Detecting Deception In Spontaneous Versus Rehearsed Statements: Direct Deception Judgments
for Rehearsed Truths Fall Short While Affective Character Judgments Endure

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Abstract

Detection deception in statements others make—whether directly or by an impression that something is off—is integral to everyday morality. Here we consider whether these statements are spontaneous or rehearsed. Participants ($N = 147$) watched spontaneous and rehearsed statements of liars and truth-tellers, and indicated whether they felt lied to as well as other impressions. Whereas during spontaneous statements liars came across more deceptive than truth-tellers, during rehearsed statements this distinction disappeared; rehearsed truths looked like lies. Furthermore, liars were liked less than truth-tellers irrespective of whether statements were rehearsed. This suggests that while direct veracity judgments no longer discriminate between liars and truth-tellers when statements are rehearsed, impressions of a person's likeability remain valuable guides in social interaction.

Keywords: Deception Detection, Rehearsed Dishonesty, Moral Judgments, Impression Management

Detecting Deception In Spontaneous Versus Rehearsed Statements

Narratives are an important aspect of people's lives. Regardless of whether people's stories are true or untrue, people who tell the truth and people who lie often have the same goal: To come across as an honest person. When people want to be believed, a common solution and often given advice is to rehearse a statement. Indeed, in many domains it has been argued that practice makes perfect (e.g., Ericsson, Krampe, & Tesch-Römer, 1993). For lies there seems to be a common intuition that a repeated lie becomes the truth. For truths however, as we suggest here, rehearsing a story may have its pitfalls, because a repeated truth could come across as a lie.

Distinguishing lies from truths

Telling lies is commonplace. Therefore, being on the receiving end of deception is, inevitably, common as well. Despite this, people barely perform above chance when trying to detect deception (Bond & DePaulo, 2006). Although the quest for what differentiates a liar from a truth-teller has been present in the literature for a long time, cues to deception appear to be weak, if not lacking in existence (e.g., DePaulo et al., 2003; Hartwig & Bond, 2011). One cue that may help differentiation liars from truth-tellers is the amount of cognitive load associated with telling a lie (e.g., Vrij, Fisher, Mann, & Leal, 2008). The lie itself has to be thought up, whereas the truth is something that merely has to be recalled. The assumption that lying requires more cognitive capacity than being honest is supported by research showing individuals lie less when their working memory is taxed (van 't Veer, Stel, & van Beest, 2014a). Adding to this, spontaneous lies compared to truths are found to be more cognitively demanding as measured by saccadic eye movement rate (Vrij, Oliveira, Hammond, & Ehrlichman, 2015)—a measure that indicates searching long-term memory (Ehrlichman & Micic, 2012). In similar vein, Vrij, Granhag, Mann, and Leal (2011) argue that when liars experience more cognitive load, more

cues to deception are being displayed. Liars might also be more aware of themselves and their performance than truth-tellers, leading to a higher level of monitoring and controlling verbal and nonverbal behavior (DePaulo, Kirkendol, Tang, & O'Brien, 1988; Zuckerman, DePaulo, & Rosenthal, 1981). As a consequence, liars may leave an impression of having to think hard, which has been found to distinguish truth-tellers from liars (DePaulo et al., 2003; Ulatowska, 2010, 2014; Vrij, Edward, & Bull, 2001).

Rehearsing lies and truths

The cognitive load that liars experience thus may make them easier to detect. This raises the question of whether rehearsing a lie could relieve some of these cognitive burdens. In their meta-analysis of seven independent samples, DePaulo et al. (2003) showed that planned lies contain fewer deception cues than unplanned lies. Additionally, reaction times when lying become faster after training, more so than after debriefing and instruction to speed up (Hu, Chen, & Fu, 2012). Furthermore, response times of practiced lies decrease and thereby closer resemble the response time of truths (Walczyk, Mahoney, Doverspike, & Griffith-Ross, 2009). Moreover, lies that are rehearsed and memorized appear to be associated with less cognitive conflict compared to spontaneous lies, as evidenced by decreased activities in brain regions involved in cognitive control, such as the anterior cingulate cortex (ACC; Ganis, Kosslyn, Stose, Thompson, & Yurgelun-Todd, 2003). So, a rehearsed lie appears to reduce the cognitive burdens of a spontaneous lie. The idea that lying is more difficult than telling the truth—as considered by DePaulo et al. (2003)—may thus only apply when liars are making up new stories. This, in turn, would suggest that detecting deception becomes more difficult when a target tells a rehearsed compared to a spontaneous lie.

