

RESEARCH ARTICLE

Looks like a liar? Beliefs about native and non-native speakers' deception

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Summary

We examined whether observers' beliefs about deception were affected by a speaker's language proficiency. Laypersons ($N = 105$) and police officers ($N = 75$) indicated which nonverbal and verbal behaviors were predictive of native versus non-native speakers' deception. In addition, they provided their beliefs about these speakers' interrogation experiences. Participants believed that native and non-native speakers would exhibit the same cues to deception. However, they did predict that non-native speakers would likely face several challenges during interrogations (e.g., longer interrogations and difficulties understanding the interrogator's questions). Police officers and laypersons also differed in their beliefs about cues to deception and interrogation experiences.

KEYWORDS

bias, deception detection, interrogations, language proficiency, stereotypes

1 | INTRODUCTION

Despite the importance of accurately assessing when someone is not being truthful, laypersons' and experts' abilities to detect deception are only slightly better than chance (Aamodt & Custer, 2006; Bond & DePaulo, 2006). Researchers have long speculated that incorrect stereotypes of lie-tellers might underlie this inability to detect deception (see Hartwig & Bond, 2011). Indeed, both laypersons and police officers report inaccurate beliefs about the diagnosticity of cues (e.g., Akehurst, Kohnken, Vrij, & Bull, 1996; Bogaard, Meijer, Vrij, & Merckelbach, 2016; DePaulo et al., 2003; Masip & Herrero, 2015; The Global Deception Research Team, 2006; Vrij, Hartwig, & Granhag, 2019). For example, gaze aversion is a commonly cited cue to deceit, even though it is not actually indicative of deception (e.g., Bogaard et al., 2016). Knowledge of deception stereotypes is incomplete, however, in that the majority of studies to date have focused on native speakers (see Bond & DePaulo, 2006 for a review). Relatively little is known about whether beliefs about deception generalize to diverse linguistic populations.

Research on non-native speakers—and their deception—is particularly timely because linguistic diversity is on the rise. In fact, in

Canada alone, the number of people who reported speaking a native language that was not English rose by 13.3% from 2011 to 2016 (Statistics Canada, 2017). In the United States, 20% of the population speaks a language other than English at home (Ryan, 2013). Thus, there are a number of contexts, such as border crossings or intelligence interviews, in which individuals may be required to communicate with people in authority in their non-native languages.

As a result, there has been an increased focus on the impact of language proficiency on deception decisions. Two central findings have emerged after over a decade of research on the topic. First, discrimination between lie- and truth-tellers can be affected by speakers' levels of language proficiency, but the pattern of results has been mixed. One way to interpret these findings is in terms of the populations sampled. When non-native speakers have been university students or community members, their deception has been accurately detected by laypersons at rates equal to (Castillo, Tyson, & Mallard, 2014; Cheng & Broadhurst, 2005; Evans & Michael, 2014) or greater than (Evans, Michael, Meissner, & Brandon, 2013; Evans, Pimentel, Pena, & Michael, 2017) that of native speakers. Conversely, observers have been consistently less able to detect the deception of non-native

speakers who have been recruited from official English as a Second Language programs (i.e., those who, arguably, possessed lower levels of objectively-assessed proficiency; see Akehurst, Arnhold, Figueiredo, Turtle, & Leach, 2018; Elliot & Leach, Elliott & Leach, 2016; Da Silva & Leach, 2013). On the whole, previous work suggests that proficiency effects on discrimination exist, even if the exact direction of those effects remains unclear.

Second, speakers' language proficiencies can affect observers' biases. There has been greater consistency across studies in this area. Typically, observers exhibit a truth bias toward native speakers: when attempting to detect deception, they are more likely to indicate that a speaker is telling the truth than lying (Bond & DePaulo, 2006). The same consideration does not appear to be afforded to non-native speakers, however. Across several studies, non-native speakers are viewed less positively than native speakers, either because they are less likely to be labeled truth-tellers or they tend to be labeled lie-tellers (e.g., Akehurst et al., 2018; Da Silva & Leach, 2013; Evans & Michael, 2014).

