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Charles F. Bond Jr. [a] , Amanda R. Howard [a] , Joanna L. Hutchison [a] & Jaume Masip [b]
[a] Texas Christian University
[b] University of Salamanca

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Overlooking the Obvious: Incentives to Lie

Charles F. Bond Jr., Amanda R. Howard, and Joanna L. Hutchison
Texas Christian University

Jaume Masip
University of Salamanca

Over the years, people have searched for deception cues in the liar's behavior. However, the sender's incentives to lie might be more revealing than behavior. In Experiment 1, an incentive was developed that was predictive of lying. Judges with access to incentive information in addition to behavior achieved almost perfect lie/truth detection. This was not a result of the speakers' behavior being transparent (Experiment 2) but because incentive information was useful to separate lies from truths (Experiments 2 and 3). Experiment 3 revealed that people may forego perfectly diagnostic contextual cues to base their judgments on illusory behavioral cues.

"No mortal can keep a secret. If his lips are silent, he chatters with his finger-tips; betrayal oozes out of him at every pore."
— Freud (1905, p. 94)

The ability to detect deception has adaptive value (Bond & Robinson, 1988). To keep safe, organisms (including human beings) need to have accurate (or, at least, functional) depictions of reality. However, liars convey information that does not correspond to reality. This is threatening; therefore, when the stakes are high, people are motivated to ascertain the truth of others' assertions. To do so, people often pay attention to the sender's nonverbal behavior, searching for deception cues.

Just like laypeople, deception researchers have been fascinated by the prospect of nonverbal signs of deceit for more than a century. This prospect has captivated hundreds of investigators, spurring them on to an exhaustive search for nonverbal deception cues (see Vrij, 2008, for an overview). However, those cues have proved elusive. As a recent meta-analysis shows, no nonverbal or speech variable is strongly and consistently related to lying (DePaulo et al., 2003).

The contention here is that both laypeople and deception researchers have been looking in the wrong direction in their quest for valid deception cues. Perhaps such cues are not in the liars' behavior; perhaps they are in the liars' circumstances. Indeed, recent research suggests that senders' honest- or dishonest-looking demeanor may be independent of actual veracity (Levine et al., 2011; see also Levine, 2010), and it has been shown that the influence of situations on behavior is often greater than we think (e.g., Mischel, 1968, 2004; Ross & Nisbett, 1991; Zimbardo, 2007). Some circumstances might force most individuals to lie regardless of their internal traits and characteristics, and these circumstances might be an almost-perfect deception cue.

Indeed, research shows that incentives may cause people to lie. In an interactive situation where money was to be distributed among two players, Gneezy (2005) found that both the amount of money that Player A could gain and the amount of money that Player B could lose influenced Player A's propensity to lie (see also Dufwenberg & Gneezy, 2009; Hurkens & Kartik, 2009). Subsequently, Levine et al. (2011) showed that people prefer honest rather than deceptive means to attain a variety of goals; however, when these goals cannot be accomplished without deception, people might resort to lying. If incentives cause people to lie, then knowledge about incentives could help detectors identify prevarication.

Correspondence should be sent to Jaume Masip, Facultad de Psicología, Universidad de Salamanca, Avda. de la Merced, 109–131, 37005 Salamanca, Spain. E-mail: jmasip@usal.es

A series of experiments on motivational cues to deception are reported here. In Experiment 1, an incentive to lie was developed that was highly predictive of lying, and judges who had access to incentive information in addition to the participants' behavior and speech achieved almost perfect lie and truth detection. This was not a result of the speakers' behavior being transparent (Experiment 2) but of the usefulness of incentive information (Experiments 2 and 3). Experiment 3 revealed that people may forego perfectly diagnostic contextual cues and base instead their deception judgments on illusory behavioral cues.

This series of experiments is consistent with Blair, Levine, and Shaw's (2010) recent argument that situational information can be helpful to detect deception. Blair et al. contended that deception researchers have failed to provide judges with useful contextual cues. As a result, judges have been forced to use the senders' ambiguous nonverbal displays to make their veracity judgments, and this may explain the limited accuracy rates reported in the literature (see meta-analyses by Aamodt & Custer, 2006; Bond & DePaulo, 2006). In a series of studies, Blair et al. provided contextual cues to deception judges. Specifically, they provided information about what is normal or possible in a situation (e.g., information about what people normally do in this situation) or background contextual information (e.g., preliminary investigation report in a criminal case where a suspect honestly or deceptively denies his or her involvement). Participants with that information attained significantly higher accuracy rates than control participants in no-contextual-information conditions. Apparently, they compared the senders' statements with those contextual cues instead of relying on the senders' fallible nonverbal cues (see also Hartwig, Granhag, Strömwall, & Kronkvist, 2006; Reinhard, Scharmach, & Sporer, 2012; Reinhard, Sporer, Scharmach, & Marksteiner, 2011; Stiff et al., 1989). It is our contention that information about the senders' incentives to lie will also help judges increase their detection accuracy.

With this research we are responding to Levine et al.'s (2011) call for new perspectives in conducting deception-detection research, perspectives alternative to models based on behavioral cues. This call is based on evidence showing that such cues have at best only limited validity (DePaulo et al., 2003; Sporer & Schwandt, 2006, 2007), and that these theoretical models are at odds with the empirical findings (see Levine, 2010; Levine et al., 2011).

EXPERIMENT 1

Experiment 1 had two main purposes: (a) to develop an experimental incentive to lie that would be highly predictive of lying, and (b) to show that deception judges having access to incentive information (in addition to the senders' behavior) would attain almost perfect accuracy in their lie/truth discriminations. In searching for a powerful incentive to lie we faced an ethical constraint, as only innocuous incentives could be studied in the laboratory. Here, experimental participants were invited to lie in order to (a) help the experimenter, and (b) avoid a boring task (veiled mild "punishment" for not helping the experimenter).

