Is It Time to Kill the Detection Wizard? Emotional Intelligence Does Not Facilitate Deception Detection

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In press in Personality and Individual Differences

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This research was supported by an Insight Development Grant from the Social Sciences and Humanities Research Council of Canada (SSHRC Grant # 430-2015-00098).

The authors thank Laura Sodero, Rebecca Johnson, Jordan Ritchie, Taylor Hill, and Keya Gaglani for their help with the data collection and coding.

Highlights

- Individuals high on emotional intelligence (EI) rely more on non-verbal information when attempting to detect deception.
- EI and reliance on non-verbal information is unrelated to detection accuracy.
- The popular notion that some people are naturally better at deception detection, or "detection wizards," should be revisited.

Abstract

Being able to identify if someone is telling the truth or lying is essential in many social situations, for instance in police interrogations or employment interviews. Unfortunately, people are generally poor at lie detection. Some researchers have argued that a small category of individuals are detection *wizards* who can achieve substantially higher detection accuracy because they have high levels of emotional intelligence (EI) and are better able to identify non-verbal cues to deceit. These propositions have been popularized in the media and are appealing to some practitioners, but are based on very limited empirical evidence. We conducted three experimental studies to test these propositions, relying on different samples and using both trait and ability measures of EI. We measured deception detection using different approaches (in-person and video-based) and contexts (social interaction and job interview). One study measured skepticism, and another used eye-tracking technology to capture participants' reliance on non-verbal information. Results showed that high-EI individuals indeed rely more on non-verbal information. However, EI, skepticism, and the use of non-verbal cues are unrelated to deception detection. We thus argue that detection *wizards* are likely a myth, and it would be more productive to focus on evidence-based methods to improve deception detection.

Keywords: Deception detection; Emotional intelligence; Non-verbal cues; Eye tracking

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1. Introduction

On her website, one expert of deception described herself as an "emotionally intelligent genius" who "can clearly articulate and explain the markers in human behavior that reveal the truth, lies, potential risks and other key information about people in minutes" (Ellory, n.d., para. 2). Another suggests that people can "learn to recognize the facial expressions, gestures and language of deception" (Meyer, n.d., para. 3). These examples illustrate two widely popular beliefs: (1) individuals with high levels of emotional intelligence (EI) can more accurately detect deception and (2) identifying non-verbal behaviors displayed by others is central to detecting deception.

These beliefs have their roots in the deception detection literature. For instance, the proposition that there is a small group of individuals exceptionally skilled at detecting deception was initially proposed by Ekman, O'Sullivan, and Frank (1999). These individuals were later labelled deception detection *wizards* (O'Sullivan & Ekman, 2004), and described as possessing an above-average capacity to read and understand others' emotions (e.g., through facial micro-expressions). O'Sullivan (2005) argued that *wizards* are highly emotionally intelligent. She further explained that *wizards* can more accurately observe emotions and interpret non-verbal behavior of others, and can use this information to better understand others, judge them, and detect deception. However, the very existence of *wizards* has been called into question (Bond, 2008; Bond & Uysal, 2007). Importantly, the proposition that high-EI wizards achieve higher deception detection because they can more accurately decipher non-verbal behavior has not been put to empirical test. It also contradicts the extensive literature showing that non-verbal

behaviors are generally invalid cues to deception (DePaulo et al., 2003). In addition, recent findings suggest that EI can even be detrimental to deception detection because high-EI individuals tend to be overconfident in their ability to assess the sincerity of genuine versus lying pleaders, are more gullible, and ultimately do not outperform low-EI people at detection (Baker, ten Brinke, & Porter, 2013). However, one study alone is not sufficient to demonstrate that EI might actually not help detection. Moreover, it did not examine the mechanisms at play (i.e., the reliance – or not – on non-verbal cues).

In this research, we aim at demonstrating that high-EI individuals do indeed rely more on non-verbal cues when attempting to detect deception. However, we propose that neither EI nor using non-verbal information is associated with detection accuracy. To examine these null hypotheses, we follow the triangulation principle (Cortina & Folger, 1998), which involves examining the relationships of interest from several different angles. We thus conducted three independent experimental studies using different samples, designs, as well as domains and measures of EI. With this research, we argue that it is time to revisit the (unsubstantiated) proposition that EI helps with deception detection and, indirectly, the concept of detection *wizards*.

1.1. The "Wizards" of Deception Detection

The issue of deception detection has been extensively studied in communication and social interactions (Bond & DePaulo, 2006; DePaulo, Charlton, Cooper, Lindsay, & Muhlenbruck, 1997; Levine, Kim, Park, & Hughes, 2006), in the legal or forensic context (Mann, Vrij, & Bull, 2004; Strömwall, Hartwig, & Granhag, 2006; Vrij, Mann, Kristen, & Fisher, 2007), and in personnel selection (Reinhard, Scharmach, & Müller, 2013a; Roulin, Bangerter, & Levashina, 2015). The large majority of this research suggests that deception

detection is a difficult task, and that people are not very effective lie detectors. For instance, meta-analytical findings show an average 54% accuracy in truth-lie detection, when chance level is 50% (Bond & DePaulo, 2006).

