Research Article

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Truth or Tale? How Construal Level and Judgment Mode Affect Confidence and Accuracy in Deception Detection

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Abstract: Previous research has indicated that individuals typically perform quite poorly in discerning truths from lies, and that confidence in judged veracity is not predictive of objective accuracy. In this experiment, we investigated the joint influence of construal level and judgment mode on detection accuracy and confidence. Participants ($N = 161$) watched eight videotaped true and false statements while adopting a high or low level of construal, and received instructions to detect the deceptiveness of the statements either before (online judgments) or after (offline judgments) watching the videos. Contrary to our predictions, construal level and judgment mode did not influence detection accuracy independently or interactively. However, low level participants were less confident when making judgments offline as opposed to online, whereas the confidence of high level participants was unaffected by judgment mode. Implications for deception detection research and practice are discussed.

Keywords: Truth and lie detection, judgment mode, construal level theory

Truth or Tale? How Construal Level and Judgment Mode Affect Truth and Lie Detection

More than ever before, individuals are confronted with news, opinions, and accounts via numerous media and communication channels. To navigate successfully in such an information environment, individuals need to be able to tell the difference between true and false messages. When, for example, watching political debates, conducting job interviews, or talking about investment options with a financial advisor, it is important to know who speaks truthfully and who lies (Vrij, 2008). We argue that not only accuracy, but also individuals' confidence in their judgments, might be of importance. As feedback on truthfulness is often lacking in everyday life (DePaulo, Charlton, Cooper, Lindsay, & Muhlenbruck, 1997), perceived confidence may prove to be a particularly important input variable in behavioral regulation. For instance, individuals rarely know whether a statement in political debates, former experiences described by a potential job candidate, or information about investment strategies are true or false; but they do have their experience of confidence to draw on (which, in fact, might not be closely aligned with the accuracy of their judgment; DePaulo et al., 1997; Reinhard, Sporer, & Scharmach, 2013).

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The objective of this manuscript is to better understand and investigate both aspects: the objective accuracy in telling the difference between a truth and a lie, as well the individual's confidence in the correctness of her/his judgments. In doing so, we focus on one variable that has proven particularly influential in the realm of judgment and decision-making: construal level as a function of psychological distance (Trope & Liberman, 2010). In what follows, we provide a brief overview of the literature of lie detection research. We then argue that construal level and judgment mode—whether individuals need to detect lies "online" (i.e., during the encoding of a statement) or "offline" (i.e., after the encoding of a statement)—have important implications for deception detection accuracy and perceived confidence in these judgments. Results of one study suggest that psychological distance does not reliably influence detection performance, but it does influence the confidence with which detection judgments are held.

Detecting Deception

Following DePaulo et al. (2003), we define deception as a deliberate attempt to mislead others, and use the terms deceiving and lying interchangeably. In general, people lie most frequently about their feelings, their preferences, and their attitudes and opinions, and these lies are commonly told due to the seeking of a psychological reward, such as appearing more sophisticated or protecting oneself (DePaulo et al., 2003). Even though lies are frequent, differentiating whether somebody is trying to deceive or is telling the truth is a difficult endeavor and individuals only perform slightly better than chance level (54% compared to 50% accuracy, see Bond & DePaulo, 2006). One reason is presumably the high number of possible cues and the high complexity of integrating these cues in veracity judgments (Reinhard, Greifeneder, & Scharmach, 2013, p. 721). Another reason, which does not reside within the individual, but follows from the information environment, is that cues for deception are typically weak, because liars and truth tellers do not differ much in their communication behaviors (DePaulo et al., 2003; see also Hartwig & Bond, 2011).

A different perspective, focusing on self-presentation, is offered by DePaulo et al. (2003), who systematically investigated a multitude of potential deception cues. Within their meta-analysis, they explored whether truth and lie tellers differed regarding these cues. Greater differences would make the cue more useful for distinguishing between truthful and deceptive messages. The authors describe different findings regarding valid cues to deception. This data suggests that lies or deceptive messages make less sense; that lies are less plausible, less likely to be structured in a logical and sensible way, and in general less internally coherent.