Method

Participants

Sixty-four undergraduates participated as either instructors or speakers, and 61 participated as deception judges. None of the latter had participated as an instructor or speaker. All of the participants in the studies described in the present report were enrolled at a U.S. university and participated for extra credit in a psychology course.

Creating the Stimulus Material

Students ($N = 64$) came to the laboratory in same-sex pairs. There were 16 female pairs and 16 male pairs. After giving informed consent, one student was assigned to be an instructor and the other to be a speaker. Speakers began the experiment by listing their favorite and least favorite high school course. Next, the speaker was required to watch an analogue clock for 15 min. Pilot testing revealed that students disliked this task and found it boring.

After observing the speaker watch the clock for 3 min, the instructor was taken to a videotaping room. Consulting a randomization schedule, the experimenter gave the instructor one of four sets of written instructions. The instructor was told to practice these instructions because she or he would later be giving them to the speaker. Meanwhile the speaker watched the clock for another 12 min.

The instructor was then seated 15 ft from a videotape camera, facing the camera lens (which was in plain view). The speaker came to the videotaping room and was seated to the right of the camera, facing the instructor. Then the experimenter turned on the video camera to record both the incentive induction by the instructor and the sender's course description. The instructor told the speaker to describe one of the high school courses that she or he had listed. Sixteen of the 32 speakers were instructed to describe their favorite course, and 16 were instructed to describe their least favorite course. The instructor informed the speaker that she or he had a choice about how to describe the course. The speaker could say that she or he liked the course or disliked the course. However, as the instructor explained, one of the choices would be better for the experiment than the other; thus, there would be consequences depending on the choice. Of the 32 speakers, 16 received an incentive to lie

(eight about their favorite course and eight about their least favorite course), whereas the other 16 received an incentive to tell the truth (again, eight about their favorite and eight about their least favorite course). Those who received an incentive to lie were told that they could claim to like their favorite course (or dislike their least favorite course) but if they did so, they would have to watch the clock for another 15 min, whereas if they claimed to dislike their favorite course (or like their least favorite course) they could leave the experiment immediately afterward with full credit. Other speakers received the same incentive to tell the truth by claiming to like their favorite course (or dislike their least favorite course).

After receiving these instructions, speakers described their high school course to a same-sex research assistant. The instructor was no longer in the room. In all cases, participants who received an incentive to say that they liked a high school course did so—even if it was their least favorite course. Similarly, all participants who had received an incentive to say that they disliked a high school course did so—even if it was their favorite course. The motivational instructions accurately predicted lie telling and truth telling in 32 of 32 cases. Finally, the speaker and instructor were debriefed and dismissed.

Both the incentive induction and the senders' description had been videorecorded. This footage was edited onto two videotapes, one with the 16 male dyads and one with the 16 female dyads. Each tape depicted the instructor in a given dyad delivering motivational instructions (incentive) and then, immediately afterward, the speaker who had received those instructions describing a high school course (behavior). The videotape showed each participant's face and upper torso. Sixteen incentive-behavior sequences were spliced onto each tape in a random order.

Procedure

Participants ($N = 61$) arrived at the laboratory in small groups. After giving informed consent, they were apprised of the procedures used to create the stimulus material and received the instructions. Participants watched an audiovisual presentation with 16 videotaped incentive-behavior sequences. Half of the participants responded to male incentive-behavior sequences and the other half to female incentive-behavior sequences. After each sequence, participants indicated on a written form whether the course description was a "lie" or a "truth." After recording their judgments, participants were debriefed and dismissed.

Results

Participants were asked to judge deception from incentive-behavior sequences. As the incentives had been perfectly predictive of lying and were available to observers, the participants were expected to be able to ascertain whether the Experiment 1 participants had lied or told the truth, and they were. Judgmental accuracy was 99.08%, 95% confidence interval (CI) [98.43, 99.76] (see Table 1). Each of the 61 participants in Experiment 1 judged the veracity of eight incentive-behavior sequences displaying truths. Of these 488 participant judgments, 482 (98.77%) were accurate. Each participant also judged the veracity of eight incentive-behavior sequences displaying lies. Of these 488 judgments, 485 (that is, 99.38%) were accurate.

Discussion

It would appear that the motivational instructions function as a valid lie/truth discrimination cue. Sixteen individuals received motivational instructions to lie, and all 16 lied. Sixteen individuals received motivational instructions to tell the truth, and all 16 told the truth. Afterward, research participants with access both to incentive information and the speakers' behavior were able to ascertain who had lied and who had told the truth, presumably because they focused heavily on motivational instructions and presupposed that people would follow those instructions.

However, participants may have attained high accuracy for other reasons. Perhaps they did not pay any attention to the instructions. Perhaps, instead, they paid attention to the senders' behavior and the behavior allowed almost perfect accuracy rates. To rule out this alternative explanation, we had to make sure (a) that the behavior of the participants was not transparent and (b) that incentives alone permit nearly perfect lie/truth discrimination. In Experiment 2, we examined how accurate people are in judging deception from incentive information, as opposed to behavioral cues.

