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# **Detecting Lies and Deceit**

The Psychology of Lying and the  
Implications for Professional Practice

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2000

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## CHAPTER 3

# Perception of Non-Verbal Behaviour During Deception

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### HOW DO PEOPLE THINK LIARS BEHAVE?

The previous chapter discussed objective or actual non-verbal indicators of deception—that is, how liars actually behave. The chapter revealed that typical deceptive non-verbal behaviour does not exist, although it showed that some behaviours are more likely to occur during deception than others. This chapter will address subjective indicators of deception—how people believe liars behave and which cues they use to detect deceit. I shall show that people (not only lay people but also professional lie-catchers) often have incorrect beliefs about how liars actually behave. People are usually poor at detecting lies when they pay attention to someone's behaviour.

Two different paradigms have been used in the study of subjective non-verbal indicators of deception. In the first paradigm, people are asked to indicate (usually in a questionnaire) how they think that liars behave. This gives insight into *beliefs about cues associated with deception*, but it does not necessarily mean that people actually use these cues when they try to detect deceit. For example, people may indicate that they think liars look away, but it may still be the case that they subsequently judge someone who shows gaze aversion to be truthful. A second paradigm has been designed to find out which cues people actually use to detect deception. Observers are given videotapes or audiotapes and asked to judge whether each of a number of people is lying or telling the truth. These judgements are then correlated with the actual cues that were or were not present in each video clip. The outcomes give insight into *cues to perceived deception* and tell us which cues people actually use to indicate whether someone is lying. For example, if there is a tendency among lie detectors to judge those who moved a great deal to be more deceitful than those who made few movements, it can be concluded that they used the making of movements as a

cue to detect deception. However, it is unclear whether lie detectors know which cues they actually do use—that is, whether they realized that they used the making of movements as a cue to detect deceit.

Studies of subjective indicators of deception have been conducted in different Western countries, including Germany (Fiedler & Walka, 1993), the UK (Akehurst, Köhnken, Vrij & Bull, 1996; West, 1992), The Netherlands (Vrij & Semin, 1996) and the USA (DePaulo & DePaulo, 1989; Ekman, 1988; Riggio & Friedman, 1983). Mainly college students were used as observers, but in some studies the observers were police officers (Vrij, 1993a; Vrij, Akehurst, Van Dalen, Van Wijngaarden & Foppes, 1996; Vrij, Foppes, Volger & Winkel, 1992; Vrij & Semin, 1996) or customs officers (Kraut & Poe, 1980). Despite this variety of research paradigms, research locations and observers, the findings are highly similar. It appears that there are clear and unanimous beliefs among observers (both lay people and professional lie-catchers) in different cultures about the relationship between non-verbal behaviour and deception. Table 3.1 gives an overview of these beliefs.

Observers associate deception with a high-pitched voice, many speech disturbances (speech hesitations and speech errors), a slow speech rate, a long latency period, longer pauses, more pauses, gaze aversion, smiling, eye blinking and many movements (illustrators, self-manipulations, movements of the hands, fingers, feet, legs and trunk, and shifting positions). Applied to daily life situations, these findings suggest that customs officers think that smugglers avert their gaze, police officers believe that guilty suspects fidget, parents believe that their children are lying when they pause before giving an answer, and journalists become suspicious when a politician starts to stutter. Many of these behaviours are signs of nervousness or content complexity, and that is probably the reason why people associate these behaviours with deception. They probably think that liars will be nervous or have to think hard, and therefore look at cues indicating nervousness and content complexity. The tendency to look for cues of nervousness and content complexity is referred to as the *representativeness heuristic* (Stiff, Miller, Sleight, Mongeau, Garlick & Rogan, 1989).

My own research (Vrij & Semin, 1996) suggests that, out of all these indicators, gaze aversion is probably the one that people rely upon most (followed by self-manipulations and foot and leg movements). Why do people have strong expectations that liars will look away? First, because it is reasonable to expect gaze aversion during deception. Observers believe that liars are nervous and have to think hard, and gaze aversion is an indicator of both nervousness and cognitive load. However, those who rely on gaze aversion do not realize how easy it is to control this behaviour. Secondly, our own ongoing research involving suspects in

Table 3.1. Subjective indicators of deception

	Vocal characteristics						
	Hesitations	Errors	High-pitched voice	Speech rate	Latency period	Duration of pauses	Frequency of pauses
Akehurst <i>et al.</i> (1996)	^	^	^	v	^		^
Apple <i>et al.</i> (1979)			^	v	>, <		
Baskett & Freedle (1974)		^					
Bond <i>et al.</i> (1985)							^
Bond <i>et al.</i> (1990)							
DePaulo, Rosenthal <i>et al.</i> (1982)	^	^		v			
DePaulo & DePaulo (1989)	^			v			
Ekman (1988)							
Fiedler & Walka (1993)			^				
Gordon <i>et al.</i> (1987)	^	^		^	^		
Kraut (experiment 1) (1978)					^		
Kraut & Poe (1980)					^		
McCroskey <i>et al.</i> (1969)		^					
Nigro <i>et al.</i> (1989)	^	^					
Riggio & Friedman (1983)				v			
Ruva & Bryant (1998)	^					^	
Stiff & Miller (1986)	^						
Streeter <i>et al.</i> (1977)	^	^	^	^	^		
Taylor & Vrij (1999)	^	^	^	^	^	^	^
Vrij & Bull (1992)	^	^		^	^	^	^

(continued overleaf)







police interviews (Mann, Vrij & Bull, 1998) shows that many suspects do exhibit large differences in gaze aversion between truth-telling and lying. That makes gaze aversion a noticeable indicator. Unfortunately, the pattern is erratic. Some suspects look away more when they are lying, whereas others look away more when they are telling the truth. Different patterns of gaze aversion during lying and truth-telling also emerge within individuals. A clear example of the latter was the pattern of gaze aversion displayed by the convicted murderer (see Chapter 2). He looked away *while lying before* his confession, and also showed gaze aversion *while telling the truth during* his confession. Erratic patterns of behaviour can indeed be expected when the behaviour is so easy to control.

Bond and his colleagues give a different explanation for subjective indicators of deception (Bond, Omar, Pitre, Lashley, Skaggs & Kirk, 1992). They claim that it is not nervous behaviours or behaviours indicating increased cognitive load which create suspiciousness, but 'odd behaviour'—that is, non-verbal behaviour which violates normative expectations (the so-called *infrequency heuristic*) (Fiedler & Walka, 1993). This odd behaviour might be nervous behaviour, but not necessarily. People usually look at each other during conversations. How frequently and for how long they look at each other depends on the situation. For example, a passionate couple stare at each other more frequently and for longer than do strangers (Kleinke, 1986). Research has shown that, under normal circumstances, both excessive gaze aversion and excessive staring make a suspicious impression (Bond, Omar, Pitre, Lashley, Skaggs & Kirk, 1992; Desforges & Lee, 1995). Both total gaze aversion and staring deviate from the norm, are considered odd, and therefore evoke suspicion. Hence both the suspect who maintains continuous eye contact and the suspect who shows complete gaze aversion probably make a more suspicious impression on police officers than the suspect who shows intermediate levels of gaze aversion.

