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Consumers' Trust in Feelings as Information

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The diagnosticity of feelings in judgment depends not only on their representativeness and relevance, but also on people's trust in their feelings in general. Trust in feelings is the degree to which individuals believe that their feelings generally point toward the "right" direction in judgments and decisions. Six studies show that a higher trust in feelings (a) increases the reliance on feelings as a judgment criterion, (b) amplifies the influence of ad-induced feelings in persuasion, (c) magnifies the ratio bias in risky choice, and (d) increases the rejection of unfair offers in the ultimatum game. Further, (e) when feelings are highly relevant, they are relied upon regardless of the level of trust, whereas when feelings have low relevance, they are relied upon only if people trust them. Finally, (f) assessments of trust in feelings require significant processing resources. A refined model of feelings as information is advanced based on these findings.

In the past 30 years, a large number of studies have shown that affective feelings can exert substantial influences on judgment (see Cohen, Pham, and Andrade 2008; Isen 2001; Pham 2004; Schwarz and Clore 2007 for reviews). The conditions that promote a greater influence of feelings on judgment tend to fall into two major categories (Greifeneder, Bless, and Pham 2011) that parallel the general notions of accessibility and diagnosticity (Feldman and Lynch 1988). One set of conditions pertains to the relative accessibility of the feelings, compared to other available inputs, during judgment. For example, feelings have been found to be more

influential when people are instructed to pay attention to them, which presumably increases their relative accessibility compared to other inputs (Siemer and Reisenzein 1998; White and McFarland 2009). Similarly, the influence of feelings typically increases when ability to process information is reduced, whether by distraction (Albarracin and Kumkale 2003; Albarracin and Wyer 2001), time pressure (Pham et al. 2001; Siemer and Reisenzein 1998), or cognitive load (Shiv and Fedorikhin 1999). This is presumably because under decreased processing ability, feelings become relatively more accessible than substantive information, which generally requires more resources to process.

A second set of conditions pertains to the perceived diagnosticity of the feelings as a basis for judgment. Starting with Schwarz and Clore's (1983) seminal studies on affect as information, a large number of studies have shown that feelings exert stronger influence when they are perceived to be informative for the judgment at hand (see Greifeneder et al. 2011 for a review). Two major determinants of the perceived informativeness (or diagnosticity) of feelings have been documented. First, feelings seem to be more informative when they are perceived to be representative of the target object to be evaluated (Strack 1992), that is, when they are perceived to emanate from the target and reflect its essential characteristics (Pham 2009). For example, the original Schwarz and Clore (1983) studies showed that incidental mood states exerted less influence on judgments of life satisfaction when it was made clear to participants that the source of their feelings was actually unrelated to the target (low representativeness) than when the incidental nature of these feelings was not made explicit (high represen-

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tativeness)—a finding replicated in many subsequent studies (Gorn, Goldberg, and Basu 1993; Kim, Park, and Schwarz 2010; Ragnathan, Pham, and Corfman 2006; Siemer and Reisenzein 1998). Second, holding their representativeness constant, feelings seem to be more informative when they are perceived to be relevant for the particular judgment to be made (Pham 1998), that is, when the feelings are perceived to provide an appropriate gauge of the judgment dimension to be assessed about the target. For example, incidental mood states are typically more influential when consumers are guided by hedonic/experiential motives than when consumers are guided by utilitarian/instrumental motives (Pham 1998; see also Adaval 2001; Yeung and Wyer 2004). This is presumably because affective feelings are perceived to be more relevant for assessing the potential fulfillment of experiential goals (e.g., “Will this be a fun book to read at the beach?”) than for assessing the potential fulfillment of instrumental goals (e.g., “Will this textbook help me pass my exam?”; Pham 1998, 2004).

The purpose of this research is to investigate another important determinant of the perceived informativeness (or diagnosticity) of feelings in judgment: the person’s belief in the general trustworthiness of his or her feelings at the time of judgment. We call this determinant “trust in feelings,” defined as the degree to which the person believes that his or her feelings generally point toward the “right” direction in judgments and decisions. Unlike representativeness and relevance, which are task specific, a person’s trust in his or her feelings is individual specific and can vary independent of the judgment task at hand. Across six experiments, we show that compared to lower trust in feelings, higher trust in feelings (*a*) increases the reliance on feelings as a judgment criterion across situations, (*b*) amplifies the influence of ad-induced feelings in persuasion, (*c*) magnifies the well-known ratio bias in risky choice (Denes-Raj and Epstein 1994), and (*d*) increases the rejection of unfair offers (but not of fair offers) in the classic ultimatum game. We further find that (*e*) trust in feelings interacts with the perceived relevance of feelings in that when feelings are perceived to be highly relevant, they tend to be relied upon regardless of how much people generally trust their feelings, whereas when feelings are perceived to have low relevance, they tend to be relied upon only if people generally trust them. However, (*f*) trust in feelings moderates the influence of feelings on judgment only when processing resources are sufficient; when resources are insufficient, feelings influence judgment regardless of the level of trust in these feelings. These empirical results highlight an important moderator of the reliance on feelings in judgments and decisions. In addition, they help refine the notion of feelings as information by identifying a previously overlooked determinant of the information value (or diagnosticity) of feelings in judgment and clarifying its relation to previously established determinants.

REFINING THE NOTION OF FEELINGS AS INFORMATION

Representativeness and Relevance as Determinants of the Diagnosticity of Feelings

A major contribution of Schwarz and Clore’s work on affect as information (1983, 1988, 2007; Schwarz 1990) was to show that previously documented influences of incidental mood states on judgment (e.g., Isen et al. 1978) were due in part to people relying on their momentary feelings as actual sources of information. In the original studies, Schwarz and Clore (1983) supported this idea by showing that when the information value of the feelings was discredited, the effects of the incidental moods on judgment became nonsignificant. In these original studies, the perceived diagnosticity of feelings was manipulated by making it salient in some conditions that the feelings did not come from the target itself but from an unrelated source (e.g., the weather). This manipulation taps into a particular determinant of the perceived information value of feelings: their representativeness, which is the degree to which the feelings are perceived to emanate from the target and reflect its essential characteristics (Pham 2009). When the actual source of incidental feelings is made salient, their perceived information value decreases because the feelings become unrepresentative of the object to be evaluated. Many studies have since relied on this representativeness aspect of the diagnosticity of feelings to test feelings as information explanations of various judgment phenomena (Cesario, Grant, and Higgins 2004; Gorn et al. 1993; Kim et al. 2010; Ragnathan et al. 2006; Siemer and Reisenzein 1998; Winkielman, Zajonc, and Schwarz 1997). It appears that, by default, people assume that their momentary feelings are representative of the target to be evaluated; it is only when a plausible alternative source for the feelings is made salient that people question the representative diagnosticity of their feelings (Schwarz 1990).

Subsequent research identified a second determinant of the perceived information value of feelings. A series of studies by Pham (1998) showed that even if feelings are perceived to be representative of the target (when their source is not questioned), these feelings need not be used to make a judgment unless they are perceived to be relevant for the particular judgment at hand. Whereas representativeness depends on the perceived connection between one’s feelings and the target object to be evaluated, the relevance of feelings pertains to the perceived connection between these feelings and the criterion for judging the target. For example, the pleasantness of our feelings during a dinner with colleagues at a restaurant is presumably more relevant when assessing how enjoyable the dinner experience may be (a hedonic/experiential criterion) than when assessing how productive the dinner is likely to be in terms of getting some work done (a utilitarian/instrumental criterion). As a result, even though the feelings are equally representative of the dinner experience, they will tend to be more influential in the former case than in the latter case (Pham 1998). Many studies have since replicated this basic result that feelings

are relied upon more when consumers have experiential motives than when they have instrumental motives, because feelings are perceived to be more relevant under experiential motives than under instrumental motives (Adaval 2001; Pham, Geuens, and DePelsmaker 2012; White and McFarland 2009; Yeung and Wyer 2004). These studies' findings suggest that unlike representativeness, the relevance of feelings is not assumed to be high by default but instead varies considerably depending on the type of target (e.g., hedonic vs. utilitarian products) and the type of judgment (e.g., enjoyment vs. usefulness).

