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# When it pays to be clear: the appeal of concrete communication under uncertainty

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## ABSTRACT

This research demonstrates that the persuasiveness of concrete versus abstract communication in advertisers' promotional messages depends on how (un)certain people feel. Three lab experiments and one study conducted in a natural setting provide converging evidence that uncertainty (versus certainty) increases the appeal of products advertised concretely (i.e. more specific, tangible, less open to interpretation) rather than abstractly, while keeping content similar. We demonstrate the effect across different types of uncertainty, product ads and slogans, three different languages, and a range of products, increasing the external validity of the findings. The results indicate that the effectiveness of concrete communication is critically determined by the level of (un)certain people experience, which provides important insights for advertisers and communication officers.

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## KEYWORDS

Uncertainty; language concreteness; persuasive communication; advertising context

## Introduction

When communicating to people, advertisers, policy makers, and communication officers can frame their messages in a more concrete or abstract manner (Massara, Scarpi, and Porcheddu 2020; Feldman, Bearden, and Hardesty 2006). Consider for example public service announcements to persuade people to comply with COVID-19 regulations during the early stages of the pandemic: some messages were more concrete (i.e. more tangible, specific, and less open to information, Packard and Berger 2021), such as 'Keep 6 feet between you and others', and others more abstract, such as 'Continue social distancing' (CDC, USA). But which of both message strategies is most effective? Prior (advertising) research provides conflicting evidence to this question, with some studies favoring concrete information (e.g. Feldman, Bearden, and Hardesty 2006; Packard and Berger 2021), and others favoring abstract information (e.g. De Angelis et al. 2017; Gurzki, Schlatter, and Woisetschläger 2019). Here we propose that

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level of uncertainty is an important moderator of whether a concretely or abstractly phrased ad is more persuasive.

Uncertainty is a fundamental aspect of human life and can be evoked through a range of situations. People can for instance feel uncertain when societal or personal events occur (e.g. financial crisis, pandemic) for which it is difficult to predict what their outcome will be and how they will affect their future lives (e.g. will my money still be save in the bank?; Milliken 1987; Van Horen and Mussweiler 2014). Uncertainty can also be activated when people do not know what is the best decision to make, because they have too little or too much information (e.g. will this new vacuum cleaner perform well?; Lipshitz and Strauss 1997). How should advertising messages be framed to increase ad persuasiveness under uncertainty? This is a timely question in advertising, specifically because of the many different communication channels in which advertising messages can be framed (Chang and Lee 2010), the omnipresent media coverage of uncertainty provoking events (Yoon and Hernández 2021), and the important and often decisive role of advertising during consumer decision making (Byzalov and Shachar 2004)

The present research provides robust causal evidence – for advertising in retailing and during a sports event –, showing that concrete, rather than abstract, communication is especially persuasive when people experience uncertainty. The findings contribute to our understanding of advertising context effects (e.g. Moorman, Neijens, and Smit 2007; Chang and Lee 2010), and in particular of how (un)certainly influences ad persuasiveness. It highlights how ad message concreteness should be matched with the level of (un)certainly activated by the advertised product itself or in the media context in which the ad is embedded (e.g. in newspapers, television, YouTube channels). This research complements previous findings illustrating how the effectiveness of the framing of an advertising message (concrete vs. abstract) is moderated by self-concept (ideal vs actual self; Kim, Yoo, and Lee 2018) or advertising style (product-based versus lifestyle-building; Massara, Scarpi, and Porcheddu 2020) and adds validity to related findings about advertising message concreteness and cross-cultural differences in uncertainty avoidance (Kim and Bae 2016). The practical contribution of this work rests on our recommendation for creating effective ad copy by showing that concrete product ads and slogans are especially persuasive when people feel uncertain.

### ***Message concreteness and uncertainty***

Language can differ in its level of concreteness (Semin and Fiedler 1988), and advertisers typically make use of both types of language (Feldman, Bearden, and Hardesty 2006; Gurzki, Schlatter, and Woisetschläger 2019). For example, a razor may be described as a ‘laser-sharp’ (concrete) or a ‘high quality’ (abstract) razor. In the literature, a concrete persuasive message has been defined as being more specific, tangible, and contextualized, whereas an abstract message as more vague, general, intangible, and decontextualized (e.g. Brysbaert, Warriner, and Kuperman 2014; Packard and Berger 2021; Semin and Fiedler 1988). In addition, while concrete communication is less open for interpretation and more precise, abstract communication is more open for interpretation and more difficult to verify. Finally, passive, rather than active

voice, is more often used in abstract communication, as passive voice is perceived as more distant and construed at a higher level (Chan and Maglio 2019; Hansen and Wänke 2010). We argue that the persuasiveness of concrete versus abstract communication is importantly influenced by the level of uncertainty people experience.

### ***Why concrete communication is persuasive under uncertainty***

There are at least three conceptual perspectives about the way in which people respond to feelings of uncertainty, which may explain how uncertainty increases the appeal of concrete communication. First, feelings of uncertainty make people process information more systematically, increasing the depth of information search (Weary and Jacobson 1997). For example, when people experienced uncertainty, they relied less on a heuristic authority cue, and were only convinced by strong, but not by weak, arguments in persuasive messages, in contrast to people who felt more certain (Tiedens and Linton 2001). In addition, research showed that concrete statements were judged as more true than abstract statements, even when no details were added, and the statements varied merely in their linguistic properties (Hansen and Wänke 2010). It is therefore likely that concrete language is more persuasive when processing information with more scrutiny as people do under uncertainty.

Second, when facing uncertainty, people tend to shift their attention to the lower-level details or means of an action (Trope and Liberman 2010; Vallacher and Wegner 1987). A certain situation, on the other hand, makes people adopt a more general, higher-level processing style. According to construal level theory (Trope and Liberman 2010), concrete communication fits the lower-level cognitive thinking style better, as such messages include more specific, contextual information, and subordinate features. The opposite holds true for abstract communication fitting the higher-level cognitive thinking. When people encounter information that matches with their state of cognitive processing, this information is processed more easily and with greater confidence, which positively impacts evaluation as it 'feels right' (Avnet and Higgins 2006). Indeed, empirical findings show that concrete (abstract) advertising messages are associated with low (high) mental construal, which in turn positively affects persuasiveness (Massara, Scarpi, and Porcheddu 2020; Kim, Yoo, and Lee 2018).

Finally, when feelings of uncertainty are difficult to resolve, people cope with uncertainty using compensatory mechanisms (Mandel et al. 2017). People may be motivated to move away from the situation and shift their focus on cues that provide a feeling of security and predictability. Research has, for example, shown that under uncertainty people seek soft haptic sensations, shifting their preference to objects with soft (i.e. a soft-grip pen) rather than hard properties (i.e. a hard-grip pen; Van Horen and Mussweiler 2014). Uncertainty has also led to an increased need for order and structure, for instance through the perception of coherent and meaningful patterns in random stimuli (Whitson and Galinsky 2008) and through an increased preference for boundaries in the environment (i.e. organized shopping environments, Cutright 2012).

In a similar vein, concrete messages may provide a higher level of predictability than abstract messages do. Because concrete messages are more tangible and specific (Brysbart, Warriner, and Kuperman 2014; Semin and Fiedler 1988), it can help people

to form a clearer image of a situation or product. When people feel more certain, on the other hand, they may be better able to deal with ambiguity, and appreciate abstract communication as it is more open to interpretation. In line with this notion, individuals with a high level of chronic uncertainty avoidance (i.e. Koreans) found an ad with more concrete information more persuasive than an abstract one, whereas this effect was not found for individuals with a low level of uncertainty avoidance (i.e. Americans; Kim and Bae 2016). The effect was driven by perceived message clarity. It remains to be investigated, however, whether the effect transfers to uncertainty induced by the situation, rather than one's disposition, without adding more information (to make the message clearer and easier to understand).

