

Lay Persons' and Police Officers' Beliefs Regarding Deceptive Behaviour

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SUMMARY

Research on the detection of deception, via non-verbal cues, has shown that people's ability to successfully discriminate between truth and deception is only slightly better than chance level. One of the reasons for these disappointing findings possibly lies in people's inappropriate beliefs regarding 'lying behaviour'. A 64-item questionnaire originally used in Germany, which targets participants' beliefs regarding truthful and deceptive behaviour, was used. The present study differed from previous research in three ways: (i) instead of a student population, police officers and lay people were sampled, (ii) both people's beliefs regarding others' deceptive behaviour and their beliefs regarding their own deceptive behaviour were examined, and (iii) both non-verbal cues to, and content characteristics of, deceptive statements were examined. Results were consistent with previous studies, which found significant differences between people's beliefs regarding deceptive behaviour and experimental observations of actual deceptive behaviour. Further, police officers held as many false beliefs as did lay people and finally, participants were more accurate in their beliefs regarding their own deceptive behaviour than they were in their beliefs regarding others' behaviour.

INTRODUCTION

Detecting deception or judging the veracity of others is often an important issue in public and private life. Police officers, as well as legal professionals and juries, often evaluate the veracity of witness and suspect statements and their decisions may have far-reaching consequences. However, judging the truthfulness of information is not only important in the legal field. In political and business negotiations, credibility judgements are essential. Moreover, in private lives there are situations where credibility judgements are made (e.g. suspecting a spouse of infidelity). In general,

whenever it is impossible to check the veracity of a piece of information personally, credibility becomes a potential issue. It is, therefore, important to judge how accurate people are when they attempt to evaluate the truthfulness of information.

There have been a number of research approaches in the field of detecting deception. On the one hand, researchers have examined behaviours that are, in fact, systematically related to honesty and/or deception. On the other hand, researchers have examined people's beliefs about which behaviours they believe to be associated with honesty and/or deception. In the latter, the focus is on the accuracy of personal judgements as well as factors in the judgement process that may lead to correct or incorrect decisions. Thus in this area of research a distinction is usually made between actual and believed indicators of deception (DePaulo, Stone and Lassiter, 1985; Vrij, 1991, 1995; Zuckerman, De Paulo and Rosenthal, 1981a). Actual indicators comprise cues that have been found in experiments to be linked to deception. Believed indicators are cues that people associate with deception, in ignorance of whether or not such behaviours actually are a manifestation of actual deception (Table 1 provides examples of such indicators).

The results of previous research on the detection of deception via non-verbal cues show that people's ability to successfully discriminate between truth and deception is only slightly better than chance level (Vrij, 1995; Zuckerman and Driver, 1985). A meta-analysis of more than 50 experimental studies found that the hit rates (i.e. the proportion of correct decisions) made by participants generally fell into a range between 45% and 60%, where 50% correct decisions can be expected by chance alone, i.e. simply by guessing. Hit rates above 60% were reported very rarely. The mean detection accuracy across all studies was only slightly better than the 50% chance level (Zuckerman *et al.*, 1981a).

Köhnken (1990) suggested a number of fundamental judgement errors that people make when judging others' credibility, one of these being that people assume that those behaviours that are supposedly associated with deception will increase in frequency or intensity (DePaulo *et al.*, 1985; Vrij, 1993a, 1995; Zuckerman, Koestner and Driver 1981; Zuckerman *et al.*, 1985). However, if we compare these beliefs with the empirical results concerning actual behavioural correlates of deception (DePaulo, 1992; Ekman, 1989; Vrij, 1995; Zuckerman and Driver, 1985; Zuckerman *et al.*, 1981), it becomes clear that a number of behaviours (e.g. gaze aversion, smiling and head movements) are not systematically associated with deception and that others (e.g. hand, arm, foot and leg movements) tend to decrease when people are lying. That is, people are most likely to believe that certain non-verbal behaviours, such as arm and leg movements and self manipulations, increase when a person is lying when in fact they have been shown to decrease (DePaulo *et al.*, 1985; Vrij, 1991, 1993a; Zuckerman and Driver, 1985). Conversely, people believe eye contact will decrease during deception when, in fact, it is more likely that this will increase (DePaulo *et al.*, 1985; Vrij, 1991, 1993; Zuckerman *et al.*, 1985).

