M. G., Hurley, C. M., & Jaspreet, T. (2009). Police lie detection accuracy: The effect of lie scenario. *Law and Human Behavior*, 33, 530-538. doi: 10.1007/s10979-008-9166-4
- Ono, M., Sachau, D. A., Deal, W. P., Englert, D. R., & Taylor, M. D. (2011). Cognitive ability, emotional intelligence, and the Big Five personality dimensions as predictors of criminal investigator performance. *Criminal Justice and Behavior*, 38, 471-491. doi: 10.1177/0093854811399406
- Peace, K. A., Porter, S., & Almon, D. F. (2011). Sidetracked by emotion: Observers' ability to discriminate genuine and fabricated sexual assault allegations. *Legal and Criminological Psychology*. Advance online publication. doi: 10.1111/j.2044-8333.2011.02013.x
- Peace, K. A., & Sinclair, S. M. (2012). Cold-blooded lie catchers? An investigation of psychopathy, emotional processing, and deception detection. *Legal and Criminological Psychology*, 17, 177-191. doi: 10.1348/135532510x524789
- Petrides, K. V., & Furnham, A. (2003). Trait emotional intelligence: Behavioural validation in two studies of emotion recognition and reactivity to mood induction. *European Journal of Personality*, 17, 39-57. doi: 10.1002/per.466
- Petrides, K. V., & Furnham, A. (2006). The role of trait emotional intelligence in a gender-specific model of organizational variables. *Journal of Applied Social Psychology*, 36, 552-569. doi: 10.1111/j.0021-9029.2006.00019.x
- Petrides, K. V., Pérez-González, J. C., & Furnham, A. (2007). On the criterion and incremental validity of trait emotional intelligence. *Cognition and Emotion*, 21, 26-55. doi: 10.1080/14789940903174246
- Porter, S., Juodis, M., ten Brinke, L., Klein, R. & Wilson, K. (2010). Evaluation of a brief deception detection training program. *Journal of Forensic Psychiatry & Psychology*, 21, 66-76. doi: 10.1080/14789940903174246

- Porter, S., McCabe, S., Woodworth, M., & Peace, K. A. (2007). "Genius is 1% inspiration and 99% perspiration? . . . or is it? An investigation of the effects of motivation and feedback on deception detection. *Legal and Criminological Psychology*, 12, 297-309. doi: 10.1348/135532506x143958
- Porter, S., & ten Brinke, L. (2008). Reading between the lies: Identifying concealed and falsified emotions in universal facial expressions. *Psychological Science*, 19, 508-514. doi: 10.1111/j.1467-280.2008.02116.x
- Porter, S., & ten Brinke, L. (2009). Dangerous decisions: A theoretical framework for understanding how judges assess credibility in the courtroom. *Legal and Criminological Psychology*, 14, 119-134. doi: 10.1348/135532508x281520
- Porter, S., & ten Brinke, L. (2010). The truth about lies: What works in detecting high-stakes deception? *Legal and Criminological Psychology*, 15, 57-75. doi: 10.1348/135532509x433151
- Porter, S., ten Brinke, L., Baker, A., & Wallace, B. (2011). Would I lie to you?: 'Leakage' in deceptive facial expressions relates to psychopathy and emotional intelligence. *Personality and Individual Differences*. Advance online publication. doi: 10.1016/j.paid.2011.03.031
- Porter, S., ten Brinke, L., & Wallace, B. (2012). Secrets and lies: Involuntary leakage in deceptive facial expressions as a function of emotional intensity. *Journal of Non-verbal Behavior*, 36, 23-37. doi: 10.1007/s10919-011-0120-7
- R. v. Marquard* (1993). 4 S.C.R. 223.
- Salovey, P., & Grewal, D. (2005). The science of emotional intelligence. *Current Directions in Psychological Science*, 14, 281-285. doi: 10.1111/j.0963-7214.2005.00381.x
- ten Brinke, L., & Porter, S. (2011). Cry me a river: Identifying the behavioural consequences of extremely high-stakes interpersonal deception. *Law and Human Behavior*. Advance online publication. doi: 10.1037/h0093929
- ten Brinke, L., Porter, S., & Baker, A. (2011). Darwin the detective: Observable facial muscle contractions reveal emotional high-stakes lies. *Evolution and Human Behavior*. Advance online publication. doi: 10.1016/j.evolhumbehav.2011.12.003
- The Canadian Press. (2006). *Convicted wife-killer asks mother-in-law to raise daughter*. Retrieved from cbc.ca
- Vrij, A. (2000). *Detecting lies and deceit: The psychology of lying and the implications for professional practice*. Chichester: Wiley.
- Vrij, A. (2008). *Detecting lies and deceit: Pitfalls and opportunities*. Chichester: Wiley.
- Vrij, A., Granhag, P. A., & Porter, S. (2011). Pitfalls and opportunities in nonverbal and verbal lie detection. *Psychological Science in the Public Interest*, 11, 89-121. doi: 10.1177/1529100610390861
- Vrij, A., & Mann, S. (2001). Who killed my relative? Police officers' ability to detect real-life high-stake lies. *Psychology, Crime, and Law*, 7, 119-132. doi: 10.1037/0021-9010.89.1.137
- Warren, G., Schertler, E., & Bull, P. (2009). Detecting deception from emotional and unemotional cues. *Journal of Nonverbal Behaviour*, 33, 59-69. doi: 10.1007/s10919-008-005

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