What about truth-tellers? Do they benefit from rehearsing their story just like liars might? Truth-tellers may simply be less preoccupied with coming across honest; after all, they have the truth on their side. Still, one could argue that rehearsing their story would also benefit truth-tellers because their rehearsed truth may become more polished than their spontaneous truth. However, prior research indicates that truth-tellers' stories are often full of mistakes and self-corrections, and this is true even though an account is given multiple times. Specifically, Granhag and Strömwall (2002) found that liars and truth-tellers have equally consistent statements during the course of multiple interrogations. Liars' statements are stable because liars adapt their strategy to remember their statements. Truth-tellers' statements are also stable, but often undermined by the likely weaknesses associated with normal memory performance. Because for truth-tellers a story that was told initially may not have been intended for future use, recalling the account as it was told the first time may require additional cognitive effort in instances where the aim is to keep consistent. Recalling information stored in memory is cognitively taxing, and as cognitive resources are limited, having a concurrent task that requires cognitive capacity leaves fewer resources available for recall (van den Hout et al., 2010). A retold truth may therefore seem more deliberated upon than a spontaneous truth.

The present research

In the current paper we test whether observers' actual ability to differentiate truths from lies is better for spontaneous than for rehearsed statements by asking observers (a) how much they feel lied to, (b) how they perceived the ease of expression of the targets, and (c) how much they liked the targets.

As rehearsing a lie seems to decrease cognitive load, it can be expected that observers are better able to detect deception from spontaneous lies. As a rehearsed truth may not reduce

cognitive load compared to a spontaneous truth, expectations for how deceptive spontaneous and rehearsed truths come across are less clear. If observers are unable to differentiate between truth-tellers and liars who rehearse their statement, then practice may not make perfect for truth-tellers.

In addition to asking observers directly whether they felt lied to, we also asked observers to indicate their impressions of the targets in terms of the ease of the target's expression and likeability. Observers' impressions of targets have been previously found to differ in terms of the ease of expression: Liars come across as making less sense, and being more uncertain and nervous than truth-tellers (e.g., DePaulo et al., 2003). As rehearsing a statement may decrease cognitive load for liars, it can be expected that especially liars will come across more positively in their ease of expression (e.g., more confident, less nervous, and displaying less movements like wiggling) when they repeat their statement.

Finally, observers' impressions of a target's likeability may be less affected by whether or not statements are rehearsed. People readily differentiate others by their affinity for them (e.g., trustworthiness, warmth; Bonnefon, Hopfensitz, & De Neys, 2013; Fiske Cuddy, & Glick, 2007). Additionally, a judgment of the likeability of another person—in contrast to a direct veracity judgment—may prove a more robust guide to trustworthiness if, in the case of deception detection, this judgment serves its suggested role of picking up on the moral intentions of others (e.g., Fiske et al., 2007). Although in the meta-analyses of DePaulo et al. (2003) overall pleasantness ratings of targets could not accurately differentiate between liars and truth-tellers, liars were estimated as less cooperative than truth-tellers. More recently, van 't Veer and colleagues (2014b, 2015) showed that liars were rated as less trustworthy and likeable compared to truth-tellers, regardless of the contextual factor of knowing in advance that veracity would

have to be detected. Applied to the current setting, observers may thus like truth-tellers more than liars irrespective of whether a statement is rehearsed.

Method

Participants and design

One hundred and forty-seven Tilburg University students participated—94 females, $M_{\text{age}} = 21.74$, $SD_{\text{age}} = 2.53$ —in return for course credit or money (€8 for the entire experimental hour). The study was run for the two weeks it was scheduled for, resulting in a big enough sample size to have over 80% power to find a small effect. We report all data exclusions (there were none), all manipulations, and all measures in the study. Participants were presented with four videos in which we randomly varied whether an account was given spontaneously or whether it was rehearsed, and whether a target told the truth or lied, resulting in a 2 (statement: spontaneous or rehearsed) $\times 2$ (veracity: truth or lie) within-subjects design.