A plausible suggestion regarding why people associate deception with an increase in non-verbal gestures is that they assume that liars are nervous and that they will behave as such (Köhnken, 1989; Kraut and Poe, 1980). Actual cues to nervous behaviour do include changing positions and increased movement of arms and legs (Burgoon, 1989; DeTurck and Miller, 1985).

In light of previous research, it is reasonable to suggest that one of the reasons for the disappointing findings regarding people's ability to differentiate between truthful

and deceptive behaviour may lie in their inappropriate beliefs. However, previous studies suffer from significant limitations.

Firstly, in some previous studies the participants were students who, as a rule, have no special interest in detecting deception, and have no professional need to judge others' credibility (e.g. Zuckerman *et al.*, 1981). Further, student samples are often a poor representation of the general public as they are a generally well-educated, young (18–22 years), middle-class population. Students often have little experience of living away from the home environment and may therefore be somewhat naïve in their attempts to detect deception, especially in business environments. In the present study the beliefs of both lay persons (not including students) and police officers were investigated. It could be that police officers, whose work often depends on judging the honesty of others, are more accurate in their beliefs regarding deceptive behaviour than are lay people.

Secondly, previous studies have always dealt with beliefs based solely on others' deceptive behaviour. Another reason for previous findings of poor detection accuracy could be that participants were asked to rate the behaviours of others. It could be that people have a more realistic belief regarding their own deceptive behaviour. Therefore, the present study also gathered data concerning participants' beliefs concerning their own deceptive behaviour. Participants may be more accurate in their beliefs of how they behave when deceiving compared to how they believe others behave.

Thirdly, all the work to date has looked at a similar set of non-verbal and extralinguistic behaviours with regard to their frequency during deceptive behaviour (DePaulo, 1992; Ekman, 1989; Vrij, 1995; Zuckerman *et al.*, 1985). In light of the increasing amount of research being carried out concerning Statement Validity Analysis¹ as a tool for judging the credibility of written statements, this study also looked at the beliefs of participants with regard to qualities of the content of the statement of a deceiver.

METHOD

Participants

Data from the completed questionnaires of 120 participants, 60 police officers and 60 lay people, were analysed in this study. A group of 150 police officers were randomly selected, by the course co-ordinator, from a larger sample of 300 studying for a BSc in Policing and Police Studies at the University of Portsmouth. They had all served as police officers for more than 4 years and were therefore reasonably experienced at the tasks of interviewing and attempting to detect deception. A total of 73 questionnaires were returned by the police officers; their response rate was therefore 49%. A total of 80 lay people were randomly approached, by the experimenter, in a public area, and 60 of those approached were willing to complete the questionnaire. It was ensured that none of the participants had any prior knowledge of Statement

¹Based on the work of Undeutsch (1967, 1984), Steller and Köhnken (1988) compiled a list of criteria and described a procedure for evaluating the veracity of witness statements that led to the development of Statement Validity Assessment (SVA).

Validity Assessment. The mean age was 33.8 years ($SD = 11.9$ years) ranging from 18–80 years. Of these participants, 40 (31 of these being police officers) had read relevant literature on the topic of detecting deception.

Questionnaire

Based on previous literature on the detection of deception the postal survey comprised 64 items (see Table 1) and included all the non-verbal behaviours that have been reported in the literature in connection with lying, plus some others that were thought, by the authors, to be important. Additionally, a selection of speech characteristics and the Statement Validity Analysis content criteria (Steller and Köhnken, 1989) were included. The 64 items appeared in four categories: facial behaviours, bodily behaviours, speech characteristics and the content of statements.

All the participants were asked to rate these items on a 7-point scale (from -3 to $+3$) with regard to whether they believed them to increase or decrease during lying compared to truth-telling. A $+3$ indicated a large increase in frequency during deception compared to truth-telling, -3 represented a large decrease in frequency of an item during deception, and zero represented no change.