Trust in Feelings as a Third Determinant of the Diagnosticity of Feelings

Although representativeness and relevance of feelings are conceptually distinct, they share an important characteristic in that both factors affect the perceived diagnosticity of feelings in a task-specific manner. Theoretically, a given feeling experience will not be equally representative of different targets. Imagine a consumer calling her phone company's customer service while having lunch at a restaurant. Feelings of frustration toward the customer service associate may affect the overall evaluation of the company to the extent that the employee is a representative of the company (high representativeness). On the other hand, the same feelings are unlikely to affect evaluation of the restaurant, which is clearly unrelated to the source of frustration (low representativeness). Similarly, a given feeling experience will not be equally relevant across judgment dimensions (Schwarz et al. 1987). The consumer's feelings of frustration toward the employee will presumably be regarded as more relevant for judging the quality of the company's customer service than for judging the competitiveness of its prices. Therefore, both the representativeness of feelings and their relevance depend on task-specific factors, namely, the perceived connection between the target and the source of the feelings, and the dimension of judgment and underlying motive for evaluation. In other words, questions of representativeness and relevance are only meaningful in relation to a particular judgment task.

We believe that factors beyond the task itself contribute to the perceived diagnosticity of feelings. Specifically, we propose that independent of the perceived representativeness and relevance of feelings within a given judgment task, individuals may vary in the degree to which they trust their feelings across judgment tasks because they have different beliefs about the trustworthiness of their feelings in general. Some individuals may believe that their feelings are generally "trustworthy" in that their feelings usually point in the "right" direction in judgments and decisions (resulting in better outcomes or higher judgment satisfaction); other individuals may believe that their feelings are generally "untrustworthy." We conceive of these beliefs as originating from two primary sources. The first is the individual's personal history of success or failure when relying on feelings (as opposed to other inputs) in judgments and decisions.

Individuals whose subjective history indicates frequent successes and infrequent failures will tend to see their feelings as being generally trustworthy, whereas those whose history indicates the opposite will tend to see their feelings as being generally untrustworthy. The second source is the individual's social and cultural environment. Certain environments promote norms that encourage the reliance on feelings (e.g., "Always follow your heart"), whereas other environments promote norms that discourage the reliance on feelings (e.g., "The heart has its reason of which reason knows nothing"). We believe that these personal history and socialization factors result in certain individuals trusting their feelings more than other individuals do across various judgment tasks. Thus, even if the representativeness and relevance of feelings are held constant, some individuals are more likely to trust their feelings and rely on them than are other individuals.

The notion that the perceived diagnosticity of feelings depends in part on factors that are unrelated to the task and individual specific is broadly consistent with recent findings indicating stable individual differences in the degree to which people rely on their feelings in general. For example, Salovey and colleagues (1995) have observed that some individuals chronically pay more attention to their feelings as a source of guidance than do other individuals. Similarly, Epstein and colleagues (1996) document the existence of stable individual differences in the tendency to trust "gut feelings" and "hunches" in judgment. Our conceptualization departs from these earlier conceptualizations in that we conceive of the notion of trust in feelings not as a fixed trait but as a somewhat malleable recurring tendency. This is because a person's trust in feelings is presumably learned from a history of success or failure in reliance on feelings and/or from social and cultural norms. Rather than being a pure personality trait, a person's trust in feelings may change if his or her perceived history of success or failure is altered, or if different norms about feelings are internalized. Indeed, our studies show that people's trust in their feelings can be manipulated experimentally by subtly varying their subjective history of success when relying on feelings in judgment.

In summary, we propose that there are three conceptually distinct determinants of the perceived diagnosticity of feelings in judgment: (a) the representativeness of the feelings with respect to the target to be evaluated, (b) the relevance of feelings for the judgment to be made, and (c) the person's trust in his or her feelings in general. Note that we define trust in feelings *ex ante*. In other words, regardless of the task—and therefore independent of the representativeness and relevance of the feelings—some individuals are posited to trust their feelings more than other individuals do. We do not define trust in feelings *ex post*, that is, how much people think they should rely on their feelings given the representativeness and relevance of these feelings. Therefore, by definition, our *ex ante* notion of trust in feelings cannot be causally affected by the representativeness and relevance of the feelings. (An *ex post* conceptualization of trust in feelings would be affected by the representativeness

and relevance of the feelings, making this construct conceptually equivalent to the more general notion of perceived diagnosticity of feelings.)

Overview of the Studies

The role of trust in feelings as a distinct determinant of the information value of feelings was examined across six studies involving more than 500 participants. In these studies participants' momentary trust in their feelings as a basis for judgment was varied by manipulating participants' perceived history of success when relying on feelings in judgment, using a procedure based on the well-known ease-of-retrieval effect (Schwarz et al. 1991).

The first two studies examine how trust in feelings influences the weight that people attach to their feelings in judgment. Study 1 shows that compared to participants with lower trust in their feelings, participants with higher trust in their feelings report a greater reliance on affect and feelings as input across a variety of judgments. Study 2 shows that compared to a lower trust in feelings, a higher trust in feelings amplifies the influence of ad-induced feelings in persuasion.

The next two studies examine how trust in feelings affects choice in two classic behavioral-decision research paradigms where feelings are assumed to play a major role. Study 3 shows that high trust in feelings increases the likelihood of choosing the high-frequency/low-probability option in Epstein's "jelly beans" paradigm—the so-called ratio bias (Denes-Raj and Epstein 1994). Study 4 shows that high trust in feelings increases the likelihood of rejection of unfair offers, but not of fair offers, in the ultimatum game.

The final two studies clarify how trust in feelings operates by examining its effects (a) under high versus low relevance of feelings and (b) under high versus low processing resources. Study 5 shows that when feelings are perceived to be highly relevant, they tend to be relied upon regardless of how much people generally trust their feelings *ex ante*, whereas when feelings are perceived to have low relevance, they tend to be relied upon only if people generally trust them *ex ante*. Study 6 shows that people's trust in their feelings moderates their reliance on feelings only when processing resources are sufficient; when resources are insufficient, feelings influence judgment regardless of the level of trust in these feelings.

STUDY 1: INDUCING MOMENTARY CHANGES IN TRUST IN FEELINGS

This study tests the basic idea that people's trust in their feelings as information input depends in part on their perceived history of success when relying on feelings in judgment. Individuals with a stronger perceived history of success when relying on feelings should trust their feelings more compared to individuals with a weaker history of success when relying on feelings. Participants whose subjective history of success when relying on feelings was manipulated experimentally were asked to evaluate a product and explain the reasons for their evaluation. They were additionally

asked to rate how much they trusted various types of information in different decision situations. It was predicted that compared to participants with a weaker perceived history of success, participants with a stronger perceived history of success when relying on feelings would (a) report more feeling-based reasons to justify their product evaluations and (b) report trusting their feelings more in general across different situations.

Method

Overview. Fifty-eight student participants were randomly assigned to a high-trust-in-feelings condition or low-trust-in-feelings condition. Participants were told that they would take part in three separate studies. In the first study, participants completed a procedure designed to manipulate their subjective history of success when relying on feelings in judgment. In the second study, participants were asked to evaluate a product and provide reasons for their evaluation, which were used to construct the first dependent variable. In the third study, participants rated how much they trusted their feelings in general across various situations. These ratings were used to construct the second dependent variable.

Manipulating Trust in Feelings. The main manipulation was administered in the "first" study, under the guise of a study of how people make decisions in general. The manipulation capitalizes on the well-known ease-of-retrieval phenomenon to vary participants' subjective history of success when relying on feelings. In the original ease-of-retrieval studies (Schwarz et al. 1991), it was found that participants who had to describe 12 examples of situations in which they behaved assertively surprisingly rated themselves as less assertive than participants who had to describe only six examples. This is because the subjective difficulty of retrieving a large number of instances from a certain class causes people to infer that such instances are relatively uncommon or atypical, whereas the subjective ease of retrieving a small number of instances of the same class causes people to infer that such instances are relatively common or typical (Schwarz 2004).

