Psicothema

Examining police officers' response bias in judging veracity

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Abstract

Background: Deception detection research has shown that, in judging veracity, police officers are less truth biased than non-officers. However, previous researchers have normally used videotaped statements where an unknown (but presumably large) number of stereotypical or real deception cues are displayed by the senders. We examined non-officers, novice officers, and experienced officers' response tendencies in a more controlled situation where cue availability was severely restricted. **Method:** We used written vignettes describing either police-related or police-unrelated scenarios where the protagonist denied having committed a misdeed. Each vignette contained only two pieces of relevant information, one suggesting that the protagonist was lying and one suggesting that she or he was telling the truth. **Results:** Officers made fewer truth judgments than non-officers in judging police-relevant vignettes, but not in judging police-irrelevant vignettes. Both novice and experienced officers had greater judgmental confidence than non-officers. **Conclusions:** The findings are consistent with the Adaptive Lie Detection Theory (ALIED). Future research should continue to explore how the police relevance of the situation or task at hand influences novice and experienced officers' veracity judgments.

Keywords: Deception detection, truth bias, lie bias, police, ALIED, adaptive lie detector.

Resumen

Examen del sesgo de respuesta de los policías al juzgar la veracidad. **Antecedentes:** la investigación muestra que al juzgar la veracidad los policías presentan un menor sesgo de veracidad que los no-policías. Normalmente, los investigadores han venido usando declaraciones en vídeo con emisores que muestran diversas claves estereotípicas o reales de la mentira. En este estudio examinamos las tendencias de respuesta de no-policías, policías nuevos y policías con experiencia cuando la disponibilidad de claves está limitada. **Método:** empleamos breves descripciones de situaciones policialmente relevantes o irrelevantes en las que el protagonista negaba haber cometido una mala acción. Cada texto contenía solo dos unidades relevantes de información: una que sugería que el protagonista mentía y otra que sugería que decía la verdad. **Resultados:** los policías hicieron menos juicios de verdad que los no-policías al juzgar situaciones policialmente relevantes, pero no al juzgar situaciones policialmente irrelevantes. Además, tanto los policías nuevos como los experimentados mostraron más confianza en sus juicios que los no-policías. **Conclusión:** los hallazgos son consistentes con la Teoría de la Detección de Mentiras Adaptativa. La investigación futura debe seguir explorando la influencia de la relevancia policial de la situación o tarea sobre los juicios de veracidad de policías nuevos y veteranos.

Palabras clave: detección de mentiras, sesgo de veracidad, sesgo de mendacidad, policía, ALIED.

Deception detection research has shown that when people judge whether someone is lying or telling the truth, they are biased toward believing the sender is truthful (Levine, Park, & McCornack, 1999). However, among police officers and other practitioners, this tendency is weaker or even reversed—that is, often professionals have been found to believe the sender is lying more often than telling the truth (Masip, 2014; Meissner & Kassin, 2002; Vrij, 2008).

Detecting deception is intrinsically difficult (Bond & DePaulo, 2006). Research shows that behavioral deception cues are faint and unreliable; thus, often the senders' statements contain little or no information indicative of veracity (DePaulo et al., 2003; Hartwig & Bond, 2011; Hauch, Blandón-Gitlin, Masip, &

Sporer, 2015; Sporer & Schwandt, 2006, 2007). According to the Adaptive Lie Detector Theory (ALIED; Street, 2015; Street, Bischof, Vadillo, & Kingstone, 2016), when a specific statement contains insufficient information to assess veracity, people make an informed guess based on context-general information. The base rate of truthful or deceptive statements one encounters is a kind of context-general information. Because most statements that ordinary people encounter regularly are truthful, when ordinary citizens are uncertain about the veracity of a statement the odds are that they make truth judgments, thus displaying the truth bias. However, because police officers encounter deceptive messages more often than ordinary citizens, they will be less likely to assume truthfulness when uncertain about the veracity of a statement.

However, police experience and the kind of situation have an influence on the police response bias (note that this is also consistent with ALIED, as both past experience and situation can be forms of context-general information). Masip, Alonso, Herrero, and Garrido (2016) asked non-officers, novice officers, and experienced officers to judge the veracity of a number of truthful and deceptive videotaped statements about a theft.