These different lines of literature all point into the direction that people prefer concrete (abstract) communication when feeling uncertain (certain). We therefore hypothesize that:

H<sub>1</sub>: When feeling uncertain, as compared to certain, people evaluate a product in an advertisement more positively (show a higher willingness to buy and willingness to pay) when communicated concretely rather than abstractly.

### ***Different types of uncertainty***

As uncertainty can take many forms in human life, we will investigate additionally whether the hypothesized effect holds across different types of uncertainty. Relevant for advertising, we distinguish here between two types of uncertainty: uncertainty that is activated through external events (e.g. Ng, Faraji-Rad, and Batra 2021; Van Horen and Mussweiler 2014) and uncertainty activated through the decision task itself (Lipshitz and Strauss 1997). The first type of uncertainty may arise from economic, societal or personal events (financial crises, political upheaval, pandemics, the start of a new relationship) that are often difficult to predict because of the absence of reliable estimates (Arkin, Oleson, and Carroll 2013; Van Horen and Mussweiler 2014). This type of uncertainty is highly relevant for advertising, as people are nowadays, through societal events shown on television or through the editorial content of different (off- and online) media, regularly exposed to such uncertainty.

Uncertainty can also stem from the decision task itself. Such type of uncertainty arises for instance when people feel uncertain about the alternatives or options available and the utility of these alternatives (Jacoby, Olson, and Haddock 1971; Lipshitz and Strauss 1997). For example, if someone considers buying an unfamiliar bottle of wine for a dinner party, uncertainty could arise because one may not know how the wine will taste and how the guests will receive this type of wine. Then, decision makers do not know what the better choice is because they are missing sufficient information or because they do not know which information is relevant to use to come to a good decision. Such product uncertainty is increased when people are unfamiliar with the product, due to absence of prior product experience or ownership (Van Horen and Pieters 2013). Advertising can play an important role to guide people's decision making when feeling uncertain about what is the right decision to make (Byzalov and Shachar 2004).

No matter whether people are facing uncertainty due to events external to the decision context, or due to the advertised product itself, the activation of uncertainty

will have consequences for how they process information, which will in turn affect evaluation and purchase intentions.

H<sub>2</sub>: The positive effect of concrete (vs. abstract) language under uncertainty occurs independent of type of uncertainty.

## **Current research**

Three controlled lab experiments (one reported in the Web Appendix) and one study conducted in a naturalistic setting, document the appeal of concreteness under uncertainty. In the first study we activate (un)certainty through reading and writing about unpredictable societal, economical, and personal events upon which participants are asked to evaluate products advertised abstractly or concretely. In the second study uncertainty is activated in a naturalistic setting, a sports match, where people feel more uncertain about the outcome of the match before rather than after the match. In the last study uncertainty is activated through new and unfamiliar products. When products are novel and unfamiliar, they typically increase uncertainty, because the benefits and utility of purchasing such products are unknown (Jacoby, Olson, and Haddock 1971; Lipshitz and Strauss 1997).

We test the outlined predictions across different types of uncertainty (activated through external events or through the product itself), three languages (German, Dutch, and English), and several product categories (e.g. detergents, radio stations, cameras), using different populations (students, supporters of a sports match, Mturk workers) and types of persuasive communication (product ads and slogans), all attesting to the generalizability of the findings.

## **Study 1: uncertainty due to external events: lab Study**

Study 1 tests whether persuasiveness of concrete vs. abstract ads for four different products is moderated by the level of uncertainty. The persuasiveness of ads is strongly determined by the context in which the ad is embedded (be it the personal context of the consumer or the media context, such as in newspapers, on television, or YouTube channels). Therefore, (un)certainty is elicited outside of the decision task, by asking respondents to read and write about (un)certain societal, economic, and personal life events, a procedure regularly used in the literature (e.g. Mittal and Griskevicius 2014; Ng, Faraji-Rad, and Batra 2021). We predict that concrete (vs. abstract) product ads are evaluated more positively when feeling uncertain (vs. certain).

## **Method**

### **Participants and design**

One hundred and forty-one students from a large German university (127 women,  $M_{\text{age}} = 24.31$ ,  $SD = 5.05$ ) took part in the study in return for a coffee voucher or a chocolate bar. Participants were randomly assigned to a 2 (type of communication: concrete vs. abstract; between-subjects) x 2 (uncertainty: uncertain vs. certain; between-subjects) x 4 (products; within-subject) mixed design. To determine the

sample size, we followed previous experiments using a similar uncertainty manipulation with 20 to 81 participants per condition (e.g. Faraji-Rad and Pham 2017; Mittal and Griskevicius 2014; Van Horen and Mussweiler 2014). Final sample size was determined by the number of participants signing up for the experiment in the lab.

### **Stimuli**

We selected four products (light bulb, detergent, perfume, and cheese fondue) from diverse product categories that are frequently advertised and highly familiar to the participants. Importantly, the products vary widely in functionalities, prices, and attributes, allowing to test the generalizability across products. The stimuli selected were existing brands but were not available in the local market. Each of the products was randomly presented as an ad containing a picture and an abstract or concrete product description in German. The content and length of the descriptions were kept similar across conditions (see Web Appendix A). The concrete (vs. abstract) versions were described more (less) precisely, factual (general), with information that was more (less) tangible and less (more) open for interpretation. An example is a detergent that 'makes your clothes spotlessly clean' (concrete), or 'strikes you with its perfect cleaning results' (abstract). A pretest ( $N=30$ ) confirmed that the concrete and abstract product descriptions of all four products differed in level of concreteness (all  $ps < .05$ ). In addition, a second pretest revealed ( $N=34$ ) that the product descriptions did not differ in valence (all  $ps > .10$ ), except for cheese fondue ( $p < .001$ ; see Web Appendix A).

### **Procedure**

Participants were introduced to the first task in which they were asked to read a paragraph that either activated incidental uncertainty or certainty (Van Horen and Mussweiler 2014). In the uncertainty condition, participants read (excerpt): 'Our lives are characterized by high levels of uncertainty. On a societal level, there is an ongoing relocation of industries and we currently experience great shifts in the political climate. On an economical level, the financial markets are volatile and the U.S. economy has lost its creditworthiness after the debt crisis. On a personal level, long-term planning is becoming more difficult as permanent job positions are scarce'. In the certainty condition, participants read: 'Our lives are characterized by high levels of certainty. On a societal level, we can trust on reliable healthcare when we are sick and we know for sure that the quality of education will be high from a very young age. On an economical level, our country has, even during the current tough economic times, proven to be stable. On a personal level, we are certain that the government will support us when we encounter problems or suffer from financial hardship'<sup>1</sup>. Immediately after, we measured participants' level of uncertainty ('How do you feel right now?' from 1 (*very uncertain*) to 9 (*very certain*). In addition, we measured mood with the Positive and Negative Affect Schedule (PANAS; Watson, Clark, and Tellegen 1988;  $\alpha_{PA} = .86$ ,  $\alpha_{NA} = .87$ ) to rule out mood as an alternative explanation.