In a new phase in the field, researchers have begun to examine the factors unpinning these differences in decision-making. For example, speakers' accents (Akehurst et al., 2018), the demands of the deception task (Evans et al., 2017), and observers' familiarity with non-native speech (e.g., Evans & Michael, 2014; Leach, Snellings, & Gazaille, 2017) have been tested as moderators of proficiency effects. The role of cognitive load has also received significant empirical attention (e.g., Evans et al., 2013). Lying requires mental effort; lie-tellers are expected to exert executive functions—such as working memory, inhibitory control, and cognitive flexibility—to a greater extent than truth-tellers (e.g., Sporer, 2016; Walczyk, Harris, Duck, & Mulay, 2014; Zuckerman, DePaulo, & Rosenthal, 1981). Similarly, although bilingualism has been associated with several advantages in terms of cognitive functioning, processing information in a non-native (vs. native) language is more effortful (see Bialystok, Craik, Green, & Gollan, 2009). To the extent that executive function and perceptual resources are limited (Broadbent, 1957; Marois & Ivanoff, 2005), carrying out two demanding cognitive tasks simultaneously should negatively affect performance (Briggs, Peters, & Fisher, 1972; Johnston, Greenberg, Fisher, & Martin, 1970). The cognitive load approach to deception detection predicts that differences between lie- and truth-tellers should be exacerbated under these conditions (Vrij, Fisher, Mann, & Leal, 2008). Thus, non-native speakers might simply exhibit more cues to deception due to the heightened cognitive demands associated with both lying and speaking a less proficient language (e.g., Akehurst et al., 2018; Elliott & Leach, 2016). The Psychologically-based Credibility Assessment Tool (PBCAT)—which is employed by minimally trained observers to identify 11 cues to deception—has yielded the most consistent findings about the leakage of non-native speakers' deception (Evans et al., 2013). Across several studies and linguistic groups, the PBCAT has exhibited greater utility in discriminating between lie- and truth-telling non-native speakers than native speakers (Evans et al., 2013; Evans & Michael, 2014). That is, speakers with poorer language proficiencies exhibit more cognitive cues (e.g., fewer narrative details, less admitted lack of memory,

thinking harder, and slower rate of speech) and affective cues (e.g., nervousness and negativity) to deception.

In addition, there is indirect evidence that verbal and behavioral correlates of non-native speech can impact decision-making. Omitting audio information eliminates proficiency effects in lie-detection tasks (i.e., the detection of native and non-native speakers' deception becomes similar; Akehurst et al., 2018). Research from other fields also suggests that, in general, non-native speakers look and sound different from native speakers, and may be viewed more negatively as a result (Fuertes, Gottdiener, Martin, Gilbert, & Giles, 2012; Lev-Ari & Keysar, 2010). For example, non-native speakers tend to speak more slowly, pause longer, and say less than native speakers (Kormos & Denes, 2004). Anxiety due to personal knowledge of lack of proficiency may be manifested in nonverbal behaviors, such as gaze aversion and the appearance of nervousness, as well (Gregersen, 2005). As mentioned, these are stereotypical cues commonly thought to be associated with deception (e.g., The Global Deception Research Team, 2006). Furthermore, less proficient non-native speakers are considered less competent and intelligent than more fluent speakers, and face more negative employment-related decisions (Lippi-Green, 1994; White & Li, 1991).

According to expectancy violation theory, deviations from expected verbal and/or nonverbal behavior can arouse and distract observers; in particular, attention can be drawn from the content of a message to focus on characteristics of the target (Burgoon, 1993). Norm violations can, thus, affect the nature of the interaction between communicators, their impressions of each other, and even the outcomes of their interaction. Importantly, violations are also less likely to be tolerated in the absence of preexisting positive relationships (e.g., when the observer and target do not know each other). Expectancy violation theory has been applied to a variety of communicative contexts, including deception detection (e.g., Burgoon, Blair, & Strom, 2008). Indeed, verbal and behavioral violations of norms—which are more likely to occur in cross-cultural contexts—can become indicators of deception and impact evaluations of credibility (Bond et al., 1992; Castillo & Mallard, 2012). We posited that failing to calibrate one's beliefs with diagnostic cues to deception or general deficits associated with poor language proficiency (e.g., reduced comprehension) could account for inaccurate decision-making and biases.

2 | PRESENT RESEARCH

We examined individuals' beliefs about either native or non-native speakers' (1) cues to deception and (2) interrogation experiences. Stereotypes about lie-tellers are remarkably consistent across countries (The Global Deception Research Team, 2006); however, language proficiency can affect decision-making (e.g., Da Silva & Leach, 2013; Evans et al., 2013; Lippi-Green, 1994). Thus, we entertained two competing hypotheses: (1) individuals could apply their beliefs about native-language speakers to non-native speakers (i.e., beliefs about

the frequency and intensity of cues to deception would be the same across language proficiencies) or (2) individuals could believe that non-native speakers would behave differently than native speakers (i.e., exhibit traces of heightened cognitive load, such as more frequent pauses) due to the cognitive complexities associated with lying and speaking in a less proficient language. Both hypotheses were consistent with the deception detection literature, and we did not have a priori hypotheses about the accuracy of participants' beliefs. A fixed stereotype of deceivers could account for observers' biased and inaccurate decision-making toward non-native speakers (e.g., Da Silva & Leach, 2013) because group members might unwittingly violate perceived norms associated with truth-telling when simply communicating. Even if participants adjusted their beliefs when judging non-native speakers, their expectations may not be accurate or complete. Again, violated expectancies would produce the patterns of findings observed in previous deception detection studies.