The final section of the questionnaire asked participants for their age, sex and job title. Additionally participants were asked whether they had read any literature (e.g. journal articles or books) concerning detecting deception. Since this knowledge may have influenced participants' beliefs about deception it was decided that this variable would be included in the final analysis.

Design and procedure

The participants were informed that the study was being conducted to discover general beliefs regarding the frequency of certain behaviours during deception. All questionnaires were completed anonymously.

The study population, whilst already divided into lay people and police officers, was further randomly divided into two groups. Half of the participants, 30 police officers and 30 lay people, were asked, on the instruction page, to recall situations in which others had given them deceptive information and to rate how they remembered them behaving. The other half was asked to think about times when they themselves had lied and to rate how they believed they themselves had behaved.

RESULTS

Virtually all of the mean ratings for believed frequency during deception involved increases during deceptive behaviour compared to truthful behaviour (see Table 1).

Table 1 shows that there were inconsistencies between the beliefs of participants regarding deceptive behaviour and actual indicators of deceptive behaviour. For example, certain items were believed to increase in frequency during deception (column 3) whilst they have actually been shown (column 2) to decrease (e.g. hectic speech, head movements, arm and hand movements and foot and leg movements). Conversely, other items were believed to decrease in frequency during deception

Table 1. Actual frequencies^a of items during deception compared to mean believed frequencies from this study and significant differences in mean ratings for participants concerned with their own deceptive behaviour ('own') and those concerned with the deceptive behaviour of others ('others')

Item		Actual frequency	'Own' mean	'Others' mean	F	'Own' d-score	'Others' d-score
Speech characteristics							
Pauses	>		0.63	1.20	7.44**	0.975	2.397
Stuttering	—		0.47	0.89	4.88*	0.952	1.665
Clearing throat			0.70	0.79	0.27	1.671	1.657
False starts	—		0.61	1.00	3.77	1.124	1.855
Grammatical errors	—		0.44	0.32	0.52	0.922	0.735
Repetitions			1.02	1.41	3.23	1.633	2.510
Clichés			0.44	0.96	7.09**	0.804	1.788
Evasive responses			1.55	1.98	3.13	2.200	3.151
Response latency	<		0.48	0.61	0.37	0.902	1.082
Hectic speech	>		0.75	0.91	0.44	1.358	1.374
Faltering speech	—		0.67	0.96	2.25	1.343	1.788
Voice pitch	>		0.88	0.86	0.00	1.575	1.748
Monotonous voice			0.05	−0.54	9.36**	0.091	−1.064
Shaky voice			0.77	0.95	1.14	1.708	1.970
Soft voice			0.17	−0.07	1.26	0.302	−0.115
Range of vocabulary			0.08	0.00	0.14	0.123	0.000
Length of answers	<		0.27	−0.13	1.67	0.335	−0.136
Short, simple sentences	>		0.19	0.11	0.08	0.230	0.136
Facial behaviours							
Changes in line of sight			1.08	1.63	4.67*	1.625	2.328
Eye contact	>		−0.53	−1.50	7.76**	−0.622	−1.430
Twitches			0.27	0.59	4.27*	0.685	1.296
Eyeblinks	>		0.33	0.80	7.06**	0.728	1.582
Frowning			0.63	0.79	0.85	1.325	1.566
Wrinkling of nose			0.22	0.25	0.04	0.650	0.748
Smiling	—		0.48	0.27	0.67	0.700	0.355
Biting of lips			0.67	0.84	0.74	1.301	1.877
Swallowing			1.03	1.09	0.09	1.870	2.077
Head movements	<		0.41	0.71	3.03	0.965	1.237
Blushing			1.38	1.20	0.94	2.210	2.440
Turning pale			0.22	0.57	4.03*	0.428	1.283
Variation in facial behaviour			0.84	0.82	0.01	1.736	1.344
Tense facial expression			1.02	1.02	0.00	2.081	1.999
Unfriendly expression			0.59	0.77	0.84	1.212	1.291
Nervous facial expression			0.91	1.16	1.78	1.716	2.496
Body movements							
Postural shifts	—		1.13	1.30	0.73	1.975	2.459
Shaking			0.59	0.73	0.64	1.252	1.585
Self-manipulation	—		1.28	1.64	3.20	2.127	3.416
Gesticulation	—		1.00	0.63	3.32	1.885	1.085
Shrugs	—		0.77	1.09	3.34	1.779	1.951