Next, participants were asked to evaluate the four sequentially presented products. Half of them were exposed to the concrete ads and the other half to the abstract ads (product order randomized). For each product the participants indicated whether they liked the advertised product from 1 ('not at all') to 9 ('very much') and the extent



to which they were willing to buy the product from 1 ('not at all') to 9 ('very much'). These two measures were highly correlated ( $r_s = .85$ ,  $p < .001$ ) and collapsed into a single evaluation measure. Subsequently, participants indicated the maximum amount they were willing to pay for the four products within a price range corresponding with actual retail prices (i.e. detergent: €2.85 to €7.34; light bulb: €1.25 to €4.95; perfume: €32.99 to €55.95; cheese fondue: €2.99 to €6.99). As a control variable, participants were asked to indicate their purchase frequency of the products, from 1 ('never') to 9 ('very often'). Finally, participants were probed for the hypothesis (none guessed) and were thanked.

## Results

### Manipulation check

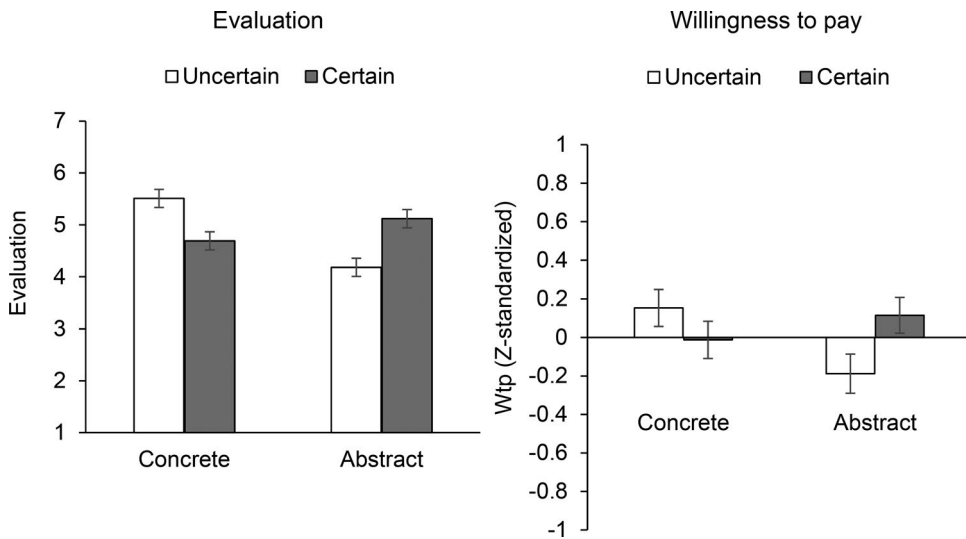
The uncertainty manipulation was successful; participants in the uncertainty condition felt less certain ( $M=4.89$ ,  $SD=1.90$ ) than participants in the certainty condition ( $M=7.23$ ,  $SD=1.68$ ),  $t(135.93) = 7.73$ ,  $p < .001$ ,  $d = -1.30$ .

### Evaluation

A 2 (uncertainty)  $\times$  2 (type of communication)  $\times$  4 (product) mixed measures ANOVA revealed a main effect of type of communication,  $F(1, 137) = 6.82$ ,  $p = .01$ ,  $\eta_p^2 = .05$  ( $M_{\text{Con}} = 5.11$ ;  $M_{\text{Abs}} = 4.65$ ), and of product,  $F(3, 411) = 55.10$ ,  $p < .001$ ,  $\eta_p^2 = .29$  ( $M_{\text{Perfume}} = 3.24$ ;  $M_{\text{Fondue}} = 5.19$ ;  $M_{\text{Detergent}} = 5.40$ ;  $M_{\text{Bulb}} = 5.67$ ). More importantly, the interaction between uncertainty and communication type was significant,  $F(1, 137) = 25.20$ ,  $p < .001$ ,  $\eta_p^2 = .16$  (see [Figure 1](#)). None of the other main- and interaction effects were significant (all  $ps > .05$ ) and analyses were therefore pooled across products (consistent results were found for all products and measures separately, see [Web Appendix B](#)). Simple effect tests showed, as predicted, that concretely described products were evaluated more positively when feeling uncertain ( $M=5.51$ ,  $SD=0.90$ ) than when feeling certain ( $M=4.69$ ,  $SD=1.25$ ),  $F(1, 137) = 10.85$ ,  $p = .001$ ,  $\eta_p^2 = .07$ . Abstractly described products were evaluated more positively when feeling certain ( $M=5.12$ ,  $SD=0.96$ ) than when feeling uncertain ( $M=4.18$ ,  $SD=1.03$ ),  $F(1, 137) = 14.46$ ,  $p < .001$ ,  $\eta_p^2 = .10$ . Furthermore, when uncertain, participants evaluated concretely described products more positively than abstractly described ones,  $F(1, 137) = 29.05$ ,  $p < .001$ ,  $\eta_p^2 = .18$ . When feeling certain, there was no difference in evaluation,  $F(1, 137) = 2.97$ ,  $p = .09$ ,  $\eta_p^2 = .02$ .

### Willingness to pay

Because the price ranges of the four products differed, the amounts participants were willing to pay were z-transformed before averaging them. Participants were excluded from analyses when they did not indicate a price ( $N=11$ ), entered a value outside the price range ( $N=4$ ), or deviated more than  $+3SD$  from the Mean ( $N=1$ ). A 2 (uncertainty)  $\times$  2 (type of communication)  $\times$  4 (product) mixed measures ANOVA revealed a significant interaction between uncertainty and communication type,  $F(1, 121) = 5.83$ ,  $p = .017$ ,  $\eta_p^2 = .05$  (see [Figure 1](#)). None of the other main- and interaction effects were significant (all  $ps > .05$ ). Simple-effect tests showed that for concretely



**Figure 1.** Evaluation and willingness to pay as a function of type of communication (concrete vs. abstract) and uncertainty (Study 1).  
Note. Error bars indicate  $\pm 1$  standard error from the mean.

described products, the difference in willingness to pay between uncertainty ( $M=0.15$ ,  $SD=0.61$ ) and certainty ( $M = -0.01$ ,  $SD=0.45$ ) was not significant,  $F(1, 121) = 1.48$ ,  $p = .23$ ,  $\eta_p^2 = .01$ . For abstractly described products, the amount participants were willing to pay was higher under certainty ( $M=0.12$ ,  $SD=0.58$ ) than uncertainty ( $M = -0.19$ ,  $SD=0.50$ ),  $F(1, 121) = 4.81$ ,  $p = .03$ ,  $\eta_p^2 = .04$ . Furthermore, when feeling uncertain, participants were willing to pay more for the products when described concretely than when described abstractly,  $F(1, 121) = 5.93$ ,  $p = .02$ ,  $\eta_p^2 = .05$ , whereas there was no difference when feeling certain,  $F(1, 121) = 0.90$ ,  $p = .34$ ,  $\eta_p^2 = .01$ .

### Robustness checks

When controlling for negative mood, positive mood and purchase frequency sequentially, the results of the ANCOVA revealed no effect of negative mood ( $p = .20$ ), an effect of positive mood ( $p = .001$ ) and of purchase frequency ( $p = .01$ ) on evaluation. Importantly, however, the expected interaction effect between uncertainty and type of communication always remained significant (all  $ps < .001$ ). When outliers and participants who indicated a value outside the price range, were included for the willingness to pay measure, results remained similar: no main effects ( $p > .05$ ), and a marginally significant interaction between communication type and uncertainty ( $F(1, 137) = 3.41$ ,  $p = .067$ ,  $\eta_p^2 = .02$ ).

In sum, Study 1 provides converging evidence for the hypothesis that people respond more positively to concretely advertised products when feeling uncertain as compared to certain. The reverse pattern occurred for abstract product ads. These effects were demonstrated for a wide variety of products. For willingness to pay the pattern of results was the same, but less pronounced than for product evaluation. It is unlikely that the difference in valence between the abstract and concrete cheese

fondue descriptions can explain these effects, as the abstract product description was rated as more positive than the concrete one, which would work against our predictions.