Given that some cues are more valid than others, it is interesting to investigate conditions under which valid cues become stronger (Hartwig & Bond, 2011), are more or less likely to be used (Street, Bischof, Vadillo, & Kingstone, 2016), and under which more diagnostic cues can be integrated into deception judgments (Reinhard, Greifeneder, et al., 2013). In their meta-analysis, Bond and DePaulo (2006) argued that focusing on paraverbal and content cues compared to visual cues increases the detection rate. Furthermore, Reinhard, Greifeneder, et al. (2013) showed that an unconscious thinking mode compared to conscious deliberation can increase accuracy, and assumed that this superior detection performance of unconscious thought emerges due to the integration of a greater number and more diagnostic pieces of information (but see Moi & Shanks, 2015 for a failed replication using online instead of laboratory assessment; and Street & Vadillo, 2016 for a broader discussion of unconscious lie detection effects). Against this background, identifying variables that shift the focus from visual to more content and paraverbal cues and from single cues to multiple pieces of information appears promising.

Impact of Construal Level on Truth/Lie Detection Accuracy: Alternative Hypotheses

Psychological distance may take this role and shift the focus from visual to more content or (para)verbal cues, and from single to multiple cues. Research on Construal Level Theory (CLT, Liberman & Trope, 1998,

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2008) entails a series of findings on how individuals process information and derive both cognitive and affective judgments. CLT assumes that the way we think about objects or events—our level of mental construal—influences how we search for and integrate information, and how we make subsequent judgments and decisions. The level of construal is a continuous dimension between concreteness (low level) and abstractness (high level). Thinking about a forest on a higher level can be depicted as global, including features such as masses of green, fresh air, and being outside, while thinking about a forest on a lower level can be described as thinking about individual trees, with branches and leaves. Higher level construals include more abstract or superordinate information (the central features), focus more on the desirability of actions, and depend more on arguments in favor of a position (Trope & Liberman, 2010). Lower level construals *additionally* include more details and are therefore more concrete; they also consist of more subordinate information, focus on the feasibility of actions, and depend on arguments against a position. Therefore, depending on the construal level, individuals focus on different information, come to different conclusions, and make different judgments and decisions (Trope & Liberman, 2010).

CLT further holds that the level of construal depends on the psychological distance towards the target objects or events. Objects or events that are psychologically far away are construed more abstractly (high level), while those that are psychologically closer are construed more concretely (low level). Changing psychological distance therefore affects the level of construal and subsequent judgments and decisions (Liberman & Trope, 2008).

Research on Construal Level Theory has demonstrated that construing on a high level leads to more verbal thought, while thinking on a low level leads to more pictorial representations (Amit, Algom, & Trope, 2009; Rim et al., 2015). Following Yan, Sengupta, and Hong (2016), this is presumably because individuals tend to rely more on visual processing when construing proximal events (low level mindset), but more on verbal processing when construing distant events (high level mindset). Applying these findings to the context of deception detection allows categorizing different perceived cues to deception as high level cues or low level cues. Verbal cues (e.g., the coherence of a statement) could be considered as high level cues and may be used more under an abstract mindset. Visual cues (e.g., gestures), in contrast, can be grouped into the category of low level cues and may be used more under a concrete construal. As DePaulo et al. (2003) show that truths tend to make more sense than lies, and the general coherence of a statement seems to be a valid cue for deception detection, individuals in high (vs. low) level mindsets may be more attentive to valid cues and, hence, achieve higher truth/lie detection accuracy.

Construal Level Theory, however, also offers an alternative and competing hypothesis to the one outlined above. Reinhard, Greifeneder, et al. (2013) argue that integrating the particularly rich information available in statements might be necessary for accurate lie detection (see also Bull, 2004; Vrij, 2004), and provide support that this is more likely to occur under conditions of unconscious thought. Construal Level Theory, in turn, states that a high level construal is associated with the focus on central pieces of information, while low level construal also includes details and aspects of the situation (Trope & Liberman, 2010). Hence, construal level may affect deception detection in the opposite way as predicted above: a lower (versus higher) level mindset may increase the consideration of the more particularly rich information (versus the consideration of only one subjectively important cue, that may not even be valid due to false beliefs about valid cues; Akehurst, Kohnken, Vrij, & Bull, 1996) and therefore increase the ability to accurately detect truths and lies. In this paper, we aim at testing these competing hypotheses experimentally.