Despite the average, chance-like level, there is also evidence for some variance in detection accuracy, and thus some individuals outperforming others at detection. A group of researchers led by Paul Ekman attempted to identify exceptionally skilled deception detectors and uncover their unique characteristics. They initially showed that a group of U.S. secret service agents outperformed other professionals at a detection task (Ekman & O'Sullivan, 1991), and then replicated this pattern of results with other federal officers and clinical psychologists with a special interest in deception (Ekman et al., 1999). As mentioned, they ultimately labelled the category of rare individuals (estimated to be 1-2% of the population) with above-average deception detection abilities (i.e., achieving 80-90% accuracy) as detection *wizards* (O'Sullivan & Ekman, 2004; O'Sullivan, 2005, 2007).

One of the key characteristics of the deception *wizards* according to Ekman and colleagues was their reliance on non-verbal cues, and especially their capacity to spot facial micro-expressions that were not aligned with the emotional expression the person deceptively attempted to display (Ekman et al., 1999; Frank & Ekman, 1997; O'Sullivan & Ekman, 2004). The notion of *wizards* and their use of non-verbal cues to identify deceit is intuitively attractive, and has been extensively promoted in the media. For example, the TV series "Lie to Me" (which ran for three seasons on cable TV) was based on Ekman's work, and involved a *wizard* as a major character (Baum, 2009-2011). The view that non-verbal behaviors can be indicative of deceit has also been promoted in the criminal justice system. Police manuals commonly advise

that attending to non-verbal behavior during interrogations will help police officers determine a suspect's honesty (Vrij, 2008).

There are, however, a number of issues associated with the *wizards'* argument. For instance, Bond (2008) has questioned the very existence of *wizards*, in part because participants were sometimes asked to score their own detection test or achieved high scores on some tests but not others. Moreover, only 29 *wizards* were found in a cumulated sample of over 12,000 participants, which could be explained by chance alone (Bond & Uysal, 2007). Beyond the *wizard* debate, deception research in general has failed to identify stable individual differences associated with detection abilities (Aamodt & Custer, 2006; Bond & DePaulo, 2008; Leach et al., 2009), and the rare studies finding significant differences reported small effects (e.g., Carter & Weber, 2010; Roulin, 2016).

1.2. Wizards, Emotional Intelligence, and Deception Detection

Proponents of deception *wizards* have argued multiple times that a key feature of skilled lie detectors could be high levels of EI. For instance, O'Sullivan (2003, p. 1317) suggested that "it seems reasonable to consider lie detection accuracy is one aspect of social/emotional intelligence. If this is the case, differences in emotional intelligence will affect lie detection ability". O'Sullivan and Ekman (2004, p. 282) portrayed *wizards* as having the ability to "describe people in a more complex fashion and with a thoroughness that others do not". And, O'Sullivan (2005, p. 248) suggested that "the expert lie detectors are extraordinarily emotionally intelligent people. They observe the emotions of others accurately. They are aware of their own emotional reactions to others and can use this information in understanding others, especially with respect to detecting deception." These arguments are also similar to Buller and Burgoon's (1996) interpersonal deception theory, and more precisely the proposition that individuals with

higher emotional sensitivity (described as a general skill in deciphering non-verbal messages – and thus overlapping with the concept of EI) would be better at detecting deception.

Yet, besides the general arguments presented above, the theoretical and empirical foundations supporting the potential relationship between EI and deception detection are limited. Ekman and O'Sullivan's arguments are based on their own observation of *wizards* identified as part of their research. Yet, they did not empirically test the relationship between EI and deception detection. Moreover, while they use the concept of EI in their arguments, their work largely ignores the extensive literature on EI. Although the notion of EI can be dated back to the 60s and 80s (e.g., Leuner, 1966; Payne, 1985), the foundational work on EI was done by Salovey and Mayer (1990), and the concept was later popularized by Goleman (1995). It can be described as someone's capacity to accurately express and regulate one's emotion, appraise others' emotions, and use feelings to motivate, plan, and achieve daily activities (Fiori, 2009; Zeidner, Matthews, & Roberts, 2004). EI has been largely debated (and sometimes criticized) because of its broad theoretical definitions, as well as disagreements regarding its conceptualization and measurement (Fiori, 2009; Petrides, 2011). More precisely, some view EI as a trait (or a mix of traits and skills) that can be better measured via self-reports – just like personality (Goleman, 1995; Petrides, Pita, & Kokkinaki, 2007; Schutte et al., 1998), whereas others view it as an ability that should be assessed based on performance on a test - just like general intelligence (Fiori & Antonakis, 2011; MacCann & Roberts, 2008; Mayer, Caruso, & Salovey, 1999).