EXPERIMENT 2

Researchers and laypeople alike assume that lies can be detected by the way liars act and what they say. However,

TABLE 1
Accuracy in Making Binary Truth/Deception Judgments

	Accuracy	*95% Confidence Interval*
Experiment 1		
Incentive (AV) and Behavior (AV)	99.08%	98.43%, 99.76%
Experiment 2		
Behavior (AV)	58.37%	54.95%, 61.79%
Incentive (AV)	97.28%	95.40, 99.39%
Experiment 3		
Behavior (V)	50.61%	47.68%, 53.55%
Incentive (AV)	97.44%	96.18%, 98.69%
Incentive (AV) and Behavior (V)	76.45%	71.96%, 80.96%

Note. AV = audiovisual; V = visual only.

this assumption may be false. First, there is a mismatch between how people *believe* lies can be detected and the ways lies can *actually* be detected. Whereas people worldwide (including the United States) mention the liar's behavior and speech patterns as pathways to detect deception (Global Deception Research Team, 2006), Park, Levine, McCornack, Morrison, and Ferrara (2002) found that participants asked to describe how they had actually discovered a lie only rarely mentioned behavior or speech. Instead, they mentioned third-party information, confessions, and physical evidence. When people detect lies, they rarely do so from the liar's behavior.

Second, meta-analytical findings show (a) that few behavioral differences are apparent between liars and truth tellers; (b) that the accuracy rates of observers judging veracity from the observation of the senders' behavior is consistently low across studies, amounting to an average of 54% correct judgments (Bond & DePaulo, 2006), just significantly above the 50% accuracy rate expected by chance; and (c) that variance in sender believability (degree to which a sender is judged to be truthful or deceptive) is greater than variance in observer accuracy (degree to which the observers' lie/truth judgments are accurate or inaccurate; Bond & DePaulo, 2008). As pointed out by Levine (2010), these findings suggest that current deception theories based on deception cues (Buller & Burgoon, 1996; Ekman, 2001; Zuckerman, DePaulo, & Rosenthal, 1981) have limited validity. Although a few liars may display deception cues, most senders do not, and accuracy is more a result of the senders' demeanor than a function of the observers' ability to spot deception cues (Levine, 2010). A series of empirical studies carried out by Levine et al. (2011) lent support to these arguments. Recently, Hartwig and Bond (2011) found that although observers generally pay attention to the right cues when judging veracity, these cues are very weakly related with deception. Although verbal cues seem to be generally more revealing than nonverbal cues (e.g., Reinhard, 2010; Reinhard et al., 2011), accuracy in judging deception from verbal information is also meager—roughly around 54% in Bond and DePaulo's (2006) meta-analysis. In short, the senders' behavioral cues are of little utility when it comes to judging veracity.

Having shown that it is sometimes possible to predict deception perfectly from incentives, we sought to determine the extent to which people would exploit this fact. Sometimes, deception judges may have information about a suspect's incentives to lie; on other occasions, they may have access only to the suspect's behavior. How accurate are people in judging deception from informative incentive information, as opposed to behavioral cues? Experiment 2 addresses this question.

Experiment 2 will also help clarify the results of Experiment 1. In Experiment 1, participants who had access to both incentive and behavior information attained very high accuracy rates. We assumed that increased accuracy to be a result of incentive information. However, an alternative explanation is that the speakers' behavior was extremely revealing and that the observers exploited this fact. We sought to rule out this explanation with Experiment 2. We expected the accuracy of participants watching only the instructions to be (a) nearly perfect, and (b) significantly higher than the accuracy attained when having access only to the senders' behavior and speech. In absolute terms, accuracy was expected to be low in the latter condition.

Method

Participants

Sixty-two undergraduates participated in Experiment 2. None of them had participated in the previous experiment.

Incentives-and-Behaviors Videotape

The video footage of Experiment 1 was edited onto two tapes. One tape depicted 16 male speakers and 16 female instructors, and the other depicted 16 female speakers and 16 male instructors. Instructors and speakers were presented in a random intermixed order on each of the tapes. No instructor on a tape had participated in Experiment 1 with any of the speakers on that tape.

Procedure

For a judgment task, undergraduates arrived at the laboratory in mixed-sex groups. After giving informed consent, participants heard a description of the procedure used in Experiment 1. Then they received an audiovisual presentation of one of the two tapes. Upon seeing each set of experimental instructions, the participants indicated on a written form whether, in response to those instructions, a speaker had told a "lie" or the "truth." Upon seeing each course description, they were to indicate on the form whether that description was a "lie" or the "truth." After recording 32 binary lie/truth judgments, participants were debriefed and dismissed.

Results

Behavior and Speech

On average, participants achieved 58.37% correct lie/truth discrimination when judging deception from an audiovisual presentation of the speaker's behavior (Table 1). In line with a large body of earlier research (Bond & DePaulo, 2006), this was slightly above 50% chance accuracy, $t(61) = 4.89$, $p < .001$. Participants were more accurate in judging truthful than deceptive course

descriptions, Ms = 64.72% vs. 52.02% correct, $t(61) = 3.98$, $p < .01$.

Incentives

On average, participants achieved 97.28% correct lie/truth discrimination when judging deception from an audiovisual presentation of motivational instructions (Table 1). This was significantly greater than the accuracy of judgments based on the speaker's behavior (58.37%), $t(61) = 20.27$, $p < .0001$. Let us consider a more stringent test of motivationally based lie detection. In a meta-analysis of lie detection from behavior, Bond and DePaulo (2006) noted lie/truth discrimination rates for 292 samples of judges. The highest accuracy rate in any of these samples was 73.00%. In fact, the current motivationally based accuracy rate (97.28%) is higher than this maximum behavioral accuracy rate, $t(61) = 38.46$, $p < .0001$.

Here, participants correctly inferred that an incentive to tell the truth had evoked the truth on 480 of 496 occasions (i.e., 96.77% of the time) and correctly inferred that an incentive to tell a lie had evoked a lie on 485 of 496 occasions (i.e., 97.78% of the time).

Discussion

It has been shown here that whereas access to the liar's nonverbal displays does not yield an impressive accuracy rate in judging veracity, information about a liar's incentives has the potential to enable perfect lie/truth discrimination. However, one may wonder how often that potential is realized. How strong is the allure of nonverbal behavior? In Experiment 3, participants were given access to both incentive information and the sender's nonverbal behaviors, and we examined the extent to which they based their judgments on each of these two sources.