Impact of Judgment Mode on Truth/Lie Detection Accuracy

Our prior assumption that high level and low level construal mindsets shift lie-catchers' attention toward different cues presumes a situation where individuals know at the time of encoding that they need to evaluate whether the communication is true or deceptive and thus can form an "online" judgment (Hastie & Park, 1986). In everyday life, however, individuals may not think about potential deception upfront. Instead, they may consider being lied to only after having listened to a statement, where a certain detail triggered doubt about its truthfulness. Individuals would then be required to remember the statement and

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form a judgment "offline." We refer to this variable as judgment mode, which may critically affect deception detection. Judgment mode may impact the nature of the deception task, as individuals either make an online judgment at the same time as encoding information or make judgments offline by relying on their memory. Note that judgment mode is orthogonal to construal level in the present study.

The Joint Influence of Construal Level and Judgment Mode on Truth/Lie Detection Accuracy

Depending on whether individuals are asked to form a judgment online or offline, construal level may influence the encoding (and memory) of information in the former, but only memory in the latter case. Our previously stated hypotheses, that high and low construal level would increase deception detection accuracy due to a stronger focus on verbal cues or a better integration of rich information, both focused on the encoding and integration of information online. In an online decision mode, individuals would focus on valid information to a larger or smaller extent depending on a lower or higher level of construal.

For offline judgments, individuals cannot regulate the extent to which they directly access valid information—instead, they need to recall information from their memory. Here, memory biases are more likely to impact deception detection accuracy. Previous research has shown that individuals in a high level construal mindset tend to perceive statements as more coherent and plausible in general, compared with individuals in a low level construal mindset (illusions of explanatory depth; see Alter, Oppenheimer, & Zemla, 2010). Therefore, a high construal level, which may lead to a stronger focus on the more valid verbal cues in an online judgment mode, may lead to a distorted memory of coherence and decrease deception detection accuracy as well as increase the tendency to evaluate statements as true (truth bias) in an offline mode.

Consequently, we argue that the impact of construal level on deception detection depends on *when* individuals learn about the possibility of deception and therefore *how* they have to form their judgments. We expect that competing forces influence detection performance when individuals learn about deception before encoding and can form an online judgment, but not if this information is provided only at the time of judgment and individuals have to judge based on their memory (offline). In the offline judgment mode condition, we would argue that a high level construal might hamper deception detection due to an overestimation of plausibility (Alter et al., 2010) and a reduced focus on verbal cues. Low level construal instead might not be hampered when having to form judgments offline, as the focus and integration of details, which is related to bottom-up processing, is possible also without conscious thinking (Dijksterhuis & Nordgren, 2006; Reinhard, Greifeneder, et al., 2013).

Confidence in Deception Judgments

Besides detection accuracy, the confidence with which detection judgments are held may be equally important in everyday life, even though it does not appear to be a predictor of accurate judgments. Many studies on deception detection provide evidence in this respect, as participants are typically asked how confident they are that their classification decision is correct (Reinhard, Sporer, et al., 2013). Aamodt and Custer (2006) concluded from their meta-analysis that confidence, besides age, experience, education, and sex, was not significantly related to accuracy in detecting deception. Other research has also indicated that the average weighted accuracy-confidence correlation does not significantly differ from zero (DePaulo et al., 1997). Yet, although confidence might not predict accuracy, it might still critically influence subsequent behavior: confidence in a judgment might be the only information available (as feedback on accuracy is usually not available) and may be experienced as particularly compelling in a similar way as feelings are (Bless & Forgas, 2000). Hence, it may be the strength of individuals' beliefs about whether somebody is telling the truth or lying (and not the objective accuracy) that influences subsequent behavior (see research on how individuals' mindset and not objective facts influences behavioral outcomes, e.g., Crum, Corbin,

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Brownell, & Salovey, 2011; Langer, Djikic, Pirson, Madenci, & Donohue, 2010; Stoate, Wulf, & Lewthwaite, 2012). It is therefore important to investigate and better understand which variables affect confidence ratings. As will be argued below, both construal level and judgment mode can affect confidence in the truth/lie detection judgments.