Video material

Participants watched four videos that were sampled from sixteen videos of four targets (2 females, $M_{\text{age}} = 22.08$, $SD_{\text{age}} = 0.27$). Sampling was done in such a way that a given participant watched four different targets. Separate videos depicted the first or second recording of a truthful or deceitful answer by the target to the question “Can you tell me what you day looked like yesterday?”. Right before a target person went into the video recording room—for the lie and truth separately—a first research assistant randomly told the target to either lie or tell the truth. The second research assistant who was in the recording room was unaware of truth/lie condition, and posed the same question twice in a row in order to first get a spontaneous answer and then a rehearsed answer from the same target. Targets directed their answer to the second research assistant (who was sitting next to the camera) and went through their entire day, taking their time

and freely correcting themselves if mistakes were made. The target's full body was visible on the videos. The average duration of the videos was 1 minute and 9 seconds ($SD = 34.29$ seconds), which included the voice of the second research assistant posing the question. Truth and lie videos did not differ significantly in duration, and neither did recordings of spontaneous and rehearsed statements (all $ts < 1$).

Procedure

Participants were first presented with all the questions they were going to answer about the target person in each video. This was done to keep knowledge of the questions comparable between the first and subsequent videos. Participants watched a total of four videos. This number was unknown to participants in order to avoid strategic answering (i.e., answering with the assumption half of the videos would be a lie). After each video, participants first assessed their own feelings of being deceived on a continuous direct veracity judgment: "Do you have the feeling that this was a lie?" (slider from 0 = *not a lie*, to 100 = *a lie*), followed by a binary direct veracity judgment: "If you had to choose, would you say this was mainly a lie or mainly the truth?" (binary judgment between "truth" or "lie"). Participants also indicated their confidence in their direct judgments¹. Then, we assessed the impression of ease of expression a target made. We asked about the target's confidence: "To what extent did the person on the video come across confident?" (slider from 0 = *not at all confident*, to 100 = *very confident*, reverse coded), about the target's nervousness: "To what extent was the person on the video nervous?" (slider from 0 = *not at all nervous*, to 100 = *very nervous*), and about the target person's movement (e.g., fidgeting): "How much movement did the person show?" (slider from 0 = *no movement at all*, to 100 = *a lot of movement*), $\alpha = .71$.

Liking for the target was assessed by asking participants “To what extent do you like the person on the video?” (Slider from 0 = *not at all*, to 100 = *very much*). Finally, demographics were ascertained (age, gender) and participants were asked whether they knew any of the targets².

Results

Direct veracity judgment: Feelings of being lied to

A 2(statement: spontaneous vs. rehearsed) $\times$ 2(veracity: truth vs. lie) repeated measures ANOVA on participants’ feelings of being deceived revealed there was no main effect of statement, $F(1, 146) = 1.48, p = .23, \eta_p^2 = .01$. There was a main effect of veracity, $F(1, 146) = 6.95, p = .009, \eta_p^2 = .05$, which was qualified by an interaction between statement and veracity, $F(1, 146) = 9.13, p = .003, \eta_p^2 = .06$. Subsequent pairwise comparisons indicated that when watching spontaneous statements, participants felt lied to less by truth-tellers ($M = 27.49, SD = 24.55$) than by liars ($M = 39.85, SD = 30.63$), $F(1, 146) = 15.54, p < .001, \eta_p^2 = .10$, 95% CI [-18.56, -6.16]. For rehearsed statements, there was no difference between truth-tellers ($M = 36.31, SD = 28.30$) and liars ($M = 35.62, SD = 26.01$), $F(1, 146) = .05, p = .82, \eta_p^2 < .001$, 95% CI [-5.33, 6.72]. Spontaneous truths made participants feel lied to less than their rehearsed truths, $F(1, 146) = 9.90, p = .002, \eta_p^2 = .06$, 95% CI [-14.37, -3.28]. Spontaneous and rehearsed lies did not differ significantly, $F(1, 146) = 2.08, p = .15, \eta_p^2 = .01$, 95% CI [-1.56, 10.03]. Figure 1 depicts the interaction between statement and veracity.