Baskett and Freedle (1974) varied response latency in their experiment. They found that responses were judged to be deceptive if they occurred too slowly or too quickly. The only responses judged to be truthful were those that followed an intermediate delay. Thus a husband will become suspicious if his wife answers the question of whether she is having an affair either too quickly or too slowly. People expect that formulating an answer will take a certain amount of time. If the response latency is shorter or longer than expected, this will be judged as odd and therefore elicit suspicion.

Although people sometimes associate staring and short latency periods with deception, these are not the types of behaviour that they

expect liars to display when they are asked how they think liars behave. Vrij and Semin (1996) asked participants to indicate in a questionnaire whether, compared to truth-tellers, liars show 'an increase in gaze behaviour towards the conversation partner', 'a decrease in gaze behaviour' or 'similar levels of gaze behaviour'. Most participants filled in 'decrease in gaze behaviour'. A possible reason why people expect liars to show gaze aversion (and not eye contact) is that it is easier for them to explain gaze aversion than to explain eye contact. Gaze aversion may be the result of nervousness or content complexity, whereas eye contact can only be explained by overcontrol of behaviour (see Chapter 2). Observers probably think more about nervousness and content complexity than about overcontrol when they think of deceptive behaviour.

The differing findings of Bond and Vrij are probably related to the different research paradigms used in the two studies. We investigated beliefs about cues associated with deception, whereas Bond investigated perceived cues to deception. As mentioned above, people sometimes do not realize which cues they actually use to detect deception. Generally, however, a high correlation is found between beliefs about cues associated with deception and perceived cues to deception—that is, people actually use the cues that they think they use (Zuckerman, Koestner & Driver, 1981). Bond's research is important because it demonstrates the limitations of the findings presented in Table 3.1., which gives an overview of how observers generally believe that liars behave and which cues they generally attend to when trying to detect deception. However, it does not imply that people who exhibit behaviour that differs from this pattern necessarily make an honest impression.

To make the issue of perceptions of behaviour even more complicated, Aune, Levine, Ching and Yoshimoto (1993) found that the same behaviour can be assessed in different ways, depending on the circumstances under which the behaviours take place. Judges saw one of two simulated video-dating-service interviews with a woman. In the video the general appearance of the woman was manipulated to either emphasize or minimize her desirability as a partner. Her appearance was either typical of a young, fashion-conscious woman on a dinner date, or atypical for a dating situation. In both videos, the woman displayed cues stereotypically associated with deception, such as looking away from the interviewer and shifting her posture (the same behaviour was shown in both interviews). In both interviews the woman said, among other things, that she was an adventurous person who really enjoyed blind dating. Judges rated her as less deceptive when her appearance was typical for a dinner-date situation.

### DO LIARS BEHAVE AS OBSERVERS EXPECT THEM TO BEHAVE?

Since people have their own beliefs about behaviours which indicate that a person is lying, it is worth asking how accurate these beliefs are in reality. Table 3.2 gives a schematic comparison of the research findings about subjective indicators of deception (column 1) and objective indicators of deception (column 2).

With regard to vocal characteristics, Table 3.2 reveals quite an overlap between the two columns, indicating that observers are reasonably aware of the vocal characteristics of deception. However, some of the objective indicators mentioned in Table 3.2 (increase in speech hesitations, increase in speech errors and slower speech rate) only seem to occur when the lie is difficult to fabricate (see Chapter 2).

**Table 3.2.** Objective and subjective non-verbal indicators of deception

	1 Subjective indicators <sup>1</sup>	2 Objective (actual) indicators <sup>2</sup>
Vocal characteristics		
High-pitched voice	>	>
Speech hesitations	>	> <sup>3</sup>
Speech errors	>	> <sup>3</sup>
Slow speech rate	>	> <sup>3</sup>
Latency period	>	—
Pause durations	>	>
Frequency of pauses	>	—
Non-vocal characteristics		
Gaze aversion	>	—
Smiling	>	—
Eye blinks	>	—
Illustrators	>	<
Self-manipulations	>	—
Hand and finger	>	<
Leg and foot	>	<
Head	—	—
Trunk	>	—
Position shifts	>	—

<sup>1</sup> >, observers associate an increase in the behaviour with deception;

<, observers associate a decrease in the behaviour with deception;

—, observers do not associate the behaviour with deception.

<sup>2</sup> >, increases during deception;

<, decreases during deception;

—, no relationship with deception.

<sup>3</sup> when the lie is difficult to fabricate.

Easy lies (concealments or well-planned lies) are not associated with this behavioural pattern, and may even be associated with the opposite pattern. However, there is no evidence that observers are aware of this.

Table 3.2 further shows that most beliefs about non-vocal indicators of deception are inaccurate. Observers associate more non-verbal behaviours with deception than actually indicate deceit. For example, subjective indicators such as gaze aversion, trunk movements, self-manipulations and shifting positions are not actual indicators of deception. Finally, observers believe that deception is associated with an *increase* in hand, arm, foot and leg movements, whereas in fact deception is associated with a *decrease* in hand and arm movements (particularly non-functional subtle hand and finger movements) and in foot and leg movements. As mentioned previously, observers seem to expect nervous behaviours and behaviours that indicate the person is thinking hard, whereas liars often do not show such behaviours.

### WHY ARE THERE DIFFERENCES BETWEEN OBJECTIVE AND SUBJECTIVE INDICATORS OF DECEPTION?

There are at least three possible reasons why people have wrong assumptions about the behaviours that liars show.

- It might be a matter of experience (Köhnken, 1990, 1996). Almost everyone can think of somebody at some time who acted nervously during deception, and who was subsequently caught out because of this nervousness. Lie-catchers may then wrongly assume that all liars behave in this way. I came across a good example a couple of years ago when I spoke with a member of the Dutch military police. The Dutch military police are, among others, responsible for checking passports at airports. The military police officer told me that he thought that his organization was good at detecting lies. To support this view he showed me a videotape on which passengers were visible who were showing their passports to an officer in the military police. One woman was clearly nervous, which raised the officer's suspicion. He carefully checked her passport and discovered that it was a false document. I asked whether one or more of the other passengers on the tape who did not show nervous behaviour were in possession of a false document as well. This was not known because the passports of these passengers were not thoroughly examined. This is unfortunate, because it is possible that some other passengers who did not show nervous behaviour were in possession of a false passport as well, as not all people with false passports will exhibit nervous behaviour.