We also considered whether effects were moderated by expertise.¹ Experts differ from novices in several respects. For example, they demonstrate greater domain-specific knowledge, and better detect meaningful patterns in information (Glaser & Chi, 1989). We would expect, then, that police officers (presumed deception detection experts) and laypersons (presumed deception detection novices) would differ in terms of their knowledge about deceivers. Yet both groups have reported similar stereotypes about lie-tellers (e.g., Akehurst et al., 1996; Bogaard & Meijer, 2018; Bogaard et al., 2016; Delmas et al., 2019), leading some researchers to question whether the cues that trained professionals often use merely codify common sense (Masip, Herrero, Garrido, & Barba, 2011). It was not clear whether this pattern would replicate when deceivers were non-native speakers. Due to the lack of differences between presumed novices and experts in terms of the detection of non-native speakers' detection (Leach & Da Silva, 2013), one might predict that they would report similar beliefs towards this group, as well. However, experts can be more sensitive to context than novices (Chi, 2006). Given that legal measures have been put in place to protect non-native speakers (e.g., R. v. Tran, 1994)—signaling that they are a potentially vulnerable group—language proficiency should be an important contextual cue for law enforcement officials. Police officers may be more likely to modify their representations of lie-tellers when they are non-native (vs. native) speakers than laypersons. We conducted exploratory analyses to examine these hypotheses.

3 | METHOD

3.1 | Participants

3.1.1 | Laypersons

One hundred and five students (56 females, 49 males; $M_{\text{age}} = 21.70$, $SD = 5.09$) from a midsized Canadian university completed the study in exchange for course credit. They self-identified as belonging to the following ethnic groups: Arab/West Asian ($n = 5$), Black ($n = 11$),

Caucasian ($n = 36$), Chinese ($n = 10$), Filipino ($n = 8$), Korean ($n = 1$), South Asian ($n = 13$), South East Asian ($n = 6$), and Other ($n = 15$). Seventy-one students (i.e., 67%) reported that their first language was English, whereas the remainder indicated that their first language was Filipino ($n = 4$), Tamil ($n = 3$), Bangla ($n = 2$), Chinese ($n = 2$), Gujrati ($n = 2$), French ($n = 2$), Ino ($n = 2$), or 19 other individual languages.

3.1.2 | Police officers

Seventy-five police officers (15 females, 60 males; $M_{\text{age}} = 39.07$, $SD = 9.04$) were recruited from departments within the university's catchment area. They were not compensated for their participation. The average number of years that they had worked in law enforcement was 15 ($SD = 9.5$), and 48 officers (i.e., 64%) noted that they had previously taken at least one course on deception detection. Officers self-identified as belonging to the following ethnic groups: Aboriginal ($n = 2$), Black ($n = 6$), Caucasian ($n = 59$), Chinese ($n = 4$), Japanese ($n = 1$), and South East Asian ($n = 3$). Seventy-two police officers (i.e., 96%) reported that English was their first language, with the remaining three indicating that either French, Hindi, or Cantonese was their first language.

3.2 | Design

We employed a 2 (Expertise: laypersons vs. police officers) \times 2 (Target Proficiency: native-language speakers vs. non-native speakers) between-participants design. Participants were randomly assigned to one of the two proficiency conditions at the beginning of the study. That is, participants were specifically instructed to think about either native speakers or non-native speakers² when completing the two beliefs questionnaires.

4 | MATERIALS

4.1 | Beliefs about deception cues questionnaire

In the first section, participants considered a situation in which they were attempting to discern whether a person was lying or telling the truth. They were asked to indicate the extent to which they believed that 33 cues would increase or decrease if the person were lying, using a seven-point scale ($-3 = \text{decreases during deception}$; $+3 = \text{increases during deception}$). All cues are provided in Table 1 (Cronbach alpha coefficient = .78). These cues were derived from the list of verbal and nonverbal behaviors that were included in a previous study of individuals' beliefs (i.e., Akehurst et al., 1996), as well as DePaulo et al.'s (2003) meta-analysis of empirically validated cues to deception. We took this, more exhaustive, approach to capture a range of inaccurate and accurate stereotypes that could be held about both deceivers and non-native speakers.

4.2 | Beliefs about interrogation experiences questionnaire

In the second section, using a five-point scale (1 = *strongly disagree*; 5 = *strongly agree*), participants were asked to indicate whether they agreed or disagreed with 18 statements about the contexts in which individuals are interrogated by law enforcement officials (see Table 2 for the full list; Cronbach alpha coefficient = .63³).

4.3 | Manipulation questionnaire

Participants were asked about the context that they had pictured when completing the beliefs questionnaires. Specifically, they indicated whether they had pictured the person speaking a specific language and whether they had pictured a specific scenario. Participants who gave affirmative responses were asked to describe what they had pictured.

4.4 | Demographics

Participants were asked to provide basic demographic information, including age, race, gender, language history and preferences, occupation, and training.

4.5 | Procedure

All participants completed the questionnaires individually—either alone or in small groups—in a quiet room. After providing consent, they were given the native or the non-native language version of the beliefs questionnaires. Upon completing all questionnaires and providing demographic information, participants were debriefed. The entire session took less than 45 minutes.

5 | RESULTS

5.1 | Manipulation questionnaire

Slightly more than half of the participants (i.e., 52.8%) indicated that they had pictured the person speaking a specific language; 65.7% of this group envisioned an English speaker. Similarly, half of the participants (i.e., 50.4%) reported picturing a specific situation when responding to the questionnaires. A close examination of the qualitative data revealed that the majority of participants failed to provide sufficient information to classify their responses according to the deceptive context (e.g., “Situation in which a person was not telling the truth.”; “Asking the person a question and he was looking to his left and right and thinking.”).