## **Study 2: uncertainty due to external events: naturalistic setting (sports match)**

Study 2 investigates whether our results generalize to a setting in which uncertainty is activated in a naturalistic setting (rather than in the lab) and to another language (Dutch). Particularly, we tested our predictions during a sports match. Before a sports match spectators feel uncertain about the outcome of the match, whereas after the match uncertainty about the outcome is absent. We test how these different levels of uncertainty affect product evaluation and choice depending on communication type.

Sports matches are an interesting setting to test the current predictions, as they are a prime location for advertising, and advertising expenditures at such events are vast. For example, the most expensive advertising time worldwide is during the American Super Bowl where in 2022, 30s of advertising time cost 6.5 million dollars (Guttmann 2022). We predict that concrete (vs. abstract) product ads and slogans are evaluated more positively and chosen more often *before* the match, when viewers feel uncertain about the outcome of the match (vs. *after* the match, when the outcome is known, and uncertainty is low). We tested our predictions during a field hockey match, a major sport in the Netherlands. The national teams take part in the highest international competitions and are covered regularly by the national media.

### **Method**

#### **Participants and design**

One hundred and twenty-four Dutch hockey supporters from both competing teams (63 men,  $M_{\text{age}} = 36.33$ ,  $SD = 13.04$ , 34% supported the home team) were recruited to take part in a survey investigating evaluations of product ads. Participants were randomly assigned to a 2 (type of communication: concrete, abstract) x 2 (uncertainty: uncertain (pre-match), certain (post-match)) x 2 (product: hockey stick, radio slogan) mixed design, with the first two factors as between-subjects factors and the last as a within-subject factor. To thank for their participation, supporters could take part in a raffle allotting two gift cards of €25,00 each. Sample size was determined by the number of spectators of the match willing to take part in the study.

#### **Stimuli**

A short slogan was created to promote a leading Dutch radio station (Radio 538). In addition, a printed ad was created for a hockey stick, fitting the interest of the supporters. The printed ad included a picture and the description of the hockey stick. We used a picture of an existing hockey stick, which was not available in the local market. Following the same definition of concreteness versus abstractness as in Study 1, the concrete slogan 'Radio 538, always close to you' and the concrete description of the hockey stick were phrased as more tangible and specific, and as less vague,

general or open to interpretation than the abstract slogan 'Radio 538, everywhere within reach' and the abstract hockey stick description, while keeping the content and length similar (see Web Appendix C). A pre-test ( $N=41$ ) showed that, as intended, the concrete and abstract versions of both the printed ad and the slogan differed in level of concreteness ( $ps < .001$ ). A second pretest ( $N=30$ ) showed that they did not differ in valence, as intended ( $ps > .10$ ; see Web Appendix C).

### Procedure

A deciding match between two teams of the highest national field hockey league in the Netherlands was selected, to guarantee involvement of the supporters, including receptivity to feelings of uncertainty about the outcome of the match. Half of the participants (31% guest team, 19% home team) received the questionnaire before the match (uncertainty condition) and the other half (34% guest team, 16% home team) after the match (certainty condition). They were asked to immediately fill out the questionnaire.

Participants indicated their preference for the concrete or abstract Radio 538 slogans (binary choice). Next, they read the concrete or abstract ad for the hockey stick, and evaluated the product from 1 ('not attractive at all') to 7 ('very attractive') and indicated their willingness to buy the hockey stick, from 1 ('not at all') to 7 ('very much'). The evaluation and willingness to buy variables correlated significantly ( $r = .55, p < .001$ ) and were collapsed into a single evaluation measure (consistent results were found for evaluation and willingness to buy separately, see Web Appendix D). As manipulation check, participants were asked to indicate how uncertain they felt about the outcome of the match, ranging from 1 ('very uncertain') to 7 ('very certain'). Finally, participants were asked whether they wanted to take part in the raffle and were thanked for their participation.

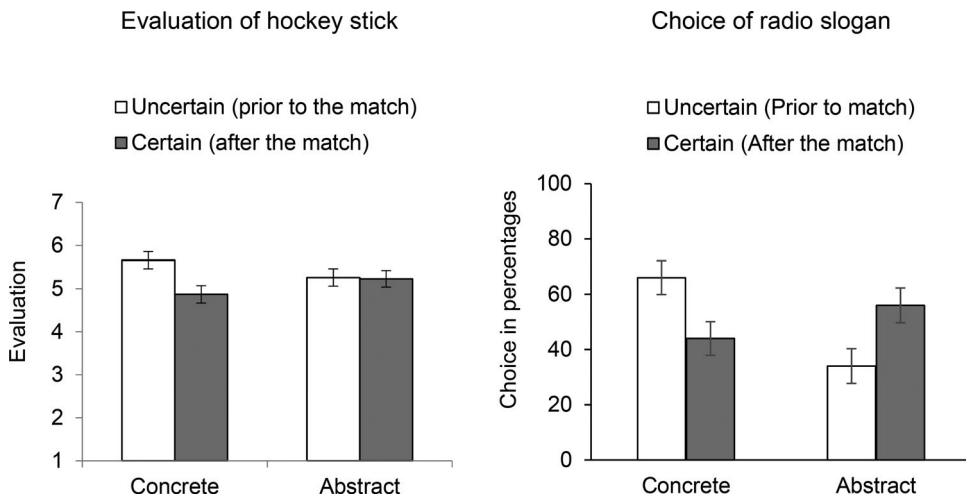
## Results

### Manipulation check

The results of a t-test demonstrated that the supporters felt less certain about the outcome prior to the match ( $M=3.82, SD=1.50$ ) than after the match ( $M=4.39, SD=1.43$ ),  $t(122) = -2.15, p = .03, d=0.56$ .

### Evaluation of hockey stick

The results of the ANOVA revealed a significant main effect of uncertainty,  $F(1, 120) = 4.35, p = .04, \eta_p^2 = .04$  ( $M_{UC} = 5.46; M_C = 5.05$ ), no main effect of type of communication,  $F(1, 120) = .01, p = .93, \eta_p^2 = .00$ , and, as predicted, a significant interaction between uncertainty and type of communication,  $F(1, 120) = 3.86, p = .05, \eta_p^2 = .03$  (see Figure 2, left panel). Simple effect tests showed, consistent with Study 1, that the concrete description of the hockey stick was evaluated more positively when feeling uncertain (before the match,  $M=5.66, SD=0.95$ ) than when feeling certain (after the match,  $M=4.87, SD=1.27$ ),  $F(1, 120) = 8.07, p = .01, \eta_p^2 = .06$ . For the abstract hockey stick description, there was no difference in evaluation before and after the match ( $M_{UC} = 5.26, SD=0.99; M_C = 5.23, SD=1.14$ ),  $F(1, 120) = 0.01, p = .93$ ,



**Figure 2.** Evaluation of the hockey stick and choice of radio slogan as a function of type of communication (concrete vs abstract) and uncertainty (prior vs after the match; Study 2). Note. Error bars indicate +/-1 standard error from the mean.

$\eta_p^2 = .00$ . Within groups, the effects were less pronounced. No significant difference was found for communication type when uncertain (prior to the match),  $F(1, 120) = 2.11$ ,  $p = .15$ ,  $\eta_p^2 = .02$ , or when certain (after the match),  $F(1, 120) = 1.76$ ,  $p = .19$ ,  $\eta_p^2 = .01$ .