Direct veracity judgment: Truth or lie

To examine the forced veracity choice, we performed a Generalized Linear Mixed Model with this direct veracity judgment as the dependent variable and both statement and veracity as fixed factors. Results revealed no main effect of statement, $F(1, 584) < .01, p = .97$, a main effect

of veracity, $F(2, 584) = 6.54, p = .011$, and an interaction between statement and veracity, $F(1, 584) = 6.54, p = .011$, confirming the above mentioned results that while spontaneous lies were judged to be lies more often (34.7%) than spontaneous truths (16.3%), lies and truths got judged to be a lie equally often when rehearsed (24.5% and 24.5%). Overall, participants were correct 54.6% of the time, which was significantly different from chance, $t(146) = 2.44, p = .016, d = .20, 95\% \text{ CI } [.87, 8.32]$.

Impression of the target: Liking the target

A $2(\text{statement: spontaneous vs. rehearsed}) \times 2(\text{veracity: truth vs. lie})$ repeated measures ANOVA on participants' liking of the target revealed a main effect of veracity, $F(1, 146) = 13.31, p < .001, \eta_p^2 = .08$, showing truth-tellers were liked more ($M = 61.85, SE = 1.13$) than liars ($M = 56.94, SE = 1.16; 95\% \text{ CI } [2.25, 7.57]$; see Figure 2). There was no main effect of statement, $F(1, 146) = .45, p = .51, \eta_p^2 < .01$, nor an interaction, $F(1, 146) = .41, p = .52, \eta_p^2 < .01$.

Impression of the target: Ease of target's expression

A $2(\text{statement: spontaneous vs. rehearsed}) \times 2(\text{veracity: truth vs. lie})$ repeated measures ANOVA on participants' impression of the targets' ease of expression revealed only a main effect of statement, $F(1, 146) = 10.17, p = .002, \eta_p^2 = .07$, and no main effect of veracity, $F(1, 146) = .17, p = .68, \eta_p^2 < .01$, nor an interaction, $F(1, 146) = 1.82, p = .180, \eta_p^2 = .01$. This reveals that spontaneous statements came across with more difficulty ($M = 45.99, SE = .98$) than rehearsed statements ($M = 42.17, SE = 1.01; 95\% \text{ CI } [1.45, 6.20]$), see Figure 3.

Discussion

Despite the fact that people often practice their statements before important social settings such as court hearings, job interviews, etc., the influence of this practice on believability has

received little empirical attention thus far. The results of this exploratory study showed that truth-tellers came across more deceptively during their rehearsed compared to their spontaneous statement, resulting in their rehearsed statement no longer being distinct from the way liars came across. Irrespective of whether a statement was rehearsed or not, when targets lied they were liked less than when they told the truth. Additionally, irrespective of whether a truth or a lie was told, targets were judged to have more ease of expression during their rehearsed statement than their spontaneous statement.

Our findings have important implications for the field of detecting deception. Deception is often studied by trying to find cues that liars display (e.g., DePaulo et al., 2003; Ekman, 2003; Levine et al., 2011), looking at manipulations aimed at eliciting cues from the liar (e.g., Debey, Verschuere, & Crombez, 2012; Vrij & Granhag, 2012), and individual difference measures within observers (e.g., Bond & DePaulo, 2008; Reinhard, 2010). As the current research suggests, it is likewise valuable to study the conditions under which targets tell their story (i.e., whether it is rehearsed) and the conditions under which veracity judgments are made (i.e., whether the observer is asked to judge veracity directly or to assess their liking for the target).

When our participants were asked to detect veracity of the stories directly, they no longer distinguished truth-tellers from liars when statements were rehearsed (as compared with spontaneous statements). These findings are in line with previous findings that response times of practiced lies more strongly resemble the response times of truths (Walczyk et al., 2009). These reduced response times when practicing lying suggests that rehearsing a story that is untruthful takes less cognitive effort, which reduces the chance for the liar to get caught (Vrij et al., 2008). For truth-tellers, statements came across less sincere when they were rehearsed. As do liars, truth-tellers make mistakes in their stories (Granhag & Strömwall, 2002). Compared to liars,

however, truth-tellers may make an equal number of mistakes in a retold statement—as they may be less concerned about coming across consistent—and have to recall the content of their statement from their stored memory, which may be more cognitively taxing than just repeating a story that is made up. Rehearsed truths may thus very well reflect more deliberated processes, whereas spontaneous truths are fairly automatic.