5.2 | Beliefs about deception cues

We conducted a between-participants multivariate analysis of variance (MANOVA)⁴ on the 33 possible cues to deception, with expertise and proficiency level as independent variables. There was no main effect of proficiency on the combined dependent variables, $F(33, 134) = 0.74, p = .841$; Pillai's Trace = 0.15 $\eta_p^2 = 0.15$, nor an interaction between proficiency and expertise, $F(33, 134) = 1.00, p = .472$; Pillai's Trace = 0.20 $\eta_p^2 = 0.20$. There was a main effect of expertise, however, indicating statistically significant differences between police officers and laypersons, $F(33, 134) = 2.08, p = .002$; Pillai's Trace = 0.34 $\eta_p^2 = 0.34$. We examined the univariate effects more closely using a Bonferroni adjusted alpha level of .002 (see Table 1). Compared with police officers, laypersons were more likely to indicate that *stuttering*, $F(1,166) = 18.76, p < .000, \eta_p^2 = 0.10$; *vocal tension*, $F(1, 166) = 10.42, p = .002, \eta_p^2 = 0.06$; and *overall nervousness*, $F(1,166) = 24.17, p < .001, \eta_p^2 = 0.13$ increased during deception.

As a check on participants' responding (i.e., to ensure that they were not simply consistently using the midpoint), we used one-sample *t* tests to compare mean ratings for each of the 33 cues to 0 (labeled “neither increases nor decreases during deception”). Due to the number of cues examined, results were assessed using a Bonferroni adjusted alpha level of .002 (see Table 1). Participants indicated that *blinking*, *pupil dilation*, *mouth and eye covering*, *posture shifts*, *self-manipulations*, *leg and foot movements*, *fidgeting*, *stuttering*, *grammatical errors*, *repetitions of words or phrases*, *pitch*, *vocal tension*, *rate of speech*, *hesitations*, *number of pauses*, *length of pauses*, *unusual details*, *spontaneous corrections*, *admitted lack of memory*, *inconsistencies*, *generalizations*, *vagueness*, *negative statements*, and *overall nervousness* increased during deception (all $ps \leq .002$). They believed that *eye contact* and the *coherence of the account* decreased during deception (all $ps < .002$). To allow readers to compare participants' beliefs to empirically-supported cues to deception (see DePaulo et al., 2003), we have provided the latter in Table 1. Examining this table reveals that participants were correct about the diagnosticity and direction of effects for 12 cues to deceit.

5.3 | Beliefs about interrogation experiences

We conducted a between-participants Expertise \times Proficiency MANOVA on participants' beliefs about individuals' interrogations. There was no significant interaction between expertise and proficiency, $F(18, 154) = 0.95, p = .527$; Pillai's Trace = 0.10 $\eta_p^2 = 0.10$. Rather, there was a significant main effect of proficiency, $F(18, 154) = 4.05, p < .001$; Pillai's Trace = 0.32, $\eta_p^2 = 0.32$. A closer examination, using a Bonferroni adjusted alpha level of .003, revealed several statistically significant differences (see Table 2). Participants believed that, during an interrogation, non-native speakers were less likely to *understand the questions asked*, $F(1, 171) = 33.54, p < .001, \eta_p^2 = .16$, and to *intentionally lie in response to questions*, $F(1, 171) = 10.08, p = .002, \eta_p^2 = .06$, than native speakers. In addition, participants indicated that non-