(Continued)

Table 1. (*Continued*)

Arm movements	<	0.59	0.55	0.03	1.174	0.967
Hand movements	<	1.05	0.91	0.51	1.991	1.737
Leg movements	<	0.66	0.80	0.86	1.479	1.582
Foot movements	<	0.77	0.98	1.48	1.676	1.780
Turning to interviewer		-0.05	-0.63	5.75*	-0.078	-0.858
Tense posture		0.92	1.02	0.30	1.807	2.357
Reserved posture		0.20	0.34	0.54	0.383	0.695
Nervous bodily expression		0.91	1.18	2.62	2.021	2.691
Qualities of the content of a statement						
Plausible descriptions	<	0.64	-0.14	7.46**	0.897	-0.168
Logical consistency	<	0.23	-1.02	20.74***	0.305	-1.395
Unstructured production	<	0.00	0.32	1.67	0.000	0.404
Amount of detail	<	0.48	-0.43	0.40**	0.650	-0.460
Unusual detail	<	0.48	0.36	0.34	0.746	0.452
Superfluous detail	<	0.94	0.84	0.16	1.502	1.077
Description of own feelings	<	0.63	0.29	1.60	0.867	0.388
Description of other's feelings	<	0.36	-0.27	7.15**	0.522	-0.377
Reproduction of speech	<	0.39	0.54	0.37	0.711	0.829
Description of unexpected complications	<	0.61	0.52	0.18	0.970	0.649
Contextual embedding	<	0.34	-0.11	3.84	0.620	-0.142
Description of interactions	<	0.48	0.11	2.98	0.915	0.152
Spontaneous corrections	<	0.80	1.09	1.28	1.285	1.392
Admitting lack of memory	<	1.38	0.73	4.55*	2.089	0.778
Raising doubts	<	0.95	0.20	7.06**	1.285	0.243
Self-deprecation	<	0.66	0.02	7.66**	1.202	0.027
Contradiction	<	0.86	1.61	10.83***	1.325	2.611

> Increase in frequency during deception compared with truth-telling.

< Decrease in frequency during deception compared with truth-telling.

- No change found between the frequency during deception and truth-telling.

blank No literature concerning the actual indicator for these items.

*These findings come from Zuckerman *et al.* (1981); Zuckerman *et al.* (1984); DePaulo *et al.* (1985); Vrij (1995)

whilst they have actually been shown to increase (e.g. false starts, faltering speech, postural shifts and gesticulation).

In order to look at differences between the responses of lay people and police officers, for those rating their own and others' behaviour and those that may have been influenced by literature and those who had not, a 2 (profession: police officer or lay person) \times 2 (whose behaviour: own or others') \times 2 (influence: read or unread)

MANOVA was carried out. Dependent variables were the ratings each participant made for each of the 64 items of the questionnaire.

The analysis did reveal one significant main effect—that concerning the rating of participants' own deceptive behaviour versus that of others ($F(2,53) = 1.84, p < 0.01$).

At a univariate level, there were significant differences for 18 items between those participants who rated their own deceptive behaviour and those rating others' behaviour (see Table 1). Four of these items were in the speech behaviour category (pauses; stuttering; clichés; monotonous voice), and five were in the facial behaviour category (changes in line of sight; eyeblinks; eye contact; twitches; turning pale). In the body language category only the 'turning towards the interviewer' item produced a significant difference. Eight items in the content of statement category were rated significantly differently between the two conditions (plausible description of events; logical consistency; amount of detail; description of others' feelings; admitting lack of memory; raising doubts about own testimony; self-deprecation; contradictions).

