



## Reports

## Feeling good and feeling truth: The interactive effects of mood and processing fluency on truth judgments

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### ABSTRACT

Can mood states influence the perceived truth of ambiguous or novel information? This study predicted and found that mood can significantly influence people's reliance on processing fluency when making truth judgments. Fluent information was more likely to be judged as true (the *truth effect*), and consistent with Bless and Fiedler's (2006) assimilative vs. accommodative processing model, negative mood eliminated, and positive mood maintained people's reliance on processing fluency as an indication of truth. Post hoc analyses confirmed the predicted mood-induced differences in processing style, as judges in a negative mood adopted more accommodative processing and paid greater attention to external stimulus information. The relevance of these results to contemporary affect-cognition theories is discussed, and the real-life implications of mood effects on truth judgments in applied areas are considered.

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### Introduction

Much of the information we come across in everyday life is ambiguous, confusing, and potentially unreliable. How do we decide whether a particular claim or statement is true or false? We need to steer a careful course between excessive gullibility – accepting false claims – and excessive skepticism, rejecting true claims. As a thorough investigation of every claim is inherently impossible (Fiedler & Wänke, 2009), we often rely on simple heuristics to determine whether to believe or disbelieve new information (Fiedler, 1996). This experiment investigated the interactive effects of two variables on truth judgments: *ease of processing (fluency)*, and the *affective state* of the judge. Based on prior affect-cognition theories, we predicted that negative affect should reduce, and positive affect should promote reliance on processing fluency as a relevant cue in truth judgments.

### Processing fluency and truth judgments

Subjective ease of processing, or *fluency*, is one of the most influential cues in truth judgments (Unkelbach, 2006). Easy to process or *fluent* information is more likely to be accepted as true, and *disfluent* claims are more often judged as false (Begg, Anas, & Farinacci, 1992; Reber & Schwarz, 1999). This so-called *truth effect* (see Dechêne, Stahl, Hansen, & Wänke, 2009) occurs regardless of a statement's content (Schwarz et al., 1991). The experience of fluency itself is

influenced by a variety of factors, such as the frequency of prior stimulus exposure, previous primes, and the linguistic complexity as well as the visual clarity of the target information (see Alter & Oppenheimer, 2009; Unkelbach, Bayer, Alves, Koch, & Stahl, 2011). It is this last fluency manipulation that will be used here.

Despite growing evidence for the truth effect, its boundary conditions remain poorly understood. It seems that people discount fluency as a diagnostic truth cue “once they explicitly or implicitly recognize that it stems from an irrelevant source” (Alter & Oppenheimer, 2009, p. 231). Interestingly, more elaborate processing can also eliminate the truth effect (Hawkins, Hoch, & Meyers-Levy, 2001). As negative moods typically recruit a more vigilant, externally focused cognitive style (Bless & Fiedler, 2006; Forgas, 1998; 2010; 2011), mood may also be a significant moderator of the truth effect, as discussed below.

### Processing consequences of affect

Affect can have a significant impact on both the *content* and *process* of cognition (Forgas & Eich, in press). In addition to content effects such as affect congruence in memory, judgments and social behaviors (Forgas, 2002), positive and negative moods also influence *how* information is processed (Bless, 2000; Bless & Fiedler, 2006; Fiedler, 2001). In particular, Bless and Fiedler's (2006) assimilative/accommodative processing model argues that moods perform a subconscious regulatory function. Positive mood signals a benign environment, promoting top-down, *assimilative* processing where people “impose internal structures on the external world” (p. 66). In contrast, negative mood signals a problematic situation, recruiting more bottom-up, *accommodative* thinking where people focus on

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new information and “modify internal structures in accordance with external constraints” (p.66).