Based on this result, we manipulated participants' trust in feelings by asking them to retrieve a different number of instances of successful reliance on their feelings in judgment. After a brief explanation of the distinction between using feelings versus logical reasons to make decisions, participants in the high-trust-in-feelings (HTF) condition were asked to describe two "situations in which (they) trusted (their) feelings to make a judgment or a decision and it was the right thing to do." Participants in the low-trust-in-feelings (LTF) condition were asked to describe 10 such situations. All participants were given 7 minutes to complete the task. (The full instructions for this trust in feelings manipulation are available from the authors upon request.) Pretests show that within a 7-minute time frame, people tend to find it relatively easy to retrieve two such situations ($M = 4.25$ on a 7-point scale of subjective difficulty) but dif-

difficult to retrieve 10 ($M = 5.87$; $F(1, 38) = 5.21$, $p < .03$). It was therefore expected that participants asked to describe two situations would find it easy and hence infer that such situations are common. This in turn would create a perception of success in past reliance on feelings, which should increase participants' trust in their feelings. In contrast, participants asked to describe 10 situations would find it difficult and hence infer that such situations are uncommon. This would create a perception of lack of success in past reliance on feelings, which should decrease participants' trust in their feelings.

Reasons for Product Evaluation. After completing the main manipulation, in a supposedly unrelated study, participants were asked to evaluate a book based on a one-page synopsis. After reporting their evaluation, participants were asked to provide, in an open-ended format, up to eight reasons for their evaluation. Participants were then asked to code each provided reason as reflecting either "how [they] felt toward the book" (a feelings-based reason) or "what [they] thought about the book" (a thought-based reason). The number of feelings-based reasons that participants used to justify their evaluations provided a measure of the degree to which they relied on their feelings as a basis for judgment. It was expected that participants in the HTF condition would score higher on this measure than participants in the LTF condition.

Trust in Feelings across Situations. In the final study, participants were presented with 12 questions assessing how much they trusted various types of information in different decision situations. Six of the 12 questions pertained to how much participants trust their feelings in general in different situations (e.g., "When buying a new car, to what extent do you trust what your feelings tell you about this car?"; "When choosing a roommate, to what extent do you rely on, that is, believe and trust what your feelings tell you about this roommate?"). The other six questions pertained to how much participants trusted other types of inputs in different situations (e.g., "When buying clothes, to what extent do you believe and trust what your friends say about them?" "To what extent do you rely on, that is, believe and trust what your parents say about choosing a career?"). Feeling- and non-feeling-related questions were presented in mixed order, with ratings collected on 7-point scales (1 = not trust at all, 7 = trust very much). A factor analysis of the 12 items returned a two-factor solution with all six feelings items loading primarily on the first factor (which accounted for 64% of the variance) and all six nonfeelings items loading on the second factor (which accounted for 36% of the variance). The trust ratings for the six feeling questions were averaged into an index of trust in feelings in general. (The α coefficient was relatively low, $\alpha = .60$, which is not surprising given that the items pertained to different judgment domains that need not be logically correlated.) The trust ratings for the other six items were similarly averaged into an index of general trust in non-feelings-related information ($\alpha = .56$). It was predicted that participants in the

HTF condition would report higher general trust in feelings than participants in the LTF condition.

Results and Discussion

As expected, participants who were asked to retrieve two examples of successful reliance on feelings (in the HTF condition) invoked a higher number of feelings-based reasons to justify their evaluations ($M = 3.10$) than did participants who were asked to retrieve 10 examples of successful reliance on feelings (in the LTF condition: $M = 2.51$; $F(1, 57) = 3.88$, $p < .05$). There was no significant difference between conditions in terms of number of thought-based reasons listed ($F(1, 57) = 1.76$, $p = .19$). These results support the basic notion that manipulating people's perceived history of success when relying on feelings in judgment can indeed change the degree to which they trust and rely on their feelings as input in a product-evaluation task.

It was also found that participants asked to retrieve two examples of successful reliance on feelings (in the HTF condition) reported higher general trust in feelings across judgment domains ($M = 5.15$) than did participants asked to retrieve 10 examples of successful reliance on feelings (in the LTF condition: $M = 4.72$; $F(1, 57) = 4.28$, $p < .04$). Again, there was no difference in participants' general trust ratings of the non-feelings information ($F < 1$). These results suggest that manipulating individuals' perceived history of success when relying on feelings in judgment can indeed alter the degree to which they believe that their feelings provide trustworthy information in various judgment domains. Interestingly, it appears to do so without affecting people's trust in other bases of judgment.

STUDY 2: TRUST IN FEELINGS AND THE EFFECTS OF AD-EVOKED FEELINGS ON PERSUASION

In study 1, the effects of varying participants' subjective history of success in reliance on feelings were assessed through self-reports of reliance on feelings in product evaluations and trust in feelings across judgment situations. The purpose of this second study was to show that varying people's trust in feelings actually changes the weight that they attach to their feelings in judgment. The study was conducted in a persuasion context. Participants whose level of trust in feelings had been manipulated using the same procedure as in study 1 were shown a TV commercial and asked to report their attitude toward the advertised issue. The pleasantness of participants' momentary feelings was manipulated by varying the commercial's musical soundtrack. It was predicted that high-trust-in-feelings participants' attitudes would be more influenced by the pleasantness of the soundtrack than low-trust-in-feelings participants' attitudes.

Method

Participants, Design, and Procedure. Fifty-two student participants were randomly assigned to one of four conditions of a 2 (HTF vs. LTF) \times 2 (pleasant vs. unpleasant feelings) between-subjects design. They were told that they would be taking part in three unrelated studies. Participants' trust in feelings was manipulated in the "first" study using the same procedure as in study 1. The "second" study was a filler task designed to separate the manipulation of trust in feelings from the main judgment task, which was administered in the "third" study. In this "third" study, participants were asked to watch a previously unseen TV commercial and be prepared to answer a series of questions after the viewing. To manipulate their feelings toward the commercial, two versions of the commercial were created. In the pleasant-feelings condition, an enjoyable musical soundtrack was woven into the commercial. In the unpleasant-feelings condition, a less enjoyable soundtrack was used. After participants watched the commercials, the dependent measures were administered.

Manipulation of Pleasantness of Feelings. All participants were shown a professionally edited version of a 60-second British TV commercial (not seen in the United States) praising the virtues of books. Unlike most other commercials, this commercial's main message was not conveyed through a voice-over or dramatized dialogues, but through a series of still text frames appearing between the commercial's various silent scenes. By varying the commercial's musical soundtrack we were therefore able to manipulate how participants felt toward the commercial without changing the substance of the message. In the pleasant-feelings condition, the commercial was paired with an instrumental piece of music that a preliminary pretest had shown to be appealing and pleasing. In the unpleasant-feelings condition, the commercial was paired with a different instrumental piece that the same pretest had shown to be less appealing and pleasing. A more formal pretest showed that participants exposed to the pleasant-soundtrack version of the commercial reported more positive feelings toward the commercial ($M = 5.47$ on a 7-point scale of pleasantness) than did participants exposed to the unpleasant-soundtrack version ($M = 4.06$; $F(1, 23) = 7.50$, $p < .01$), while the perceived quality of the commercial was equivalent across the two versions ($M_{\text{pleasant}} = 4.77$; $M_{\text{unpleasant}} = 5.02$ on a 7-point scale of quality; $F < 1$).

Measures. The main dependent variable was participants' reported attitude toward reading, which was measured by five 7-point items (e.g., "I have an unfavorable/favorable opinion about reading"; "I believe reading is not/is very important"; $\alpha = .87$). As a confounding check, task involvement was assessed on three disagree/agree items (e.g., "I watched the ad very carefully"; "I did not take the task of watching the ad very seriously"; "I watched the ad as if I was really interested in its message"; $\alpha = .59$). Finally, as a check for experimental demand, participants were asked to guess the purpose of the study.

Results

Preliminary Analyses. None of the participants guessed the true purpose of the study. There were no significant effects of the manipulations on task involvement (all $p = .13$ or higher). The same was true in all the remaining studies; hence, these preliminary analyses are not further discussed.

Attitude toward Reading. On average, attitude toward reading was more favorable in the pleasant-soundtrack condition ($M_{\text{pleasant}} = 5.83$) than in the unpleasant-soundtrack condition ($M_{\text{unpleasant}} = 5.00$; $F(1, 48) = 5.90$, $p < .02$), indicating a positive effect of feelings elicited by the commercial on attitude toward the target. However, this effect was qualified by a significant interaction with trust in feelings ($F(1, 48) = 5.68$, $p < .02$). As expected, pleasantness of the soundtrack had a stronger positive influence on the attitudes of HTF participants ($M_{\text{pleasant}} = 5.97$ vs. $M_{\text{unpleasant}} = 4.33$; $F(1, 48) = 11.73$, $p < .001$) than on the attitudes of LTF participants ($M_{\text{pleasant}} = 5.69$ vs. $M_{\text{unpleasant}} = 5.67$; $F < 1$), suggesting that attitudes toward the target were more influenced by feelings elicited by the commercial in the HTF condition than in the LTF condition.