Relative to non-officers, experienced officers made significantly more lie judgments and displayed significantly more judgmental confidence. Interestingly, novice officers aligned with experienced officers in terms of judgments, but with the non-officers in terms of confidence. Further, novice officers scored lower than experienced officers on a scale measuring *generalized* communicative suspicion (GCS; Levine & McCornack, 1991), but as high as experienced officers on a parallel scale measuring suspicion in *police-related situations* (Interrogation Suspicion Scale or ISS). These findings suggest that novice officers are not yet as dispositionally suspicious and self-confident (GCS scores and confidence) as experienced officers (who, apparently, become more distrustful over their career), but are able to show "prototypical" police behaviors (as reflected in their numerous lie judgments and high ISS scores) in police-related situations.

Normally, deception researchers have used videotaped statements where an indeterminate number of real or stereotypical deception cues are displayed. Participants may pick up some cues to form their veracity judgments. Under these conditions, it is unclear the extent to which cue availability mediates the veracity judgments. For instance, relative to non-officers, police officers might use more cues, be more attentive to deception (rather than truthfulness) cues, or interpret ambiguous behavior as lie indicators (see Masip, Garrido, Herrero, Antón, & Alonso, 2006; Nahari, 2012). The current study explored whether police officers' greater tendency (relative to non-officers) to make lie judgments was still found in an almost "cueless situation"—that is, a situation where cue availability was severely restricted.

To study officers' judgments in such a controlled and "aseptic" situation, we wrote a number of vignettes where the protagonist denied having committed a misdeed. Each vignette contained only two pieces of information relative to the protagonist's veracity: One suggesting that s/he was lying and one suggesting that s/he was telling the truth. Thus, the vignettes were ambiguous as to whether the person was honest or deceptive. A pilot study with non-officers showed that the vignettes we used were judged to be deceptive as often as truthful (about 50% of the time). Ten vignettes were used in the main experiment—five describing police-relevant scenarios and five describing police-irrelevant scenarios. We examined whether under these contrived conditions police officers' judgments were influenced by the one piece of information suggestive of deception more often than non-officers' judgments.

In view of Masip et al.'s (2016) findings, we predicted that in judging police-relevant vignettes, both novice and experienced officers would make more lie judgments than non-officers (*Hypothesis 1*). We also predicted that in judging police-irrelevant vignettes, experienced officers would make more lie judgments than both novice officers and non-officers (*Hypothesis 2*), while the latter two groups would not differ from each other. Finally, we predicted that experienced officers would show higher judgmental confidence than the other groups irrespective of vignette kind (*Hypothesis 3*).

Method

Participants

Non-officers (undergraduates), novice officers, and experienced officers participated in this experiment. Sample sizes and descriptive information are provided in Table 1. The veteran officers' mean job experience was 21.79 years, *SD* = 4.33, *Mdn* = 21, range: 14-35. Fifty five novice officers (51%) had less than one year of job experience, 16 (15%) had three years, seven (7%) had two years, and none had more than nine years of experience.

Instruments

To create the stimulus materials, we wrote 16 one-paragraph long vignettes containing a short story where the protagonist denied having committed a misdeed. Two pieces of evidence were described in each vignette: One strongly suggesting that the protagonist was lying and one strongly suggesting that s/he was honest. Eight vignettes were intended to describe police-relevant scenarios (e.g., a crime) whereas the remaining eight were intended to describe police-irrelevant scenarios (e.g., an infidelity episode). The vignettes are available on request.

A pilot study was conducted where participants (college students) judged (a) whether the protagonist in each vignette was lying or telling the truth, and (b) the extent to which each vignette was police-relevant. The purpose of the pilot study was to select a subset of vignettes meeting two essential requirements: First, to be used in the main experiment, the vignettes had to be ambiguous in terms of the protagonist's veracity (i.e., the evidence suggesting truthfulness had to be about the same as strong as the evidence suggesting deception). We selected for the main experiment only those vignettes that, in the pilot study, were judged to be deceptive as often as truthful (about 50% of the time). Second, half the vignettes in the main experiment had to describe police-relevant scenarios, whereas the other half had to describe police-irrelevant scenarios.