The trait EI perspective focuses on emotion-related dispositions and self-perceptions of emotional abilities, which recognizes the natural subjectivity of emotional experiences (Petrides, 2011; Petrides et al., 2007). Trait EI includes domains like emotion perception, expression, regulation, or management, but also encompasses self-esteem, empathy, or adaptability (Petrides,

2011). Within the trait EI domain, the arguments associated with the detection *wizards* overlap mostly with the emotion perception facet. The ability EI model is composed of four branches (Fiori, 2009; Mayer et al., 1999; Mayer, Salovey, Caruso, & Sitarenios, 2003; Salovey & Mayer, 1990): individual differences in perceptions and detections of emotions; the ability to integrate emotions into thought processes; the understanding of emotions and their causes, their effects, and the transitions among emotions; and the awareness and management of emotional reactions. Within the ability EI domain, the arguments associated with the detection *wizards* overlap mostly with the ability to perceive or detect others' emotions, as well as understanding their causes and effects (Fiori, 2009).

Trait EI and ability EI are differently related to personality and cognitive ability, and the two domains are assessed using different measures. Because self-perceptions are located at the lower levels of personality hierarchies, trait EI is strongly correlated with some personality traits (e.g., extraversion, neuroticism, and conscientiousness) but largely unrelated to cognitive ability (O'Connor & Little, 2003; Petrides et al., 2007). Trait EI measures include the TEIQue (Petrides, 2009), the EQ-I (Bar-On, 2004), or – more recently – the REIS (Pekaar, Bakker, van der Linden, & Born, 2018). In two of our studies, we used the scale by Schutte and colleagues (Schutte et al., 1998). This measure is one of the most extensively used measures in trait EI research, is shorter than many other trait EI measures while still covering the most relevant domains of trait EI for detection (e.g., emotion appraisal), and demonstrates face, construct, predictive, and discriminant validities despite an unstable factor structure (Petrides & Furnham, 2000; Schutte, Malouff, & Bhullar, 2009; Schutte et al., 1998). In contrast, ability EI is theoretically closer to cognitive ability than personality, but measurement remains a major limitation. For instance, attempts to artificially objectify emotional experiences (e.g., through expert ratings) to create IQ-style tests

can be psychometrically problematic (Petrides, 2011). Moreover, the most predominant measure of the four branches of emotion-related abilities, the MSCEIT (Mayer et al., 2003), has been criticized for its large overlap with measures of intelligence and (to a smaller extent) personality (Fiori & Antonakis, 2011) and unclear factor structure (Maul, 2011). More recent measures focused specifically on emotional understanding (STEU) or emotion management (STEM) have shown less overlap (MacCann & Roberts, 2008). We used the STEU on our third study.

1.3. Can Emotional Intelligence Really Help Deception Detection?

There is evidence that high-EI individuals can convincingly feign emotions (Porter, Brinke, Baker, & Wallace, 2011). Moreover, EI is associated with focusing more on (positive) emotions (Lea, Qualter, Davis, Pérez-González, & Bangee, 2018), and can contribute to accurately recognizing emotions (Elfenbein, Marsh, & Ambady, 2002), identifying mismatches between expressions and verbal messages (Wojciechowski, Stolarski, & Matthews, 2014), and discriminating trustworthy from untrustworthy faces (Sacco, Merold, Lui, Lustgraaf, & Barry, 2016). However, direct evidence for the relationship between EI and deception detection is almost non-existent. The only study directly examining this relationship even suggests that EI could be detrimental to detection (Baker et al., 2013). Baker et al. had participants watch videos of individuals pleading for the safe return of missing family members and then asked them to judge whether the pleas were honest or deceptive (i.e., cases where the pleader was actually responsible for the missing person's disappearance or murder). High-EI participants were more emotional, demonstrated more sympathy towards deceptive pleaders, and were ultimately less accurate in their judgments.

Baker et al. (2013) suggested that high-EI individuals may be lacking in skepticism, which makes them gullible and compromises their ability to detect deception. Similarly, a

number of researchers have highlighted the relevance of skepticism to deception detection (e.g., Forgas & East, 2008), but empirical examination of this relationship is scarce. In the auditing literature, skepticism has been variously defined as (1) taking an unbiased neutral approach or (2) taking an approach of presumptive doubt (Nelson, 2009). Hurtt's (2010) Professional Skepticism Scale, which we use in our Study 2, is consistent with both the neutral and presumptive doubt perspectives of skepticism. It measures trait characteristics of skeptics, including a questioning mind, the suspension of judgment, a search for knowledge, interpersonal understanding, self-esteem, and autonomy. Like with EI, one might intuitively expect that more skeptical individuals would be proficient lie detectors. For instance, the aspect of interpersonal understanding, which is conceptually similar to EI, suggests that those high in skepticism have a good understanding of others' motivations and behaviors. Since they recognize that people have a tendency to present themselves and their personal interests in the best light, they are unlikely to easily accept others' claims or be persuaded by others (Hurtt, 2010; Nelson, 2009).