Impact of Construal Level and Judgment Mode on Confidence Ratings

As described above, mindsets influence processing mode and the information that is taken into account (Liberman & Trope, 2008). A lower level mindset leads to more attention being paid to low level information (such as details, feasibility aspects, and cons), and a higher level mindset leads to more attention being paid to high level information (abstract and central information, desirability aspects, and pros). We therefore investigated, in an exploratory fashion, the timing of when individuals learn about potential deception is important for individuals' level of confidence, as it affects the degree of match or mismatch between their preferred and available processing modes. When individuals learn about potentially deceptive messages *upfront*, they could form their judgment online and thus apply their preferred processing mode (Yan et al., 2016) or heuristics (Braga, Ferreira, & Sherman, 2015) to the situation. Specifically, individuals with a low level mindset could then look for details and visual cues and be confident in doing so. Individuals with a high level mindset could instead focus on the abstract representation and verbal information and also feel confident regarding their judgments. Förster and Higgins (2005, p. 633) argue that "when people pursue a goal in a manner that sustains or fits their motivational orientation, they "feel right" about what they are doing". In the same manner, individuals could derive "value from fit" (Förster & Higgins, 2005; Hansen & Wänke, 2010; Higgins, 2000; Lee, Keller, & Sternthal, 2010) between the tasks goal of detecting deception and their mindset, which could result in higher levels of confidence.

If, however, individuals learn about potentially deceptive messages *after* having watched the different statements and therefore need to form a judgment offline, the judgment should be perceived as more or less difficult, depending on the individual's construal level. Individuals with a high level mindset can still focus on their abstract representation of the gist of the statement and perceive their representation as informative for the deception detection task. Research has also shown that relying on gist information might prohibit individuals from becoming distracted and confused by too much information (Fukukura, Ferguson, & Fujita, 2013), as gist memory captures the broader meaning of information and is more likely to be recalled (Reyna & Brainerd, 1995). Therefore, we assume that individuals with a high level mindset should not become less confident when having to make deception judgments offline (vs. online). Offline-participants with a low level mindset, in contrast, may find it difficult to recall the details in the messages on which they would normally rely for their deception judgments. This would in turn harm their confidence in the judgments, as they cannot apply their preferred processing mode, and subsequently cannot derive value-from-fit (Förster & Higgins, 2005). Furthermore, low level representations, compared to high level representations, lead to more negative feelings about not knowing the truth (Shani, Igou, & Zeelenberg, 2009). Such feelings may be boosted further in an offline judgment setting, as low level (vs. high level) individuals have greater difficulties remembering the information perceived as relevant to their judgments, which may result in lower levels of decision confidence (e.g., Kelley & Lindsay, 1993).

The Present Study

The present study was set up to investigate the joint influence of construal level and judgment mode on individuals' truth/lie detection accuracy and confidence in these judgments. To be able to assess accuracy, we presented participants with eight videos in which the target persons were telling lies or the truth. Before and during the presentation of the videos, we manipulated participants' construal level by varying the perceived psychological distance to the statements. Moreover, participants were told that the videotaped

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statements were true or false either before watching the videos (online judgment mode) or directly afterwards (offline judgment mode). We recorded and analyzed deception and confidence judgments collected after all videos had been shown.

We hypothesized that construal level affects truth/lie detection *accuracy* rates and test (1) whether individuals with a high compared to low level mindset more or less successfully distinguish between truth and lies when they learn about potential lies before encoding (online judgments). We further predicted that (2) when participants learn about potential lies after having watched all statements (offline judgments), a high level mindset, compared to a low level mindset, would lead to a decrease in truth/lie detection accuracy. With regard to *confidence* judgments, we investigated whether (3) judgment mode would interact with the influence of construal level.

Method

Participants and design

Based on assumed medium effect sizes ($f = .25$), an alpha-level of .05, and a desired power of 80%, G*Power ex ante calculations yielded a required sample size of a minimum of 128 participants (Faul, Erdfelder, Lang, & Buchner, 2007). We increased this number by 25% to be able to exclude participants if control variables (see below) indicated to do so. Students were approached in the main building of a Swiss university and asked to participate in a short study on "person perception." The resulting sample consists of 161 individuals (95 females, 60 males, 4 indicated "I don't want to answer this question," 2 missing; M_{age} = 24.41 years, SD_{age} = 6.86). Two participants indicated to be 0 or 447 years old, and were therefore excluded from the descriptive statistics on age. Participants received 2 CHF (approximately 2 USD) and chocolate as compensation. Participants were randomly assigned to one of four conditions in a 2 (construal level: high vs. low) × 2 (judgment mode: online vs. offline) between-groups factorial design.