Discussion

In this study, the pleasantness of the feelings elicited by a commercial was found to exert a stronger influence on attitudes toward the advertised target among participants who experienced high trust in their feelings than among participants who experienced low trust. This effect cannot be accounted for by difference in task involvement, which was not affected by our trust-in-feelings manipulation nor by demand characteristics, given that none of the participants guessed the study's real hypothesis. Instead, the results suggest that differences in momentary trust in feelings influenced the degree to which participants relied on their feelings to assess their attitude toward reading. Participants presumably relied more on their feelings toward the commercial when they were encouraged to trust their feelings in general than when they were encouraged to have lower trust in their feelings. Note that this difference in reliance on feelings across conditions occurred while both the representativeness of the feelings and their presumed relevance were held constant: (a) no participants were led to question the source of their feelings, and (b) the judgment task and dimension were held constant. The next two studies examine the downstream effects of trust in feelings on choice in two classic behavioral decision paradigms.

STUDY 3: TRUST IN FEELINGS AND THE "JELLY BEAN" RATIO BIAS

If momentary trust in feelings indeed changes the degree to which people rely on their feelings in judgment, it should not only moderate the influence of feelings on judgment (as was found in study 2) but also influence choices in situations

where affect is assumed to play a major role. To test this proposition, we chose a classic decision paradigm first developed by Epstein and his colleagues. In the original studies (Denes-Raj and Epstein 1994), participants were rewarded for drawing a red jelly bean from one of two bowls containing a mixture of red and white jelly beans. One bowl, the “larger bowl,” contained a larger absolute number but a smaller proportion of red beans (e.g., 7 out of 100), whereas the other bowl, the “smaller bowl,” contained a smaller absolute number but a larger proportion of red beans (e.g., 1 out of 10). The bowls therefore provided two competing cues for making the choice. On the one hand, the proportion of red beans was higher in the smaller bowl than in the larger bowl, which should statistically and logically favor the smaller bowl (a 10% chance vs. a 7% chance of picking a red bean). On the other hand, the absolute number of red beans was higher in the larger bowl than in the smaller bowl, which could intuitively favor the larger bowl (7 red beans vs. a single red bean). Denes-Raj and Epstein (1994) found that a substantial proportion of the participants chose to draw from the statistically and logically inferior larger bowl—a phenomenon the authors call the “ratio bias.” According to Epstein, this bias is evidence of an experiential system of judgment that relies on affect and feelings rather than logic and rules. Participants preferred to draw from the larger bowl because they felt that their chances were better where they could see a greater absolute number of red beans.

Epstein’s “jelly bean” paradigm provides a unique setting for testing the proposition that trust in feelings has meaningful downstream consequences on judgments and decisions because it puts the directional influence of feelings (the greater absolute number of red beans in the larger bowl) in direct opposition to objective statistical principles (the greater proportion of red beans in the smaller bowl). Based on Epstein’s explanation of the ratio bias, one would predict that the tendency to draw from the larger bowl in this paradigm would be stronger under high trust in feelings than under low trust in feelings.

Method

Ninety-five members of an online panel (71% women) were administered the same trust-in-feelings manipulation as in the previous studies. After a short filler task, these participants were shown a picture of two bowls: a smaller bowl containing 1 red and 11 white jelly beans (8.3% red) and a larger bowl containing 6 red and 74 white jelly beans (7.5% red). The ratio of red jelly beans contained in each bowl (1/12 and 6/80) was also indicated. Participants were asked to imagine that they were playing a game in which they would win \$5 if they drew a red jelly bean from either bowl and nothing if they drew a white jelly bean. They were then asked to choose which bowl they would pick from—this was the main dependent measure. Afterward, as a process measure of reliance on feelings, participants were asked to rate “how much did you choose the bowl based on your gut feeling” and “to what extent did you base your choice

on how right the bowl felt” on 7-point scales (1 = not at all, 7 = a lot; $\alpha = .89$).

Results and Discussion

As in the original study, a nontrivial proportion of participants (28%) chose to pick from the logically inferior larger bowl, thereby replicating the basic ratio bias. (In the original study, the proportion was even higher, which was likely due to the fact that in that study, the choices had real monetary consequences and involved actual bowls of jelly beans, whereas in our study, the choice was only hypothetical and was based on photographs, which should theoretically dampen the intensity of affective cues.) More importantly, however, this proportion was significantly higher in the HTF condition (41.5%) than in the LTF condition (22.2%; Wald $\chi^2 = 3.97$, $p < .05$). That is, higher momentary trust in feelings tended to amplify the ratio bias. In addition, as expected, participants reported relying more on their feelings to make their choice in the HTF condition ($M = 4.29$) than in the LTF condition ($M = 3.35$; $F(1, 92) = 5.24$, $p < .03$). Moreover, a mediation analysis confirmed that this variation in degree of reliance on feelings across conditions was indeed responsible for the difference in ratio bias across conditions (Kenny’s [2008] dichotomous Sobel test statistic = 1.64, one-tailed $p = .05$).

Overall, these findings suggest two important insights about the construct of trust in feelings. First, momentary trust in one’s feelings not only increases the self-reported use of feelings as a judgment criterion (study 1) and the weight of affective cues in persuasion (study 2), it can also have significant downstream consequences on people’s choices. Second, a high momentary trust in one’s feelings can trigger the choice of affectively seductive alternatives even when compelling statistical principles favor the other alternatives. In other words, a high trust in feelings can override the perceived information value of otherwise compelling inputs. Together, these two insights suggest that a high trust in feelings is more than a mere prompt to rely on feelings: instead, it fundamentally changes the perceived information value of feelings in judgments and decisions. One could argue, however, that study 3’s findings are not particularly revealing because the choice task was only hypothetical and the decisions were therefore not really consequential. As shall be shown in study 4, similar effects are obtained even when choices are real and have clear financial consequences.

STUDY 4: TRUST IN FEELINGS AND RESPONSES TO FAIR AND UNFAIR OFFERS IN THE ULTIMATUM GAME

The purpose of study 4 was to investigate the effects of trust in feelings in a different decision paradigm where feelings and emotions have been assumed to play an important role: the classic ultimatum game (Guth, Schmittberger, and Schwarze 1982), in which two players have to split a sum of money. One player, the proposer, makes an offer that the

other player, the responder, either accepts or rejects. If the responder accepts the offer, the money is split accordingly; if the responder rejects the offer, both players receive nothing. According to standard economic theory, it is in the responder's interest to accept any nonzero offer, because rejection would leave both players financially worse off. However, many studies have shown that offers substantially below a 50% split are often rejected (Camerer 2003). Such low offers (e.g., 15% of the whole pie) clearly trigger a conflict between the responder's short-term material interest, which pushes toward accepting the offer (earning 15% by accepting is better than earning nothing if rejecting), and general norms of fairness, which push toward rejecting the offer (a 15/85 distribution is highly inequitable). However, two different accounts of this conflict have been advanced in the literature.

According to the standard account, this conflict pits "cognitive" considerations of material self-interest against emotional feelings of anger toward the proposer who made the unfair offer (Andrade and Ariely 2009; Pillutla and Murnighan 1996; Sanfey et al. 2003). However, according to an alternative account, this conflict pits an emotional impulse to accept the offer (out of "greed") against a more cognitive appraisal of the offer's unfairness (Knoch et al. 2006). Both accounts implicate a major role of feelings in driving responses to unfair ultimatum offers. However, whereas the standard account views this role as contributing to "angry" rejections of unfair offers, Knoch et al.'s (2006) alternative account views this role as contributing to "greedy" acceptances of unfair offers. Therefore, these two accounts offer competing predictions about how a high trust in feelings would influence responses to ultimatum offers. According to the standard account, a high trust in feelings should increase the probability of rejecting unfair offers, without affecting acceptance of fair offers that should not elicit anger. However, according to Knoch and colleagues' account, a high trust in feelings should increase the probability of accepting both fair and unfair offers because it should accentuate the responder's "greedy" impulse.

