



Attitudes guiding social behavior as a function of perceived knowledge: The moderating role of epistemic vs. hedonic mindsets[☆]



Borja Paredes ^{a,1,*}, Pablo Briñol ^a, David Santos ^a, Lorena Moreno ^b, Joshua J. Guyer ^c, Richard E. Petty ^d

^a Universidad Autónoma de Madrid, Spain

^b Universidad Complutense de Madrid, Spain

^c Saint Louis University Madrid, Spain

^d Ohio State University, United States of America

ARTICLE INFO

Keywords:

Attitude strength
Behavior
Knowledge
Hedonic
Epistemic
Mindset

ABSTRACT

The current research introduces a new variable (epistemic vs. hedonic mindset) that helps elucidate the conditions under which a previously established phenomenon reverses: the moderating impact of perceived knowledge on attitude-behavior correspondence (ABC). Four studies (plus four more additional studies reported in the supplementary material), in the domain of person perception and consumer choice show that higher perceived knowledge enhances ABC under an epistemic mindset, but it can reverse under a hedonic mindset. An epistemic mindset involves focusing on making accurate impressions whereas a hedonic mindset focuses people on enjoyment and having fun. Beyond manipulating mindset, perceived knowledge was also either measured or manipulated across the studies (including one pre-registered experiment), holding constant the actual amount of information participants received about the attitude object. Under a hedonic mindset, greater ABC was observed under low (vs. high) perceived knowledge, reversing a classic effect for the first time. However, under an epistemic mindset, attitudes were predicted and found to guide behavior significantly more with high (vs. low) perceived knowledge. This outcome provides a conceptual replication of the traditional effect shown in the attitude strength literature. These effects were driven by changes in the meaning (positive or negative) associated with knowledge in each mindset as shown by both measuring and manipulating the proposed mediator. This research advances the literature on knowledge, attitudes, person perception, and consumer judgment by introducing a new variable in this domain capable of specifying the conditions that facilitate when an important phenomenon occurs in one direction or the other and explaining why these effects occur.

Attitudes and their connection to behavior have long been of interest to psychologists and practitioners across numerous fields (Fazio, 1990; Judge et al., 2017; Maio et al., 2019). Importantly, attitudes are better predictors of behavior in some cases than others (e.g., Ajzen, 1991; Jawahar, 2001). Prior research has shown that aspects of attitudes themselves (i.e., their strength properties, Krosnick & Petty, 1995) can render attitudes more or less predictive of behavior. The ability of attitudes to predict behavior is often referred to as attitude-behavior correspondence (ABC).

The present research examines a classic dimension of attitude strength – perceived knowledge – capable of moderating ABC (Wood

et al., 1995). Perceived knowledge refers to the feeling of knowing about something (Koriat & Levy-Sadot, 1999; Metcalfe, 2000; for similar conceptualizations, see perceived epistemic authority, Ellis & Kruglanski, 1992; and perceived expertise, Ottati et al., 2015). We focused on perceived knowledge because research has shown that these perceptions are useful in understanding when attitudes are more predictive of behavior, with greater perceived knowledge being associated with increased ABC (e.g., Kallgren & Wood, 1986; Wallace et al., 2019). Beyond perceived knowledge, previous research has shown that other subjective attitude strength features can also moderate ABC, such as perceived elaboration (Barden & Petty, 2008; Moreno et al., 2021), felt

[☆] This paper has been recommended for acceptance by Joris Lammers.

* Corresponding author at: Departamento de Psicología Social y Metodología, Universidad Autónoma de Madrid, Avenida Iván Pavlov, 6, Madrid 28049, Spain.
E-mail address: borja.paredes@uam.es (B. Paredes).

¹ Ohio State University, United States of America.

ambivalence (Priester et al., 2007), perceived morality (Luttrell et al., 2016), and subjective attitude accessibility (Tormala et al., 2011) in the absence of *actual* or *objective* indicators of those same dimensions (Petty et al., 2023). Therefore, although empirically untested, it stands to reason that perceived knowledge could plausibly also impact ABC in the absence of changes in actual knowledge. That is, people may be more willing to act on their attitudes the more their attitudes are merely perceived to be based on knowledge.