It can be seen from Table 1 that for the majority of items in the speech disturbances and facial behaviour categories (pauses, stuttering, clichés, monotonous voice, change in line of sight, twitches, eyeblinks and turning pale), those rating others' deceptive behaviour rated larger increases in their frequency during deceptive behaviour than those rating their own deceptive behaviour. Eye contact was the exception, with those rating others' behaviour rating more of a decrease than those rating their own deceptive behaviour. Similarly, for the 'turning toward the interviewer' item, those rating others' behaviour rated more of a decrease than those rating their own deceptive behaviour. However, it can be seen that for each of these items the ratings of participants in both conditions were in the same direction.

A different picture emerged for the contents of statement category. For the first four items to show significant differences (plausible description of event, logical consistency, amount of detail and description of others' feelings), those rating their own deceptive behaviour reported increases in these items while those rating other people's behaviour reported decreases. For the next three items (admitting lack of memory, raising doubts and self-deprecation), those rating their own deceptive behaviour reported larger increases in frequency of these items than those rating others' deceptive behaviour, although these latter raters also reported increases. Finally, for the 'contradiction' item, those rating their own deceptive behaviour rated less of an increase in frequency during deception than those rating other people's behaviour.

DISCUSSION

The main aim of this study was to look at the suggestion that one of the reasons for the previous disappointing findings regarding people's ability to differentiate between truthful and deceptive behaviour may lie in their inappropriate beliefs. The design of the questionnaire enabled a comparison to be made between the believed frequencies of certain behaviours during deceptive behaviour and those actual frequencies that have been recorded in previous research (Zuckerman *et al.*, 1981). This survey has added to the literature that states that people's beliefs regarding deceptive behaviour differ markedly from experimental observations made of actual deceptive behaviour especially where non-verbal cues are concerned. People

are most likely to believe that certain non-verbal behaviours, such as arm and leg movements and self manipulations, increase when a person is lying when in fact they have been shown to decrease (DePaulo *et al.*, 1985; Vrij, 1991, 1993a, 1995; Zuckerman and Driver, 1985). Conversely, people believe eye contact will decrease during deception when in fact it is more likely that this will increase (DePaulo *et al.*, 1985; Vrij, 1991, 1993a; Zuckerman *et al.*, 1985).

The authors' assumptions about non-verbal cues to deception are based upon previous studies concerning deception. In these studies the stakes are usually relatively low and therefore differ from lying in real-life, police or customs contexts in which the stakes are usually high. It may be that behavioural cues to deceit differ in low- and high-stakes situations. Further research is needed to investigate this. Anticipating this future work, it is likely that the outcomes will strengthen the pattern found in previous studies. For instance, in high-stakes situations liars will be more motivated to get away with their lies and, as a meta-analysis (Zuckerman and Driver, 1985) showed, highly motivated liars make fewer movements than less motivated liars, probably due to the fact that highly motivated liars try harder to control their behaviour and consequently move less and display more behavioural rigidity.

Surprisingly, there were no differences between the beliefs of lay people and police officers in this study. Thus training and experience do not appear to affect police officers' beliefs about behavioural correlates of deception and this may be one of the reasons why previous studies have found no evidence to suggest that the performance of police officers is any better than that of lay people in their accuracy at detecting deception (DePaulo and Pfeifer, 1986; Kraut and Poe, 1980). However, in their defence, one could argue that it is impossible to determine people's ability to detect credibility without actually testing their success rate at differentiating between actual truthful and deceptive interviewees. It could be the case that the responses people make when participating in such surveys are the indicators they think they use, but in fact they use other indicators in actual, real-life settings (i.e. people have limited insight into their own behaviours (Nisbett and Wilson, 1977)). In this study participants reported that they look for increases in frequency of some movements (e.g. arm and leg movements and self manipulations) when this may not, in fact, be the case.

If further training for police officers were to be implemented, in light of the findings of this study and that of previous work (DePaulo *et al.*, 1985; Vrij, 1991, 1993a; Zuckerman *et al.*, 1985), the authors suggest that an emphasis should be placed on informing police officers of their misbeliefs (i.e. to disregard some of their incorrect, preconceived ideas), rather than instructing them to look for specific behaviours as indicators of deception.