EXPERIMENT 3

Participants judged deception from two forms of information: incentives to lie and nonverbal (visual) behaviors the liars displayed. We hypothesized that people can be inclined to judge deception from behavior even though incentive information would enable better judgments.

The current participants saw and heard motivational instructions that gave speakers an incentive either to lie or tell the truth in describing a high school course. Immediately afterward, these participants observed the individual who received these instructions as she or he described the course in question. These judges were not, however, able to hear the speaker. This could tempt them to forego perfectly diagnostic incentive information and base their deception judgments on highly fallible nonverbal cues. Whether judges succumbed to this temptation was examined. For comparison, a control condition was included in which judges were forced to judge veracity from only incentive information or from only a visual-only presentation of the sender's behavior.

Method

Participants

One hundred twenty-one undergraduates participated in Experiment 3 for extra credit in a psychology course. None of these individuals had been in any of the other studies.

Procedure

Participants arrived at the laboratory in small groups, gave informed consent, and then were apprised of the procedure of Experiment 1. The participants in a session were randomly assigned to judge either (a) incentives and behaviors or (b) incentive-behavior sequences.

Incentive-and-behavior condition. This condition was analogous to Experiment 2, except that the behavioral segments were presented without sound. The participants ($n = 60$) were told that they would see a videotape of Experiment 1 with two different types of segments. In some segments they would both see and hear an instructor giving motivational instructions that provided a peer with an incentive either to lie or to tell the truth, whereas in the remainder of the segments they would see, but not hear, a speaker describing a course in response to such instructions. However, none of the speakers whom the participant saw had actually received motivational instructions from any of the instructors the participant saw. The judgmental procedure was analogous to that of Experiment 2.

Participants rendered 32 binary lie-or-truth judgments; participants in some sessions responded to 16 male instructors and 16 female speakers, whereas those in other sessions responded to 16 female instructors and 16 male speakers. The stimuli came from the incentive-and-behavior videotape just described in Experiment 2.

Incentive-behavior sequences condition. Participants in this condition ($n = 61$) were informed that they would view pairs of participants who had participated in Experiment 1. They would see and hear the instructions given to a particular individual, and then they would see (but would not hear) that individual describing a high school course. After seeing each incentive-behavior sequence, participants would have to indicate on a written form whether the course description was a "lie" or the "truth." Participants would make 16 binary lie-or-truth

judgments—participants in some sessions responding to 16 male incentive-behavior sequences, participants in other sessions responding to 16 female incentive-behavior sequences. The videos came from the incentive-behavior sequence videotapes described in Experiment 1.

After recording either 32 binary lie-or-truth judgments (in response to incentives and behaviors) or 16 binary lie-or-truth judgments (in response to incentive-behavior sequences), participants were debriefed and dismissed.

Results

Incentive-and-Behavior Condition

As shown in Table 1, judges in this condition were unable to discriminate deceptive from truthful descriptions on the basis of visual-only presentations of the senders' behavior, $M = 50.61\%$, 95% CI [47.68, 53.55]. They showed no inclination to perceive the speakers as truthful, rendering a mean of 48.16% truth judgments, 95% CI [44.98, 51.33]. As usual, the sender's behavior provided little useful information.

In Experiment 2, it was found that deception could be accurately inferred from the incentives that the liar faced. That result was replicated here (see Table 1). From an audiovisual presentation of incentive information, the current participants achieved 97.44% correct lie/truth discrimination, 95% CI [96.18, 98.69]. Accuracy was significantly higher than 50%, significantly higher than the 50.61% these judges achieved from behavior, and significantly higher than the highest accuracy rate ever achieved from behavior; for comparison of the current 97.44% discrimination rate with the highest behaviorally based discrimination rate of 73%, $t(60) = 39.02$, $p < .0001$. Here each of 61 judges saw eight people give a peer an instruction to lie and eight people give a peer an instruction to tell the truth. Of the judges' 488 responses to incentives to lie, 477 (i.e., 97.74%) were correct; of the judges' 488 responses to incentives to tell the truth, 474 (i.e., 97.13%) were correct. As before, incentives enabled nearly perfect lie/truth discrimination.

Incentive-Behavior Sequences Condition

Participants in this condition did not attend solely to the incentive (a nearly perfect deception cue); instead, they incorporated fallible behavioral cues into their judgments. Their lie/truth discrimination rate was 76.45%, 95% CI [71.96, 80.96%], which was significantly lower than accuracy attained with access to incentive information only (97.44%; see Table 1), $t(119) = 8.87$, $p < .0001$. Although this 76.45% discrimination rate is better than 50% (chance accuracy), it is not significantly better than the highest behaviorally based accuracy rate to date (73.00%), $t(59) = 1.54$, *ns*.

As a comparison standard for judgments from incentive-behavior sequences, judgments from incentives and behaviors in the incentive-and-behavior condition were averaged. The average participant achieved 74.03% combined accuracy. This is not significantly different from the 76.45% accuracy achieved by judges who saw incentive-behavior sequences; for the difference, $t(119) = 0.31$, *ns*.

Discussion

The results of Experiment 3 seem to support the hypothesis that people believe so strongly in the usefulness of nonverbal deception cues that they even forego perfectly diagnostic incentive information to let fallible behavioral cues taint their judgments. However, before drawing this conclusion, alternative explanations should be considered.

One explanation is that perhaps people imagine that their peers are so highly principled that they feel compelled to tell the truth, despite an incentive to lie. However, judges in the incentive-behavior sequences condition were more likely to attribute deception to a speaker who had received an incentive to tell the truth (29.17% of truth tellers were judged as liars) than to attribute veracity to one who had received an incentive to lie (17.92%), $t(59) = 3.63$, $p < .001$. This reflects a statistically significant tendency for participants to have reported that incentive-behavior sequences were lies (percentage lie judgments: $M = 55.63\%$, 95% CI [52.53, 58.73]). This pattern of results runs contrary to a premise of principled honesty.