Although there has been no research directly exploring the relationship between skepticism and deception detection, several researchers have examined the relationship between deception detection and suspicion, a construct theoretically similar to skepticism. This research has shown no consistent association between suspicion and deception detection (Buller, Burgoon, Buslig, & Roiger, 1996; Buller, Strzyzewski, & Comstock, 1991; Kim & Levine, 2011). For example, Kim and Levine (2011) found that inducing suspicion increased lie detection accuracy but decreased truth detection accuracy, while Buller et al. (1996) found that suspicion decreased deception detection accuracy for experts, but not for novices.

In addition, the notion of *wizards* being better lie detectors, because of their ability to identify non-verbal behaviors, is also contrary to the vast majority of research on cues to

deception. For instance, meta-analytical evidence shows that most non-verbal cues (e.g., gaze aversion, smiling, fidgeting, body movements) are actually unrelated to deception (DePaulo et al., 2003). The weak relationships between non-verbal behaviors and deception has also been shown in specific social situations, such as police interrogations (Strömwall et al., 2006) or job interviews (Schneider, Powell, & Roulin, 2015). In contrast, detection can be improved when people pay close attention to the story told (Mann et al., 2004) or when using techniques focused on verbal content such as Criteria-Based Content Analysis (e.g., Griesel, Ternes, Schraml, Cooper, & Yuille, 2013; Sporer, 1982; Vrij, 2005; Vrij & Mann, 2006). In short, empirical evidence suggests that individuals attempting to detect deception would be better-off ignoring non-verbal cues.

Based on the literature described above, we expect that only part of the rhetoric around detection *wizards* can be confirmed, namely the fact that high-EI individuals (both trait and ability) will be especially prone to relying on non-verbal information when judging deception. However, we do not expect to find any evidence for the proposition that EI will facilitate deception detection. We also expect to confirm that relying on non-verbal cues does not help with detection. Finally, we anticipate that skepticism, like trait and ability EI, will be unrelated to detection. We thus propose to test the following two hypotheses in the present research:

Hypothesis 1. Individuals higher on emotional intelligence rely more on non-verbal cues when attempting to detect deception.

Hypothesis 2. (a) Emotional intelligence, (b) reliance on non-verbal cues, and (c) skepticism are unrelated to deception detection accuracy.

1.4. Overview of Studies

Testing null hypotheses (like our Hypothesis 2) is a delicate endeavour. Cortina and Folger (1998) recommend using triangulation, that is, examining the relationships of interest from several angles. In line with this recommendation, we examined our hypotheses in three separate studies relying on different samples, domains and measures of EI, and deception detection tasks. More precisely, in Study 1 dyads of participants (mostly female and Caucasian psychology students) told each other three stories, attempted to identify which story from their interaction partner was made-up, and then completed a self-report of EI (i.e., aligned with the trait EI view). In Study 2, a similar sample of participants watched videotaped alibi-based stories and attempted to identify which were true vs. invented. EI was assessed in the same way as in Study 1. We also examined the role of skepticism. Finally, in Study 3, more diverse business students watched videotaped mock job interviews and attempted to detect the level of deception used by the applicant. They completed an ability EI measure. Their use of non-verbal cues was also captured automatically with eye-tracking technology.

2. Study 1: Detecting Made-up Stories in Dyads

2.1. Method

2.1.1. Sample

80 undergraduate psychology students from a Canadian university (72.5% female, 72.5% Canadian, M_{age} = 21.7, SD = 4.0) participated in the study in exchange for bonus course credit.

2.1.2. Procedure and Design

This study was a lab experiment with dyadic in-person interactions. Neither participant knew their study partner prior to participating. The procedure was adapted from Burgoon, Buller, and Floyd (2001). In the present study, both participants were instructed to tell three stories about three different topics (one created lie with mostly falsified details, two true personal

experiences) with the goal to successfully deceive their counterpart. To enhance motivation to avoid detection, participants were told that research clearly shows the ability to lie to others successfully is a good predictor of future success in social settings, for jobs such as consulting and counseling, and for the maintenance of friendships, therefore it was important that they convince their partner that their lie was true. Similar motivation enhancement techniques have been used by Hancock, Woodworth, and Goorha (2010). Each dyad was seated beside each other with video recorders facing toward them and an audio recorder placed between them. They were given a list of story ideas (e.g., a memorable birthday, an embarrassing moment) from which they could pick three stories to tell. One participant in the dyad (participant A) was randomly chosen to tell the first story. When they were done, participant B had a chance to ask questions or request clarification about the story. Then participant B told their first story, and so forth until all six stories were told. Both participants were then directed to a computer station to complete the measures, and were debriefed.

2.1.3. Measures

Deception detection was measured as the participants' ability to identify which one of the three stories told by their interaction partner was created (i.e., scored 1 or 0, with chance level being 1/3). *Trait emotional intelligence* was measured with the 33-item (α = .86) self-report EI scale developed by Schutte et al. (1998). Example items included "I have control over my emotions" or "I can tell how people are feeling by listening to the tone of their voice".