Numerous experiments support this mood-induced processing dichotomy, showing that positive mood increases, and negative mood decreases the tendency to rely on internal information in a variety of cognitive tasks (Bodenhausen, Sheppard, & Kramer, 1994; Forgas, 1998; 2011; Park & Banaji, 2000; Unkelbach, Forgas, & Denson, 2008). For example, happy persons were more influenced by easily retrieved (fluent) arguments, but negative mood reduced reliance on the ease-of-retrieval heuristic (Ruder & Bless, 2003; Tversky & Kahneman, 1973). Further, Wyland and Forgas (2010) demonstrated that when judging others, happy people paid more attention to heuristic nonverbal cues (e.g., direct vs. averted eye gaze), whereas sad people tended to ignore such peripheral information.

Extrapolating from this research, this experiment sought to demonstrate for the first time that moods can also moderate people's reliance on processing fluency as a truth cue. We expected that that positive mood should maintain, and negative mood should reduce the use of processing fluency as a relevant truth cue (Oppenheimer, 2004).

## Method

### Overview, participants, and design

After an audiovisual mood induction (positive vs. neutral vs. negative), 84 students judged the truth of 30 ambiguous statements presented with high or low perceptual fluency (high or low contrastive background; see Reber, Winkielman, & Schwarz, 1998), resulting in a 3 × 2 mixed design.

### Procedure and materials

Participants were told that they will participate in two ‘unrelated’ experiments: ‘helping to select film clips for a future study’ (in reality, the mood induction), and a subsequent ‘truth judgment task’. The mood induction involved watching edited, 5 minute film clips designed to induce positive, or neutral, or negative moods (excerpts from *The Pink Panther*, a nature documentary, and *A Single Man*, respectively).

### Truth judgments

Next, participants read 30 ambiguous claims presented one at a time on a screen, and provided (1) a truth judgment (true/false) and (2) a subjective confidence rating on a 0–100% scale. The 30 target statements comprised ten *neutral* claims (e.g., “Instead of iron, horseshoe crabs have copper in their blood”), ten *positive* claims (e.g., “Gelotology is the study of laughter and its beneficial effects on the body”), and ten *negative* claims (e.g., “The suicide rate in Nunavut is four times higher than in the rest of Canada”). Within each valence category, five statements, although obscure, were actually true, and five statements were factually false. For each participant, the percentage of ‘true’ judgments, and average subjective confidence were calculated.

### Fluency manipulation

In order avoid suspicion, the fluency manipulation was disguised as part of an alternating graphical display style. Fifteen randomly determined statements were presented *fluently* (easy to read/process; high visual contrast, black MS Sans Serif 12 pt letters printed against a bright white background), and fifteen statements were presented in a *disfluent* manner (low visual contrast, same letters printed against a 50% gray background).

### Debriefing and manipulation checks

At the end of the experiment, the effectiveness of the mood induction was validated. Among several distracter items, participants rated their affective state on two 0–100 scales (‘bad–good’ and ‘sad–happy’). The effectiveness of the fluency manipulation was also validated using two convergent measures: response latencies for the fluent and disfluent statements, and readability ratings (see Results and discussion). A thorough debriefing concluded the experiment, and care was taken to eliminate any residual mood effects.

## Results and discussion

### Preliminary analyses

Three participants were excluded due to their limited English comprehension, and two further participants were excluded whose response bias deviated more than 2 SDs from the overall mean, leaving 26 happy, 26 neutral, and 27 sad subjects in the final analysis. As truth effects emerge only when there is genuine uncertainty about a claim (Unkelbach & Stahl, 2009), we discarded overconfident judgments made with a confidence of greater than 80%, representing the top 10% of all confidence ratings ( $M = 80.63$ ,  $SD = 16.36$ ).

This cutoff was validated by analyses showing that (a) high confident judgments were significantly more correct than incorrect ( $M[\text{correct}] = 2.61$ ,  $SD = 2.32$ ;  $M[\text{incorrect}] = 1.85$ ,  $SD = 1.61$ ),  $F(1, 80) = 12.07$ ,  $p = .001$ ,  $\eta^2 = 0.13$ , and (b) high confident judgments were made significantly faster than low confident judgments ( $M[>80\%] = 6.5$  s,  $SD = 2.8$  s,  $M[<81\%] = 8.0$  s,  $SD = 2.5$  s),  $F(1, 73) = 16.39$ ,  $p < .001$ ,  $\eta^2 = 0.19$ . The empirically obtained response latency of 6.5 s for highly confident, known answers appears to have some face validity, as reading and understanding a statement typically took about 4 s, and a subsequent memory check should add a further 2–3 s. Thus, 6.5 s appears a reasonable baseline to separate known from unknown answers, as was the case here.