### Slogan choice

A binary logistic regression with slogan choice (concrete slogan = 0, abstract = 1) as a dependent variable and dummy coded variable uncertainty (0=prior to the match, 1=after the match) as independent variable, demonstrated that the concrete radio station slogan was chosen more often (66%) when supporters felt uncertain about the outcome (prior to the match) than when they were certain about the outcome (after the match, 44%). Furthermore, they were more likely to choose the abstract radio slogan when they felt certain (after the match), than when uncertain (before the match, 56% versus 34%),  $b = -.93$ ,  $Wald=6.27$ ,  $p = .012$  (see Figure 2, right panel).

In this study we generalized the effects to a situation in which uncertainty is activated in a naturalistic setting. We chose a sports match as these events are highly popular for advertising and it allows us to show how the context can affect the persuasiveness of a product ad. We showed that people respond more positively to concrete advertising when uncertainty is high (prior to the match) as compared to low (after the match). For abstract advertising, the effect was reversed (slogan choice) or attenuated (evaluation of the hockey stick). The teams drew; hence it is unlikely that the outcome of the match influenced the results.

### Study 3: uncertainty due to the advertised product

In addition to uncertainty activated through events outside of the decision context, in many circumstances the advertised product itself may also elicit higher versus

lower levels of uncertainty, for instance when it is new and unfamiliar. Novel products present unknown opportunities as well as unknown risks. Consequently, when people are not familiar with a product and relevant knowledge is lacking, they may feel uncertain because they are not able to accurately estimate the product's utility and performance ('What are the benefits of this innovative camera?', 'Will the new technology of this vacuum cleaner outperform the old one?'; Lipshitz and Strauss 1997; Van Horen and Pieters 2013). Yet, the extent to which novel and unfamiliar products elicit uncertainty varies in degree and depends on people's exploratory consumer behavior, or their general propensity to be open for novel stimuli and their willingness to explore and try out new things (Baumgartner and Steenkamp 1996; Leavitt and Walton 1975).

People differ in the extent to which they are motivated to search for exciting and novel experiences, and their need to satisfy curiosity (Berlyne 1978). These urges may manifest themselves in exploratory tendencies of a consumer during the buying process, such as risk taking, innovative behavior in product purchase, and variety seeking. Research has shown that people who exhibit exploratory consumer behavior demonstrate more innovative behavior and adopt new products early (Hoeffler 2003; Wang et al. 2022).

Although novel and unfamiliar products are associated with uncertainty, such uncertainty is likely to be experienced less when consumers are willing to explore new things, as these consumers are curiosity-motivated, have the tendency to take risks, and seek, rather than avoid variety and novelty (Leavitt and Walton 1975; Raju 1980). Consequently, people who are willing to explore new things will have less of a need to scrutinize information and to search for cues that provide them with a feeling of security and predictability. We therefore posit that when uncertainty is elicited through product novelty, the appeal for concreteness is contingent on people's willingness to explore new things.

H<sub>3</sub>: For novel products, concrete (vs. abstract) product communication will be evaluated more positively when people are less willing to explore new things, whereas this effect will be attenuated or disappear for people who are more willing to explore new things. For familiar products, there will be no interaction of communication type and willingness to explore on evaluation.

## **Method**

### ***Participants and design***

Three hundred and seven (164 women;  $M_{\text{age}} = 36.57$ ,  $SD = 12.00$ , 6 missing for gender) workers from Amazon Mechanical Turk took part in a short study in return for a small monetary fee. Respondents were assigned to a 2 (product novelty: novel, familiar)  $\times$  2 (type of communication: concrete, abstract)  $\times$  2 (product: camera, baby monitor) mixed design, with the first two factors as between-subjects and the last as within-subject. Presentation order of the two products was counterbalanced to rule out order-effects. G\*Power (Faul et al. 2007) identified a sample size of 136 to detect a medium effect size of  $f = 0.25$  with sufficient power ( $1 - \beta > 0.80$ ). However, we collected a significantly larger sample than required to ensure sufficient power in an online, nonlaboratory environment (Goodman and Paolacci 2017).

## Stimuli

A novel and a familiar product in the product categories cameras and baby monitors were selected. Again, we selected existing products, but they were not available in the local market. Following Hoefler (2003) we conducted two pretests to test 1) participants' perception of newness and 2) participants' feelings of uncertainty when estimating the usefulness and performance of novel, rather than familiar products. The first pretest ( $N=20$ , none participating in the main experiment) revealed that the familiar products were indeed perceived as less new ( $M=2.61$ ,  $SD=1.25$ ) than the novel products ( $M=6.00$ ,  $SD=0.86$ ), ( $t(19) = -10.03$ ,  $p < .001$ ), on a scale ranging from 1 ('very old'/'heard of many times') to 7 ('very new'/'never heard of'). The second pretest ( $N=30$ , none participating in the main experiment) revealed, as predicted, that the two novel products triggered more uncertainty ( $M=4.17$ ,  $SD=1.65$ ) than the two familiar products ( $M=2.67$ ,  $SD=1.50$ ), ( $t(29) = 3.75$ ,  $p = .001$ ), on a scale ranging from 1 ('not uncertain at all') to 7 ('very uncertain').

To develop the concrete and abstract product descriptions, we followed the same definition of concreteness as in Studies 1 and 2. The concrete product descriptions were more specific, tangible and less open for interpretation (e.g. 'This camera takes clear pictures underwater and makes shock-free films while you are cycling'), whereas the abstract descriptions were more vague, general, and open for interpretation (e.g. 'This camera offers many great advanced features, no matter the condition you are in'). The concrete and abstract product descriptions were presented with the same picture (either of the novel or familiar product) and were kept similar in content and length (full descriptions can be found in Web Appendix E). A pre-test ( $N=136$ , randomly allocated to one of the four product descriptions) showed that, as intended, the concrete and abstract versions of the two products differed in level of concreteness ( $ps < .001$ ), as intended. A second pretest ( $N=120$ ) showed additionally that the product descriptions did not differ in valence (all  $ps > .10$ ), except for the novel baby monitor ( $p < .001$ , see for full details Web Appendix E).

## Procedure

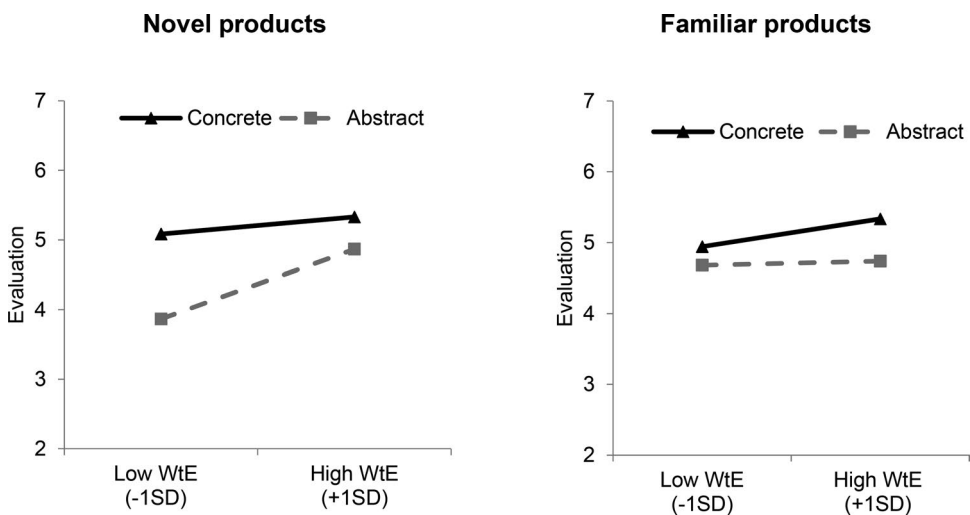
Each participant was presented with two advertisements, which differed with regard to the manipulated dimensions, and were presented in random order (e.g. first familiar camera concrete, then novel baby monitor abstract). After reading the ads, participants were asked to evaluate each of the products on a scale ranging from 1 ('not attractive at all') to 7 ('very attractive') and to indicate their willingness to buy the product, ranging from 1 ('not at all') to 7 ('very much'). The evaluation and willingness to buy measures were highly correlated ( $rs = .73$ ,  $p < .001$ ) and collapsed into a single evaluation measure. After, participants were asked to indicate their willingness to explore new things ('I am always open to try new things', from 1 ('strongly agree') to 7 ('strongly disagree'), reverse coded). Finally, participants provided their demographics, and were thanked for their participation.