Another alternative explanation would posit that the results for the incentive-behavior sequences condition reflect a recency effect. Participants see incentives, then see behavior, and then make a judgment. The judgment reflects recent information, not distant information. However, additional analyses revealed that in the incentive-behavior sequences of Experiment 3 deception was inferred from behavior more often if the behavior followed an incentive to tell the truth rather than an incentive to lie.[1] If all of the results of Experiment 3 are simply a recency effect, judgments of behavior should not depend on what sorts of instructions the behavior follows.

A third explanation is that the results of Experiment 3 reflect a dilution effect: Predictions about a target individual are less extreme when nondiagnostic information is provided along with diagnostic information than when

[1]One possible explanation (see Kassin, 2005; Kassin & Norwick, 2004) for this surprising finding is that truth tellers often believe that the truth will ultimately be revealed, so they are not inclined to take explicit measures to prove they are being truthful. Conversely, liars may worry about their lies being exposed. Therefore, liars might be more inclined to manipulate their behavior to look honest than truth tellers. If liars are successful, they may eventually look more honest than truth tellers.

only diagnostic information is provided (Nisbett, Zukier, & Lemley, 1981). Some findings question this interpretation. First, Kemmelmeier (2004) found that individuals who fall prey to the dilution effect recognize nevertheless the irrelevant information as such. However, people do not consider behavioral cues to be irrelevant for making deception judgments. Instead, they believe these cues are essential, and they even think that nonverbal cues are more relevant than verbal content cues (Reinhard et al., 2012, Experiments 3 and 4). Second, Kemmelmeier's findings are consistent with the perceptual explanation of the dilution effect (and contrary to the alternative conversational explanation). The perceptual explanation posits that the target stimulus (e.g., the speaker) is compared with a referent category (e.g., liar), and individuating nondiagnostic information about the target reduces the similarity between the target and the category suggested by the diagnostic information. This, in turn, decreases the intensity of judgments (Nisbett et al., 1981). Implicit in this explanation is that perceivers cannot help but use *all* the information provided to them (see Kemmelmeier, 2004). This account fits well with the findings of the incentive-behavior sequences of Experiment 3 but is inconsistent with the fact that in Experiment 1 the speaker's behavior did *not* influence the observers' judgments, that is, observers did not use *all* the information provided but only the most diagnostic one (incentive information). If a dilution effect operated in the incentive-behavior sequences condition of Experiment 3, why did not it operate in Experiment 1? Differences between Experiments 3 and 1 can be better explained in terms of the *situational familiarity hypothesis* (Reinhard et al., 2011; Reinhard et al., 2012; Stiff et al., 1989). We return to this issue in the General Discussion section.

In short, neither the principled honesty explanation, nor the recency explanation, nor the dilution effect can account for the pattern of results. By contrast, this pattern can be explained by the mirage of nonverbal deception cues. Cues to truthfulness are not particularly appealing; it is *deception* cues that captivate the human imagination. This notion is consistent with the findings of Masip, Alonso, Garrido, and Herrero (2009), who trained naive observers with fake deception or truthfulness cues. Although, as predicted, training in deception cues yielded a lie bias and training in truthfulness cues yielded a truth bias, the effect was stronger for deception than for truthfulness cues.

GENERAL DISCUSSION

Incentives can be a powerful predictor of deception. Thus, people can do a superb job of uncovering deceit if given information about incentives. However, people find less allure in liars' incentives than in the prospect of *behavioral* signs of deception. Once again, powerful situational influences on people's behavior are neglected (Ross & Nisbett, 1991). Under some circumstances, people forego perfectly diagnostic incentive information to render veracity judgments from fallible behavioral cues. Practitioners should heavily weight a suspect's incentives and focus less on the suspect's behavior when judging deceit.

Some caveats are in order, however. First, not all possible incentives will be as powerful as the one that was used here to influence the person's behavior. The incentive we used produced a 100% compliance rate. This is arguably uncommon in most real-life situations. Less powerful incentives would make less revealing deception cues, and this would result in lower accuracy rates among observers using incentive information for their judgments. On the other hand, however, the incentive we used was certainly mild in comparison with some real-world pressures. Indeed, not *everybody* will give in to situational pressures, as some people have particularly strong moral scruples and may be offended by the thought of self-interested deceit. However, several decades of research have shown that even scrupulous individuals can commit the most heinous deeds under the influence of strong situational forces (e.g., Zimbardo, 2007) and that powerful rationalizations can be used by principled individuals to perform such deeds (Bandura, 1999). In any case, in predicting a speaker's veracity from incentives, it may be helpful to know the individual's moral scruples, his or her construal of colorable claims, and other potentially relevant variables. Once all of these variables are identified and entered into the equation, an incentive-based lie detection algorithm might be capable of fairly accurate a priori prediction.

A second caveat is that deception judges are not always aware of the suspects' motives. However, it has been argued that "many (if not most) everyday deception contexts provide the judge with at least some meaningful contextual information" (Blair et al., 2010, p. 439). It is also possible to infer motives from the topic under discussion (e.g., its incriminating potential), and these inferences have some validity (see Davis, Markus, Walters, Vorus, & Connors, 2005).