TABLE 1 Mean beliefs about cues to deception by occupation and proficiency

Cues to deception	Layperson		Police Officer		Overall M (SD)	Actual (DePaulo et al., 2003)
	Native-language speakers M (SD)	Second-language speakers M (SD)	Native-language speakers M (SD)	Second-language speakers M (SD)		
Gaze aversion	-1.37 (2.00)	-1.24(1.98)	-0.97 (2.18)	-0.70 (1.98)	-1.08 ^a (2.02)	--
Blinking	0.96 (1.25)	0.53 (1.41)	0.35 (1.28)	0.70 (.92)	0.65 ^a (1.24)	--
Pupil dilation	0.69 (1.28)	0.47 (1.19)	-.03 (.94)	0.18 (.95)	0.38 ^a (1.14)	>
Smiling	-.04 (1.69)	0.06 (1.29)	0.23 (1.07)	0.30 (1.21)	1.07 (1.36)	--
Covering mouth or eyes	1.06 (1.42)	0.82 (1.31)	0.91 (1.50)	0.63 (1.27)	0.85 ^a (1.37)	--
Facial expressiveness	-0.04 (1.79)	0.31 (1.70)	-.12 (1.39)	0.30 (1.40)	0.12 (1.60)	--
Unfriendly facial expressions	0.12 (1.44)	0.16 (1.27)	0.29 (.87)	-0.03 (1.02)	0.13 (1.18)	>
Shifts in posture	1.23 (1.18)	1.45 (1.08)	1.50 (1.19)	1.18 (1.29)	1.35 ^a (1.17)	--
Self-manipulations	1.56 (1.14)	1.52 (1.00)	1.41 (1.33)	1.24 (1.41)	1.43 ^a (1.19)	--
Leg and foot movements	1.29 (1.09)	1.11 (1.37)	1.18 (1.14)	1.09 (1.26)	1.17 ^a (1.19)	--
Arm and hand movements	-0.12 (1.45)	-0.22 (1.25)	-0.18 (.94)	-0.42 (1.03)	-0.20 (1.22)	<
Fidgeting	1.46 (1.16)	1.33 (1.18)	1.38 (1.39)	1.21 (1.60)	1.36 ^a (1.29)	>
Overall nervousness	2.10 (1.03)	2.12 (1.05)	1.24 (1.23)	1.21 (1.34)	1.77 ^a (1.20)	>
Stuttering	1.48 (1.20)	1.22 (1.21)	0.68 (.81)	0.55 (.94)	1.03 ^a (1.14)	--
Grammatical errors	0.42 (1.27)	0.53 (.95)	0.29 (.72)	0.45 (.94)	0.42 (1.00)	--
Word or phrase repetitions	1.31 (1.20)	0.76 (1.11)	0.71 (1.09)	0.76 (1.44)	0.92 ^a (1.21)	>
Pitch	0.96 (1.25)	1.04 (1.25)	0.88 (1.15)	0.82 (1.07)	0.94 ^a (1.18)	>
Vocal tension	1.52 (.92)	1.39 (1.20)	0.94 (1.07)	0.88 (1.11)	1.25 ^a (1.10)	>
Speech rate	0.63 (1.53)	0.75 (1.37)	0.53 (1.24)	0.61 (1.32)	0.64 ^a (1.36)	--
Speech hesitations	1.44 (1.53)	1.47 (1.12)	1.21 (1.53)	1.09 (1.38)	1.35 ^a (1.38)	
Number of pauses	1.04 (1.41)	1.14 (1.43)	1.09 (1.08)	0.79 (1.41)	1.01 ^a (1.35)	--
Length of pauses	1.37 (1.24)	1.18 (1.29)	1.29 (1.17)	0.79 (1.29)	1.18 ^a (1.25)	--
Coherence	-0.38 (1.72)	-0.18 (1.65)	-0.65 (1.72)	-0.52 (1.68)	-0.40 ^a (1.66)	<
Amount of detail	-0.14(1.85)	0.04 (1.91)	-0.74 (1.88)	-0.85 (1.60)	-0.34 (1.86)	<
Unusual details	1.19 (1.63)	0.94 (1.36)	0.29 (2.00)	0.33 (1.87)	0.78 ^a (1.72)	--
Spontaneous corrections	1.21 (1.34)	1.14 (1.52)	0.56 (1.73)	0.61 (1.27)	0.93 ^a (1.48)	<
Admitted lack of memory	0.62 (1.59)	0.86 (1.23)	0.79 (1.61)	0.70 (1.38)	0.72 ^a (1.46)	<
Inconsistencies	1.94 (1.21)	2.16 (1.21)	1.91 (1.38)	1.48 (1.58)	1.90 ^a (1.32)	>
Generalizations	0.81 (1.05)	1.11 (1.16)	1.24 (1.07)	0.64 (1.25)	0.94 ^a (1.13)	--
Vagueness	1.08 (1.15)	1.08 (1.54)	1.56 (1.26)	1.09 (1.35)	1.20 ^a (1.33)	
Negative statements	0.17 (1.32)	0.29 (1.36)	0.50 (.99)	0.27 (1.13)	0.31 ^a (1.23)	>
Cooperativeness	-0.46 (1.60)	-0.33 (1.49)	-0.59 (1.40)	0.09 (1.38)	-0.27 (1.51)	<

Note. Cues for which police officers' and laypersons' beliefs significantly differed ($p < .001$) are shown in boldface. Actual cues to deception, according to DePaulo et al.'s (2003) meta-analysis, are indicated with > (increases during deception), < (decreases during deception), and -- (no change during deception). Blank cells denote cues that were not explicitly investigated as unique variables in the meta-analysis.

^aOverall means that were significantly different at $p \leq .002$ from 0 ("neither increases, nor decreases during deception").

TABLE 2 Mean beliefs about interrogation experiences by occupation and proficiency