As described next, in addition to varying perceived knowledge while keeping the amount of objective information constant, the current work introduces a person's goals or *mindset* as a new variable that could affect whether high or low perceived knowledge is more likely to enhance ABC. We propose that the traditional attitude strength effect of perceived knowledge is more likely to emerge when people process information with the goal of forming accurate, well-calibrated impressions (an epistemic mindset). When in an epistemic mindset, higher perceived knowledge carries a positive meaning such as being informed (Alba & Williams, 2013; Rauwolf et al., 2021; Shaw & Thomson, 2013) which should allow making an accurate decision in accord with one's goal. Thus, when in an epistemic mindset, high (vs. low) perceived knowledge about a topic should increase ABC. In contrast, we propose that the opposite effect can emerge when people process information with the goal of having fun or to enjoy a pleasurable and entertaining experience (a hedonic mindset). When in a hedonic mindset, we propose that lower perceived knowledge carries a positive meaning such as signaling *potential* (Tormala et al., 2012), or suggesting *novelty* (Wilson et al., 2005), *mystery* (Buechel & Li, 2023), or *curiosity* (Loewenstein, 1994). These meanings should allow for fun in making a decision in accord with one's goal. Thus, when in a hedonic mindset low (vs. high) perceived knowledge should increase ABC. In sum, the current research introduces epistemic vs. hedonic mindsets as a novel feature that can specify when relatively high vs. low perceived knowledge enhances ABC.

In accord with these hypotheses, we suggest that there are various real-world situations in which mindset can make a difference. For instance, shoppers in a store can adopt either a hedonic mindset (browsing leisurely for enjoyment) or an epistemic mindset (seeking detailed product information to make the right choice). Marketers could tailor advertising strategies accordingly. For example, when people are likely in an epistemic mindset, such as when shopping for expensive electronics or cars, marketers can provide detailed information, so people feel informed and act on their high knowledge attitudes. However, when in a hedonic mindset, such as when shopping for lifestyle products or entertainment options, marketers can provide 'teaser' information (as they do in movie trailers) to get people to act on their low knowledge attitudes. When in a hedonic mindset people do not want to feel 'too informed' (e.g., feeling like they have already seen the best or worst parts of the movie). Rather, they are more likely to prefer mystery or surprise. Interestingly, social media platforms are arenas where users constantly switch between mindsets —sometimes seeking detailed, informative content when in an epistemic mindset and at other times taking a different approach in which they are more open to being surprised with the unknown when in a hedonic mindset.

1. Epistemic vs. hedonic mindsets

As noted, although prior research clearly indicates that higher perceived knowledge can often enhance ABC (Fabrigar et al., 2006; Kallgren & Wood, 1986; Wood et al., 1995), we propose some circumstances in which that traditional effect is more likely to emerge and when its opposite can occur. Research has already identified attitudinal ambivalence as one moderator of perceived knowledge effects on ABC. That is, greater perceived knowledge is associated with greater ABC but especially when attitudes are unambivalent (Wallace et al., 2019). As ambivalence increases, however, the effect of perceived knowledge on ABC is attenuated or eliminated (though never reversed). Another moderator identified in previous research is the complexity of the

information underlying the attitude (Fabrigar et al., 2006). This research showed that higher information complexity increased the impact of perceived knowledge on ABC.

Thus, although prior research has identified some moderators of the impact of perceived knowledge on ABC, this research has demonstrated that the impact can be attenuated but not reversed. The current research examines another potential moderator, a person's *mindset*, that is predicted not only to be able to attenuate the impact of knowledge on ABC but also to reverse it. Specifically, as just explained, we propose that high perceived knowledge should be especially enhancing of ABC when people are in an epistemic mindset (i.e., when they want to be correct and are focused on accuracy). When people want to be correct, they should be concerned with how much knowledge they have regarding their attitude since having attitudes based on high knowledge provides a reasonable means to make the right choice. The epistemic need to know is a fundamental human motive that helps people improve predictability and thus gain control over their environments (Maslow, 1962). Acquiring accurate knowledge is also the *de facto* goal assumed by persuasion theories like the Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1986), the Heuristic-Systematic Model (HSM; Chaiken et al., 1989), and the Unimodel (Kruglanski & Thompson, 1999).