However, although the incriminating potential of a speaker's topic can serve as a guide to whether the speaker is lying, it is not an infallible indicator. Consider, for example, a man who is on trial for murder. On the witness stand, the defendant denies having committed the crime. Is the man lying? If he did not commit the murder, he has a strong motive to deny his involvement. But if he committed the murder, he also has a strong motive to lie and hence deny his involvement. People will resort to lying if they cannot attain their goals through honest means (Levine, Kim, & Hamel, 2010). Here, the question at hand is whether he committed the murder. The incentive

structure will be fully revealed only if one can independently learn the truth. In the meantime, it is sure that this defendant has an incentive to *appear* truthful. More generally, it can be assumed that most people seek to appear truthful most of the time (Leary, 1995). Incentives can be useful, but we must concede that they are fallible and cannot be used in every circumstance.

Nevertheless, as we have shown, there are cases in which incentives are available and diagnostic of the suspect's behavior and are nevertheless neglected by deception judges. Perceivers also forego other contextual information. Blair et al. (2010) failed in having judges increase their accuracy by exposing them to contextual normative information (Study 1). It was necessary for the authors to motivate the judges to perform well and to make them aware of the specific contextual information available and its meaning for judges to use that information and increase their detection accuracy (Blair et al., 2010, Study 3; see also Study 6).

Perceivers also forego information about the frequency of lying. Schul, Mayo, Burnstein, and Yahalom (2007) had people judge a series of deceptive and truthful events. Prior to encountering the events, judges were informed that no more than one third of the events would be deceptive and received evidence of the validity of this information. Then these individuals rendered judgments of the deceptiveness of each event in the series. Although judges could have achieved at least 67% accuracy by stating that every event was truthful, they did not use this strategy. Ignoring the base rate information, they judged many of the events to be deceptive and achieved less than 60% accuracy. Unpublished research conducted by Masip (2008) also showed that judges disregard base rate information. Masip used the procedure described by Morris (2003). First the participants (graduate students) were arranged in pairs. Then each individual in a pair was instructed to act both as a sender and a receiver. When acting as a sender, an individual had to answer orally eight questions posed by his or her peer. Between three and five of these answers had to be deceptive. When acting as a receiver, an individual had to ask eight questions to his or her peer and had to judge the peer's veracity in response to each of these questions. The instructions were given at the beginning of the experimental session; therefore, both members of each pair knew that three to five answers of their peer were to be deceptive. However, although no one told the truth in response to more than five questions, 12% of the participants judged as truthful more than five of their peer's answers. According to Schul et al. (2007), people who are judging deception take a clinical approach. They ignore the obvious base rate information, imagining that better lie detection can be achieved from psychological inferences.

Nonverbal deception cues have a strong mystique, and it is strongest for the most mysterious cues. Subtle, fleeting, microexpressions, for instance, have been of particular interest to researchers and a source of fascination for laypeople (Ekman, 2001). However glamorous, they are not strongly indicative of deceit (DePaulo et al., 2003; Porter & ten Brinke, 2008). In experimental contexts, people are willing to infer deception from odd behaviors such as arm raising, head tilting, and staring that violate normative expectations but that never accompany real-world lies (Bond et al., 1992). More than 40 years after the first televised U.S. presidential debate, political commentators still imagine that Nixon exhibited nonverbal deception cues (Druckman, 2003).

The allure of nonverbal deception cues, however, has some limits. Stiff et al.'s (1989) *situational familiarity hypothesis* posits that nonverbal information will be used by deception judges to a larger extent in unfamiliar than in familiar situations. In familiar situations, observers will attend instead to verbal information because they will be able to judge the plausibility and validity of verbal content. Research has supported these predictions (Reinhard et al., 2012; Reinhard et al., 2011; Stiff et al., 1989). Here we presented incentive-behavior sequences in Experiments 1 and 3, but in Experiment 1 the behavioral segments contained verbal information, whereas in Experiment 3 they did not. It is reasonable to assume that incentive information made participants familiar with the situation (see Reinhard et al.'s, 2012, definition of situational familiarity). In Experiment 1 verbal cues were subsequently available; therefore, the participants might have focused primarily on verbal cues (to the neglect of nonverbal cues) to confirm their impressions derived from incentive information. Conversely, in Experiment 3, only visible cues were available. Instead of ignoring these cues altogether, the participants were influenced by them, which tainted their judgments.

This explanation raises the question of whether the high accuracy rate in Experiment 1 was a result—at least in part—of having used valid verbal cues rather than incentive information. Indeed, verbal cues are more valid deception indicators than nonverbal behavior (e.g., Reinhard, 2010; Reinhard et al., 2011). However, at least three arguments question this interpretation. First, meta-analytical findings show that although accuracy in judging audio- or videotaped statements (which contain verbal information) is greater than accuracy in judging video-only statements, it is still roughly around the 54% figure (Bond & DePaulo, 2006). Second, the behavior condition in Experiment 2 (which contained verbal cues) yielded an accuracy rate of just 58.37%. Third, incentive-only information in Experiments 2 and 3 produced almost-perfect accuracy rates that were comparable to those of Experiment 1. Therefore, the accuracy rate of Experiment 1 was probably derived from incentive information, and verbal cues were used only to confirm the impressions based on incentive information and acted as a buffer

against the influence of visual cues. Verbal cues without incentive information would have been of little utility. This is consistent with the situational familiarity hypothesis. It is important to note that this qualifies the main argument of the present report: Indeed, as shown by previous research, real or perceived familiarity with a situation decreases the reliance on fallible nonverbal cues and increases the usage of more valid information (Reinhard et al., 2012; Reinhard et al., 2011; Stiff et al., 1989).