Pilot study participants and procedure

We collected data from 30 undergraduates during a lecture. Because seven participants were foreign students whose first language was not Spanish, the final sample contained 23 students (19 females and four males; *M*~age~ = 23; *Mdn* = 22; range: 20 to 30). Sample size is sufficient, as *n* ≥ 20 (per cell) has been proposed to avoid Type I errors (Simmons, Nelson, & Simonsohn, 2011). The data analyses were also conducted with all 30 students; the values varied only slightly and the pattern of results was identical.

Participants were given a booklet with 17 pages. The first page was to collect demographic data (age, gender, nationality, and language). It also contained the instructions. Each of the remaining pages contained one vignette, followed by the question whether the protagonist was lying or telling the truth (counter-balanced), and a 5-point scale to indicate judgmental confidence (1 = *not at all confident*; 5 = *completely confident*). The instructions informed the participants that they would read 16 brief stories where a person

	N	n_{males}	$n_{females}$	M_{age}	SD_{age}	Mdn_{age}	Age range
Non-officers	77	13	64	21.92	1.48	22	20-27
Novice officers	108	67	40	29.80	3.25	29	24-39
Experienced officers	102	89	12	44.64	4.62	44	36-56

Table 1
Descriptive information of the participants

denied her/his involvement in some actions, and instructed the participants to indicate for each vignette whether the person was lying or telling the truth and their confidence.

After completing this task, the participants were given an additional form to indicate the extent to which each vignette had police relevance on a 1 (*no police relevance at all*) to 5 (*maximum police relevance*) scale. The participants were first informed that "a vignette has police relevance if it describes a crime, if police intervention is needed, if it may be a source of concern for the authorities, etc." After the participants had finished all tasks, the experimenter collected the materials, thanked the participants and debriefed them.

Pilot study results: Stimuli selection

We ran chi-square tests comparing the percentage of participants selecting the "lying" vs. the "telling the truth" option for each vignette. The difference was not significant for 11 out of the 16 vignettes (Table 2).

Student's t tests revealed that the mean score on the police-relevance scale was significantly different from 3 (value on the middle of the scale) for all vignettes (Table 2). This finding indicates that all vignettes were either unambiguously police-irrelevant (nine vignettes) or unambiguously police-relevant (seven vignettes). Out of the 11 vignettes for which the participants had made a similar number of truth and lie judgments, five were judged to be police-relevant and six police-irrelevant. We excluded one irrelevant vignette to have five vignettes of each kind for the main experiment (Table 2).

For the selected police-relevant vignettes, the mean percentage of lie judgments was 47.83%, $SD = 23.92$, which did not differ significantly from 50%, $t(22) = -0.44$, $p = .667$, $d = 0.09$. For the selected police-irrelevant vignettes, the percentage of lie judgments was 45.22%, $SD = 23.52$, which did not differ from 50% either, $t(22) = -0.98$, $p = .340$, $d = 0.20$. The selected police-relevant vignettes had been rated by participants as significantly more police-relevant ($M = 4.68$, $SD = 0.32$) than the selected police-irrelevant vignettes ($M = 1.28$, $SD = 0.22$), $t(22) = 39.25$, $p < .001$, $d = 12.33$. Both kinds of vignettes differed significantly from the midpoint (3) on the 1-to-5 police-relevance scale, $t(22) = 24.90$, $p < .001$, $d = 5.19$, and $t(22) = -37.44$, $p < .001$, $d = 7.80$, respectively.

Procedure

The data for the main experiment were collected in class during regular teaching hours either at the university (undergraduates) or at the police school (officers). Participants filled in a booklet that was identical to the one used in the pilot study, except that it contained only the ten selected vignettes in random order. The task and procedures were the same as in the pilot study except that police relevance was not assessed.