- It is remarkable that differences between objective and subjective indicators of deception exist, as this gives the impression that the behaviour we show when we are lying differs from the behaviour which other people show when they are lying! For example, if we lie we tend to decrease our movements, whereas we think that other people increase their movements during deception. Why do we think that we are an exception? Research has shown that we do not think of ourselves as exceptional, but instead that we do not know how we behave when we are lying. Vrij, Semin and Bull (1996) interviewed their participants twice. In one interview they were lying and in the other interview they were telling the truth. After the second interview, they asked their participants to indicate in a questionnaire how they thought they had behaved during the two interviews. These answers were compared with the actual behaviour the participants showed during both interviews. The results showed that the participants were not aware of the behaviour they had shown during the interviews. Although they actually showed fewer movements when they were lying compared to when they were telling the truth, they thought that they had made more movements during deception! Thus while detecting lies in others, people are looking for cues which they think (incorrectly) reveal their own lies.
- When expressing their ideas about how deceivers behave, people may tend to think of settings in which nervous behaviours might well occur, such as situations in which the stakes are apparently high or in which liars are taken by surprise. Their beliefs may be different when they are asked about other, less exceptional situations. Recently, we investigated this in a series of experiments (Taylor & Vrij, 1999; Vrij, 1998b; Vrij & Taylor, 1999) in which we asked observers to indicate their beliefs about deceptive behaviour in several specific situations. For example, in one study (Vrij, 1998b) I introduced four different scenarios in which the stakes and content complexity were systematically manipulated. The scenarios describe a driver who was interviewed by a police officer about a car accident which was caused by the driver. However, the driver did not want to admit this and told the police officer that she was innocent. In half of the scenarios the consequences of the accident were serious because someone was killed (high stakes), and in the remaining half of the scenarios it was only a minor accident (low stakes). In half of the scenarios there was a witness who implicated the driver (high cognitive demand), and in the remaining half of the scenarios there was no further evidence to help the police officer to determine the facts (low cognitive demand). The participants realized that the consequences were

more serious in the serious car accident than in the minor car accident scenario, but they expected the same nervous behaviours in all of the scenarios. Apparently observers are not fully aware that the behaviour displayed by liars depends on the situation.

### **Box 3.1.** Creating suspects in police interviews

It is possible that the interaction with suspects in police interviews results in subtle changes in the behaviour displayed by police officers during these interviews. For example, police officers may become irritated by the information a suspect gives or refuses to give, which may result in subtle movements made by the police officer. Our recent study showed that this eventually leads to a more suspicious impression made by the suspect (Akehurst & Vrij, 1999). A police officer interviewed a number of interviewees (college students) in simulated police interviews. The movements made by the police officer in these interviews were manipulated so that he made more subtle hand and finger movements in the experimental condition than in the control condition. The results showed that this manipulation affected the movements made by the interviewees. They 'imitated' the behaviour displayed by the police officer—that is, interviewees in the experimental condition made more subtle hand and finger movements than interviewees in the control condition, a phenomenon called *interactional synchrony*. In a follow-up experiment, police detectives were shown a sample of these interviews (five interviews from the experimental condition and five interviews from the control condition) and were asked to judge the suspiciousness of the interviewees. The results showed that the interviewees in the experimental condition made a more suspicious impression than the interviewees in the control condition, due to the fact that the interviewees in the experimental condition made more hand and finger movements. None of the judges had noticed that the police officer made more hand and finger movements in these interviews as well.

## **THE ABILITY OF PEOPLE TO DETECT LIES**

Obviously, people's ability to detect lies depends on the circumstances. In cases where the negative consequences of being caught are minor and the lie does not require much mental effort, it will often be impossible to detect deception by observing someone's behaviour. The girl who tells her friend that she likes her friend's new dress, but who in fact does not like it, will probably not show any behaviour that will betray her lie. It is more difficult to lie when the stakes are raised and the lie becomes cognitively more difficult. It might therefore be possible to detect lies in such cases. In the scientific studies concerning the detection of deception, observers (mostly college students) are typically given videotapes or

audiotapes and asked to judge whether each of a number of people is lying or telling the truth. The alternatives to choose from in these studies are 'the person is lying' or 'the person is not lying', resulting in a 50% chance of giving the correct answer just by guessing. In most studies liars immediately have to fabricate an answer, which makes these lies cognitively rather complicated. Moreover, there are usually some negative consequences involved for those who are not successful in lying, and hence the stakes are moderately high (although of course, never as high as in some real-life situations). In most studies on detection of deception, videotapes of the deception studies which were described in Chapter 2 were used as material to show to the lie detectors.

Kraut (1980) published a review of studies concerning the detection of deception. The percentages of lie detection (or the accuracy rate) in most of these studies ranged from 45% to 60%, when 50% accuracy was expected by chance alone. The mean (average) accuracy rate was 57%. Apparently people are not very good at detecting lies (although detection accuracy slightly but significantly exceeds that expected by chance in many published studies).

Theoretically, accuracy in detecting deception should vary with the ability to control the channels of communication. Liars should be most successful in deceiving others when using facial expressions (because this is the easiest channel to control; see Chapter 2) and least successful when using body movements and tone of voice cues (because these channels are less controllable). The combined results of more than 30 studies support this hypothesis (DePaulo, Stone & Lassiter, 1985). Observers are able to detect deception at a rate slightly above the level expected by chance when they only hear the voice, or only see the trunk and arms, but they score no better than would be expected by chance in detecting deceit if they only have access to facial cues (by which I mean hearing the voice literally; in these studies filtered speech is usually used so that the lie detector does not understand what the speaker is saying). Furthermore, observers perform less well if facial cues are available in combination with other channels than if they only have access to these other channels. That is, lie detectors who just see body movements are more accurate in detecting lies than those who see both body movements and facial expressions. The explanation is obvious. People rely strongly on facial information to detect deceit, but most facial sources of information are not reliable indicators of deception. These data suggest that, when trying to detect lies, the best strategy may be not to pay attention to the face at all, and to focus on body movements and vocal characteristics alone! However, this strategy may be too rigid because, as mentioned in Chapter 2, facial micro-expressions of emotions may also reveal lies (Ekman, 1992).

Kraut published his review in 1980, and many studies have been published since then. Appendix 3.1 provides an overview of studies conducted from 1980 onward. Included are studies in which the observers were lay people (not professional lie-catchers) who were asked to detect lies in people with whom they were not familiar (not friends or lovers). Studies involving professional lie-catchers, friends and lovers will be discussed separately.