## Results

A linear mixed model was used to account for the non-independence of the two product evaluations across the same participant (i.e. random intercept for participants,

Cameron and Trivedi 2005). As all the interactions including product were insignificant ( $p_s > .10$ ), the data was collapsed over the two products. The analyses revealed a main effect of communication type,  $F(1, 300) = 42.72, p < .001$ , of willingness to explore,  $F(1, 300) = 9.87, p = .002$ , a marginal 2-way interaction between product novelty and willingness to explore,  $F(1, 300) = 3.44, p = .07$ , and between product novelty and communication type,  $F(1, 300) = 2.84, p = .09$ . Importantly, the predicted 3-way interaction between product novelty, communication type, and willingness to explore new things was significant,  $F(1, 300) = 4.07, p = .045$ .

We predicted that only people who are less willing to explore new things feel uncertain when encountering novel and unfamiliar products. We thus expect the effect of communication type on evaluation of novel products to be moderated by willingness to explore, whereas no such interaction was expected for the familiar products. For the novel products, we first regressed evaluation on the variables willingness to explore new things (mean centered), communication type (contrast coded:  $-1 = \text{concrete}, 1 = \text{abstract}$ ), and the corresponding two-way interaction. The analysis revealed a significant interaction between communication type and willingness to explore,  $b = .14, SE = .07, t = 2.10, p = .04$ . Follow-up spotlight analyses at one standard deviation below the mean of willingness to explore revealed, as predicted, a negative and significant effect of communication type on evaluation,  $b = -0.59, SE = .12, t = -5.12, p < .001$ . The results show that when people are less willing to explore new things, novel products are evaluated more positively when described concretely ( $M = 5.08$ ) than when described abstractly ( $M = 3.87$ ). This effect was reduced for participants who were more willing to explore new things (one standard deviation above the mean;  $M_{\text{concrete}} = 5.33; M_{\text{abstract}} = 4.87$ ),  $b = -0.25, SE = .12, t = -2.16, p = .03$ . [Figure 3](#) displays this pattern. For the familiar products, the interaction between communication type and willingness to explore was insignificant,  $b = -0.06, SE = .06, t = -1.01, p = .31$ .



**Figure 3.** Evaluation of novel and familiar products as a function of communication type and willingness to explore new things (Study 3).



The results of Study 3 demonstrate that novel products are liked more when described concretely rather than abstractly when people are less willing to explore new things. This effect was attenuated for people who are more willing to explore new things. As they have the tendency to seek, rather than avoid variety and novelty, it is likely that they are less affected by the uncertainty inherent to these types of products. No such interaction was found for familiar products.

### Generalization and replication (Study WA1)

As the concrete product description of the novel baby phone was rated to be more positive in valence, this could alternatively explain the effect. To rule out this potential alternative explanation, we conducted a second study (see Web [Appendix F](#), Study WA1). Additionally, the study design was improved in three ways. First, as it could be argued that the results of Study 3 are due to the different descriptions used for the novel vs. familiar products, we kept in Study WA1 the descriptions across the two types of products constant (same slogan). Second, to measure willingness to explore we used two other, more established scales (Exploratory Acquisition of Products scale, Baumgartner and Steenkamp 1996; and the Open Processing Scale, Leavitt and Walton 1975). Third, we used other stimuli which were advertised with slogans, rather than product descriptions.

Consistent with the findings of Study 3, the results demonstrate for the novel product an interaction between communication type and willingness to explore. When consumers are less willing to explore new things, evaluation of novel products is more positive when they are described concretely as compared to abstractly, whereas there is no such effect for consumers who are more willing to explore new things,  $b = .41$ ,  $SE = .18$ ,  $t = 2.30$ ,  $p = .02$ . For familiar products no moderation between willingness to explore and communication type was found,  $b = -0.05$ ,  $SE = .17$ ,  $t = -0.28$ ,  $p = .78$ . These results demonstrate the robustness and generalizability of our findings (see for full details and results Web [Appendix F](#)).

### General discussion

Four studies (three lab experiments and one study conducted in a naturalistic setting) provide converging evidence that the persuasiveness of concrete versus abstract communication used in advertising depends on people's uncertainty. This effect is found across different types of uncertainty: when elicited through external events or through the advertised product itself. The first study shows (for four different products) that people's evaluation of product ads described concretely was more positive under uncertainty than certainty, whereas the reverse was true for product ads described abstractly. The effect for willingness to pay was less pronounced but showed a similar pattern of results.

The second study replicated the findings in a setting where uncertainty was naturally activated (during a sports match). It showed that a concretely advertised product and slogan of a radio station were evaluated more positively and chosen more often when spectators felt uncertain (*before* a sports match) than when they felt certain (*after* the match), whereas the abstractly advertised product was evaluated equally

positive (independent of uncertainty) and the abstract slogan was chosen more often when certain than uncertain. Study 3 (and Study WA1) showed similar effects when uncertainty was elicited through the advertised product itself (when the product was novel and unfamiliar), rather than the context. It demonstrated that only for people who were less willing to explore new things, concretely phrased ads of novel products were more persuasive than abstractly phrased ads, whereas type of communication did not affect evaluation for people who are more willing to explore. These results were established across different languages (German, Dutch, and English), and settings (lab and naturalistic), using different types of persuasive communication (slogans and product descriptions), product categories (e.g. detergent, hockey stick, radio station), and populations (students, supporters of a match, Mturk workers), increasing the external validity of the results.

### ***Theoretical implications***

The current research contributes to the advertising literature in at least four important ways. First, it adds to the extant literature on message framing (Massara, Scarpi, and Porcheddu 2020; Feldman, Bearden, and Hardesty 2006). Previous literature has shown how framing ads in a concrete vs. abstract way affects persuasion, for instance by demonstrating that luxury brands prefer to advertise the intangible or abstract features of their products (i.e. life style), rather than the concrete or tangible features (i.e. functional; Gurzki, Schlatter, and Woisetschläger 2019; Ma, Mo, and Zhao 2023). In addition, research has demonstrated that when ads use (supply related) scarcity appeals to persuade consumers, they are perceived as more credible when framed in a vague and abstract manner, rather than specific and concrete (Aguirre-Rodriguez 2013).

Adding to this literature, this research is – to our knowledge – the first to show that the persuasiveness of concretely as compared to abstractly phrased ad messages depends on uncertainty. Our results complement the preliminary findings of Kim and Bae (2016) who found that uncertainty avoidance (as an individual's trait) increases the persuasiveness of concrete ads. We add to this literature by showing 1) that these effects, aside to a personality characteristic, occur when uncertainty is situationally activated, 2) arise independent of the type of uncertainty (uncertainty evoked through external events or through the advertised product itself), 3) occur, aside to uncertainty avoidance, to people who have a lower tendency to engage in exploratory consumer behavior, and 4) occur while keeping the content of the ads similar across communication types, instead of providing more information in the concrete advertising message (Kim and Bae 2016; Talke and Snelders 2013).