The judgment of liking the target distinguished between liars and truth-tellers for both spontaneous and rehearsed statements. This finding is consistent with other research showing that liars are liked less than truth tellers regardless of the context (van 't Veer et al., 2014b, 2015). Also, Tyler, Feldman and Reichert (2006) showed that likeability is negatively related to the amount of lies people tell in a 10 minute get-acquainted conversation. It is especially noteworthy that even with the small lies that were used in the current study, liars did pay a price for their deception by being liked less than truth-tellers. Outside of the lab, depending on the purpose of a lie, being liked less may be a small price to pay. However, it is possible that this brings along long-term consequences for liars. People who follow their instincts of liking another person may, for instance, be less inclined to trust or engage with those who are deceiving them.

When investigating the detection of deception, it is important to resemble real life situations in which both liars and truth-tellers are sufficiently motivated to come across honest. For the purposes of the current research, we used a situation in which we expected minimal interference of complicating factors: Giving an account of what one did yesterday. Most people can remember their activities of the day before with a moderate amount of effort, and this gives a baseline on top of which anything that draws upon additional cognitive resources would have a fair chance of coming to light. The magnitude of these lies resemble real life, as most lies are small and of little consequence (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996). However,

this does not permit generalization to applied settings or advice on how to interview suspects, which we suggest could be a valuable avenue for future research. For example, suspects are often asked to repeat their statements several times. It therefore seems important to fully understand the impact of this repetition on how a suspect is perceived by law enforcement officers as well as judges.

Conclusion

It seems that the differences between a liar and a truth-teller can be picked up on by an observer, and that with the right focus researchers may be able to tap into this ability. Although the current research is still far removed from an interrogation setting, the results found here stress the possible influence that rehearsing of statements may have in practice. We therefore urge future research to investigate this further. As it was found that truth-tellers' rehearsed statements were evaluated with comparable sincerity to that of a liar, rehearsing the truth can be disadvantageous. In contrast, when retelling a lie that was—almost as per definition—supposed to be remembered well, repetition is *not* disadvantageous. It thus seems that to get a feeling of whether someone is lying, it is best to catch the spontaneous account of his or her statement. However, given that it is often uncertain whether a story is indeed told for the first time, the current research suggests that judging whether someone is deceptive is best served by trusting our gut feelings of whether we like someone.

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Footnotes

¹Participants' confidence in their direct veracity judgments were assessed by asking them "How sure are you about this?" (slider from 0 = *not at all sure*, to 100 = *very sure*; cf. DePaulo, Carlton, Cooper, Lindsay, & Muhlenbruck, 1997). A 2(statement: spontaneous vs. rehearsed) × 2(veracity: truth vs. lie) repeated measures ANOVA on participants' confidence in their own veracity judgment revealed no main effects of statement, veracity, nor their interaction ($F(1,146) = 1.94, p = .17, \eta_p^2 = .01$, $F(1,146) = 2.06, p = .15, \eta_p^2 = .01$, and $F(1,146) = .49, p = .48, \eta_p^2 < .01$, respectively; means for spontaneous truths: $M = 65.08, SD = 24.27$; rehearsed truths: $M = 64.35, SD = 24.86$; spontaneous lies : $M = 63.78, SD = 24.94$;; and rehearsed lies: $M = 60.40, SD = 24.62$).

²15% of participants knew one or more of the targets. In- or excluding these participants in the analyses did not change the interpretation of the analyses. We report the analyses including all participants.

Figures

Figure 1. Participants' feeling of being deceived by spontaneous and rehearsed statements of truthful and untruthful targets.

Figure 2. Participants' liking of the target for spontaneous and rehearsed statements, by truthful and untruthful targets.

Figure 3. Participants' rating of the difficulty of the target's expression for spontaneous and rehearsed statements, by truthful and untruthful targets.