Appendix 3.1 gives an overview of 39 studies. The majority of the accuracy rates fall in the range 45–60%, and the mean accuracy rate is 56.6%. This is almost identical to the 57% accuracy rate found by Kraut (1980).

If accuracy in detecting lies is computed separately from accuracy in detecting truth, the results usually show a *truth bias* (Köhnken, 1989; Zuckerman, DePaulo & Rosenthal, 1981). That is, judges are more likely to consider that messages are truthful than that they are deceptive and, as a result, truthful messages are identified with more accuracy than are deceptive ones. In fact, my own review (see Appendix 3.1) shows that observers are reasonably good at detecting truths (67% accuracy rate) but particularly poor at detecting lies (44% accuracy rate). There are four possible explanations for the truth bias. First, in daily life people are more often confronted with truthful statements than with deceptive ones, so they are therefore more inclined to assume that the behaviour they observe is honest (the so-called *availability heuristic*; O'Sullivan, Ekman & Friesen, 1988). Secondly, the rules of social conversation prevent people from being suspicious. A person will very quickly become irritated if their conversation partner questions everything that is being said. Imagine a conversation in which someone interrupts you all the time by saying things like 'I don't believe you', 'That cannot be true', or 'Could you prove that?' The conversation would probably not last very long. Unfortunately, it is often necessary to challenge what the other person is saying and ask for more information in order to find out why people are behaving in the way they are at a particular time, and to find out whether someone is lying (see Chapter 2). Thirdly, people have stereotypical views about how liars and truth-tellers behave. For example, most people expect liars to behave nervously and truth-tellers to behave normally, and they are often guided by these beliefs when trying to detect deceit. This results in truths being more often accurately detected than lies, as their stereotypical views about truth-tellers are more accurate than their views about liars. Fourthly, people may be unsure as to whether deception is in fact occurring. Given this uncertainty, the safest and most polite strategy may be to believe what is overtly expressed (DePaulo, Jordan, Irvine & Laser, 1982).



## FACTORS THAT INFLUENCE THE ABILITY TO DETECT DECEIT

There are numerous factors that influence a person's ability to detect deceit. Some of these factors are related to the lie detector, while others are related to the liar or to the interaction between liar and lie detector. A third group of factors is related to the lie-detection task, particularly the possible disadvantages for lie-detectors attempting to detect lies in a laboratory setting compared to catching liars in real-life situations. I shall discuss the former setting first.

### **Lack of Reality in the Laboratory**

Catching a liar in a laboratory experiment differs from detecting deceit in a real-life situation. However, this does not imply that a lie-detection task is easier outside the laboratory than inside it. Some differences make the task easier, and others make it more difficult (see also Zuckerman, DePaulo & Rosenthal, 1981). Compared to real-life situations, lie detectors in the laboratory have the following constraints.

- They have to make their decision quickly as to whether or not someone is lying (usually within 10 seconds), and do not have time to think about their decisions.
- They can only observe the supposed liar for a short time (usually for less than 1 minute), and would probably wish to observe the person they are exposed to for a longer time. However, the question is how realistic this would be. At present, we are analysing videotaped police interviews with suspects (Mann, Vrij & Bull, as part of a research project funded by the Economic and Social Research Council). One preliminary finding is that the lies which suspects tell tend to be short. One reason for this is that lies are often incorporated in truthful stories. Suspects tell stories which are largely accurate but lie only about certain (crucial) details, such as the time when the event took place or their particular role in the event (e.g. 'I was there, but I was not the one who stole the money'). Another reason is that lies sometimes consist of concise, total denials (e.g. 'I have nothing to do with it, I was at home, I was tired and went to bed early'). In other words, lengthy lies are rare, which makes the laboratory studies more realistic than one might think.
- They are passive observers. They are watching a video and therefore do not have the opportunity actually to interview the potential liars. However, it is doubtful, whether this is a limitation. In a study conducted by Stiff, Kim and Ramesh (1992), observers actually interviewed the potential deceiver. The detection rates were not higher than the accuracy rates in studies involving passive

observers. In their studies, Buller and his colleagues compared the accuracy scores of observers who actually interviewed potential liars with those who observed the interviews but did not interview the potential liars themselves (Buller, Strzyzewski & Hunsaker, 1991). The results revealed that the observers were more accurate in detecting lies (49% accuracy score) than the interviewers (29% accuracy score). More recently, Feeley and deTurck (1997) also found that observers were more accurate in lie detection (50%) than interviewers (43%). These findings suggest that actually interviewing someone is a disadvantage and not an advantage in detecting deceit. This is perhaps unsurprising. First, interviewers need to concentrate on the interview itself. For instance, they have to decide what to ask, how to phrase these questions, and at what moment in the interview they are going to ask these questions. In addition, they must put effort into their self-presentation, must listen to the interviewees and must reply to what they say. This requires cognitive resources which cannot be devoted to the lie-detection task. Observers, on the other hand, do not have to bother about the flow of the conversation and can concentrate fully, if they wish, on the lie-detection task. Secondly, the lower accuracy rates for interviewers may be the result of a truth bias among interviewers. Interviewers tend to believe a potential liar more often than observers do (Feeley & deTurck, 1997; Granhag & Strömwall, 1998). The reason for this truth bias among interviewers is unclear (see Burgoon and Newton (1991) and Feeley and deTurck (1997) for some suggestions).

An additional advantage for observers is that they can thoroughly observe the potential liar—literally from head to foot. Active interviewers cannot do this, as it will make an odd impression. Conversation rules prescribe that conversation partners look each other in the eyes. However, eye movements do not give reliable information about deception. An observer does not have to concentrate on someone's face, and thus can pay attention to other more useful pieces of information. It may therefore be a good idea to introduce observers in police interviews, who sit in a different room and watch the interview via a video-link system. They will then have the opportunity to observe more of the suspect without being disturbed.

A liar's statement or action may result in a reaction of the interviewer—for example, in asking for a further explanation. There are different ways of doing this, namely in a neutral way (e.g. 'I don't understand this, could you please explain this to me?'), in a positive way (e.g. 'I do believe you, but I don't understand this. How is it

possible that...?') or in a negative way (e.g. 'I don't believe you, you are trying to fool me'). At first sight, you might think that further questioning facilitates the task of the lie detector. The liar is forced to continue to speak and is compelled to give more information. Obviously the more liars speak and the more information they give, the greater the likelihood that they will make a mistake and will give the lie away, either via verbal cues (by contradicting themselves or by saying something which the observer knows is incorrect) or via non-verbal cues. This reasoning is probably true when probing continues, but not in the initial stage of further questioning. Several studies have shown that liars, at least initially, make a more honest impression as a result of further questioning (Buller, Comstock, Aune & Strzyzewski, 1989; Buller, Strzyzewski & Comstock, 1991; Levine, McCornack & Aleman, 1997; Stiff & Miller, 1986). The type of probing (neutral, negative or positive) does not have an impact on this. Thus initially liars make a more honest impression even when they are accused of lying. In other words, probing initially benefits the liar.