Results

Hypothesis 1 predicted that in judging police-relevant vignettes, police officers would make more lie judgments than non-officers. A one-way Analysis of Variance (ANOVA) on the percentage of lie judgments (PLJ) in judging police-relevant vignettes yielded a significant effect, $F(2, 284) = 3.45$, $p = .033$. Least significant difference (LSD) tests indicated that relative to non-officers ($M = 31.95$, $SD = 20.84$), both novice ($M = 40.37$, $SD = 21.53$) and experienced officers ($M = 36.08$, $SD = 22.35$) made more deception judgments, but the difference was significant for novice officers only ($p = .010$, $d = 0.40$, and $p = .207$, $d = 0.19$, respectively; see Table 3). Novice and experienced officers did not differ

Table 2
Perceived veracity and police relevance for each vignette in the pilot study

Vignettes	Perceived veracity assessment				Police relevance assessment				
	Telling the Truth	Lying	Chi²	*p*	*M*	*SD*	*t* (22)	*p*	Police relevance
1. Job Interview	95.65	4.35	19.17	<.001	1.48	0.79	-9.23	<.001	No
2. Class Assignment	91.30	8.70	15.70	<.001	1.04	0.21	-45.00	<.001	No
3. Heritage*	47.83	52.12	0.04	.835	4.74	0.69	12.11	<.001	Yes
4. Lottery	39.13	60.87	1.09	.297	2.26	1.01	-3.51	.002	No
5. Party Night*	69.57	30.43	3.52	.061	1.13	0.34	-26.04	<.001	No
6. The Literature Professor*	34.78	65.22	2.13	.144	1.00	0.00	-- ª	-- ª	No
7. The Hunting	86.96	13.04	12.57	<.001	4.61	0.72	10.68	<.001	Yes
8. The Arson*	47.83	52.17	0.04	.835	4.87	0.34	26.04	<.001	Yes
9. Mr. Castilla's Murder*	60.87	39.13	1.09	.297	4.91	0.29	31.84	<.001	Yes
10. The Promotion*	69.57	30.43	3.52	.061	2.00	0.85	-5.62	<.001	No
11. Cyclist Run Over*	47.83	52.17	0.04	.835	4.74	0.54	15.42	<.001	Yes
12. The Apartment*	52.17	47.83	0.04	.835	1.23	0.87	-10.01	<.001	No
13. Lovers	86.96	13.04	12.57	<.001	1.41	0.73	-10.64	<.001	No
14. Cancelled Vacation*	47.83	52.17	0.04	.835	1.00	0.00	--ª	--ª	No
15. Hotel Night	78.26	21.74	7.35	.007	4.61	0.58	13.23	<.001	Yes
16. At Customs*	56.52	43.48	0.39	.532	4.13	0.76	7.16	<.001	Yes

* Vignettes retained for the main study.

ª Student's t tests could not be calculated because $SD = 0.00$: For these two vignettes, all participants provided exactly the same score. The score was 1 on a 1-to-5 scale, which indicates that all participants perceived these two vignettes to have no police relevance at all.

significantly. A t test revealed a significant difference between the PLJ of both police groups combined ($M = 38.29$, $SD = 21.98$) and that of non-officers ($M = 31.95$, $SD = 20.84$), t (285) = -2.19, p = .029, $d = 0.29$. This supported Hypothesis 1. Noteworthy, no group displayed a lie bias in absolute terms—i.e., all scores were below 50%. Recall that in the pilot study non-officers made a similar number of truth and lie judgments in rating these vignettes; unexpectedly, in the current experiment non-officers displayed a truth bias.

Hypothesis 2 predicted that in judging police-irrelevant vignettes, experienced officers would make more lie judgments than novice officers and non-officers. We ran a one-way ANOVA on the PLJ in judging police-irrelevant vignettes. The groups did not differ significantly, F (2, 284) = 0.35, p = .707 (see Table 3 for means and standard deviations). Therefore, Hypothesis 2 was not supported.