Materials

Participants were randomly assigned to watch one of three sets of eight videos each, that depicted students explaining which TV series or movie they especially did or did not like (see Reinhard, 2010). Half of the videos in each set included a person telling a lie (they reported liking a movie they did not like, or not liking a movie they actually liked), and the other half included a person telling the truth (they reported liking a movie they actually liked, or disliking a movie they actually disliked). For all recordings, the camera was positioned about 3 meters away from the chair on which the person was seated, so that their head and upper body could be seen. Recordings lasted about 30 s, and the average message length did not differ significantly between true ($M = 29.25$ s, $SD = 4.73$) and deceptive messages ($M = 30.00$ s, $SD = 3.51$), $t < 1$. The order of the videos within sets was determined by randomization, and the same order was used for all participants.

Procedure

Participants gave informed consent, and started the session by putting on the headphones and watching a test video, in case they needed to adjust the sound volume. All participants were told that they would be asked to watch a few videos of persons who would speak about movies that they liked or did not like. To manipulate judgment mode, participants in the *online* condition learned upfront that some of the reports were true, while others were lies, and that potentially all reports could be true or false. Moreover, they were asked to first watch the videos and later evaluate whether each report was true or false. Participants in the *offline* condition received the information about the existence of true and deceptive reports only after having watched all videos.

To manipulate construal level, half of the participants were asked to imagine being part of and being highly involved in the scene (*low level*), whereas the other half were asked to imagine standing about 10

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meters away from the scene (*high level*). The actual size of the video on the screen was held constant across conditions. However, to reinforce participants' imagination, the videos were placed into a frame the shape of a room, where the video appeared at the front of the room to indicate proximity (low level) or at the very back of the room to indicate distance (high level; see Appendix A). Participants watched all eight videos in a row before reporting their judgments.

Having watched the eight videos, participants were asked to indicate, for each video, whether the depicted person told the truth (coded as 0) or lied (coded as 1), as well as how confident they were regarding their judgment on a 7-point Likert-scale (1 = *not confident*; 7 = *confident*). To aid participants with this task, a screenshot of each video was shown before the two dependent variables were assessed. Furthermore, participants rated from which distance they imagined watching the videos (1 = *very small distance*; 7 = *very large distance*) and filled out the Behavior Identification Form (BIF, Vallacher & Wegner, 1989) as a manipulation check for construal level. This questionnaire asks individuals to identify a given action (e.g., making a list) in one of two options, a concrete version (e.g., writing things down) or a more abstract version (e.g., getting organized), therefore allowing the assessment of individuals' tendency to construe more concretely versus abstractly. Finally, we asked for demographics, the carefulness with which they completed the study (1 = *not carefully at all*; 9 = *very carefully*), and any further comments. Participants were then thanked and received their compensation.

Results

Manipulation check for construal level

To test whether low level and high level participants differed on the BIF measure, we calculated an independent *t*-test with construal level as independent and the BIF score as dependent variable (total BIF score calculated such that one indicates only concrete answers, and two only abstract answers). Results indicate that low level participants (M = 1.49, SD = 0.18) were more concrete in their answers than high level participants (M = 1.56, SD = 0.17), $t(159) = -2.78$, $p = .006$, $d = 0.44$. In contrast the manipulation of judgment mode did not affect the BIF scores (M = 1.52, SD = 0.19, for online mode, and M = 1.53, SD = 0.17, for offline mode, $t(159) = -0{,}31$, $p = .754$, $d = 0.06$).

Depending on the construal level manipulation, participants also differed significantly in the distance from which they had imagined watching the videos, $t(159) = -5.23$, $p < .001$, $d = 0.83$, showing that low level participants imagined being closer to the videos (M = 3.29, SD = 1.15) than high level participants (M = 4.28, SD = 1.25).

Truth/lie detection accuracy

Classification accuracies (in percent) overall, and for true and deceptive messages separately, across construal level and judgment mode conditions are displayed in Table 1. Overall, the average percentage of correct lie/truth classifications was 54.27% (SD = 16.89), which is significantly above chance level (50%), as indicated by a one-sample *t*-test, $t(160) = 3.21$, $p = .002$, $d = 0.25$.