It is not entirely clear why this is so. Stiff and his colleagues argue that as soon as liars realize that the observer is becoming suspicious, they will respond by showing more 'honest behaviour' (Buller, Stiff & Burgoon, 1996; Stiff & Miller, 1986). Levine and colleagues (Levine & McCornack, 1996a; Levine, McCornack & Aleman, 1997) dispute this view, and I agree with them. As was mentioned in Chapter 2, probing does not result in more honest behaviour. It results, among other behaviours, in more stutters and self-manipulations. Recently, Levine, McCornack and Aleman (1997) offered an alternative explanation. They suggested that many observers will believe that it is too difficult for liars to continue lying when they are challenged, and that people are probably speaking the truth when they do not change their original story, or when they continue denying. However, there is another possible explanation. It might be that lie detectors think that it will be difficult for liars to persist in lying when they are challenged, and that they therefore expect liars to show nervous behaviour or to display behaviour which indicates that they have to think hard when challenged. A liar will therefore make an honest impression as long as such behaviours do not occur.

- The stakes are not usually very high for the liar in the laboratory. It is therefore possible that their lies are associated with relatively few non-verbal cues (see Chapter 2). Obviously, the fewer deception cues that are present in the non-verbal behaviour of the liar, the more difficult it will be for the lie detector to detect a lie.
- The observers are asked to detect lies told by people they do not know, and they are therefore not familiar with their natural behaviour.

Familiarity with the potential liar does indeed increase the ability to detect lies, as will be discussed further later in this chapter.

However, there are several advantages for the lie detector in the laboratory.

- In laboratory experiments, a random sample of people is usually taken and they are all 'forced' to lie. These samples will include people who consider themselves to be bad liars and therefore hardly ever lie in daily life. These inexperienced liars might be easy to detect.
- Liars in the laboratory are told about the topic on which they have to lie. This might well be a topic with which they are not familiar. In daily life, people can restrict themselves to lies concerning topics they know about.
- Lie detectors in the laboratory are aware that someone will try to dupe them. They will therefore be alert and will observe the supposed liar carefully. In daily life, people do not usually know when someone is going to lie to them, and they are therefore less attentive most of the time. In fact, people will often be unattentive because they generally have too much good faith—that is, they assume too often that others speak the truth. Obviously people will never become good lie detectors if they take too much of the information they receive for granted. One way to decrease credulity is to point out to lie detectors that people try to dupe them more often than they might think. Research has indicated that such an intervention does decrease a person's good faith, but does not increase their accuracy in detecting deception (Stiff, Kim & Ramesh, 1992; Toris & DePaulo, 1985). In other words, as a result of such information lie detectors tend to believe fewer statements, including those which are truthful. It is not difficult to explain these findings. People are told that they have too much good faith, but do not know where to look to detect a lie. Feeley and Young (1997) therefore correctly pointed out that merely diminishing people's good faith is not sufficient to make them better lie detectors. They should also be told where to look in order to detect lies.
- Lie detectors in the laboratory have the opportunity to observe the supposed liar carefully, often literally from head to foot. This may be very useful for detecting deceit, as the absence of subtle movements may give away the lie. As mentioned above, in real life it appears odd if someone observes the other person from head to foot.

In summary, the laboratory provides a lie detector with both advantages and disadvantages. It is therefore difficult to say whether it is easier or more difficult to detect lies in the laboratory than in the outside world.

However, either way, due to these many differences between real life and the laboratory, it is probably better to be somewhat cautious in drawing conclusions about the ability to detect lies in real life on the basis of performance in the laboratory.

### Characteristics of the Lie Detector

#### *Professional Lie-catchers*

Most studies related to the detection of deception have used college students as lie detectors. They are probably less experienced in detecting lies than professional lie-catchers such as police officers, police detectives or customs officers. It might be the case that these professional lie-catchers make better lie detectors than college students, due to their experience in this area. To my knowledge, eight studies have been conducted to date using professional lie-catchers as observers. These studies are listed in Table 3.3.

DePaulo and Pfeifer (1986) asked their participants—258 federal law enforcement officers, both experienced ( $n = 114$ ) and new recruits ( $n = 144$ )—to detect deception when listening to audiotapes of target individuals who were answering questions about their attitudes and opinions in front of a panel. In Ekman and O'Sullivan's deception task, observers (including 34 members of the Secret Service, 60 federal polygraphers and

**Table 3.3.** Accuracy scores of professional lie-catchers

	Accuracy rates (%)		
	Truth	Lie	Total
DePaulo & Pfeifer (1986) (federal law enforcement personnel, experienced)	64 <sup>1</sup>	42 <sup>1</sup>	52
DePaulo & Pfeifer (1986) (federal law enforcement personnel, new recruits)			53
Ekman & O'Sullivan (1991) (Secret Service)			64
Ekman & O'Sullivan (1991) (Federal polygraphers)			56
Ekman & O'Sullivan (1991) (police officers)			56
Garrido, Masip, Herrero, Taberner & Vega (1998) (police officers)	26	69	49
Köhnken (1987) (police officers)	58	31	45
Vrij (1993a) (police detectives)	51	46	49
Vrij & Graham (1997) (police officers)			54
Vrij & Mann (in press) (police officers)	70	57	64
Vrij & Mann (1999) (police officers)		50	

<sup>1</sup> Accuracy rates for experienced officers and new recruits together.

126 police officers) were asked to detect deception on the basis of videotapes of nurses who described how they felt about a film they were watching. In the study by Garrido, Masip, Herrero, Taberner and Vega (1998), 121 police students from a Spanish police academy watched a female sender who gave truthful and deceptive statements about a film she had watched previously. Köhnken showed 80 police officers videotapes of people who recalled a film (about a theft and a fight) they had just seen. Vrij showed 91 police detectives videotapes of people who denied the possession of a set of headphones. A similar procedure was used by Vrij and Graham (1997). In their study, 29 police officers participated. Vrij and Mann (in press) showed 65 police officers videotaped fragments of the police interview with the convicted murderer (this case was discussed in Chapter 2). Vrij and Mann (1999) showed 52 uniformed police officers videotaped real-life press conferences of people who were asking the general public for help in finding their relatives or the murderers of their relatives when, in fact, they were eventually deemed to be the murderers themselves. Table 3.3 shows the accuracy rates obtained in these studies.