Hypothesis 3 predicted that experienced officers would show higher judgmental confidence than both novice officers and non-officers irrespective of vignette type. A Sample (non-officers/ novice officers/experienced officers) × Vignette Type (police-relevant/police-irrelevant) ANOVA on confidence scores yielded a significant main effect for sample, F (2, 284) = 3.30, p = .037, η_p^2 = .023. LSD post-hoc tests revealed that, as predicted, experienced officers ($M = 3.33$, SD =0.57) had significantly more judgmental confidence than non-officers ($M = 3.12$, $SD = 0.56$), $p = .014$, $d = 0.37$. However, contrary to our prediction, novice officers ($M = 3.29$, $SD = 0.55$) also displayed more confidence than non-officers, $p = .042$, $d = 0.31$, and the difference between experienced and novice officers was not significant, $p = .625$, $d = 0.07$ (Table 3). The Sample x Vignette Type interaction was not significant either, F (2, 284) = 1.99, $p = .139$, $\eta_p^2 = .014$. These outcomes indicate that both police groups were more confident than the students irrespective of vignette type. Indeed, a 2 (non-officers/officers) × 2 (police-relevant/police-irrelevant vignettes) ANOVA on confidence scores revealed that the average confidence of the two police groups combined ($M = 3.31$, $SD = 0.56$) was significantly higher than the non-officers' confidence ($M = 3.12$, $SD = 0.56$), F (1, 285) = 6.44, $p = .012$, $d = 0.34$. The interaction was not significant, F (1, 285) = 0.91, $p = .341$, $\eta_p^2 = .003$. (The vignette type main effect was significant in both ANOVAS, F (1, 284) = 42.84, $p < .001$, and F (1, 285) = 38.38, $p < .001$, respectively, indicating that confidence was higher in judging police-irrelevant ($M = 3.36$, $SD = 0.63$) than police-relevant ($M = 3.17$, $SD = 0.61$) vignettes, $d = 0.31$).

Discussion

Previous research has shown that police officers are less biased than non-officers toward making truth judgments. There is some

Table 3
Mean percentage of lie judgments and confidence scores (standard deviations in parentheses)

Measure	Non-officers	Novice officers	Experienced officers
Lie Judgments–Police Relevant[a]	31.95 (20.84)	40.37 (21.53)	36.08 (22.35)
Lie Judgments–Police Irrelevant[a]	45.97 (20.54)	47.78 (21.50)	45.29 (24.20)
Confidence[b]	3.12 (0.56)	3.29 (0.55)	3.33 (0.57)

[a] Percentages. [b] Scores on a 1-to-5 scale

evidence that this difference may be a result of officers and non-officers focusing on different cues when judging veracity (Masip et al., 2006; Nahari, 2012), and it has been suggested that officers have a default prior assumption that the sender is going to lie and, as they observe the sender's behavior, they use a confirmatory strategy, thus searching for deception cues, dismissing truthfulness cues, and interpreting ambiguous behavior as indicative of deception (Masip et al., 2006). However, in previous research an indeterminate (but presumably large) number of stereotypical truth and deception cues has been available to receivers. To dissect officers' response bias in a more controlled situation, participants in the current study were asked to judge veracity with only two cues available to them: one indicative of honesty and one indicative of deception. Based on Masip et al.'s (2016) prior findings, we predicted that in judging police-relevant vignettes, both novice and experienced officers would make more lie judgments than non-officers. This hypothesis was supported. We also predicted that in judging police-irrelevant vignettes, experienced officers would make more lie judgments than both novice officers and non-officers. This hypothesis was not supported. In fact, all three groups made a similar number of lie judgments.

This latter finding is at odds with Masip et al.'s (2016) results. Masip et al. reported that when the task at hand was related to police work (e.g., judging the veracity of statements about a theft), novice officers were as distrustful and lie biased as experienced officers; however, when police relevance was absent, novice officers were less distrustful than seasoned officers—and as little distrustful as non-officers. Therefore, in the current experiment, in judging police-irrelevant vignettes, both novice officers and non-officers should have made fewer deception judgments than experienced officers.

It is unclear why this did not occur. However, the current study differs from Masip et al.'s (2016) in a number of important aspects. The artificiality of the task (using written vignettes created *ad hoc*, presenting only two contradictory pieces of evidence, etc.) might have influenced the outcomes. More research is needed to explore the variables that moderate the differential effect that the professional relevance of the context or task at hand might have on experienced vs. novice officers' lie judgments. In any case, it is interesting that in the current study officers made more lie judgments than non-officers in judging police-relevant vignettes, but not in judging police irrelevant vignettes; that is, *police officers were less truth biased than non-officers in police-relevant contexts only*.

This finding is consistent with ALIED (Street, 2015). According to ALIED, officers should not be less truth biased than non-officers in all kinds of contexts, but only in those where they are likely to be deceived—that is, in police-related contexts. To clarify, non-officers are unfamiliar with police situations—and, hence, with the experience of dealing with deception on a regular basis. Conversely, police officers do encounter many deceptive messages at work (i.e., in police-related situations). Therefore, when a police officer is in a police-related situation where s/he is uncertain about the veracity of a statement, it is functional for him/her to make a lie judgment. This may explain why police officers made more lie judgments than non-officers in judging police-relevant vignettes only.