Second, aside to the framing literature, the findings add to the innovation (adoption) literature, by showing how type of communication in ads can increase attitudes towards unfamiliar products. Most literature has focused on how individual differences in exploratory consumer behavior is positively related to risk-taking behavior, innovative behavior, and to adopting novel products early (Kareklas, Elwood, and Holland 2018; Baumgartner and Steenkamp 1996). Here we demonstrate instead how consumers who are *less* willing to explore new things evaluate novel and unfamiliar products more positively and are more likely to purchase them when they are advertised concretely, rather than abstractly.

Third, our results contribute to the advertising research by stressing the importance of the context in which people are exposed to ads and how seemingly irrelevant cues in the ad environment can influence persuasion (e.g. Kulkarni and Yuan 2015; Moorman, Neijens, and Smit 2007). We show that even when uncertainty is unrelated to the decision task, it affects the persuasiveness of concrete versus abstract product communication. This research is timely, as people are nowadays regularly exposed to uncertainty induced through external events, for instance through societal (i.e. pandemics) and economical (i.e. financial crises) events or through the editorial content of different (offline and online) media (e.g. Namkoong, Ro, and Henderson 2019). Interestingly, media contexts can alter processing of ads (Voorveld et al. 2018) and may also do so by triggering (high or low) uncertainty.

Finally, our work fosters a theoretical debate on what type of uncertainty makes concrete versus abstract communication more effective. Seemingly opposite to the theorizing that uncertainty evokes low-level information processing increasing the appeal of concrete communication, research found that when people experience *causal* uncertainty (e.g. when wanting to understand *why* things happen), abstract Tweets were shared more frequently than concrete ones (Namkoong, Ro, and Henderson 2019). However, in line with our predictions, Namkoong and colleagues also found that concrete Tweets were shared more frequently when people, as in our experiments, were focused on the consequences/outcome of an event, rather than the cause.

### **Practical implications**

The current findings have several implications for advertising practice. First, how messages are framed is of vital importance for persuasion strategies, both commercial and non-commercial. On the commercial side, the findings are, for instance, highly relevant for companies who advertise during sports events. Earlier research has demonstrated that advertising effectiveness is lowest *before* and during major sports events (such as Super Bowl and the FIFA World Cup), as compared to *after* the event (Gijzenberg 2014). The current results suggest however that displaying *concrete* – and not abstract – ads or banner-slogans alongside the field before and during the sports event may counteract these negative effects. With current digital billboard technology, it is relatively easy to dynamically adjust advertising slogans to match the fluctuating level of uncertainty, before and after the sports event.

In addition, we suggest that marketers can use our findings as a guideline for designing their traditional or digital advertising messages. Marketers of radically new products (and to a lesser extent incrementally new products as they induce less uncertainty, Hoeffler 2003), should be advised to use concrete advertising messages. As research has demonstrated that particular segments of consumers, such as lower educated people, females, and people with lower income, show lower levels of exploratory purchase behavior (Steenkamp and Burgess 2002), concrete ads should be targeted specifically to those consumer segments.

On the non-commercial side, health communication could for instance be adapted according to the uncertainty of the situation. For instance, during the height of the coronavirus pandemic people would potentially have more complied with COVID-19

regulations when communicated concretely ('When in public, wear a mask over your nose and mouth', CDC, United States), instead of abstractly ('Make wearing a mask a normal part of being around other people', WHO).

### **Limitations and future research**

The current research provides several avenues for future research. First, while we mainly focused on how concrete communication is more effective when facing uncertainty, we found for certainty either no effect of communication type or a positive effect of abstract communication. Certainty may reduce reliance on external sources of information for decision making, lowering the need for cues that provide a sense of predictability. Additionally, when feeling certain, people may be able to deal better with ambiguity, and appreciate abstract communication as it is more open to interpretation. When and why abstract communication matches feelings of certainty deserves further investigation.

Second, although it is unlikely that (negative) mood can explain the effects, as mood did not explain any of the variance when included as control variable and (un)certainly was activated in different ways (societal and personal events, sports match, novel products), varying in level of negativity, follow-up research could disentangle more clearly between positive (lottery, hopeful new president) and negative uncertainty (economical crisis, job loss), showing that these effects do not occur due to a negative experience, but rather due to the unpredictability related to uncertainty.

Third, potential moderators that weaken or strengthen the effect could be explored, such as uncertainty avoidance and anxiety proneness (De Meulenaer, De Pelsmacker, and Dens 2015) or the intensity of exposure (e.g. Moorman, Neijens, and Smit 2007) and whether the effects will hold when using implicit, rather than explicit (self-report) measures, such as click through rates on concretely rather than abstractly framed advertisements. Finally, future research could examine whether adapting the type of communication can – aside to advertising – also be used as a tool in media outlets, political speeches, or company newsletters to match people's state of uncertainty. Such follow-up research will ultimately contribute to our understanding of the appeal of concreteness under uncertainty.

### **Note**

1. The crucial sentences inducing uncertainty versus certainty are presented. Full materials are available upon request. Translated from German.

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No potential conflict of interest was reported by the authors.

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## References

- Aguirre-Rodriguez, A. 2013. The effect of consumer persuasion knowledge on scarcity appeal persuasiveness. *Journal of Advertising* 42, no. 4: 371–9.
- Arkin, R.M., K.C. Oleson, and P.J. Carroll. 2013. *Handbook of the uncertain self*. New York: Psychology Press.
- Avnet, T., and E.T. Higgins. 2006. How regulatory fit affects value in consumer choices and opinions. *Journal of Marketing Research* 43, no. 1: 1–10.
- Baumgartner, H., and J.B.E. Steenkamp. 1996. Exploratory consumer buying behavior: Conceptualization and measurement. *International Journal of Research in Marketing* 13, no. 2: 121–37.
- Berlyne, D.E. 1978. Curiosity and learning. *Motivation and Emotion* 2, no. 2: 97–175.
- Brysbaert, M., A.B. Warriner, and V. Kuperman. 2014. Concreteness ratings for 40 thousand generally known english word lemmas. *Behavior Research Methods* 46, no. 3: 904–11.
- Byzalov, D., and R. Shachar. 2004. The risk reduction role of advertising. *Quantitative Marketing and Economics* 2, no. 4: 283–320.
- Cameron, A.C., and P.K. Trivedi. 2005. *Microeconometrics: Methods and applications*. New York, NY: Cambridge University Press.
- Chan, E.Y., and S.J. Maglio. 2019. Coffee cues elevate arousal and reduce level of construal. *Consciousness and Cognition* 70: 57–69.
- Chang, C.T, and Y.K. Lee. 2010. Effects of message framing, vividness congruency and statistical framing on responses to charity advertising. *International Journal of Advertising* 29, no. 2: 195–220.
- Cutright, K.M. 2012. The beauty of boundaries: When and why we seek structure in consumption. *Journal of Consumer Research* 38, no. 5: 775–90.
- De Angelis, M., V. Tassiello, C. Amatulli, and M. Costabile. 2017. How language abstractness affects service referral persuasiveness. *Journal of Business Research* 72: 119–26.
- De Meulenaer, S., P. De Pelsmacker, and N. Dens. 2015. Have no fear: How individuals differing in uncertainty avoidance, anxiety, and chance belief process health risk messages. *Journal of Advertising* 44, no. 2: 114–25.
- Faraji-Rad, A., and M.T. Pham. 2017. Uncertainty increases the reliance on affect in decisions. *Journal of Consumer Research* 44, no. 1: 1–21.