Interrogation Experiences	Layperson		Police Officer		Overall M (SD)
	Native-language speakers M (SD)	Second-language speakers M (SD)	Native-language speakers M (SD)	Second-language speakers M (SD)	
They tell the truth in response to questions.	3.17 (0.92)	3.25 (0.96)	3.14 (0.97)	3.54 (0.80)	3.27 (0.92)
They understand the difference between telling the truth and lying.	4.42 (0.75)	4.04 (0.94)	4.51 (0.61)	4.46 (0.84)	4.34 (0.82)
They intend to tell the truth.	3.31 (1.08)	3.52 (0.86)	3.40 (0.77)	3.43 (0.83)	3.42 (0.91)
<i>They intentionally lie in response to (at least some of) the questions.</i>	3.52 (1.02)	2.96 (1.02)	3.51 (0.85)	3.11 (1.02)	3.27 (1.01)
They are motivated to lie.	2.87 (1.03)	2.71 (1.01)	3.17 (0.82)	2.57 (0.80)	2.82 (0.95)
<i>They understand the questions asked.</i>	3.87 (1.16)	2.75 (0.98)	4.14 (0.85)	3.51 (0.84)	3.52 (1.11)
They understand more than they reveal.	3.87 (0.91)	3.45 (0.97)	3.94 (0.73)	3.62 (0.76)	3.71 (0.88)
They are capable of understanding the alleged events.	4.00 (0.74)	3.84 (0.86)	4.20 (0.68)	3.92 (0.80)	3.97 (0.79)
They are capable of remembering the alleged events.	3.83 (1.03)	3.94 (0.96)	4.03 (0.79)	4.17 (0.83)	3.97 (0.96)
They are capable of describing the alleged events clearly.	3.68 (1.01)	3.00 (1.03)	3.71 (0.86)	3.46 (0.99)	3.44 (1.02)
They are knowledgeable about the events reported.	3.48 (0.85)	3.73 (0.80)	3.69 (0.72)	3.97 (0.76)	3.70 (0.81)
They intentionally choose to communicate in their weaker language.	2.81 (1.12)	2.73 (1.11)	3.26 (1.01)	3.08 (0.86)	2.93 (1.06)
They intentionally misunderstand questions.	2.85 (1.14)	2.65 (1.13)	3.37 (1.03)	2.97 (1.01)	2.92 (1.11)
They give the impression that they are lying.	2.85 (1.11)	3.31 (1.10)	3.29 (0.79)	3.14 (0.86)	3.13 (0.99)
<i>They are interviewed longer.</i>	3.44 (0.75)	4.06 (.81)	3.46 (0.66)	3.73 (0.77)	3.69 (0.79)
They understand their rights.	3.21 (1.21)	2.76 (1.19)	4.17 (0.71)	3.89 (0.66)	3.42 (1.15)
They confess to a crime if they are guilty.	2.31 (0.90)	2.55 (1.05)	2.69 (0.72)	2.84 (0.83)	2.57 (0.91)
They falsely confess (i.e., say that they committed a crime that they did not).	2.23 (1.04)	2.39 (1.15)	2.29 (0.86)	2.05 (0.97)	2.25 (1.03)

Note. Police officers' and laypersons' beliefs significantly differed ($p < .01$) on statements shown in boldface. Significant differences ($p < .01$) in beliefs about native- and second-language speakers appear in italics.

native speakers were likely to be *interviewed longer* than native speakers, $F(1, 171) = 14.66$, $p < .001$, $\eta_p^2 = 0.08$.

There was also a statistically significant difference in laypersons' and police officers' beliefs about interrogation experiences, $F(18, 154) = 3.54$, $p < .001$; Pillai's Trace = 0.29, $\eta_p^2 = 0.29$. Using a Bonferroni adjusted alpha level of .003 revealed that police officers were more likely than laypersons to believe that individuals *understand their rights*, $F(1, 171) = 44.21$, $p < .001$, $\eta_p^2 = 0.21$ and *understand the questions being asked*, $F(1, 171) = 11.99$, $p = .001$, $\eta_p^2 = 0.07$. There was no significant interaction between expertise

and proficiency, $F(18, 154) = 0.95$, $p = .527$; Pillai's Trace = 0.10, $\eta_p^2 = 0.10$.

6 | DISCUSSION

We focused on observers' stereotypes about deception within a cross-linguistic context. Specifically, we examined laypersons' and police officers' beliefs about native and non-native speakers' cues to deception and interrogation experiences. Although there were no

differences in the two groups' beliefs about verbal and nonverbal deceptive behavioral patterns, participants were sensitive to language proficiency effects on interrogations.

6.1 | Beliefs about deception cues

As hypothesized, language proficiency had no significant effect on participants' beliefs about cues to deception. The strength and universality of many stereotypes about deception has been well-established (e.g., Akehurst et al., 1996; Mann, Vrij, & Bull, 2004; The Global Deception Research Team, 2006). It is reasonable, then, that participants—the majority of whom identified as English-speaking Caucasians—would simply generalize their beliefs to different linguistic groups (e.g., non-native speakers).

This broad application of stereotypes of deceivers can also explain previous findings in the deception detection literature. It is possible that laypersons' and police officers' heuristics were accurate: Elliott and Leach (2016) failed to find differences between deceptive native and non-native speakers in terms of behavioral cues. However, we consider this explanation unlikely. Proficiency-related differences have been found in objective behavioral analyses of deceptive accounts, deceivers' self-reports, and PBCAT scores (e.g., Cheng & Broadhurst, 2005; Evans et al., 2013). Thus, it is likely that behavioral differences between native and non-native speakers exist, but they have not been incorporated into laypersons' and police officers' conceptualizations of deceivers. This could explain observers' relative inability to discriminate between lie- and truth-telling non-native speakers (e.g., Da Silva & Leach, 2013).