One could argue that this explanation may hold for experienced officers only, but not for novice officers, who are less dispositionally distrustful than their more seasoned peers (Masip

et al., 2016). However, in Masip et al.'s study, novice officers in police-related situations made as many deception judgments as experienced officers, presumably because novice officers felt that in a professional situation they had to "behave like a 'real' officer" (i.e., had to display "prototypical" police behaviors). Besides, reasons other than past experience may lead officers to believe that they will be the targets of deception in police-related situations.

This research also makes an additional contribution to ALIED. Street's (2015) theory predicts that when a specific statement contains little or no information indicative of veracity, respondents will resort to using context-general information—such as the base-rates of lying vs. truth telling in a specific kind of situation—as a basis for their veracity judgments. However, "the account does not make any claims as to how people select or integrate multiple diagnostic individuating cues" (Street, 2015, p. 340). The current findings for police-relevant situations suggest that when two contradictory pieces of individuating information are available, context-general information can play a role such that respondents either (a) disregard the two contradictory cues altogether and make their veracity judgment based on the context-general information only, or (b) tend to select as a basis for their judgments the only one piece of individuating information that is consistent with the context-general information (this latter explanation is in line with Masip et al.'s, 2006; and Nahari's, 2012, findings).

Importantly, please note that we are not suggesting that in police-related situations context-general information leads officers to make lie judgments only. Rather, we are suggesting that officers' tendency to make lie judgments will be stronger than that of non-officers—or, put another way, that the officers' tendency to make truth judgments will be lower than that of non-officers. Certainly, in judging police-relevant vignettes in the current experiment both officers and non-officers were biased toward making truth judgments, but officers were significantly less so than non-officers. Thus, these are *relative* rather than absolute response tendencies.

Our prediction that experienced officers would show more judgmental confidence than novice officers and non-officers irrespective of vignette kind was not supported. Instead, both police groups were more confident than the non-officers. This finding could be a result of officers having greater experience with deception than non-officers. However, the novice officers had little job experience; therefore, they could not have accumulated much experience with deception. We speculate that the small number of available cues may account for novice officers' increased confidence in the current study. In Masip et al.'s (2016) research, novice officers watched videotaped statements. The senders displayed many verbal, visual, and paralinguistic cues. Novice officers may have felt overwhelmed because of the large amount of information they had to pay attention to and process. Further,

they may have felt uncertain as to whether they attended to the right cues, whether they missed something important, etc. (see Street & Richardson, 2015). Conversely, in the current study only two straightforward cues were available. This may have boosted novice officers' confidence ratings.

The current study has several limitations. First, critics may argue that the stimulus materials were too artificial and had little ecological validity. However, rather than exploring the police response bias in naturalistic contexts, our goal was to test whether the findings obtained using more realistic paradigms would still emerge in a contrived situation where cue availability was severely restricted. In this respect, the artificiality of the materials was not a limitation but an asset (see Hensel, 1980; Mook, 1983).

Second, we strived to use two sets of vignettes (police relevant and police irrelevant) as ambiguous as possible in terms of veracity. However, although the vignettes were selected in the pilot study such that each set had roughly a 50% baseline of lie judgments (determined with non-officer control participants), in the main experiment the protagonists in police-relevant vignettes looked particularly believable. This circumstance, tough undesirable, could not have affected the results because all three groups rated exactly the same police-relevant vignettes (i.e., it is *not* the case that one group rated particularly believable vignettes while another group rated particularly unbelievable ones). Finally, the observed effects were not large; therefore, replication is warranted before deriving strong conclusions from the current findings.

Conclusions

To summarize, in judging police-relevant vignettes, officers made more lie judgments than non-officers. No group difference emerged in judging police-irrelevant vignettes. Thus, apparently officers are less truth biased only in police-relevant contexts. These findings are consistent with Street's (2015) Adaptive Lie Detector Theory. All officers (not only the experienced ones) displayed more confidence than non-officers. Some of the current findings differ from previous ones; however, the contrived nature of the experimental setting may have influenced the results. Future research should continue to explore how police relevance influences experienced and novice officers' veracity judgments.

Acknowledgements

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