The percentage of messages judged as true (the so-called truth bias, in percent) overall, and for true and deceptive messages separately, across construal level and judgment mode conditions are displayed in Table 2. Overall, a truth bias is present, as the average percentage of classifications as "true" was 55.20% (SD = 13.80), which is significantly above chance level (50%), as indicated by a one-sample *t*-test, $t(160) = 4.78$, $p < .001$, $d = 0.38$.

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Table 1. Means and standard deviations of accuracy of truth/lie judgments (in %) across all construal level and judgment mode conditions.

		Lies		Truths		Overall	
Construal level	**Judgment mode**	*M*	*SD*	*M*	*SD*	*M*	*SD*
Low	online	49.46	19.36	63.59	18.79	56.52	14.85
	offline	48.48	21.60	62.12	23.49	55.30	19.52
High	online	50.74	26.46	55.88	24.66	53.31	19.54
	offline	47.92	21.16	56.25	20.95	52.08	14.88

Table 2. Means and standard deviations of messages judged as true (truth bias, in %) across all construal level and judgment mode conditions.

		Lies		Truths		Overall	
Construal level	**Judgment mode**	*M*	*SD*	*M*	*SD*	*M*	*SD*
Low	online	50.54	19.36	63.59	18.79	57.07	11.98
	offline	51.52	21.60	62.12	23.49	56.82	11.31
High	online	49.26	26.46	55.88	24.66	52.57	16.51
	offline	52.08	21.16	56.25	20.95	54.17	14.89

To test Hypothesis 1 (i.e., that construal level affects truth/lie detection accuracy rates) and Hypothesis 2 (i.e., that the effect of construal level is moderated by judgment mode), we calculated a 2 (construal level: high vs. low) × 2 (judgment mode: online vs. offline) ANOVA, with overall truth/lie detection accuracy as dependent variable. The results did not indicate any significant effects of construal level, nor any other variable or interaction on accuracy; for construal level: $F(1, 157) = 1.41$, $p = .237$, $\eta_p^2 = .01$, for judgment mode: $F(1, 157) = 0.20$, $p = .653$, $\eta_p^2 = .00$, and for the interaction: $F(1, 157) = 0.00$, $p = .999$, $\eta_p^2 = .00$. The data therefore does not provide support for Hypotheses 1 and 2.

To gain further insight to this outcome, we analyzed our data by calculating a Bayesian 2 (construal level: high vs. low) × 2 (judgment mode: online vs. offline) ANOVA (using the JASP software, Version 0.8.6, default settings), with overall truth/lie detection accuracy as dependent variable and report the resulting default Bayes factors (see Rouder, Morey, Speckman, & Province, 2012). Resulting Bayes factors (BF_{01}) indicate the probability of the H0 (construal level and/or judgment mode have no effect on accuracy) relative to H1 (construal level and/or judgment mode have an effect on accuracy) given the data. The BF_{01} for the main effect of construal level is 2.74 (weak evidence, according to Raftery, 1995) and for the main effect of judgment mode 4.81 (positive evidence). However, the BF_{01} for the model with both main effects is 14.38 (positive evidence), and for the full model including the interaction term 63.70. This last factor indicates that the probability of the H0 is 64 times higher compared to the H1, given the data, assuming the equal prior probabilities of the two hypotheses. According to Raftery (1995) we consider this as strong evidence for the null hypothesis.

Moreover, the joint effects of construal level and judgment mode on truth bias were tested in a 2 (construal level: high vs. low) × 2 (judgment mode: online vs. offline) ANOVA, yet no significant effects of construal level and judgment mode on the truth bias were obtained (all Fs < 2.62).