It could also explain observer bias. When expectations about how a speaker should behave are violated, suspicion can be aroused (e.g., Bond et al., 1992). Non-native speakers report and overtly display signs of nervousness and cognitive demands during interviews (e.g., speech hesitations and phrase repetition; Akehurst et al., 2018; Elliott & Leach, 2016; Gregersen, 2005). Thus, observers' negative biases when judging non-native speakers (e.g., Da Silva & Leach, 2013; Evans & Michael, 2014) could be explained by this failure to adjust expectations in keeping with speakers' language proficiencies.

We did consider whether these similar stereotypes about deceivers were due to biased response patterns (i.e., neutral responding) or a failure to report any firm beliefs about deception whatsoever. That did not appear to be the case; in total, 26 cues were believed to be significantly diagnostic of deception. Comparisons with DePaulo et al.'s (2003) seminal work on actual indicators of deception revealed that participants only correctly identified both the diagnosticity and directionality of 12 verbal and nonverbal cues. Generally, their beliefs echoed many of the inaccurate and accurate deception stereotypes commonly reported in the literature (e.g., gaze aversion; Bogaard et al., 2016). Thus, we replicated previous work and demonstrated that it extends to other linguistic populations.

6.2 | Beliefs about interrogation experiences

Police officers and laypersons were not completely insensitive to proficiency effects. They believed that, compared with native speakers, non-native speakers would be less likely to understand the questions asked during an interrogation. Their intuitions appear to be correct. In deception detection studies, non-native speakers reported having more difficulty understanding the experimenter's questions and made more overt requests for clarification than native speakers (Da Silva & Leach, 2013; Elliott & Leach, 2016). These issues were not limited to those with the lowest language proficiencies, even intermediate non-native speakers expressed comprehension concerns. It is unlikely that participants gained their knowledge through training or coursework because findings about non-native deception had not yet been widely disseminated when questionnaires were administered. Rather, they may have inferred that interpreters' presence in legal proceedings was intended to remedy non-native speakers' comprehension issues. Regardless of its source, it is important that officers and potential jurors, who encounter suspects and witnesses from a range of linguistic backgrounds in the justice system, possess knowledge of the challenges facing non-native speakers. It remains unclear whether this knowledge actually has an impact on their judgments or approaches to interrogation.

Participants did anticipate that non-native speakers' interviews would be longer than those with native speakers. This expectation may have been based on demands on the speakers, changes in interrogation structure, or a combination of the two. Perhaps it is relevant to consider this issue in light of participants' beliefs, and non-native speakers' reports, that those with reduced language proficiency have more difficulty understanding interviewers' questions (Elliott & Leach, 2016). These individuals might take longer to process information and formulate responses, provide irrelevant responses (necessitating that a question be asked again), or ask for clarification (see Da Silva & Leach, 2013). In response, an interrogator might speak more slowly, provide unsolicited clarification, or modify and repeat questions. All of these tactics could increase the length of an interrogation. To date, researchers have not examined the effect of language proficiency on interview length and its underpinnings in actual interrogations. These issues should be explored in future research, as longer interrogations have been associated with the greater likelihood of false confessions (e.g., Drizin & Leo, 2004). Our findings suggest that neither laypersons nor police officers anticipate a link: they did not expect language proficiency to affect false confessions.

Interestingly, participants reported that non-language speakers were less likely to intentionally lie in response to questions than native speakers. That expectation was inconsistent with the deception detection literature, as observers tend to exhibit a lie bias toward non-native speakers (e.g., Da Silva & Leach, 2013; Evans & Michael, 2014). Closely considering the questionnaire item offers an explanation for the discrepancy between self-report and decision-making. Perhaps participants focused on intent: if non-native speakers would have difficulty understanding questions and be subjected to the

demands of longer interviews, they could be more prone to accidentally making errors.

6.3 | The role of expertise

Overall, law enforcement experience was related to beliefs about cues to deception and interrogations. That is, experts demonstrated domain-specific knowledge. Police officers were more likely than laypersons to believe that individuals understood their rights and the questions being asked. In addition, they were less likely to believe that stuttering, vocal tension, and overall nervousness increased during deception. Their intuitions were partially correct. DePaulo et al.'s (2003) meta-analysis indicated that vocal tension and overall nervousness were diagnostic of deception, whereas stuttering was not. Thus, both groups held accurate and inaccurate beliefs about the cues to deception. Yet in keeping with previous research (e.g., Akehurst et al., 1996), there were few differences between law enforcement officials' and laypersons' beliefs: their responses differed on only 3/33 cues to deception and 2/18 interrogation experiences. That may be why their deception detection performance is similar, as well (Aamodt & Custer, 2006).

6.4 | Limitations

Whenever there are null findings, alternative explanations should be considered. We did examine whether the study lacked power. An a priori power analysis conducted using G*Power 3.1.3 indicated that the sample surpassed the minimum requirement of 100 participants. We also considered manipulation failure. Absent a formal check of the language proficiency manipulation, we can only speculate about how participants operationalized each group (e.g., the envisioned proficiency of non-native speakers). Yet the pattern of results coincides with Evans et al.'s (2013) cues to deception and there were significant proficiency-related differences on some of the measures. Thus, participants appeared to follow study instructions regarding communicative ability, which was our primary goal.