Method

Seventy students who had completed either the HTF or LTF version of the trust-in-feelings manipulation played the role of responders in the ultimatum game. Participants were led to believe that they were playing against a real-life person, although the proposer was in fact computer simulated (in order to control the size of the offers). All participants played the ultimatum game twice, supposedly against different proposers. In one game they received a relatively fair offer of 40% of a \$10 pie; in the other game they received a relatively unfair offer of 20% of a \$10 pie. The order of the games was counterbalanced across participants, and participants were actually compensated based on their decisions to accept or reject the offers, making the games incentive compatible. The dependent measure was participants' acceptance or rejection of the offers.

Results and Discussion

A 2 (trust in feelings) \times 2 (offer size: 40% vs. 20%) mixed logistic regression analysis of participants' responses revealed a main effect of offer size ($\chi^2 = 20.31, p < .001$), indicating that participants were more likely to accept relatively fair offers (85.71% acceptance) than unfair offers (40% acceptance). More importantly, there was a significant trust-in-feelings by offer-size interaction ($\chi^2 = 36.27, p < .001$). As illustrated in figure 1, when the offer was unfair (20% of the pie), participants were much more likely to reject the offer under high trust in feelings (28.1% acceptance) than under low trust in feelings (50.0% acceptance, $p = .013$). In contrast, when the offer was relatively fair (40% of the pie), there was no significant difference in the likelihood of acceptance of the offer across trust-in-feelings conditions (HTF: 81.3% acceptance vs. LTF: 89.5% acceptance, $p = .13$).

In summary, a high trust in feelings amplifies the tendency to reject unfair offers but does not affect the probability of accepting fair offers. This pattern of findings seems to support the standard account of primary emotional responses to unfair offers in the ultimatum game. That is, when receiving an unfair ultimatum offer, the dominant emotional response is an angry one that pushes toward rejection of this offer, rather than a greedy one that pushes toward acceptance. In addition, the findings demonstrate that a high trust in feelings can have meaningful downstream consequences on incentive-compatible choices, even in an environment where feelings contradict compelling economic arguments. A high trust in feelings pushes decision makers to do whatever "feels right," even if it is against their immediate material self-interest.

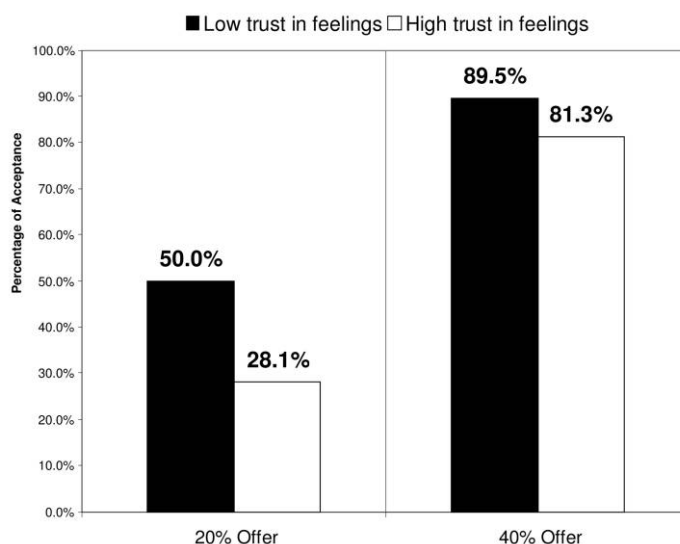
Given that trust in feelings clearly influences reliance on feelings in judgments and decisions (as demonstrated in the first four studies), the final two studies examine potential boundary conditions of this phenomenon. Specifically, study 5 examines how trust in feelings operates under high versus low relevance of feelings, whereas study 6 examines how trust in feelings operates under high versus low processing resources. Examining these boundary conditions should clarify how trust in feelings governs the perceived information of feelings in judgment.

STUDY 5: TRUST VERSUS RELEVANCE AS DETERMINANTS OF THE RELIANCE ON FEELINGS

Given that trust in feelings is conceptualized as a belief in the information value of feelings in general—one that is posited to be independent of the task—an important question is how this construct operates in combination with other determinants of the information value of feelings. Within the consumer literature, a number of studies have shown that an important determinant of the perceived information value (or diagnosticity) of feelings is their relevance for the specific judgment to be made (Pham 1998; see also Adaval

FIGURE 1

STUDY 4: EFFECT OF TRUST IN FEELINGS ON RESPONSES TO ULTIMATUM OFFERS



2001; White and McFarland 2009). This fifth study examines the degree of reliance on feelings under four combinations of trust in feelings and relevance of feelings: (a) when people have low trust in feelings in general, and feelings are not relevant for the specific judgment to be made; (b) when people have high trust in feelings in general, but feelings are not relevant for the specific judgment to be made; (c) when people have low trust in feelings in general, but feelings are relevant for the specific judgment to be made; and (d) when people have high trust in feelings in general, and feelings are relevant for the specific judgment to be made.

Four patterns of interaction between trust in feelings and relevance of feelings are plausible. First, it could be that the relevance of feelings is a more dominant determinant of the perceived information value of feelings: if feelings are relevant, they are used regardless of whether people trust them, and if feelings are irrelevant, they are ignored regardless of whether people trust them. Second, it could be alternatively that it is trust in feelings that is the more dominant determinant of the perceived information value of feelings: if trust in feelings is high, feelings are relied upon regardless of their relevance, and if trust in feelings is low, feelings are ignored regardless of their relevance. Third, it could be that neither trust nor relevance of feelings dominates the other and that both high trust in feelings and high relevance of feelings are necessary for feelings to be perceived as diagnostic and to be used in judgment. Finally, it could be that neither trust nor relevance of feelings dominates the other and that either high trust in feelings or high relevance of feelings is sufficient for feelings to be perceived as diagnostic and to be used in judgment. It is difficult to predict

a priori which of these four patterns is likely to emerge based on the existing literature. However, as shall be seen, the data seem to support the fourth pattern of interaction.

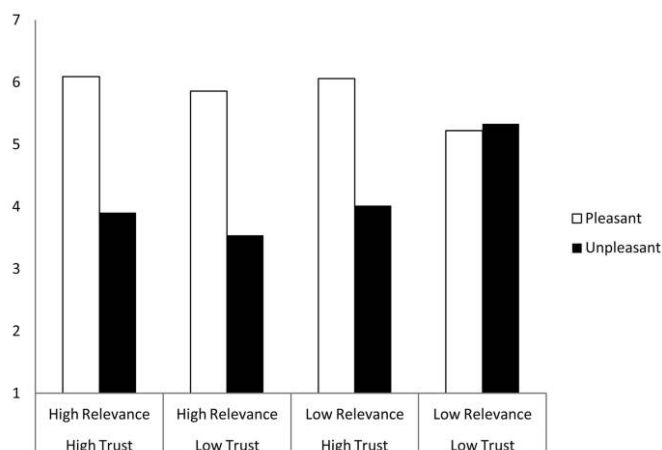
In this study, participants were asked to evaluate whether they would recommend that their best friend meet a target person who was described in a newspaper article. Three factors were manipulated. The first factor was trust in feelings. The second factor was how participants felt toward the target person, which was manipulated by the content of the article. The third factor was the perceived relevance of these feelings, which was manipulated by varying the motive underlying the recommendation. Previous studies have shown that feelings toward a target person are perceived to be more relevant in the context of a potential date with this person than in the context of a project to be completed with the same person (Pham and Avnet 2009; Pham, Meyvis, and Zhou 2001). Therefore, in one condition, the potential meeting between the friend and the target was framed as a date, whereas in the other condition, the potential meeting was framed as an opportunity to gather information for a term paper.

Method

Participants and Design. After completing the trust-in-feelings manipulation, followed by a short filler task, 125 female members of an online panel were asked to complete a task cast as an impression formation study. The task was based on instructions and stimuli previously tested by Pham et al. (2001; see also Pham and Avnet 2009). Participants were asked to read an approximately 400-word newspaper article about a target person, a young man named Matthew.