Nevertheless, the charm of nonverbal deception cues is remarkable. Why is it so? As social psychologists, we know that people often overlook situational influences on behavior (Gilbert & Malone, 1995; Ross, 1977; Ross & Nisbett, 1991). But something more is at work here. No one is drawn to the concept of nonverbal *truth* cues. Truth is taken for granted. Organisms immediately believe what they see; things are believed to be what they look like (Gilbert, 1991; Gilbert, Krull, & Malone, 1990). Otherwise, individuals (and other organisms) would not be able to survive. In the words of Gilbert et al. (1990), "an organism that questioned, analyzed, and logically assessed the validity of its every percept would probably find it next to impossible to use those percepts with enough expediency to survive" (p. 610). But then deception is a threat. Some things are not what they appear to be, and responding to A as if it were B can be dangerous. Therefore, people are worried about deception, and fantasize about readily apparent telltale behavioral cues to deceit. The ability to read those cues would give the reader a power over liars. The signs would, in the usual fantasy, be automatic, and liars would be exposed. Then lying would be futile, no lies would be told, and the world would be rid of this peril.

Incentives to deception are more pedestrian. Judges do not see them as belonging to the liar in the way that behaviors do. Despite their mundane nature, motives to lie have attracted some research interest (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996; Gneezy, 2005; Hurkens & Kartik, 2009; O'Hair & Cody, 1994). However, these findings have not been used to guide judges of veracity in their assessments.

The present series of studies open up new avenues of research. In view of the cumulative empirical findings (DePaulo et al., 2003; Sporer & Schwandt, 2007), it appears unlikely that a behavior (or constellation of behaviors) will be discovered that is highly predictive of deception across settings and deceptive messages. Thus, it may be time to explore new alternatives. The present incentive-based research is one such alternative.

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REFERENCES

Aamodt, M., & Custer, H. (2006). Who can best catch a liar? A meta-analysis of individual differences in detecting deception. *Forensic Examiner*, *16*, 6–11.

Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review*, *3*, 193–209. doi:10.1207/s15327957pspr0303_3

Blair, J. P., Levine, T. R., & Shaw, A. S. (2010). Content in context improves deception detection accuracy. *Human Communication Research*, *36*, 423–442. doi:10.1111/j.1468-2958.2010.01382.x

Bond, C. F., Jr., & DePaulo, B. M. (2006). Accuracy of deception judgments. *Personality and Social Psychology Review*, *10*, 214–234. doi:10.1207/s15327957pspr1003_2

Bond, C. F., Jr., & DePaulo, B. M. (2008). Individual differences in judging deception: Accuracy and bias. *Psychological Bulletin*, *134*, 477–492. doi:10.1037/0033-2909.134.4.477

Bond, C. F., Jr., Omar, A., Pitre, U., Lashley, B. R., Skaggs, L., & Kirk, C. T. (1992). Fishy-looking liars: Deception judgment from expectancy violation. *Journal of Personality and Social Psychology*, *63*, 969–977. doi:10.1037/0022-3514.63.6.969

Bond, C. F., Jr., & Robinson, M. (1988). The evolution of deception. *Journal of Nonverbal Behavior*, *12*, 295–307. doi:10.1007/BF00987597

Buller, D. B., & Burgoon, J. K. (1996). Interpersonal deception theory. *Communication Theory*, *6*, 203–242. doi:10.1111/j.1468-2885.1996.tb00127.x

Davis, M., Markus, K. A., Walters, S. B., Vorus, N., & Connors, B. (2005). Behavioral cues vs. topic incriminating potential in criminal confessions. *Law and Human Behavior*, *29*, 683–709. doi:10.1007/s10979-005-7370-z

DePaulo, B. M., Kashy, D. A., Kirkendol, S. E., Wyer, M. M., & Epstein, J. A. (1996). Lying in everyday life. *Journal of Personality and Social Psychology*, *70*, 979–995. doi:10.1037/0022-3514.70.5.979

DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin*, *129*, 74–118. doi:10.1037/0033-2909.129.1.74

Druckman, J. N. (2003). The power of television images: The first Kennedy–Nixon debate revisited. *Journal of Politics*, *65*, 559–571. doi:10.1111/1468-2508.t01-1-00015

Dufwenberg, M., & Gneezy, U. (2009, January 13). *Reinterpreting deception?* Retrieved from http://econ.arizona.edu/docs/Working_Papers/2009/Econ-WP-09-01.pdf

Ekman, P. (2001). *Telling lies: Clues to deceit in the marketplace, politics, and marriage* (3rd ed.). New York, NY: Norton.

Freud, S. (1905). Fragment of an analysis of a case of hysteria. In *Collected papers* (Vol. 3, pp. 13–146). New York, NY: Basic Books.

Gilbert, D. T. (1991). How mental systems believe. *American Psychologist*, *46*, 107–119. doi:10.1037/0003-066X.46.2.107

Gilbert, D. T., Krull, D., & Malone, P. (1990). Unbelieving the unbelievable: Some problems in the rejection of false information. *Journal of Personality and Social Psychology*, *59*, 601–613. doi:10.1037/0022-3514.59.4.601

Gilbert, D. T., & Malone, P. S. (1995). The correspondence bias. *Psychological Bulletin*, *117*, 21–38. doi:10.1037/0033-2909.117.1.21

Global Deception Research Team. (2006). A world of lies. *Journal of Cross-Cultural Psychology*, *37*, 60–74. doi:10.1177/0022022105282295

Gneezy, U. (2005). Deception: The role of consequences. *American Economic Review*, *95*, 384–394. doi:10.1257/0002828053828662

Hartwig, M., & Bond, C. F. (2011). Why do lie-catchers fail? A lens model meta-analysis of human lie judgments. *Psychological Bulletin*, *137*, 643–659. doi:10.1037/a0023589

Hartwig, M., Granhag, P.-A., Strömwall, L. A., & Kronkvist, O. (2006). Strategic use of evidence during police interviews: When training to detect deception works. *Law and Human Behavior*, *30*, 603–619. doi:10.1007/s10979-006-9053-9

Hurkens, S., & Kartik, N. (2009). Would I lie to you? On social preferences and lying aversion. *Experimental Economics*, *12*, 180–192. doi:10.1007/s10683-008-9208-2

Kassin, S. M. (2005). On the psychology of confessions. Does *innocence* put *innocents* at risk? *American Psychologist*, *60*, 215–228. doi:10.1037/0003-066X.60.3.215

Kassin, S. M., & Norwick, R. J. (2004). Why suspects waive their *Miranda* rights: The power of innocence. *Law and Human Behavior*, *28*, 211–221. doi:10.1023/B:LAHU.0000022323.74584.f5

Kemmelmeier, M. (2004). Separating the wheat from the chaff: Does discriminating between diagnostic and nondiagnostic information eliminate the dilution effect? *Journal of Behavioral Decision making*, *17*, 231–243. doi:10.1002/bdm.473

Leary, M. R. (1995). *Self-presentation: Impression management and interpersonal behavior*. Madison, WI: Brown & Benchmark.