This qualification suggests that if a non-epistemic goal were operating, then the perception of high knowledge might not necessarily translate into greater attitude usage. Although people often seek to be correct, they can also have other goals. For example, sometimes people just want to be entertained (Raz et al., 2024). Indeed, the hedonic need for pleasure, enjoyment and fun is another important human motive (Asano et al., 2020; Thorndike, 1927), and we propose that it can play a role in moderating the impact of perceived knowledge on ABC. Specifically, we propose that, when people are in a hedonic mindset (i.e., when their goal is to be entertained), a lack of perceived knowledge might not be interpreted as an impediment to using one's attitudes to guide behavior. Indeed, low knowledge can be seen as an opportunity to use one's attitudes. This proposal is consistent with prior research suggesting that the feeling of knowing can sometimes be associated with negative meanings (i.e., extensive or too much information is associated with *boredom*, Wilson et al., 2005; or *arrogance*, Dunning et al., 1990), while the feeling of not knowing can be associated with positive meanings as noted earlier.

Although alternative labels might also describe the mindset distinction we are making (e.g., cognitive vs. affective; Crites et al., 1994; utilitarian vs. hedonic, Botti & McGill, 2011; Chung et al., 2023; Kousi et al., 2023; epistemic vs. aleatory uncertainty, Packard & Clark, 2020; Tannenbaum et al., 2017), we rely on the epistemic/hedonic terminology to emphasize the broader motivational goals of accuracy versus pleasure-seeking. Furthermore, we do not want these mindsets to be confused with some of the distinctions just noted. For example, the distinction between affect and cognition has been used in the attitudes literature to refer to the underlying bases of attitudes – whether attitudes are constructed mostly from beliefs or emotions (Zanna & Rempel, 1988). However, our hypotheses about the moderating role of perceived knowledge in ABC would apply to attitudes (i.e., general evaluations) regardless of their specific basis.

Moreover, whether a person has an epistemic or hedonic mindset has moderated other attitudinal phenomena. For example, in one relevant study, Cancela et al. (2021) randomly assigned participants to process a persuasive message with an *epistemic* (i.e., with the purpose of gaining accurate knowledge) or a *hedonic* (i.e., with the purpose of having fun) mindset and also varied the personal relevance of the message (Petty & Cacioppo, 1990). The results indicated that when in the epistemic mindset, participants processed the persuasive message more when the message was high rather than low in personal relevance, replicating the traditional effect found in much prior research (see Carpenter, 2015, for a meta-analysis). However, when participants were in the hedonic mindset, they processed information more when the message was low rather than high in personal relevance. This was suggested to be because

in hedonic mindsets, people often want to escape from the self (Baumeister, 1991). It is worth noting that Caneela et al. (2021) primarily focused on examining the impact of mindset on processing persuasive messages (therefore, testing a process of primary cognition) whereas we aim to move away from the domain of message processing to focus on meta-cognition and the use of attitudes based on people's perceptions of them (for a more detailed differentiation between primary and secondary cognition in attitudinal processes, see Brñol & Petty, 2022). The current research aims to extend prior work by examining for the first time how epistemic versus hedonic mindsets can moderate the role of perceived knowledge in ABC. Just as a hedonic mindset can reverse the impact of personal relevance on information processing, we propose that it can also potentially reverse the impact of perceived knowledge on ABC.

Our novel prediction for people with a hedonic mindset (i.e., an entertainment goal) is also consistent with other relevant work in which the impact of certain variables (e.g., *social consensus*, Clarkson et al., 2013; *resistance to persuasion*, Rydell et al., 2006) on indicators of ABC (i.e., attitude certainty) are moderated by the lay theory and/or the positive or negative meaning associated with the relevant variables. For instance, in one relevant study, Warren and Reimann (2019) found that although possessing information about non-humorous products (presumably inducing an epistemic mindset) predicted enhanced ABC in the context of consumer behavior, possessing the same factual information about humorous products (presumably inducing a hedonic mindset) did not enhance ABC. In other words, although the classic effect of perceived knowledge on ABC was found for typical (non-humorous) products, it did not emerge when knowledge was related to humorous products. We go one step further and examine the possibility that the standard effect of perceived knowledge on ABC might be reversed, and not just attenuated, when in a hedonic mindset.