FIGURE 2

STUDY 5: THE MODERATING EFFECT OF TRUST IN FEELINGS AND AFFECT ON RECOMMENDATION CONTINGENT ON RELEVANCE



The article described an interview meeting between the author and Matthew, a university student who served on the city's traffic management committee. The overall structure of the article was the same across conditions, whereby the target was described as a very good student who had many friends and was polite and friendly. However, several sentences were varied to manipulate how affectively pleasant or unpleasant the target appeared. In one condition, the target was made more affectively pleasant by a description of him as energetic, charming, and having a contagious sense of humor. In the other condition, the target was made less affectively pleasant by a description of him as a late riser who was unkempt and lived in a filthy apartment. Previous studies have shown that this affect manipulation influenced participants' affective feelings toward the target without changing their perceptions of how competent the target was (Pham et al. 2001; Pham and Avnet 2009).

The perceived relevance of participants' feelings toward the target was manipulated by varying their motives for reading the article and evaluating the target. In the high-feeling-relevance condition, participants were told to imagine that Matthew had expressed a romantic interest in their best female friend, who was a student at the same university. They were asked to read the article to evaluate Matthew as a potential date for their friend. In the low-feeling-relevance condition, participants were told to imagine instead that their best friend needed to write a term paper on public policies designed by committees. They were asked to read the article to evaluate whether Matthew would be able to help their friend with the term paper. The main dependent variable was participants' recommendation of whether their friend should meet the target, which was measured by three 7-point items anchored at "not a good idea/very good idea,"

"my friend would like it/not like it," and "I would never/definitely recommend him" ($\alpha = .93$).

Results

Participants' recommendations were submitted to a 2 (trust in feelings) \times 2 (target affect) \times 2 (feeling relevance) ANOVA. A main effect of target affect indicated that recommendations were more favorable in the pleasant-affect condition ($M = 5.82$) than in the less-pleasant-affect condition ($M = 4.13$; $F(1, 124) = 47.96, p < .0001$), as would be expected. A target affect \times affect relevance interaction also emerged ($F(1, 124) = 7.71, p = .006$). Consistent with previous findings (Adaval 2001; Pham 1998; Yeung and Wyer 2004), the simple effect of target affect was greater in the high-feeling-relevance (date) condition ($M_{\text{Pleasant}} = 6.00$ vs. $M_{\text{Less pleasant}} = 3.71$; $F(1, 124) = 52.23, p < .0001$) than in the low-feeling-relevance (term paper) condition ($M_{\text{Pleasant}} = 5.57$ vs. $M_{\text{Less pleasant}} = 4.61$; $F(1, 124) = 7.61, p < .008$). A target affect \times trust-in-feelings interaction also emerged ($F(1, 124) = 4.70, p = .03$). Consistent with the first four studies' findings, the simple effect of target affect was greater in the high-trust condition ($M_{\text{Pleasant}} = 6.08$ vs. $M_{\text{Less pleasant}} = 3.96$; $F(1, 124) = 49.89, p < .0001$) than in the low-trust condition ($M_{\text{Pleasant}} = 5.50$ vs. $M_{\text{Less pleasant}} = 4.32$; $F(1, 124) = 9.41, p < .003$).

More importantly, there was a three-way interaction among target affect, feeling relevance, and trust in feelings ($F(1, 124) = 6.04, p = .01$). As illustrated in figure 2, participants' recommendations were influenced by their affect toward the target under three of the possible four combinations of trust in feelings and affect relevance: (1) when relevance was high and trust was high ($F(1, 124) = 33.86, p = .0001$),

(2) when relevance was high and trust was low ($F(1, 124) = 16.80, p = .0003$), and (3) when relevance was low and trust was high ($F(1, 124) = 18.68, p = .0002$). The only combination under which affect toward the target did not influence recommendations was when both affect relevance and trust in feelings were low ($F < 1$). This pattern of results is consistent with the idea that neither trust in feelings nor affect relevance dominates the other in determining the perceived diagnosticity of feelings. Instead, either high trust in feelings or high relevance of feelings seems to be sufficient for feelings to be perceived as diagnostic and to be used in judgment.

Discussion

The results replicate the first four studies' finding that feelings toward the target have greater influence on its evaluation under high trust in feelings than under low trust in feelings; they also replicate the standard finding that affect toward the target has a stronger influence on its evaluation under high relevance than under low relevance. More importantly, the results shed some light on how trust in feelings and affect relevance interact in determining the perceived information value of feelings. It appears that neither trust in feelings nor affect relevance dominates the other as a determinant of the diagnosticity of feelings. Instead, for feelings to be considered diagnostic and be relied upon, it seems that either a high trust in feelings or a high relevance of feelings is sufficient. Overall, the results are consistent with the notion that trust in feelings and relevance of feelings are distinct and equally important determinants of the perceived information value of feelings.

STUDY 6: PROCESSING RESOURCE REQUIREMENTS OF TRUST IN FEELINGS

The previous studies clearly indicate that momentary trust in one's feelings, independent of their representativeness and relevance, is an important determinant of the reliance on feelings in judgment. Moreover, as observed in study 5, trust in feelings moderates the reliance on feelings even when feelings have relatively low relevance for the judgment at hand. However, it is not clear whether trust in feelings operates in a fairly spontaneous manner or in a more controlled fashion. It could be that beliefs that one's feelings are to be trusted or not trusted guide the reliance on feelings in a somewhat mechanical way, without much conscious deliberation. Alternatively, it could be that the process involves a more conscious evaluation whether to trust or not trust one's feelings. The purpose of this final study was to disentangle these two possibilities using a classic test of whether a process is rather automatic or more controlled: the sensitivity of this process to the availability of processing resources.

Participants were asked to evaluate a book from a synopsis. Three factors were manipulated. The first factor manipulated participants' momentary trust in their feelings, as in the previous studies. The second factor manipulated participants' feelings by varying their preexisting mood state.

The third factor manipulated the availability of processing resources by varying participants' cognitive load during the judgment task. If trust in feelings operates in a fairly spontaneous and mechanical way, we would expect it to moderate the reliance on feelings independent of the amount of processing resources available. That is, under both conditions of high and low cognitive loads, participants would be more influenced by their preexisting mood under high trust in feelings than under low trust. If, on the other hand, trust in feelings operates in a more controlled and conscious fashion, we would expect it to moderate the reliance on feelings when sufficient processing resources are available (i.e., under low cognitive load) but not when processing resources are insufficient (i.e., under high cognitive load).

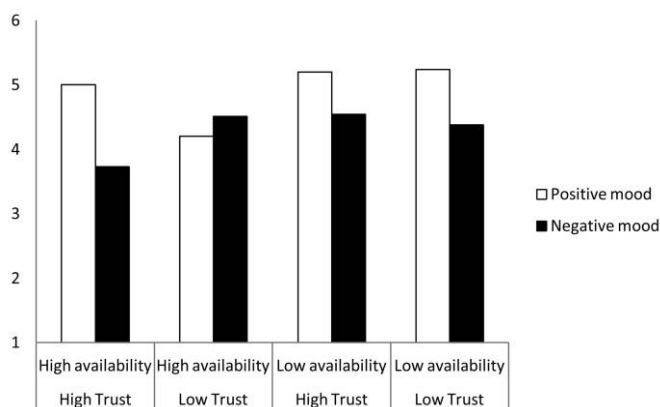
Method

A total of 139 student participants were randomly assigned to the conditions of a 2 (pleasant vs. unpleasant mood) \times 2 (trust in feelings) \times 2 (resource availability) between-subjects design. They were told that they would be taking part in five supposedly unrelated studies. The first study manipulated participants' trust in their feelings as in the previous studies. The second study manipulated participants' feelings by varying their mood state. Under the guise of studying people's ability to grasp the essence of TV programs from short excerpts, participants were shown two video clips and instructed to try to understand the gist of the programs from which the clips were taken. The first clip was affectively neutral and constant across conditions. Its purpose was to reinforce the cover story and make the manipulation of mood (introduced in the second clip) less blatant. After viewing the first clip, participants completed a series of comprehension-related questions. The second clip differed across mood conditions. In the positive-mood condition, the clip was a 7-minute excerpt from a stand-up comedy performance. In the negative-mood condition, it consisted of 7 minutes of edited scenes from a movie about a child stricken by a terrible disease. After viewing the second clip, participants completed another set of comprehension-related questions to further reinforce the cover story. A pretest had shown that participants' mood was more positive after exposure to the positive-mood version of the stimuli ($M = 5.24$) than after exposure to the negative-mood version of the stimuli ($M = 4.16; F(1, 28) = 4.59, p < .04$).