Further, it would seem plausible that experience in detecting lies would only result in a better judgement accuracy if lie experts received adequate feedback, i.e., confirmation that their truth or lie judgement was correct. In daily life such feedback is usually lacking (DePaulo and Pfeifer, 1986; Ekman and O'Sullivan, 1991; Vrij, 1993b). For example, customs officers will almost never find out whether or not the travellers they decide not to search were actually guilty of smuggling goods or not.

There were also no significant differences between those participants who had read literature concerning the detection of deception and those who had not. In this study participants were not asked to specify exactly what they had read. However, in future

research, it would be interesting to carry out some qualitative analysis to see whether there are any differences between the responses of those who have read academic texts, which are more accurate in their descriptions of deceptive behaviour, and the responses of those who have read the more popular texts regarding body language, which tend to be misleading and encourage incorrect beliefs regarding lying.

There was an overall difference between the responses of those participants rating their own deceptive behaviour and those rating other people's deceptive behaviour. In general, the participants rating other people's deceptive behaviour produced larger increases in the frequency of non-verbal items than did those rating their own deceptive behaviour. These items included twitches, eye blinks and turning towards the interviewer, which have actually been shown to decrease during deceptive behaviour (DePaulo *et al.*, 1985; Vrij, 1991, 1993a). Further, those rating others' deceptive behaviour rated larger decreases in eye contact than those rating their own behaviour and, again, the opposite has been observed to be true when looking at actual correlates of deception (DePaulo *et al.*, 1985; Vrij, 1991, 1993). It thus appears that people are less inaccurate regarding beliefs concerning their own lying behaviour than are people regarding beliefs concerning other people's behaviour. Perhaps people are sensitive to changes in their own behaviour and are therefore more accurate in describing how they behave when deceiving. However, they require more obvious changes in others' movements before these are actually noticed and linked with a particular behaviour, e.g. lying.

A further explanation could be that people have more access to reasons for their own behaviour than to reasons for the behaviour of others and may therefore give different reasons for the same behaviour. Observers believe that liars are nervous and are therefore looking for cues of nervousness such as self manipulations, shifting positions and so on (Bond, Omar, Mahmoud and Bonier, 1990; Gordon, Baxter, Rozelle and Druckman, 1987; Stiff and Miller, 1986; Stiff, Miller, Sleight, Mongeau, Garlick and Rogan, 1989; Vrij, 1993b; Vrij and Winkel, 1992). It may well be the case, however, that liars make these movements during deception, not because they are deceiving, but because of other reasons. For example, a deceiver may make a self manipulation because something itches, in this case it is likely that a deceiver will attribute the self manipulation to the real reason (an itch) whereas an observer attributes this behaviour to deception.

A different result was found for the fourth category of items regarding the contents of statements. In general, participants rating their own behaviour believed the SVA criteria items to increase in frequency during deception. Those participants rating other people's deceptive behaviour rated less of an increase and sometimes a decrease in frequency. According to the Undeutsch hypothesis, on which Statement Validity Analysis is based, these criteria items should decrease in frequency during fabricated accounts compared to truthful accounts. It would therefore appear that, when compared with evidence documenting the actual frequency of these criteria during deception, participants were more accurate when commenting on others' deceptive behaviour for this category (i.e. contents of statements) than when commenting on their own deceptive behaviour. This is the opposite result from that displayed for the non-verbal cues.

To conclude, the results of this study have added to the literature and strongly agree with the results of Köhnken (1990), which state that people's beliefs regarding deceptive behaviour, both their own and that of others, differ markedly from actual

indicators. Furthermore, and this is a new finding, people's misbeliefs regarding non-verbal cues are more pronounced than those regarding cues relating to the SVA criteria. It could well be that these inappropriate beliefs are a major reason why people's ability to successfully discriminate between truthful and deceptive statements is only slightly better than chance level. People seem to deceive themselves concerning reliable and valid cues to deception.

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