Confidence judgments

In addition to assessing deception accuracy, we further asked individuals to rate their confidence in their deception judgment. To investigate individuals' confidence regarding their judgments, we calculated a 2 (construal level: high vs. low) × 2 (judgment mode: online vs. offline) ANOVA, with the average confidence

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in lie detection judgments as dependent variable. Results, displayed in Figure 1, revealed a significant main effect of judgment mode, $F(1, 157) = 4.64$, $p = .033$, $\eta_p^2 = .03$, indicating that participants who learned about potential lies before (online) rather than after (offline) watching the videos were more confident in their judgments ($M = 5.00$, $SD = 0.65$, and $M = 4.77$, $SD = 0.78$, respectively). This main effect was qualified by a significant interaction between construal level and judgment mode, $F(1, 157) = 6.97$, $p = .009$, $\eta_p^2 = .04$. Simple main effects revealed that construal level did not significantly affect confidence when participants made their judgments online, $F(1, 157) = 2.56$, $p = .111$, $\eta_p^2 = .02$, but did significantly affect confidence when participants made their judgments offline, $F(1, 157) = 4.55$, $p = .034$, $\eta_p^2 = .03$. Specifically, when participants learned about potential lies after watching the videos (offline), high level (vs. low level) participants were more confident in their decisions (see Table 3). Furthermore simple main effects revealed that judgment mode affected confidence ratings significantly for participants with a low level mindset, $F(1,157) = 11.29$, $p = .001$, $\eta_p^2 = .07$, but not in a high level mindset, $F(1,157) = 0.12$, $p = .729$, $\eta_p^2 = .00$. Lastly, the main effect of construal level was not significant, $F(1,157) = 0.14$, $p = .707$, $\eta_p^2 = .00$.

Table 3. Means and standard deviations of confidence judgments across all construal level and judgment mode conditions.

		Lies		Truths		Overall	
Construal level	**Judgment mode**	*M*	*SD*	*M*	*SD*	*M*	*SD*
Low	online	5.06	0.82	5.16	0.82	5.11	0.61
	offline	4.64	0.97	4.50	0.99	4.57	0.80
High	online	4.90	0.88	4.82	0.93	4.86	0.68
	offline	4.89	0.89	4.94	1.01	4.91	0.74

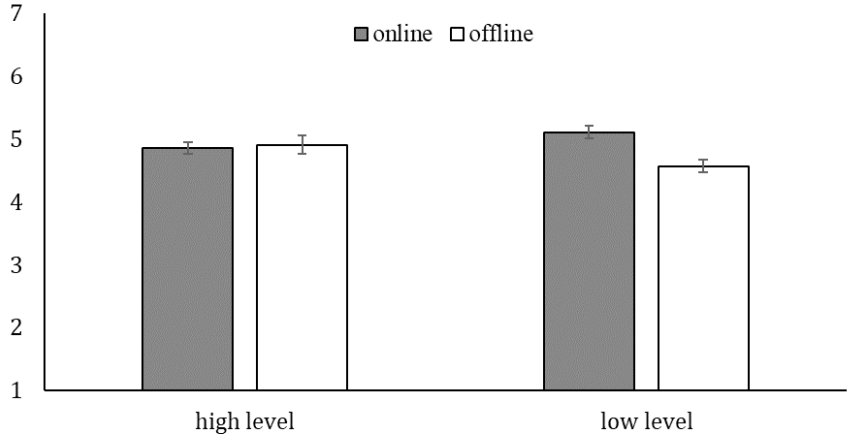

Figure 1. Mean confidence judgments across construal level and judgment mode conditions [error bars indicate standard errors].

Exploratory analyses

For exploratory purposes, we analyzed the correlations between confidence, accuracy, BIF scores, and truth bias. None of the bivariate correlations reached significance, all *r*s < |.08|.

Discussion

The current research investigated the influence of construal level and judgment mode on truth/lie detection accuracy deception judgments. The results of our study did not yield an effect of construal level or judgment

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mode on the detection of deception. More specifically, the results failed to support our predictions that construal level would influence truth/lie detection accuracy for online judgments, and that low level participants would outperform high level participants for offline judgments.

Looking at our second dependent variable—confidence in the deception judgments—we found that judgment mode significantly impacted confidence ratings. Participants who learned about potential lies upfront and could form an online judgment were more confident in their ratings. We assume that this effect occurred because learning about potential deception retrospectively (offline) may induce insecurity and doubts as one needs to remember the different statements and cannot make judgments on the go. This main effect was qualified by an interaction effect between judgment mode and construal level. In the online condition, the construal level mindset did not affect confidence. In the offline condition, however, low level participants showed lower confidence ratings than high level participants. We assume that this interaction occurs, as the nature of the task differs depending on the judgment mode and therefore differs in the extent to which it matches the manipulated construal level. Paying attention to details (low level) is more difficult when learning about potential deception after (vs. before) having watched the videos and forming a judgment offline. In contrast, thinking about the messages in a more abstract way (high level) is nevertheless still possible when forming offline judgments.