After going through the mood-induction procedure, participants completed a filler task presented as a third study. The fourth study manipulated participants' resource availability. Under the guise of a study on memory, participants were asked to memorize either a two-digit number (high resource availability) or a seven-digit number (low resource availability) that appeared on their computer screen for 10 seconds and then continue to the next study. The main evaluation task was introduced in the final study. Participants were shown a one-page description of a nonfiction book and asked to evaluate it as if they were considering buying it for themselves. Their evaluations were collected on five 7-point items (anchored at "good/bad," "favorable/unfavorable").

FIGURE 3

STUDY 6: THE MODERATING EFFECT OF TRUST IN FEELINGS AND MOODS ON EVALUATIONS
CONTINGENT ON RESOURCES AVAILABILITY



ble,” “like/dislike,” “interesting/not interesting,” and “worth buying/not worth buying”; $\alpha = .90$). As a check for the resources availability manipulation, participants were then asked to report the number that they were instructed to memorize. They also rated (a) how “busy” they were trying to remember the number while answering the evaluation questions and (b) how difficult it was on two 7-point items ($\alpha = .61$). Finally, before debriefing, participants underwent a procedure designed to remove any negative mood.

Results and Discussion

Preliminary Analyses. All participants were able to report correctly the number they were asked to remember. As expected, self-reports of cognitive busyness were higher in the limited-resource-availability condition ($M = 3.76$) than in the high-resource-availability condition ($M = 1.77$; $F(1, 129) = 81.51, p < .0001$). When probed, no participant showed evidence of having guessed the hypotheses of the study.

Book Evaluations. A three-way ANOVA of participants’ evaluations of the book uncovered a main effect of mood showing that evaluations were more favorable in the positive-mood condition ($M = 4.88$) than in the negative-mood condition ($M = 4.27$; $F(1, 131) = 7.30, p < .01$). A main effect of processing resources indicated that evaluations were slightly less favorable in the high-resource-availability condition ($M = 4.35$) than in the low-resource-availability condition ($M = 4.84$; $F(1, 131) = 4.55, p < .04$). More importantly, as illustrated in figure 3, there was a significant three-way interaction among mood, trust in feelings, and resource availability ($F(1, 131) = 3.99, p < .05$). When resources were more available, trust in feelings interacted with mood ($F(1, 131) = 6.57, p < .01$). Specifically, participants’ moods were more influential in the high-trust con-

dition ($M_{\text{positive}} = 5.00$ vs. $M_{\text{negative}} = 3.73$; $F(1, 131) = 8.19, p < .005$) than in the low-trust condition ($M_{\text{positive}} = 4.18$ vs. $M_{\text{negative}} = 4.52$; $F < 1$). In contrast, when resources were less available, there was no trust-in-feelings by mood interaction ($F < 1$). Instead, there was only a simple main effect of mood showing that evaluations were more favorable in the positive-mood condition ($M = 5.22$) than in the negative-mood condition ($M = 4.45$; $F(1, 131) = 5.39, p < .03$), regardless of the level of trust in feelings.

The results thus indicate that for trust in feelings to moderate the influence of feelings on judgment, sufficient processing resources must be available. When processing resources are insufficient, feelings tend to influence judgment regardless of how much people trust them (i.e., even when trust in feelings is low). This pattern of results seems to suggest that trust in feelings does not operate in an automatic manner but rather in a more controlled fashion.

GENERAL DISCUSSION

Trust as a Distinct Determinant of the Information Value of Feelings

Starting with Schwarz and Clore’s (1983) seminal studies, a considerable body of evidence in the affect-as-information literature has shown that the reliance on feelings in judgment tends to be selective and depends in large part on perceived informative value or diagnosticity of the feelings. While the perceived information value of feelings was once posited to be a single unitary construct, subsequent research has shown that two different facets of this construct need to be distinguished: the perceived representativeness of the feelings with respect to the target to be evaluated, and the perceived relevance of the feelings with respect to the judgment to be made (Pham 1998). The present research identifies a third facet of this construct: the person’s trust in feelings in gen-

eral. Unlike representativeness, which is target specific, and relevance, which is judgment and goal specific, trust in feelings is conceptually person specific. That is, across targets and tasks, certain individuals have a stronger belief than other individuals that their feelings will generally point them in the right direction. These individual differences in trust in feelings are not fixed personality traits but, rather, recurring tendencies that are somewhat malleable, because they arise from the person's subjective history of success or failure in reliance on feelings as well as from surrounding social and cultural norms.

Evidence of the role of trust in feelings as a distinct determinant of the information value of (and reliance on) feelings was found across six different studies. Study 1 shows that experimentally induced variations in perceived history of success when relying on feelings in judgment influence the degree to which people believe that their feelings provide trustworthy information in various judgment domains. Study 2 shows that differences in momentary trust in feelings influence the degree of reliance on ad-induced feelings when forming attitudes toward advertised targets. Additional results indicate that variations in momentary trust in one's feelings have significant downstream consequences on people's choices. Study 3 shows that in Epstein's classic "jelly bean" paradigm, high trust in feelings increases the tendency to choose the affectively seductive but statistically inferior option over the less affectively appealing but statistically superior option. Similarly, study 4 shows that in the classic ultimatum game, high trust in feelings amplifies the tendency to reject unfair offers—an emotionally driven response that most economists consider rationally inferior—but does not affect the probability of accepting fair offers. Together, these two studies suggest that high trust in feelings encourages choices that "feel right" even in the presence of compelling inputs that favor an opposite response.

Study 5 suggests that neither trust in feelings nor affect relevance dominates the other as determinants of the diagnosticity of feelings. Instead, for feelings to be considered diagnostic and be relied upon, either a high trust in feelings or a high relevance of feelings seems sufficient. Trust in feelings and relevance of feelings are therefore distinct and equally important determinants of the perceived information value of feelings. Finally, study 6 shows that sufficient processing resources need to be available for trust in feelings to moderate the influence of feelings on judgment. When processing resources are insufficient, feelings tend to influence judgment regardless of how much people trust them (i.e., even when trust in feelings is low). This finding suggests that trust in feelings does not operate in an automatic manner but rather in a more controlled fashion.

One may wonder whether, in our studies, the manipulation of trust in feelings might have moderated the reliance on feelings not by altering participants' perceptions of the trustworthiness of their feelings, but by changing the way participants processed information. In particular, the easy task of generating two examples of successful reliance on feelings may have triggered a more heuristic form of pro-

cessing, which tends to increase the reliance on feelings in judgment (Forgas 1995; Greifeneder et al. 2011), whereas the more difficult task of generating 10 such examples may have triggered a more systematic mode of judgment, which tends to decrease the reliance on feelings. Three sets of findings suggest that this was not the case. First, in study 1 it was found that the trust-in-feelings manipulation not only changed the reliance on feelings as input, it also changed the perceived trustworthiness of feelings in general. Second, in every study, participants' self-reported involvement with the task—a strong correlate of heuristic versus systematic processing—was unaffected by the trust-in-feelings manipulation. Finally, the trust-in-feelings manipulation had similar effects on decisions regardless of whether the decision was only hypothetical, as in study 3, or had genuine financial consequences, as in study 4.