2.2. Results

Descriptive statistics and correlation results are presented in Table 1. Overall, 40% of participants were able to correctly identify which one the three studies told by their interaction partner was a lie. This was not significantly different from chance level (i.e., 1 out of 3), $t(79)$ =

1.22, p = .23. In line with hypothesis 2a, trait EI was not related to deception detection (r = -.04, p = 71). A t-test confirmed that there was no difference in trait EI score between individuals who correctly identified the made-up story (M = 4.08, SD = .49, n = 32) and those who did not (M = 4.12, SD = .39, n = 48), t(78), p = .71. Deception detection was also unrelated to demographic characteristics (i.e., age, gender).

Table 1. Descriptive Statistics and Correlations Among Main Variables (Study 1)

	M (SD)	**Scale**	**1**	**2**	**3**
1. Deception detection	.40 (.49)	1/0			
2. Trait EI	4.11 (.43)	1-5	-.04		
3. Age	21.66 (4.03)	-	-.01	.10	
4. Gender	.73 (.45)	1/0	.05	.05	-.09

Note: N = 80; Gender: 0 = Male, 1 = Female; Skewness: M = -.39 (SD = .27) and Kurtosis: M = .79 (SD = .53) for EI; $^{**}p < .01$, $^{*}p < .05$

2.3. Discussion

Results from Study 1 provided initial evidence that EI, operationalized as a trait (Goleman, 1995) and measured with a self-report (Schutte et al., 1998), was unrelated to deception detection during an interpersonal interaction. Findings from this first study thus represent a first a piece of evidence against the proposition that *wizards* can better detect deception because of their EI (Ekman et al., 1999; O'Sullivan & Ekman, 2004; O'Sullivan, 2005).

3. Study 2: Detecting Made-Up Stories in Videos

3.1. Methods

3.1.1. Sample

A total of 590 Canadian psychology students (a different group from the same university as in Study 1) completed an online study in exchange for bonus course credit. After eliminating participants with multiple submissions or incomplete data, the final sample included 433 participants (71% female, 67% Caucasian, 10% Black, 11% Asian, 90% between the ages of 18-25).

3.1.2. Procedure and Material

We used a set of 10 video clips (M_{length} = 37.3s, *SD* = 8.37), with five true and five false statements. Clips were recorded with six volunteers (three males, three females between the ages of 21 and 24) instructed to tell a story in the past tense, approximately 30 seconds long, about an alibi for a social situation in which they were unable to follow through (but without coaching about deception). All participants were presented with the same 10 videos, but in a random order (to control for order effects). After each video, participants indicated whether they thought the person in the video was telling the truth or lying in their alibi. Once participants watched all 10 videos, they completed the measures, and were debriefed.

3.1.3. Measures

Deception detection was measured as the proportion of the ten video clips correctly identified as honest vs. deceptive (with chance level being 50 percent). *Trait emotional intelligence* was measured with the same 33-item (α = .91) scale developed by Schutte et al. (1998) as in Study 1. In this study, we also measured participants' general level of skepticism with a 30-item (α = .88) self-report of the multi-dimensional individual characteristic of professional skepticism (Hurtt, 2010). Example items include "I tend to immediately accept what other people tell me" or "I frequently question things that I see or hear."

3.2. Results

Descriptive statistics and correlation results are presented in Table 2. Overall, participants correctly identified 4.93 (*SD* = 1.53) of the ten stories as lies/truths, which was not significantly different from chance level (i.e., 5 out of 10), $t(418) = .96$, $p = .34$. Trait EI was not related to deception detection ($r = .03$, $p = .52$), consistent with Hypothesis 2a. Trait EI was strongly related to skepticism ($r = .52$, $p < .01$), but skepticism was also unrelated to detection ($r = .01$, $p = .87$), consistent with Hypothesis 2c. Deception detection was also unrelated to demographic characteristics (i.e., age, gender).

Table 2. Descriptive Statistics and Correlations Among Main Variables (Study 2)

	M (SD)	**Scale**	**1**	**2**	**3**	**4**
1. Deception detection	4.93 (1.53)	0-10				
2. EI	3.64 (.45)	1-5	.03			
3. Skepticism	4.31 (.50)	1-7	.01	.52**		
4. Age	1.63 (.74)	1-4	.03	.10*	.18**	
5. Gender	0.71 (.45)	1/0	-.03	.09	.06	-.12*

Note: $N = 419$ for deception detection, $N = 433$ for other variables; Age: 1 = 18-20 years old, 2 = 21-25, 3 = 26-30, 4 = over 30; Gender: 0 = Male, 1 = Female; Skewness: $M = -.10$ ($SD = .12$) for EI, $M = .23$ ($SD = .12$) for skepticism, and $M = .03$ ($SD = .12$) for detection; Kurtosis: $M = .69$ ($SD = .24$) for EI, $M = .02$ ($SD = .24$) for skepticism, and $M = -.21$ ($SD = .24$) for detection; ** $p < .01$, * $p < .05$