Table 3.3 shows that the professional lie-catchers' accuracy rates mostly fall in the range 45–60%, when an accuracy rate of 50% is expected by chance alone. The mean (average) accuracy rate is 54%, which was similar to the accuracy rate (56.6%) found in studies with college students as observers. Hence we may conclude that professional lie-catchers are no better at detecting deception than are college students. The three studies conducted by DePaulo and Pfeifer (1986), Ekman and O'Sullivan (1991), and Garrido and colleagues actually support this conclusion. In these studies, college students were included as observers as well. DePaulo and Pfeifer (1986) found that law-enforcement personnel (both new recruits and experienced officers) were as good as (or perhaps it is better to say as bad as) college students in detecting deception. Ekman and O'Sullivan found that only members of the Secret Service were better at detecting lies than college students. I shall return to this issue later on in this chapter. Garrido's findings showed that university students were better at lie detection than police students. It is interesting to see that even in Ekman and O'Sullivan's study the accuracy rates were rather low. These observers were exposed to video clips of people who were facing a difficult task. First, they had to say that they were amused while they were watching burns and amputations, and secondly the stakes were high because they were led to believe that being successful in the deception task was associated with being successful in their career. The results thus show that even in such a difficult situation many people can successfully get away with their lies.

The studies conducted by Vrij and Mann are interesting because these are the only studies so far where observers were exposed to realistic and

high-stake lies, namely the videotape of a convicted murderer (Vrij & Mann, in press) or videotaped footage of press conferences with people who have been deemed to have killed their own relatives (Vrij & Mann, 1999), (none of the observers in either study knew about the cases which were shown). The fact that the accuracy rate obtained in the convicted murderer study was slightly higher than the accuracy rates obtained in most of the other studies may support the view that detecting real-life lies is easier than detecting lies told in the laboratory. A more detailed look at the findings of this study indicates that this is not entirely true, as the high accuracy score (64%) was caused by the fact that the observers were much better at detecting the murderer's truths (70%) than they were at detecting his lies (57%). The press conference study also found a low accuracy rate for detecting lies (50%). Hence, even in these realistic situations, police officers' skills in detecting lies were rather modest. The average accuracy rate for detecting lies in the studies listed in Table 3.3 was slightly lower (49%) than the accuracy rate for detecting truths (54%).

An interesting finding in the studies conducted by DePaulo and Pfeifer and by Garrido and colleagues was that police officers were more confident than students in their decision-making, suggesting that professional lie-catchers are more confident, not more accurate, than lay people in detecting lies.

*Confidence.* The strong confidence that professional lie-catchers have in their ability to catch a liar can be harmful in their deception-detection task, as it is likely that when individuals are highly confident in their ability to detect deception, they are less likely to scrutinize a person's behaviour actively (Levine & McCornack, 1992; Lord, Ross & Lepper, 1979). High levels of confidence often result in quick decisions being made on the basis of limited information. Imagine the following situation. Someone is ready to go on holiday by car. Unfortunately, the weather is particularly bad at the time when the person wants to leave. In such a situation, an insecure driver would probably obtain more information about the circumstances on the road than an experienced driver, and would therefore make a more well-considered decision as to whether or not to drive. For example, the insecure driver will listen to the weather forecast to find out how the situation will develop. The experienced driver will probably rely on inadequate heuristics such as 'The weather cannot stay that bad for a very long time' or 'The weather is notoriously bad here, but it will probably improve when I get nearer to my holiday destination', and so on. Similarly, high confidence in deception detection may also lead to the use of inadequate heuristics, such as 'liars look away', 'liars stutter', and so on. The use of heuristics in detecting deception is fundamentally wrong. As mentioned in

Chapter 2, the relationship between deception and non-verbal behaviour is too complicated to translate into simple heuristics.

*Lack of feedback.* The fact that professional lie-catchers seem to be as inaccurate as lay people in detecting lies indicates that professional lie-catchers do not appear to learn how to interpret non-verbal behaviour validly from their daily work experience. One explanation concerns the feedback they usually receive about the accuracy of the decisions that they make. It may be that real-life experience in detecting lies results in better insight among professional lie-catchers only when they receive adequate outcome feedback—that is, adequate information as to whether their truth/lie judgements are either right or wrong. In real life such outcome feedback is usually lacking (DePaulo & Pfeifer, 1986). Consider, for example, customs officers. Good feedback in their occupation means that they gain insight into how many of the travellers they stopped and searched did actually try to smuggle, but also how many of the travellers they did *not* stop tried to smuggle. The latter form of feedback is usually lacking. They will almost never find out whether or not the travellers they did not search were smuggling goods, and they therefore cannot learn from these cases.<sup>1</sup>

It may well be the case that a customs officer who has caught many smugglers in his career, and therefore believes himself to be good at detecting lies, turns out to be less successful when the number of smugglers who managed to dupe this particular officer is taken into account.

A study conducted by Vrij and Semin (1996) supported the feedback argument. They investigated, via a questionnaire, beliefs about non-verbal indicators of deception of various groups, namely college students, customs officers, prison guards, uniformed police officers, police detectives and prisoners. Several differences emerged between these groups, including the following differences in beliefs concerning gaze aversion and hand and finger movements.

Gaze aversion (Figure 3.1) is not a reliable indicator of deception—that is, liars and truth-tellers usually show similar patterns of gaze aversion. However, many students, customs officers, uniformed police officers and detectives, indicated that they considered that gaze aversion is associated with deception. The actual relationship (there is none) was mentioned most frequently by prisoners.

Many people show a decrease in hand and finger movements when they are lying. A relatively large number of prisoners marked this relationship

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<sup>1</sup> There is a very easy way to investigate how good customs officers are at catching smugglers. Ask them to stop 100 people randomly and let them indicate for each person whether they think that that person tried to smuggle. Then search all 100 people in order to find out to what extent the officer's intuitions were correct.