An interesting question pertains to the conditions that promote a spontaneous assessment of how much one trusts one's feelings. We believe that such an assessment is likely to arise in situations where people are unsure about whether they should rely on their feelings in a given judgment. One such situation is when feelings are not clearly relevant for the judgment to be made. In study 5, it was found that how much participants trusted their feelings in general was a more influential determinant of the reliance on feelings when feelings were not relevant for the judgment to be made than when feelings were clearly relevant. This finding seems to suggest that when feelings are clearly relevant for the judgment at hand, people tend to rely on their feelings without considering the trustworthiness of their feelings in general. A second situation is when the person faces conflicting signals from his or her feelings and from other bases of judgment. For example, in Epstein's "jelly beans" paradigm, subjective feelings of chance are presumably more sensitive to the absolute number of red jelly beans, which is greater in the larger bowl than in the smaller bowl, whereas actual probability of winning is logically determined by the proportion of red versus white jelly beans, which is greater in the smaller bowl than in the larger bowl. This paradigm puts feelings in direct opposition with a compelling alternative input: the proportion of beans in the two bowls. Study 3 showed that participants were more likely to follow their feelings and choose from the larger bowl when they were led to trust their feelings than when they were led to distrust their feelings. This finding is consistent with the idea that trust is particularly likely to be considered in situations of conflicting signals between feelings and alternative bases of judgment. More direct support for this idea was found in study 4, where it was observed that trust in feelings affected the probability of rejecting unfair offers, which create a conflict between feelings of anger and material considerations, but did not affect the probability of accepting fair offers, which do not create such a conflict. Although this prediction remains to be tested, a third type of situation may arise when alternative relevant bases of judgment do not yield clear evaluative conclusions (see Feldman and Lynch 1988). For example, mixed financial

news about a company may prompt investors to assess the trustworthiness of their feelings as a guide for their investment decisions (see Pham, Lee, and Stephen [2012] for related results on trust in feelings in stock market predictions).

Besides documenting the distinct role of trust in feelings in judgment, the findings help refine our understanding of the information value of feelings in judgment. As a potential foundation for future research, we conclude this paper by outlining a tentative model of how trust in feelings interacts with other determinants of the perceived diagnosticity of feelings in judgment.

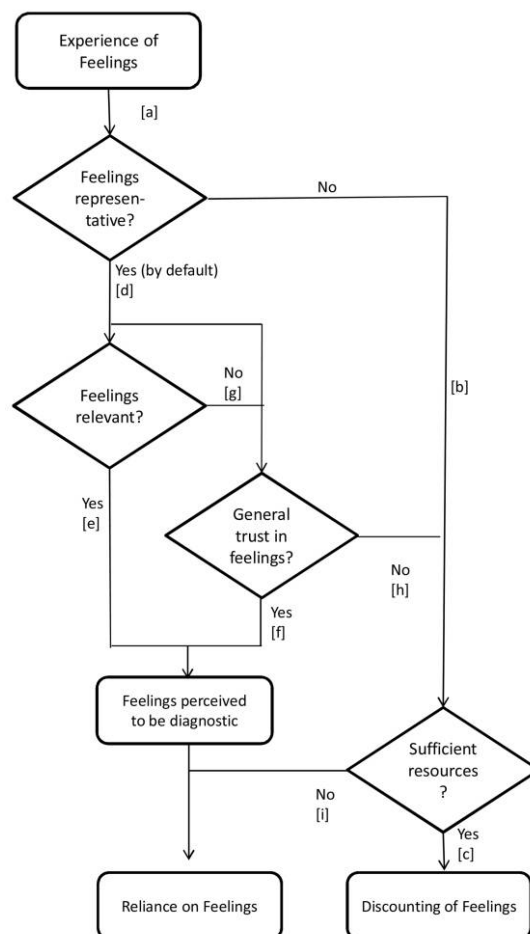
Feelings as Information: A Refined Model

Based on our studies' findings and other existing empirical and theoretical evidence, the reliance on feelings as information could be modeled as depicted in figure 4. According to this model, the reliance on feelings as information necessarily requires an initial experience of feelings during judgment (see [a] in fig. 4). As originally demonstrated by Schwarz and Clore (1983), whether these experienced feelings will be relied upon in judgment depends first on their perceived representativeness of the target. By default, people tend to assume that the feelings that they experience while evaluating a target are to be attributed to (representative of) this target (Schwarz 1990; see [d]). However, if there is a plausible alternative explanation for the feelings, people will tend to discount them during judgment ([b] + [c]), as shown in numerous feelings-as-information studies (see Greifeneder et al. 2011 for a review). Such a discounting requires sufficient processing resources to correct for the unwanted influence of the nonrepresentative feelings (Albarracín and Kumkale 2003; see also Wilson and Brekke 1994). If processing resources are insufficient, even unrepresentative feelings will tend to enter judgment ([i]), as is often observed in studies of "peripheral" effects of incidental moods on persuasion (Albarracín and Wyer 2001; Petty et al. 1993).

For feelings to be considered diagnostic and relied upon as information, it is not sufficient that they be representative; they additionally need to be perceived as diagnostic in at least one other respect: either because of a high relevance for the judgment to be made or because of a high trust in feelings in general. As observed by Pham (1998) and many other studies (e.g., White and McFarland 2009), representative feelings that are relevant for the judgment at hand will generally be perceived to be diagnostic ([e]) and, as a result, be relied upon in judgment, whereas feelings that are not perceived to be relevant generally will not be relied upon. In addition, as shown by our studies (studies 1–4), representative feelings may be seen as informative if the person trusts his or her feelings in general ([f]). As found in study 5, a high trust in feelings increases the reliance on feelings regardless of the relevance of the feelings, that is, even when feelings have low relevance ([g]). According to the results of study 6, it appears that taking into account the general trustworthiness of one's feelings requires significant processing resources ([h]). In particular, when resources are

FIGURE 4

A REFINED MODEL OF FEELINGS AS INFORMATION



sufficient, a low trust in feelings tends to result in an exclusion of the feelings from judgment ([h] + [c]), whereas when resources are insufficient, feelings tend to be included in the judgment even when trust is low ([h] + [i]).

Our tentative model implies several distinct propositions. First, unlike the representativeness of feelings, which is generally assumed to be "high" by default and is corrected if necessary (Schwarz 1990), the relevance of feelings and the general trust in feelings do not have default values. That is, the perceived relevance of the feelings and the person's trust in feelings in general both involve symmetric assessments that, in theory, are equally likely to yield "high" or "low" values. Therefore, the relevance and trust constructs do not operate by the simple exclusion of nondiagnostic feelings—as representativeness does—but also by the inclusion of diagnostic feelings. In study 5, it was found that when trust in feelings was low, feelings influenced judgment when they were relevant but not when they were not relevant. This

suggests that under a low trust in feelings, high perceived relevance may result in an inclusion of the feelings into the judgment, whereas a low perceived relevance may result in an exclusion of the feelings. It was also found that when the relevance of feelings was low, feelings influenced judgment when trust in feelings was high but not when trust in feelings was low. This similarly suggests that under low feeling relevance, a high trust may result in an inclusion of the feelings into the judgment, whereas a low trust may result in an exclusion of the feelings.

Second, according to our model, both representativeness and trust in feelings require significant processing resources to implement. In particular, people need significant processing resources to discount the influence of feelings that are either not representative (as shown by Albarracin and Kumkale 2003) or not trusted in general (as observed in study 6). In contrast, we speculate that assessments of relevance are less resource dependent. This is because there appears to be a great deal of flexibility in how much people rely on their feelings as a function of their relevance across judgments (Adaval 2001; Pham 1998; Raghunathan and Pham 1999; Yeung and Wyer 2004), including when resources are relatively limited (Pham, Geuens, and DePelsmaker 2012). We suspect that assessments of relevance of feelings are performed fairly spontaneously and relatively effortlessly.

A third proposition of our model relates to the necessity versus sufficiency of representativeness, relevance, and trust as determinants of the perceived diagnosticity of feelings. Although this speculation remains to be tested, we believe that for feelings to be perceived as diagnostic, it is necessary for them to be seen as representative of the target. If feelings are not regarded as representative, they will not be seen as informative, regardless of their perceived relevance for the judgment at hand, and regardless of how much the person trusts his or her feelings in general. In contrast, as observed in study 5, both a perceived relevance of feelings and a high trust in feelings seem to be sufficient conditions for feelings to be seen as diagnostic (assuming that they are representative).

Although only tentative, our model suggests that the information value of feelings in judgment is more complex than originally posited in early affect-as-information research. In particular, the diagnosticity of feelings is assessed with much greater flexibility than suggested by early conceptualizations of affect as information, which defined the diagnosticity of feelings only in terms of representativeness. More generally, we believe that the construct of trust in feelings has important implications for our understanding of the broader role of affect and feelings in judgments and decisions. For instance, recent findings suggest that a high trust in feelings increases the ability to predict the outcome of future events (Pham, Lee, and Stephen 2012) and the ability to make optimal offers in the ultimatum game (Stephen and Pham 2008). Future research may identify additional substantive and theoretical implications of people's trust in their feelings.

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