It remains possible that the envisioned ethnicities and languages of the non-native and native speakers affected the pattern of results. Our manipulation questionnaire offered little insight: half of the participants failed to indicate that they had pictured a specific language or deceptive context. Of those who did respond, the majority envisioned an English speaker, but contextual information was insufficient for analysis. That may reflect question ambiguity: "Did you picture the person speaking a specific language" could have referred to the language in which the interaction took place or the speaker's actual native language, for example. Regardless, it is not clear that the speakers' characteristics (e.g., language and ethnicity) should affect participants' beliefs about deception. The seminal work on this topic suggests that there is a pancultural, panlinguistic stereotype of liars (The Global Deception Research Team, 2006).

Finally, using stringent approaches to test our hypotheses may have obscured real between-group differences. We relied on previous work (e.g., Akehurst et al., 1996) and the conceptual relatedness of the questionnaire items to guide our analyses (i.e., MANOVAs and Bonferroni corrections). Yet items were not actually statistically related. Thus, the sheer number of tests may be less of a concern (i.e., a typical p value and ANOVAs could be used). When $p < .05$ was considered the threshold for significance, a more nuanced view of non-native speakers emerged: participants were less likely to believe that they *understand more than they reveal, understand the difference between lie- and truth-telling, are motivated to lie, and understand their rights*. A discussion of the relative merits of statistical approaches is beyond the scope of this paper. However, it is worth mentioning because we deemed several effects non-significant due to our more conservative approach.

6.5 | Implications

Despite extensive research on the cues to deception (e.g., DePaulo et al., 2003), police officers' and laypersons' beliefs were generally similar. Thus, law enforcement experience, on its own, is not sufficient to overcome widely-held beliefs about deception. This finding also suggests that training programs that incorporate empirical information about the behavioral changes associated with deception are either not available or impactful. Researchers should work with officials to address this issue; there is some evidence that cross-cultural biases in deception judgments may be prevented or reduced by providing information about culture-specific behavioral norms (Castillo & Mallard, 2012).

There were a few expertise-based differences in beliefs about interrogation experiences. Officers were more likely than laypersons to believe that, regardless of language proficiency, suspects understood their rights and the questions being asked. However, there is evidence that individuals do not fully understand police cautions (e.g., right to silence and right to counsel; e.g., Clare, Gudjonsson, & Harari, 1998; Eastwood & Snook, 2010). Combined, these beliefs could make officers more likely to employ guilt-presumptive interrogation tactics and therein expose suspects to the risk of false confession (e.g., Kassin, 2005; Narchet, Meissner, & Russano, 2011). This issue is particularly problematic if officers are interviewing non-native speakers with low levels of language proficiency.

Finally, as noted, mistaken beliefs about the frequency/intensity of behaviors during deception might contribute to observers' detection of non-native speakers' deception. This finding raises an interesting dilemma. Ideally, legal decision-making would be free from bias; thus, the tendency to believe native speakers is problematic (Bond & DePaulo, 2006). If individuals incorrectly believe that certain cues are associated with non-native speakers' deception overall, but that leads to the elimination of biased decision-making, one could argue that intervention is not necessary. Alternatively, any context that places one group of individuals at a

disadvantage would itself be considered inherently unjust and prompt human rights challenges. Of course, we would endorse promoting accurate beliefs about non-native speakers' deception, once they are known. In the interim, it is imperative that law enforcement officials are informed that there should be naturally-occurring differences between native- and non-native speakers when they are simply speaking (e.g., the latter group should display greater gaze aversion and self-manipulation; Gregersen, 2005). That might ensure that decision-making toward both groups is more similar, even if it is inherently biased.

7 | CONCLUSIONS

We examined laypersons' and police officers' beliefs about native and non-native speakers. Although both groups took language proficiency into account when considering suspects' interrogation experiences, it did not appear to affect their stereotypes of deceivers. These findings might help to explain why observers tend to view non-native speakers more negatively than native speakers (e.g., Da Silva & Leach, 2013; Evans & Michael, 2014). Additional research is needed to explore whether stereotypes of deceivers can be modified to eliminate these proficiency-related biases.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study (Leach, Da Silva, Connors, Vrantsidis, Meissner, & Kassin, 2019) are available from the corresponding author upon reasonable request.

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ENDNOTES

¹ Defined here as socially recognized expertise due to knowledge and skills acquired through experience and training (see Ericsson & Charness, 1994, for a discussion of perceived versus actual experts, and the difficulties associated with assessing superior performance).

² The actual instructions were to think of a person speaking in his/her "second (or less fluent, non-native) language" or "native (or first) language" to clearly emphasize proficiency to participants. However, to increase readability and maintain consistency across the literature, we are using the terms "non-native speakers" and "native speakers" here.

³ Although the internal consistency was slightly below the preferred threshold of .70, we do not believe that this is a point of concern because our goal was not scale development, we did not have an a priori hypothesis that the items would be related, and we had not intended to tap into a single underlying construct (i.e., there were no internal consistency requirements).

⁴ Preliminary analyses failed to indicate any consistent effects of participant gender. Thus, all analyses were collapsed across this factor.

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