3.3. Discussion

Participants in Study 2 did not outperform chance level when trying to identify invented alibis, which is consistent with the majority of past research (Bond & DePaulo, 2006). Results from this study also replicate and extend those obtained in Study 1. High-EI individuals, again

measured as a stable trait, were more skeptical (i.e., more attentive, careful, and suspicious), which is consistent with propositions from interpersonal deception theory (Buller & Burgoon, 1996). However, neither trait EI nor skepticism helped them to detect deceptive stories more accurately. Interestingly, three respondents in Study 2 obtained detection scores of 90% or higher (which could make them wizards, according to O'Sullivan & Ekman, 2004). However, these individuals did not report particularly high EI scores (ranging from 3.30 to 3.91 on a 1-5 scale). Altogether, the results of this second study represent additional evidence in contradiction to the main propositions at the core of the *wizards'* principles.

4. Study 3: Detecting Deception in Mock Job Interviews

4.1. Methods

4.1.1. Sample

Participants were 147 business students from another Canadian university, who partook in a 45-minute study in exchange for bonus course credits. The sample was 47% female, ethnically diverse (38% Caucasian, 45% Asian, 10% Black/African), with 64% native English speakers, and 62% currently employed. M_{age} was 21.5 years (SD = 4.5).

4.1.2. Procedure and Materials

Participants were randomly assigned to watch one of three sets of 10 video clips. The clips were from mock job interviews with Master of Business Administration (MBA) students playing the role of job applicants taken from a recent study examining deception in job interviews (Roulin & Powell, 2018). The applicants answered questions about past professional experiences and were instructed to use one of three response strategies: honest (i.e., describing an actual experience completely truthfully), slight deception (i.e., exaggerating or embellishing an actual experience), or extensive deception (i.e., an invented experience). These three levels of applicant

deception are commonly used in the job interview literature (e.g., Levashina & Campion, 2007; Roulin, 2016; Roulin et al., 2015). After each clip, participants had to estimate which one of the three strategies the applicant used. An eye tracker captured what participants were looking at while watching the videos (see below). After watching and rating all ten clips, participants completed the EI test, and were debriefed.

4.1.3. Measures

Deception detection was measured as the proportion of the ten video clips correctly identified as honest, slightly deceptive, or extensively deceptive (with chance level being 1/3).

Ability Emotional Intelligence was measured with the Situational Test of Emotional Understanding-Brief (STEU-B; Allen, Weissman, Hellwig, MacCann, & Roberts, 2014). The STEU-B is the short version of the STEU (MacCann & Roberts, 2008), which assesses the emotion detection and understanding facets of EI ability. It comprises 19 situations and asks respondents to choose which of five proposed emotions is most likely to result from that situation (with one being identified as correct by experts). A measure of emotional understanding was chosen because the capacity to perceive others' emotions and understand their causes and effects largely overlaps with the arguments associated with the detection wizards (Fiori, 2009).

Reliance on non-verbal cues was measured with an unobtrusive Tobii Pro X2-60 eye tracker. It was installed on the lower frame of a 21" computer screen and captured what participants looked at in the videos, with a sampling rate of 60 Hz. The Tobii Pro Studio software was used to calculate the exact time participants spent looking at five "areas of interest" (by drawing rectangular frames around the candidates' head, eyes, mouth, hands, and body). A cover story was included to eliminate the risk that participants would behave differently because of the eye tracker. Participants were initially told that eye-tracking was being used to assess their reactions

to two print ads for the university's MBA program, then were exposed to the ads for a few seconds, and had to click on a fake "stop" icon before moving forward to the main study. They were debriefed about the real use of the eye tracker at the end of the study.

4.2. Results

Descriptive statistics and correlation results are presented in Table 3. On average, participants were able to correctly identify 3.50 (*SD* = 1.46) of the ten response strategies used by applicants, a value not significantly different from chance level, $t(146) = 1.38$, $p = .17$. Our analysis of eye tracker data showed that ability EI was significantly related to spending more time looking at three "areas of interest" associated with non-verbal cues: the target's head ($r = .28$, $p < .01$), mouth ($r = .22$, $p <. 01$), and hands ($r = .18$, $p <. 05$). The relationship was in the expected direction, but smaller and non-significant for the target's eyes ($r = .13$, $p = .13$), and EI was unrelated to the time spent looking or the body ($r = .01$, $p = .87$). This offers partial support for Hypothesis 1. In line with Hypotheses 2a and 2b, deception detection accuracy was unrelated to ability EI ($r = .12$, $p = .16$) or spending more time looking at non-verbal cues (r ranging from -.04 to .09, all ps > .39). We also note that deception detection was unrelated to demographic characteristics (i.e., age, gender, speaking English as first language). Ability EI was positively related to speaking English as first language ($r = .28$, $p < .05$), but controlling for English as first language did not change the relationship between EI and deception detection (i.e., $r_{partial} = .11$, $p = .19$).