- Faul, F., E. Erdfelder, A.G. Lang, and A. Buchner. 2007. G\* power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods* 39, no. 2: 175–91.
- Feldman, D.C., W.O. Bearden, and D.M. Hardesty. 2006. Varying the content of job advertisements: The effects of message specificity. *Journal of Advertising* 35, no. 1: 123–41.
- Gijzenberg, M.J. 2014. Going for gold: Investigating the (non) sense of increased advertising around major sports events. *International Journal of Research in Marketing* 31, no. 1: 2–15.
- Goodman, J.K, and G. Paolacci. 2017. Crowdsourcing consumer research. *Journal of Consumer Research* 44, no. 1: 196–210.
- Gurzkı, H., N. Schlatter, and D.M. Woisetschlager. 2019. Crafting extraordinary stories: Decoding luxury brand communications. *Journal of Advertising* 48, no. 4: 401–14.
- Guttman, A. 2022. Average cost 30-second advertisement Super Bowl US broadcast 2002-2022. *Statista*. <https://www.statista.com/statistics/217134/total-advertisement-revenue-of-super-bowls/>
- Hansen, J., and M. Wanke. 2010. Truth from language and truth from fit: The impact of linguistic concreteness and level of construal on subjective truth. *Personality & Social Psychology Bulletin* 36, no. 11: 1576–88.
- Hoeffler, S. 2003. Measuring preferences for really new products. *Journal of Marketing Research* 40, no. 4: 406–20.
- Jacoby, J., J.C. Olson, and R.A. Haddock. 1971. Price, brand name, and product composition characteristics as determinants of perceived quality. *Journal of Applied Psychology* 55, no. 6: 570–9.
- Kareklas, K., R.W. Elwood, and R.A. Holland. 2018. Grouping promotes risk-taking in unfamiliar settings. *Behavioural Processes* 148: 41–5.
- Kim, S., and J. Bae. 2016. Cross-cultural differences in concrete and abstract corporate social responsibility (CSR) campaigns: Perceived message clarity and perceived CSR as mediators. *International Journal of Corporate Social Responsibility* 1, no. 1: 1–14.
- Kim, D.H., J.J. Yoo, and W.N. Lee. 2018. The influence of self-concept on ad effectiveness: Interaction between self-concept and construal levels on effectiveness of advertising. *Journal of Marketing Communications* 24, no. 7: 734–45.
- Kulkarni, A.A, and H. Yuan. 2015. Effect of ad-irrelevant distance cues on persuasiveness of message framing. *Journal of Advertising* 44, no. 3: 254–63.
- Leavitt, C., and J. Walton. 1975. Development of a scale for innovativeness. *NA - Advances in Consumer Research* 2: 545–54.
- Lipshitz, R., and O. Strauss. 1997. Coping with uncertainty: A naturalistic decision-making analysis. *Organizational Behavior and Human Decision Processes* 69, no. 2: 149–63.
- Ma, J., Z. Mo, and Y. Zhao. 2023. Dynamic luxury advertising: Using lifestyle versus functional advertisements in different purchase stages. *Journal of Advertising* 52, no. 1: 39–56.
- Mandel, N., D.D. Rucker, J. Levav, and A.D. Galinsky. 2017. The compensatory consumer behavior model: How self-discrepancies drive consumer behavior. *Journal of Consumer Psychology* 27, no. 1: 133–46.
- Massara, F., D. Scarpi, and D. Porcheddu. 2020. Can your advertisement go abstract without affecting willingness to pay?: product-centered versus lifestyle content in luxury brand print advertisements. *Journal of Advertising Research* 60, no. 1: 28–37.
- Milliken, F.J. 1987. Three types of perceived uncertainty about the environment: State, effect, and response uncertainty. *The Academy of Management Review* 12, no. 1: 133–43.
- Mittal, C., and V. Griskevicius. 2014. Sense of control under uncertainty depends on people's childhood environment: A life history theory approach. *Journal of Personality and Social Psychology* 107, no. 4: 621–37.
- Moorman, M., P.C. Neijens, and E.G. Smit. 2007. The effects of program involvement on commercial exposure and recall in a naturalistic setting. *Journal of Advertising* 36, no. 1: 121–37.
- Namkoong, J.E., J.H. Ro, and M.D. Henderson. 2019. Responding to causal uncertainty in the twitterverse: When abstract language and social prominence increase message engagement. *Journal of Interactive Marketing* 45: 81–98.

- Ng, S., A. Faraji-Rad, and R. Batra. 2021. Uncertainty evokes consumers' preference for brands incongruent with their global-local citizenship identity. *Journal of Marketing Research* 58, no. 2: 400–15.
- Packard, G., and J. Berger. 2021. How concrete language shapes customer satisfaction. *Journal of Consumer Research* 47, no. 5: 787–806.
- Raju, P.S. 1980. Optimum stimulation level: Its relationship to personality, demographics, and exploratory behavior. *Journal of Consumer Research* 7, no. 3: 272.
- Semin, G.R, and K. Fiedler. 1988. The cognitive functions of linguistic categories in describing persons: Social cognition and language. *Journal of Personality and Social Psychology* 54, no. 4: 558–68.
- Steenkamp, J.B.E., and S.M. Burgess. 2002. Optimum stimulation level and exploratory consumer behavior in an emerging consumer market. *International Journal of Research in Marketing* 19, no. 2: 131–50.
- Talke, K., and D. Snelders. 2013. Information in launch messages: Stimulating the adoption of new high-tech consumer products. *Journal of Product Innovation Management* 30, no. 4: 732–49.
- Tiedens, L.Z, and S. Linton. 2001. Judgment under emotional certainty and uncertainty: The effects of specific emotions on information processing. *Journal of Personality and Social Psychology* 81, no. 6: 973–88.
- Trope, Y., and N. Liberman. 2010. Construal-level theory of psychological distance. *Psychological Review* 117, no. 2: 440–63.
- Vallacher, R.R, and D.M. Wegner. 1987. What do people think they're doing? Action identification and human behavior. *Psychological Review* 94, no. 1: 3–15.
- Van Horen, F., and T. Mussweiler. 2014. Soft assurance: Coping with uncertainty through haptic sensations. *Journal of Experimental Social Psychology* 54: 73–80.
- Van Horen, F., and R. Pieters. 2013. Preference reversal for copycat brands: Uncertainty makes imitation feel good. *Journal of Economic Psychology* 37: 54–64.
- Voorveld, H.A., G. Van Noort, D.G. Muntinga, and F. Bronner. 2018. Engagement with social media and social media advertising: The differentiating role of platform type. *Journal of Advertising* 47, no. 1: 38–54.
- Wang, Y., Q. Kang, S. Zhou, Y. Dong, and J. Liu. 2022. The impact of service robots in retail: Exploring the effect of novelty priming on consumer behavior. *Journal of Retailing and Consumer Services* 68: 103002.
- Watson, D., L.A. Clark, and A. Tellegen. 1988. Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology* 54, no. 6: 1063–70.
- Weary, G., and J.A. Jacobson. 1997. Causal uncertainty beliefs and diagnostic information seeking. *Journal of Personality and Social Psychology* 73, no. 4: 839–48.
- Whitson, J.A, and A.D. Galinsky. 2008. Lacking control increases illusory pattern perception. *Science (New York, N.Y.)* 322, no. 5898: 115–7.
- Yoon, L., and D. Hernández. 2021. Energy, energy, read all about it: A thematic analysis of energy insecurity in the US mainstream media from 1980 to 2019. *Energy Research & Social Science* 74: 101972.