Finally, a signal detection analysis of the retained items (Stanislaw & Todorov, 1999) also confirmed that there was no evidence of any factual knowledge, as average discrimination ability ( $d'$ ) did not differ from 0 ( $M = 0.00$ ,  $SD = 0.53$ ),  $t(80) = 0.00$ , NS, and there was also no evidence for overall gullible or skeptical response bias as average  $\beta$  did not differ from 1 ( $M = 0.99$ ,  $SD = 0.16$ ),  $t(80) = -0.04$ , NS.

### Mood validation

The mood self-ratings on the sad–happy and bad–good scales were highly correlated ( $r = .84$ ,  $p < .001$ ), and an ANOVA of the combined scales confirmed the effectiveness of our mood manipulation,  $F(2, 76) = 50.66$ ,  $p < .001$ ; linear contrast  $F(1, 76) = 99.46$ ,  $p < .001$ . Mood was significantly better after watching the positive rather than neutral film ( $M[\text{positive}] = 78.07$ ,  $SD = 18.04$ ;  $M[\text{neutral}] = 61.07$ ,  $SD = 17.14$ ),  $t(50) = 3.48$ ,  $p = .001$ ,  $d = 0.97$ , and significantly worse after the negative rather than neutral film ( $M[\text{negative}] = 34.53$ ,  $SD = 11.93$ ),  $t(51) = 6.56$ ,  $p < .001$ ,  $d = 1.82$ .

### Fluency validation

The effectiveness of the fluency manipulation was first confirmed by an analysis of response latencies, showing that as expected, participants responded significantly faster to fluent rather than disfluent statements ( $M[\text{fluent}] = 7.8$  s,  $SD = 2.3$  s;  $M[\text{disfluent}] = 8.4$  s,  $SD = 2.9$  s),  $F(1, 76) = 6.32$ ,  $p = .01$ ,  $\eta^2 = 0.08$ . There was no interaction between mood and fluency,  $F(2, 76) = 0.08$ , NS, confirming that responses to fluent rather than disfluent claims were consistently faster across all mood conditions ( $\Delta t[\text{positive}] = 425$  ms,  $\Delta t[\text{neutral}] = 535$  ms,  $\Delta t[\text{negative}] = 643$  ms). Response latency is a common index of processing fluency, “although the relation between processing

speed and the subjective fluency experience is far from perfect” (Unkelbach et al., 2011).

To address this concern, we further validated the fluency manipulation by directly assessing perceptual ease/readability (Oppenheimer, 2008). 20 students rated the readability of two random selections of five fluent and five disfluent statements on two 6-point scales (hard-easy). Combined readability ratings were significantly higher for fluent rather than disfluent statements ( $M[\text{fluent}] = 5.15$ ,  $SD = 1.34$ ;  $M[\text{disfluent}] = 3.35$ ,  $SD = 1.49$ ),  $F(1, 19) = 13.50$ ,  $p < .01$ ,  $\eta^2 = 0.42$ , providing convergent validation for the effectiveness of our visual fluency manipulation.