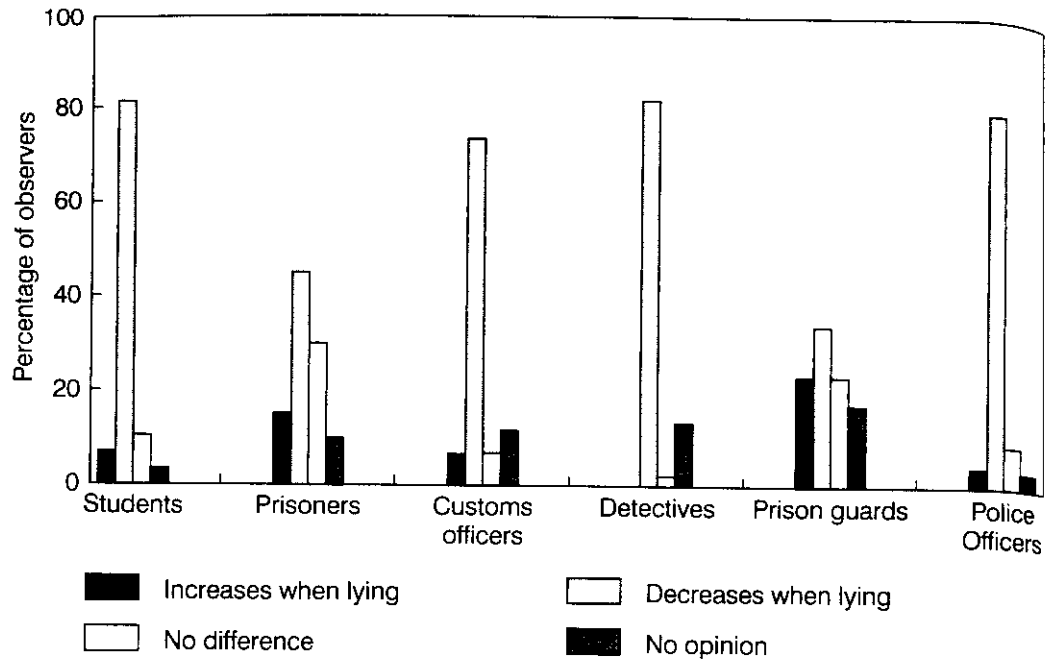


Figure 3.1. Gaze behaviour.

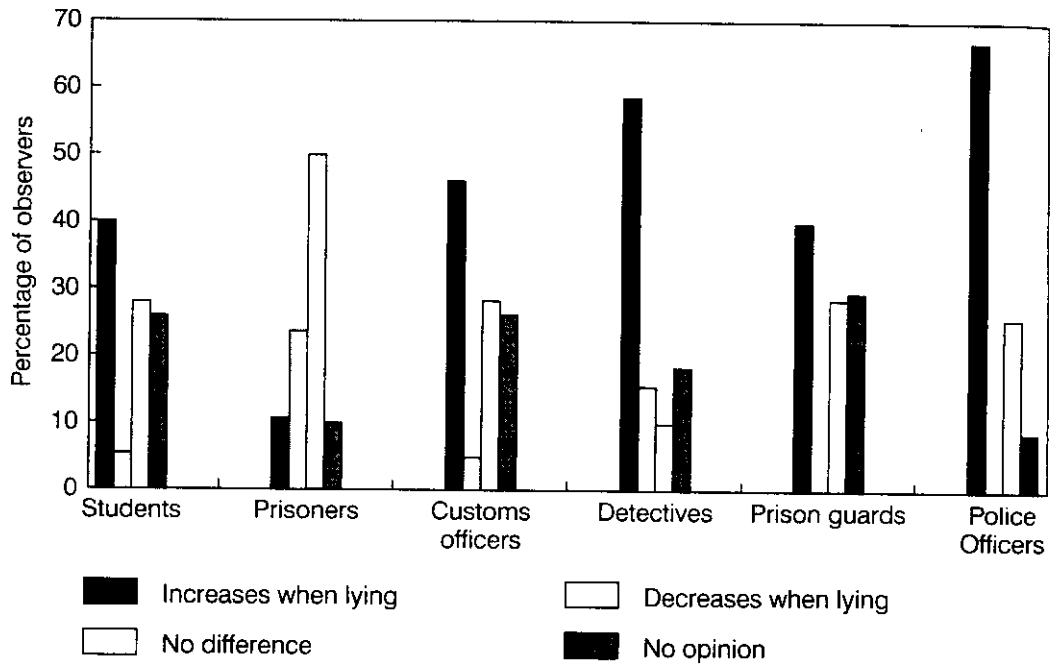


Figure 3.2. Hand and finger movements.

(Figure 3.2). On the other hand, students, customs officers, uniformed police officers and police detectives mainly associated an increase in such movements with deception.

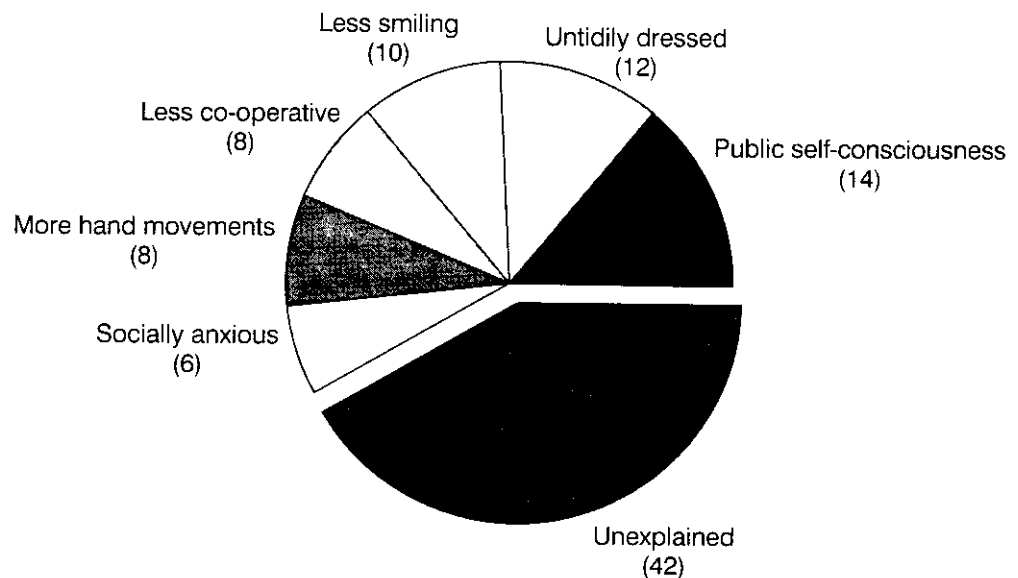
These two examples reveal that prisoners had more accurate beliefs about the actual relationship between non-verbal behaviour and deception than did both professional lie-catchers and lay people. This suggestion was further supported by the other outcomes of the study. Prisoners had more accurate beliefs about the relationship between non-verbal behaviour and deception than any of the other groups. The beliefs of the other groups did not differ significantly from each other. We explained this by suggesting that prisoners are likely to have the most adequate feedback. We stated that:

'Criminals live in a culture that is much more deceptive than the world that "normal" people live in. Associating with other criminals as well as generally unsavoury people in the underworld may expose any sample of prisoners to a great deal of posing, bluffing, threats, promises, "cons", and so forth, many of which may be false or dishonest. Being successful in, and adapting to, such a world depends in part on the ability to tell when you are being lied to' (Vrij & Semin, 1996, p.67).