4.3. Discussion

Participants in this third study did not outperform chance level when trying to detect job applicants' use of deceptive strategies, which is consistent with past research in the job interview context (Reinhard et al., 2013a; Roulin, 2016; Roulin et al., 2015). Our results also confirmed

that high-EI individuals use more non-verbal cues when attempting to detect deceit, using a novel approach based on eye tracking technology. Yet, our results only highlighted relationships for some areas of interest (i.e., around the head, mouth, hands and – to a lesser extent - the eyes), but not others (i.e., trunk/body). This could be because the job applicants' body was sometimes partly hidden behind the interview table or was outside of camera frame. Moreover, neither ability EI nor the use of non-verbal cues was associated with detection accuracy. The positive relationship observed between ability EI and speaking English as first language is consistent with the finding that STEU scores are associated with vocabulary (MacCann & Roberts, 2008), likely because of the verbal abilities necessary to fully comprehend the situations or emotions described in the STEU items. Importantly for our research, the (weak and non-significant) relationship between EI and deception detection did not change when English as first language was controlled for.

Our results, again, contradict the popular belief derived from the *wizards* research (O'Sullivan & Ekman, 2004; O'Sullivan, 2005) that EI and non-verbal information help detection. But they confirm that non-verbal cues (e.g., eye contact or gaze aversion, head movements or nodding, smile, hand movements or fidgeting) that laypeople often believe to be associated with deception are actually largely invalid cues of deception in general (DePaulo et al., 2003), and in the interview context (Schneider et al., 2015). We note that none of the participants in Study 3 achieved detection scores that would qualify them as *wizards* according to Ekman and colleagues (i.e., the two most accurate individuals achieved 70%). However, the chance level in this study was 33.3% (vs. 50% in traditional deception detection studies), and even the two best detectors had average levels of ability EI (i.e., 13-14 out of 19).

Table 3. Descriptive Statistics and Correlations Among Main Variables (Study 3)

	M (SD)	**Scale**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. Deception detection	3.50 (1.46)	0-10									
2. Ability EI	11.14 (2.58)	0-19	.12								
3. Age	21.54 (4.50)	-	-.04	.06							
4. Gender	0.47 (.50)	1/0	.03	-19*	-.28**						
5. English 1st language	0.64 (.48)	1/0	.09	.28**	.01	-.20*					
6. Looking at head	379.05 (206.91)	-	.05	.28**	.07	-.12	.15				
7. Looking at eyes	42.75 (82.07)	-	.09	.13	.02	-.03	.10	.33**			
8. Looking at mouth	70.48 (90.30)	-	.04	.22**	-.07	-.08	.13	.54**	-.01		
9. Looking at hands	46.20 (80.78)	-	-.00	.17*	.12	.12	.04	.41**	-.16	-.03	
10. Looking at body	113.85 (120.72)	-	-.05	.01	-.12	-.12	.12	.35**	-.04	.30**	-.17*

Note: N = 147 for deception detection and EI, *N* = 142 for demographics, *N* = 140 eye tracking data; Gender: 0 = Male, 1 = Female; Values for the five eye tracking variables are in seconds; Skewness: *M* = -.64 (*SD* = .21) for EI and *M* = .11 (*SD* = .21) for detection; Kurtosis: *M* = .93 (*SD* = .41) for EI and *M* = -.33 (*SD* = .41) for detection; ** $p < .01$, * $p < .05$

5. General Discussion

5.1. Theoretical Contribution and Practical Implications

There are some contexts where the ability to detect lies is very important and can have significant consequences. For example, in the employment context, job applicants who falsely convince hiring managers that they have the necessary qualifications may present huge costs to an organization. Considering the criminal justice system, guilty suspects who persuade police officers or judges of their innocence will go free, and convicted offenders who falsely convince parole boards that they have been rehabilitated may be released to the community. Since the consequences of deception in these contexts is so important, researchers in forensic psychology and personnel selection have spent considerable effort exploring the variables that aid in lie detection. Indeed, it would be desirable if we could identify individuals with certain characteristics, such as EI, who have superior lie detection abilities. In an ideal world, every hiring manager, every police officer, and every judge would be a detection *wizard.* Proponents of the deception detection *wizards* argue that individuals can achieve above-average deception detection accuracy because they are extraordinarily emotionally intelligent (i.e., high-EI), and are able to use this quality to accurately understand and perceive the emotions, thoughts, feelings, and intentions of others through non-verbal behaviors (O'Sullivan & Ekman, 2004; O'Sullivan, 2005). Unsurprisingly, the *wizard* argument is appealing and very popular in the media.

Unfortunately, research does not support this scenario. Indeed, such claims are inconsistent with existing research on individual differences in detection (Bond & DePaulo, 2008), valid cues of deception (DePaulo et al., 2003), and the relationship between EI and detection (Baker et al., 2013). More generally, the very concept of an archetypal "emotionally intelligent" individual has even been described as a myth by EI researchers (e.g., Petrides, 2011).