Levine, T. R. (2010). A few transparent liars. In C. Salmon (Ed.), *Communication yearbook* (Vol. 34, pp. 41–61). New York, NY: Routledge.

Levine, T. R., Kim, R. K., & Hamel, L. M. (2010). People lie for reason: Three experiments documenting the principle of veracity. *Communication Research Reports*, *27*, 271–285. doi:10.1080/08824096.2010.496334

Levine, T. R., Serota, K. B., Shulman, H., Clare, D., Park, H. S., Shaw, A., … Lee, J. H. (2011). Sender demeanor: Individual differences in sender believability have a powerful impact on deception detection judgments. *Human Communication Research*, *37*, 377–403. doi:10.1111/j.1468-2958.2011.01407.x

Masip, J. (2008). [Detection of deception when talking about organizational vs. everyday life topics]. Unpublished raw data.

Masip, J., Alonso, H., Garrido, E., & Herrero, C. (2009). Training to detect what? The biasing effects of training on veracity judgments. *Applied Cognitive Psychology*, *23*, 1282–1296. doi:10.1002/acp.1535

Mischel, W. (1968). *Personality and assessment*. New York, NY: Wiley

Mischel, W. (2004). Toward an integrative science of the person. *Annual Review of Psychology*, *55*, 1–22. doi:10.1146/annurev.psych.55.042902.130709

Morris, K. A. (2003). Teaching students about classic findings on the detection of deception. *Teaching of Psychology*, *30*, 111–113. doi:10.1207/S15328023TOP3002_05

Nisbett, R. E., Zukier, H., & Lemley, R. E. (1981). The dilution effect: Nondiagnostic information weakens the implications of diagnostic information. *Cognitive Psychology*, *13*, 248–277. doi:10.1016/0010-0285(81)90010-4

O'Hair, D., & Cody, M. J. (1994). Deception. In W. R. Cupach & B. H. Spintzberg (Eds.), *The dark side of interpersonal communication* (pp. 181–213). Hillsdale, NJ: Erlbaum.

Park, H. S., Levine, T. R., McCornack, S. A., Morrison, K., & Ferrara, S. (2002). How people really detect lies. *Communication Monographs*, *69*, 144–157. doi:10.1080/714041710

Porter, S., & ten Brinke, L. (2008). Reading between the lies. Identifying concealed and falsified emotions in universal facial expressions. *Psychological Science*, *19*, 508–514. doi:10.1111/j.1467-9280.2008.02116.x

Reinhard, M.-A. (2010). Need for cognition and the process of lie detection. *Journal of Experimental Social Psychology*, *46*, 961–971. doi:10.1016/j.jesp.2010.06.002

Reinhard, M.-A., Scharmach, M., & Sporer, S. L. (2012). Situational familiarity, efficacy expectations, and the process of credibility attribution. *Basic and Applied Social Psychology*, *34*, 107–127. doi:10.1080/01973533.2012.655992

Reinhard, M.-A., Sporer, S. L., Scharmach, M., & Marksteiner, T. (2011). Listening, not watching: Situational familiarity and the ability to detect deception. *Journal of Personality and Social Psychology*, *101*, 467–484. doi:10.1037/a0023726

Ross, L. (1977). The intuitive psychologist and his shortcomings: Distortions in the attribution process. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 10, pp. 173–220). New York, NY: Academic Press. doi:10.1016/S0065-2601(08)60357-3

Ross, L., & Nisbett, R. E. (1991). *The person and the situation. Perspectives of social psychology*. New York, NY: McGraw-Hill.

Schul, Y., Mayo, R., Burnstein, E., & Yahalom, N. (2007). How people cope with uncertainty due to chance or deception. *Journal of Experimental Social Psychology*, *43*, 91–103. doi:10.1016/j.jesp.2006.02.015

Sporer, S. L., & Schwandt, B. (2006). Paraverbal indicators of deception: A meta-analytic synthesis. *Applied Cognitive Psychology*, *20*, 421–446. doi:10.1002/acp.1190

Sporer, S. L., & Schwandt, B. (2007). Moderators of nonverbal indicators of deception. *Psychology*, *Public Policy*, *and Law*, *13*, 1–34. doi:10.1037/1076-8971.13.1.1

Stiff, J. B., Miller, G. R., Sleight, C., Mongeau, P., Garlick, R., & Rogan, R. (1989). Explanations for visual cue primacy in judgments of honesty and deceit. *Journal of Personality and Social Psychology*, *56*, 555–564. doi:10.1037/0022-3514.56.4.555

Vrij, A. (2008). *Detecting lies and deceit: Pitfalls and opportunities*. Chichester, England: Wiley.

Zimbardo, P. (2007). *The Lucifer effect. Understanding how good people turn evil*. New York, NY: Random House.

Zuckerman, M., DePaulo, B. M., & Rosenthal, R. (1981). Verbal and nonverbal communication of deception. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 14, pp. 1–59). New York, NY: Academic Press. doi:10.1016/S0065-2601(08)60369-X