A second study that I conducted provided further evidence that professional lie catchers are not fully aware which non-verbal behavioural cues indicate deception (Vrij, 1993a). In this study, 91 police detectives were exposed to short videotaped interviews with 20 students who were or were not lying about the possession of a set of headphones. The detectives were requested to indicate whether each person was lying or not. Some information was known to me about these 20 people—for example, how they behaved during the interviews, as their gaze aversion, smiling, speech hesitations, speech errors, pitch of voice, and movements of the trunk, head, hands, fingers, arms, feet and legs had been scored. In addition, physical characteristics (gender and style of dress) and personality traits (social anxiety and public self-consciousness) were measured (these traits were investigated via a questionnaire which was completed prior to the interviews). First of all, the results showed that the police detectives were not good at detecting the students' lies. Their accuracy rate was 49%, which is close to the level expected by chance (50%). Secondly, and interestingly, even though the detectives did not successfully identify the liars, the level of agreement among them about who was lying and who was telling the truth was high. Because many detectives made similar decisions, their judgements must have been based on the same cues, or they must have processed the cues in a similar manner. Therefore it seemed reasonable to examine the way in which the detectives processed the cues. In order to determine this, I conducted a statistical test called regression

analysis, which gives insight into the cues the detectives actually used to make their decisions (so-called cues to perceived deception; see the beginning of this chapter). The results are shown in Figure 3.3.

The analysis of the behaviour displayed by the 20 students in the videotape revealed one noteworthy difference between liars and truth-tellers. Liars actually made fewer hand and finger movements than those who were telling the truth. The detectives could therefore have caught many liars by paying attention to their hands and fingers. Figure 3.3 shows that the detectives did examine hand and finger movements, but that they made the wrong decision, as they thought that those who made *more* hand and finger movements were lying. They were further influenced by the smiles the students produced, although smiling was not a reliable indicator of deception. Students' personality traits also had an impact on the decisions made by the police detectives. Socially anxious students made a more dishonest impression than those who were not socially anxious, and those who scored high in public self-consciousness were believed more than those who scored low in public self-consciousness. Apparently the detectives interpreted the behaviour displayed by the people who had less public self-consciousness and more social anxiety not as a form of natural behaviour, but as deceptive behaviour. Even the style of clothing had an impact on the detectives' decisions. Those students who were smartly dressed made a more honest impression than those who were not so well dressed. Obviously it is dubious to base the decision as to whether people are lying or not on the style of their clothing. Finally, the police detectives took the speech



**Figure 3.3.** Cues used by the detectives

content into account as well. The students who were more co-operative throughout the interview made a more honest impression than those who were less co-operative. None of the indicators that the police detectives were using were reliable indicators of deception. It is therefore not surprising that they were duped by the students.

### *Gender of the Observer*

Women express themselves non-verbally more clearly and more dynamically than do men. They smile and gaze at others more than men do, approach others more closely, and are more tactile (DePaulo, Epstein & Wyer, 1993). The result is that women elicit more warmth than men. Women are also better than men at expressing their thoughts and feelings with facial expressions. They are also better at reading other people's non-verbal behaviour—that is, they are better than men at understanding the messages that others want them to convey (Hall, 1979, 1984; Rosenthal & DePaulo, 1979). They have the greatest advantage over men in reading facial expressions, which are the ones that are easiest for people to control (see also Chapter 2) (DePaulo, Epstein & Wyer, 1993). Women take more time when observing and interpreting non-verbal cues, and they use more cues in their decision-making process (Hurd & Noller, 1988).

Hall (1979, cited in DePaulo, Epstein & Wyer, 1993) examined women's superiority over men in understanding non-verbal messages in 11 different countries. She found that women were most skilled at this in those countries in which they seemed to be most oppressed (e.g. in countries in which there were proportionately fewer women in higher education). A tendency to accommodate might be the explanation for this. Women's gender role in many societies implies that they have to accommodate themselves to others more than men do. Knowing how to interpret people's non-verbal behaviour accurately may be very valuable in helping them to achieve this.

Although women are superior to men in interpreting non-verbal messages, they are not better than men at detecting lies (DePaulo, Epstein & Wyer, 1993; Hurd & Noller, 1988; Manstead, Wagner & MacDonald, 1986). However, McCornack and Parks (1990) found that women were better than men at detecting lies told by their partner. Women are less suspicious than men, and more often think that someone is telling the truth (DePaulo, Epstein & Wyer, 1993). The following explanation sounds reasonable. Women are better than men in decoding the information that a person wants to convey. However, during deception, liars try to *hide* their true feelings and thoughts. When detecting lies, observers should not look at what people *want to*

*convey* but at what they *are trying to conceal*. However, women are not better trained than men at doing this. When they try to detect lies they are probably too much affected by what someone is trying to convey, which makes them more credulous than men.

### **Characteristics of the liar**

#### *Familiarity with the Liar*

In most studies of the detection of deception, observers are asked to detect lies told by people they do not know. Although this does often happen in real-life situations (e.g. when judging salespeople or politicians), many situations will involve detecting lies told by people with whom we are familiar. It seems reasonable to suggest that it should be easier to detect lies in people we know than in strangers. For example, we are more familiar with the natural behaviour of people we know, and are therefore able to detect even minor changes in their behaviour. Research has consistently indicated that people become better at detecting truths and lies when they are familiar with the truthful behaviour of the person they have to judge (Brandt, Miller & Hocking, 1980a, b, 1982; Feeley, deTurck & Young, 1995). For example, Feeley and his colleagues exposed some observers to baseline interviews of the people they had to assess in the lie-detection task. Their accuracy rates were significantly higher (72%) than the accuracy rates of observers (56%) who were not exposed to baseline interviews prior to the lie-detection task. However, O'Sullivan, Ekman and Friesen (1988) found that baseline messages only benefited observers when these messages were truthful. They argued that, since observers are inclined to assume that the behaviour they observe is honest (availability heuristic), they are more likely to assume that the first behaviour (i.e. baseline behaviour) they see is honest rather than dishonest. If the first behaviour is honest, then it becomes easier to identify subsequent different behaviour as dishonest. However, if the first behaviour is actually deceptive but mislabelled as honest, then errors may occur when subsequent behaviours are assessed.

There is no support for the assumption that it is easier to detect lies in friends or lovers than in strangers (see Table 3.4). The average accuracy rate in the studies listed in Table 3.4 is 58%, which is slightly higher than the average accuracy rate found with strangers (56.6%; see Appendix 3.1). Miller, Mongeau and Sleight (1986) mentioned a study conducted by Bauchner which indicated that friends detected 74% of each other's lies. This is a high accuracy rate, which as far as I know has never been found in research with strangers. However, this finding has not been replicated in other studies. Buller and his colleagues (Buller,