### Truth judgments

The likelihood to judge claims as “true” was subjected to a 3 (mood)  $\times$  2 (fluency) mixed ANOVA. No main effects were found for mood,  $F(2, 76) = 1.62$ , NS, or fluency,  $F(1, 76) = 1.33$ , NS. However, the predicted significant interaction between mood and fluency was confirmed,  $F(2, 76) = 3.60$ ,  $p < .05$ ,  $\eta^2 = 0.09$ . Replicating the basic truth effect, neutral subjects judged fluent claims as significantly more true than disfluent claims,  $F(1, 25) = 5.27$ ,  $p < .05$ ,  $\eta^2 = 0.17$ . Both happy and neutral subjects also tended to judge fluent claims as true significantly more often than chance,  $Mp[\text{positive}] = .57$ ,  $SD = .13$ ,  $t(25) = 2.95$ ,  $p < .01$ ,  $d = 0.58$ , and  $Mp[\text{neutral}] = .60$ ,  $SD = .14$ ,  $t(25) = 3.67$ ,  $p = .001$ ,  $d = 0.71$ , whereas this was not the case for disfluent claims,  $Mp[\text{positive}] = .52$ ,  $SD = .14$ ,  $t(25) = 0.64$ , NS, and  $Mp[\text{neutral}] = .52$ ,  $SD = .13$ ,  $t(25) = 0.78$ , NS.

In contrast, negative mood eliminated the truth effect ( $\Delta p[\text{neutral, negative}]$  of  $\Delta p[\text{fluent, disfluent}] = .14$ ,  $SD_{\text{neutral}} = .17$ ,  $SD_{\text{negative}} = .20$ ),  $t(51) = 2.95$ ,  $p < .01$ ,  $d = 0.81$ , as fluent and disfluent claims were judged as not significantly different,  $F(1, 26) = 2.11$ , NS. In fact, truth judgments by sad subjects did not differ from chance either for fluent ( $Mp = .49$ ,  $SD = .14$ ), or for disfluent claims ( $Mp = .54$ ,  $SD = .14$ ),  $t[\text{fluent}](26) = -0.56$ , NS, and  $t[\text{disfluent}](26) = 1.51$ , NS (Fig. 1).

To establish that this pattern is indeed reliable and robust, we also repeated this analysis by including *all* responses, including those made with high subjective confidence. The predicted interaction between mood and fluency remained significant,  $F(2, 76) = 4.01$ ,  $p < .05$ ,  $\eta^2 = 0.10$ . The basic truth effect was again confirmed, as those in a neutral mood continued to judge fluent claims as more true than disfluent claims ( $Mp[\text{fluent}] = .58$ ,  $SD = .12$ ;  $Mp[\text{disfluent}] = .51$ ,  $SD = .13$ ),  $F(1, 25) = 4.83$ ,  $p = .05$ ,  $\eta^2 = 0.16$ . Both in neutral mood, and in positive mood, subjects continued to judge fluent claims as true more often than chance,  $Mp[\text{neutral}] = .58$ ,  $SD = .12$ ,  $t(25) = 3.24$ ,  $p < .01$ ,  $d = 0.64$ , and  $Mp[\text{positive}] = .55$ ,  $SD = .13$ ,  $t(25) = 1.84$ ,  $p = .07$ ,  $d = 0.36$ , whereas this was not the case for disfluent claims

$Mp[\text{neutral}] = .51$ ,  $SD = .13$ ,  $t(25) = 0.40$ , NS, and  $Mp[\text{positive}] = .51$ ,  $SD = .13$ ,  $t(25) = 0.19$ , NS.

As in the previous analysis, negative mood significantly reduced the truth effect ( $\Delta p[\text{neutral, negative}]$  of  $\Delta p[\text{fluent, disfluent}] = .11$ ,  $SD_{\text{neutral}} = .17$ ,  $SD_{\text{negative}} = .17$ ),  $t(51) = 2.44$ ,  $p < .05$ ,  $d = 0.67$ , as fluent and disfluent claims were again judged as equally true,  $F(1, 26) = 3.25$ ,  $p = .08$ ,  $\eta^2 = 0.16$ . Further, in negative mood the perceived truth of claims did not differ from chance either for fluent,  $Mp = .46$ ,  $SD = .12$ ,  $t[\text{fluent}](26) = -1.62$ , NS, or for disfluent claims,  $Mp = .52$ ,  $SD = .14$ ,  $t[\text{disfluent}](26) = 0.79$ , NS. Thus, the exclusion of highly confident judgments on conceptual grounds in the previous analysis did not materially alter the overall pattern of our results, suggesting that these effects are reliable and robust.