Our research is the first to empirically examine EI (conceptualized both as a trait and an ability), reliance on non-verbal cues, skepticism, and lie detection. Overall, the current results support Bond and DePaulo's (2008) meta-analysis investigating individual differences in detecting deception, which demonstrated that there is no reliable predictor of lie detection accuracy.

More precisely, our results confirm that EI was unrelated to deception detection accuracy. Importantly, the lack of a relationship was demonstrated both when EI was conceptualized as a trait (in Study 1 and 2) and as an ability (in Study 3). That is, both individuals who report a disposition to perceive and regulate emotions or empathy and those who performed on a test of emotional understanding did not perform better at detection. In other words, our research findings failed to support the notion of deception detection *wizards* being "extraordinarily emotionally intelligent" (O'Sullivan, 2005). Combined with earlier findings (Baker et al., 2013), our results suggest that researchers should move on from exploring EI as a predictor of lie detection ability. In Study 2, we similarly showed that skepticism was unrelated to deception detection accuracy. Although other researchers have suggested that skepticism or suspicion should be associated with deception detection by reducing the truth bias (e.g., Buller & Burgoon, 1996; Forgas & East, 2008; Kim & Levine, 2011), the present results did not support that theory. Moreover, we found that high-ability EI individuals focus more on non-verbal information when attempting to detect deceit, by looking more at the target's head, mouth, and hands. This finding is aligned with the argument that *wizards* rely on non-verbal or emotional cues when judging others (O'Sullivan & Ekman, 2004). Past research has highlighted that high-EI individuals are better at using facial expressions to identify targets' emotions (Elfenbein et al., 2002) and potential mismatches between the target emotional expressions and verbal message (Wojciechowski et al., 2014). It is thus not surprising that high-EI individuals also spend more

time examining non-verbal behaviors for cues that are often believed to illustrate deception, such as smiles, head movements, or hand movements. Unfortunately, we found that relying on non-verbal deception cues is not associated with improved deception detection accuracy, which is consistent with past research on deception in general (Bond & DePaulo, 2006; DePaulo et al., 2003), but also in the legal (Strömwall et al., 2006; Vrij, 2008) and selection (Schneider et al., 2015) contexts.

Taken together, our three key findings highlight why EI does not facilitate deception detection: High-EI individuals focus more on non-verbal information, which largely represents invalid cues to deception, and thus does not help more accurately detecting deceit. Because deception detection in cognitively demanding (Reinhard, Scharmach, & Stahlberg, 2013b; Reinhard, Sporer, Scharmach, & Marksteiner, 2011), spending resources looking for non-verbal cues is likely done at the expense of identifying and using (more valid) content-related information. More generally, this suggests that those who are motivated to detect deception as part of their jobs should avoid relying on non-verbal behaviors to judge honesty. Specifically, training for police interrogators should highlight the lack of relationship between non-verbal behavior and deception, rather than suggesting non-verbal behavioral cues to deception (Mann et al., 2004; Vrij, 2008). Similarly, hiring managers should avoid relying on applicants' non-verbal behaviors to judge honesty, but rather focus on response content (Culbertson, Weyhrauch, & Waples, 2016; Roulin & Powell, 2018).

5.2. Limitations and Future Research Directions

Through the use of triangulation (Cortina & Folger, 1998), the current research explored the relationships between EI, non-verbal behavior, and deception detection. By conducting three separate studies, which relied on different samples, different approaches and measures of EI, and

different deception tasks, we tested the null hypotheses that EI and reliance on non-verbal cues is not related to deception detection. Our use of experimental designs strengthened the internal validity of this research, and the use of a variety of measures of both EI and deception detection strengthened the generalizability of the studies' designs. Despite these strengths, the current studies have a number of limitations. For example, the use of university student samples limits the generalizability of the present samples. We recommend that our studies be replicated with professionals, such as police officers, judges, or hiring managers. The generalizability of the studies would be further increased through the use of field settings, such as real police interrogations or job interviews. Results could also be replicated using additional or more extensive measures of both trait and ability EI. For instance, Schutte et al.'s measure of trait EI is short and has been described as not fully covering the construct's sampling domain (Siegling, Saklofske, & Petrides, 2015). Similarly, our measure of ability EI (i.e., the STEU-Brief) was short and did not cover all four branches of the ability EI domain.

6. Conclusions

The popular concept of deception detection *wizards* argues that a few special individuals can achieve above-average detection deception accuracy, because they are emotionally intelligent and thus can better identify non-verbal cues of deception (O'Sullivan & Ekman, 2004; O'Sullivan, 2005). Our three studies demonstrate that EI is unrelated to deception detection. Combined with earlier studies raising methodological and statistical issues associated with the *wizards* hypothesis (Bond, 2008; Bond & Uysal, 2007), our findings provide additional evidence that detection *wizards* are likely a myth.

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