Reinvestigating the null-effect of construal level on detection accuracy, we assume that the lack of support for our hypothesis might be due to the competing forces exerted by, on the one hand, a high level mindset promoting a focus on more diagnostic verbal cues, and, on the other hand, a low level mindset promoting a reliance on a higher number of potentially valid pieces of rich information. Further research may fruitfully aim to disentangle the two potential pathways and include a control group without any manipulation of construal level to estimate a baseline effect. Independently of conceptual considerations, the observed null-effect may also be due to the complexity of our operationalizations. Potentially, participants experienced the different video settings used to manipulate construal level as different to imagine. We have no data to test this concern but can positively state that our manipulation check data indicate that participants who imagined watching the video from afar (versus close) reported higher (versus lower) BIF-scores. Future research may perhaps benefit from exploring other effective ways to manipulate construal level that depend less on visualization. Furthermore, to ensure equal judgment tasks between online and offline conditions, participants first watched all the videos, and then made all the judgments with the help of screenshots. It is difficult to say whether participants adequately remembered the content of the statements when making their judgments. This may have contributed to the finding that general truth/lie detection accuracy was just above chance level. Additionally, this aspect of the design may have obscured any effects of construal level and judgment mode on detection accuracy, as variation in participants' memory for the statements may have increased error variance.

Future research may also replicate and further explore the effects of construal level and judgment mode on confidence ratings. We found a significant interaction effect of construal level and judgment mode on confidence ratings, with an effect size generally considered as small ($\eta_p^2 = .04$). When judging online (compared to offline), participants were a third of a standard deviation more confident in their judgments ($d = 0.32$). More specifically, participants adopting a low construal level mindset, were about two-thirds of a standard deviation more confident when judging online compared to offline ($d = 0.77$). Note, however, that our construal manipulation was subtle and situational. Potentially, real-world differences in construal level are much stronger, especially if individuals self-select to construe on a high rather than a low level (Bless & Burger, 2016). Repeating the study outside the laboratory could provide a better basis for gauging the meaningfulness of the observed effect.

Conclusion

All in all, we did not find that construal level and judgment mode systematically affect deception detection, potentially because they exert competing forces. But we did find that construal level and judgment mode systematically affect the confidence with which individuals evaluate the truthfulness of others. Individuals

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felt more or less confident regarding their ratings depending on the setting of the study. These findings are of interest, because in everyday life, individuals often lack objective feedback with respect to the detection accuracy, but can rely on their feeling of confidence, and act upon this subjective experience.

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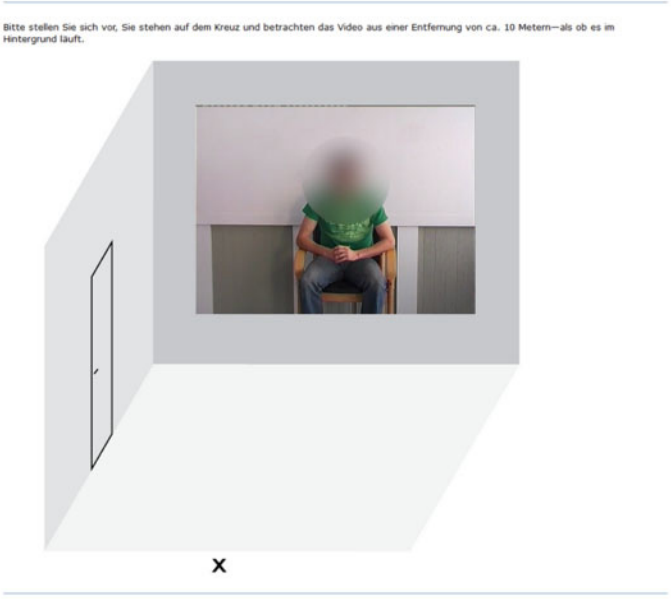
Appendices

Appendix A: Manipulation material for high level (upper) and for low level mindset (lower). Pictures of persons in the videos have been anonymized due to confidentiality requirements.



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