### Evidence for processing differences

We predicted that negative mood should promote more accommodative thinking, and such processing should facilitate greater attention to stimulus details (Bless & Fiedler, 2006), a cognitive style that has also been found to improve judgmental accuracy in other domains (Forgas, 2011; Forgas & Koch, in press). Considering that level of stimulus detail is also a common truth cue ( $r[\text{details, "true"}] = .37$ ,  $r[\text{details, true}] = .20$ ; DePaulo et al., 2003; Hartwig & Bond, 2011), we predicted that participants in a negative mood should also be more sensitive to specific qualities of the target statements, such as the concrete or abstract nature of the claims made.

To test this processing prediction, the 30 target statements were classified into 16 concrete, tangible claims about specific physical places (e.g., ‘The river Kongo carries the most water in all of Africa’, ‘Tokyo is the most populous city in the world’), and 14 more abstract, intangible claims (e.g., ‘The philosopher Kierkegaard argued that humans are inherently good’, ‘Long-term use of mobile phones can give you a brain tumor’). This concrete vs. abstract aspect of the target claims represents a real but not immediately obvious stimulus characteristic that should be more likely to be noticed when judges process information accommodatively rather than assimilatively. Thus, the expected greater sensitivity to the concrete vs. abstract nature of the claims in negative mood should be a suitable proxy measure indicating that statements were processed accommodatively rather than assimilatively.

To test this prediction, the effect of type of claim (concrete/tangible vs. abstract/intangible) on truth judgments was examined for each mood condition. Claim concreteness/abstractness only made a difference to truth judgments in negative mood. Concrete, tangible statements were less likely to be judged as true than abstract, intangible statements ( $Mp[\text{abstract/tangible}] = .58$ ,  $SD = .13$ ;  $Mp[\text{concrete/intangible}] = .45$ ,  $SD = .14$ ),  $F(1, 26) = 14.36$ ,  $p = .001$ ,  $\eta^2 = 0.35$ , consistent with negative affect recruiting a more externally focused, accommodative processing style increasing attention to claim characteristics. Concreteness/abstractness made no difference to truth judgments in the positive ( $Mp[\text{abstract/tangible}] = .57$ ,  $SD = .16$ ;  $Mp[\text{concrete/intangible}] = .53$ ,  $SD = .11$ ) and neutral ( $Mp[\text{abstract/tangible}] = .59$ ,  $SD = .14$ ;  $Mp[\text{concrete/intangible}] = .53$ ,  $SD = .15$ ) mood conditions,  $F[\text{positive}](1, 25) = 0.75$ , NS, and  $F[\text{neutral}](1, 25) = 2.20$ , NS, respectively. This pattern confirms that claim features such as concreteness/abstractness made a difference only in negative mood, consistent with negative mood recruiting a more attentive and accommodative processing style.

### Judgmental confidence

An ANOVA of the effects of fluency and mood on confidence ratings found no mood,  $F(1, 76) = 1.55$ , NS, or fluency,  $F(1, 76) = 0.42$ , NS, main effect, and no mood by fluency interaction,  $F(1, 76) = 0.20$ , NS. These null findings are not entirely unexpected, as confidence judgments are essentially meta-judgments, and mood may have no consistent influence on such responses (Forgas & Eich, in press).

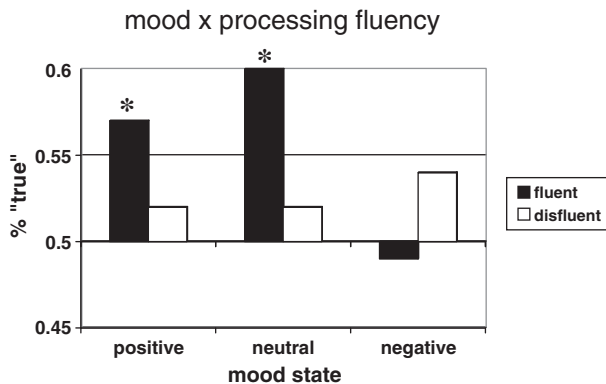


Fig. 1. The interactive effects of mood and fluency on truth judgments: positive mood maintains, and negative mood reduces reliance on fluency as an indicator of truth.



Fluency may influence confidence (Alter, Oppenheimer, Epley, & Eyre, 2007; Novemsky, Dhar, Schwarz, & Simonson, 2007), but there is no evidence that fluency should *simultaneously* inform both a substantive judgment, such as truth, and confidence about such judgments. Fluency effects occur because of concrete beliefs about the specific signaling function of the fluency experience (Oppenheimer, 2008; Schwarz, 2004; Unkelbach, 2006), so the same fluency cue should not simultaneously influence both truth and subsequent confidence judgments.

#### Mood-congruent effects

Were mood congruent statements more likely to be seen as true? We found partial support for this prediction: happy judges rated positive statements as true more often than chance,  $Mp = .59$ ,  $SD = .18$ ,  $t(25) = 2.46$ ,  $p < .05$ ,  $d = 0.48$ , which was not the case for negative statements,  $Mp = .54$ ,  $SD = .15$ ,  $t(25) = 1.46$ , NS. However, in negative mood neither negative claims ( $Mp = .53$ ,  $SD = .17$ ), nor positive claims ( $Mp = .53$ ,  $SD = .13$ ) were judged as true at a level different from chance,  $t[negative](26) = 0.80$ , NS, and  $t[positive](26) = 1.31$ , NS.

This asymmetrical pattern is actually consistent with the assimilation/accommodation dichotomy, as mood congruence is more likely to occur in positive mood due to constructive assimilation processes, whereas negative mood and accommodative processing should inhibit mood congruence, “because accommodation is, by definition, unbiased and stimulus-driven” (Fiedler, Nickel, Asbeck, & Pagel, 2003, p. 588). Thus, our results are consistent with the prediction that mood-congruent effects should be stronger in a positive rather than negative mood (Blaney, 1986; Clore, Schwarz, & Conway, 1994), and support our hypothesis that happy and sad participants engaged in qualitatively different, assimilative and accommodative processing strategies.

#### General discussion

This study demonstrated for the first time that mood may moderate the extent to which people’s processing fluency influences truth judgments. In particular, positive mood maintained, and negative mood eliminated reliance on fluency as a truth cue. These results have several interesting theoretical and practical implications.

#### Theoretical implications

Our findings are consistent with Bless & Fiedler’s (2006) assimilative/accommodative processing dichotomy, suggesting that positive mood promotes, and negative mood reduces the tendency to rely on *internal* cues such as fluency when making truth judgments. The absence of differences between the positive and neutral mood groups suggests that assimilative processing could have been the dominant default strategy in both conditions. This account is consistent with the mood validation data indicating that the neutral mood group here was significantly more positive than the midpoint of the mood validation scale,  $t(25) = 3.29$ ,  $p < .01$ ,  $d = 0.64$ . In practice, neutral conditions are never completely ‘neutral’, but necessarily represent some intermediate point between the positive and negative groups (Fiedler, 1991).

The results specifically support our prediction that negative mood decreases the relative importance of the internal fluency cue by recruiting more *accommodative* processing associated with greater focus on external stimulus features (Bless & Fiedler, 2006). It is interesting that Cokely et al. (2009) found that more systematic processing in their study *increased* people’s reliance on processing fluency.

However, these authors did not manipulate mood, and as Bless & Fiedler (2006) note, systematic processing is *not* the same as accommodative processing, because *accommodative* processing

uniquely involves selective attention to external information (Bless & Fiedler, 2006). According to Cokely et al. (2009), systematic processing is characterized by abstract and rule-based thinking (see Evans, 2008), and allows for rapid and automatic, yet controlled judgments based on *either internal or external* cues, which can amplify fluency effects that represent the rule-like application of an ubiquitous meta-cognitive experience.

In contrast, accommodative processing should *exclusively* facilitate the consideration of *external* but not internal cues. Thus, the inconsistency between our findings and the results reported by Cokely et al. (2009) are more apparent than real. In the present case, negative mood participants discounted their fluency experience not because they processed more systematically, but because they processed more accommodatively and externally. Consistent with this prediction, we also found that the substantive characteristics of the target statements influenced truth judgments *only* in a negative mood, but not in a positive or neutral mood.

It is interesting that neither mood, nor fluency influenced judgmental confidence here. However, past research suggests that mood effects on judgmental confidence are rarely consistent (Forgas & Eich, *in press*), and when obtained, depend on the nature of the judgment and the task (Fiedler, 2001). Fluency may influence confidence (Alter et al., 2007; Novemsky et al., 2007), but there is no evidence to suggest that the same fluency cue should *simultaneously* influence both substantive judgments and associated confidence judgments.

We also found significant mood-congruent effects on truth judgments in positive but not in negative mood. Such asymmetrical effects have been reported before (Blaney, 1986; Clore et al., 1994), and are specifically predicted by the assimilative/accommodative processing model (Bless & Fiedler, 2006), as mood-congruence is most likely when positive mood promotes a more assimilative, internally focused and constructive processing style. Negative mood in turn, by recruiting accommodative processing, should inhibit affect congruence (Fiedler et al., 2003). These findings thus support our key prediction that happy and sad participants engaged in qualitatively different, assimilative and accommodative processing.

It is intriguing that fluency itself may also possess hedonic qualities, with fluency often experienced as more pleasant than disfluency (Reber, Schwarz, & Winkielman, 2004). This suggests the possibility that negative mood could have eliminated the truth effect simply by overshadowing the hedonic consequences of fluent and disfluent claims. However, if this was the case, then positive mood should have a similar hedonic masking effect. Our data do not support this explanation, although the hedonic qualities of fluency clearly deserve further investigation.

#### Practical implications

Affective influences on truth judgments are particularly important because many such judgments (such as believing or disbelieving one’s partner) occur in affect-rich contexts. The ability to detect truth is also essential for professionals such as jurors, judges, police officers, lawyers, and psychologists in their daily work. Understanding the psychological mechanisms underlying truth judgments can be an important aspect of improving people’s affective intelligence through training and education (Ciarrochi, Forgas & Mayer, 2006). For example, communications by salesmen, politicians, lawyers, and counselors designed to be perceived as truthful could benefit from a careful combination of high fluency and positive affect.

The assimilative/accommodative processing distinction proposed by Bless and Fiedler (2006) may also be of considerable practical relevance when evaluating how moods may interact with heuristic cues such as fluency in determining truth judgments. Our results also extend growing empirical evidence suggesting that negative affect can improve performance on many cognitive tasks, when greater attention to external information is required to increase

accuracy and reduce distortions (Forgas, 2011; Forgas & East, 2008; Forgas & Eich, in press).

### Limitations and future prospects

Mood effects on cognition often depend on subtle contextual factors, such as the complexity of the task and the motivations and personality of the judge, issues that deserve further investigation (Fiedler, 2001; Forgas, 1995, Forgas, 2002; Sedikides, 1995). Future research may also explore the interplay of mood and processing fluency in other judgmental domains such as familiarity, preference, and liking judgments (see Alter & Oppenheimer, 2009). In addition to exploring mood effects, future studies may also look at the consequences of specific emotions, such as fear, disgust, and anger, on truth judgments (e.g., Lerner & Keltner, 2001).

### Conclusion

Deciding whether a claim is true or false is one of the most common and most important judgments people make in everyday life. Despite recent progress in understanding affective influences on social cognition, little is known about how feelings impact on the perceived truth of ambiguous or novel information. This study showed for the first time that positive mood promotes, and negative mood eliminates people's reliance on processing fluency as an indicator of truth, a result that is consistent with the predictions of Bless and Fiedler's (2006) assimilative/accommodative processing model. The psychological mechanisms underlying truth judgments are still poorly understood, and further research on the influence of affective states on inferring truth should be of considerable theoretical as well as applied interest.

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