2. Overview

In four main studies, we investigated the impact of perceived knowledge (measured and manipulated) on ABC in person-perception and consumer contexts, with a focus on how an epistemic versus a hedonic mindset would determine when and for whom high (vs. low) perceived knowledge enhances ABC. We also examined the underlying mechanism responsible for the effects using both mediation and moderation approaches to testing the proposed process (Spencer et al., 2005).

Study 1 begins by examining our novel prediction that in a hedonic context, ABC will be greater under low than high perceived (rather than actual) knowledge, reversing the traditional relationship. This is investigated in the context of a dating decision. Then, Study 2, using the same dating context, moves to a more complete design by manipulating participants' mindset to be epistemic vs. hedonic, along with high vs. low perceived knowledge. We again expected the novel effect to emerge in the hedonic condition, showing that low (vs. high) perceived knowledge condition would enhance ABC. However, when participants were induced to have an epistemic mindset, we expected to replicate the traditional effect whereby the high (vs. low) perceived knowledge condition would be associated with more ABC.

Study 3 was pre-registered and examined a consumer decision using a full experimental approach by manipulating mindset, perceived knowledge, and initial attitudes. The main goal of Study 3 was to test our pre-registered prediction regarding the three-way interaction between mindset, perceived knowledge, and attitudes on behavioral intentions. In addition to this confirmatory test, we also measured the proposed mechanism—participants' interpretation of the meaning of their perceived knowledge to explore whether it mediated the observed effects. Although the inclusion of this measure was preregistered, the mediation analyses involving the meaning of knowledge were not and are therefore labeled as exploratory. Regardless of these variations in materials and inductions, we expected to replicate the traditional effect

of perceived knowledge under epistemic mindsets, and to reverse it for hedonic mindsets. We also expected these changes to be mediated by variations in the meaning associated with knowledge (e.g., low knowledge being associated with mystery rather than ignorance in a hedonic mindset).

In a final Study 4, we tested the underlying mechanism by manipulating (rather than measuring) the proposed mediator. That is, we randomly assigned participants to a condition in which their level of perceived knowledge (high or low) was associated with a relatively positive vs. negative meaning, respectively. This allowed us to create conditions that mimicked either the meanings by default associated with an epistemic mindset (leading participants to believe that high knowledge is better than low knowledge) or the hedonic mindset (participants were told that low knowledge had more positive meanings than high knowledge). Additionally, in this study we moved to a different context (personal recruitment) for generalization purposes. We expected attitudes to be more predictive of behavior for those participants assigned to the positive rather than negative meaning of perceived knowledge, regardless of whether their knowledge was perceived to be high or low (see Tables 1 & 2 for a summary of studies included in the main text and in the supplementary material).

2.1. Transparency and openness

For all studies, we report the sensitivity of our sample size, all data exclusions (if any), all manipulations, and all measures, and we follow the Journal Article Reporting Standards (Appelbaum et al., 2018). Furthermore, we only analyzed data after completing data collection. All data, analysis code, and research materials are available at [https://osf.io/69bk3/?view_only=e9af325d65ca4ac79da28bb922fd8042]. Data for all studies were analyzed using SPSS, version 23.0.

3. Study 1

This study introduced a hedonic (dating) context to provide an initial test of the potential role of a hedonic mindset in reversing the traditional impact of perceived knowledge on ABC. Participants were first assigned to receive an excerpt of the profile of a person who was described as a *potential date* and were asked to assess it hedonically. Next, participants were randomly assigned to the high or low perceived knowledge conditions. After participants read the profile, the favorability of attitudes towards the person in the profile was manipulated. Finally, participants indicated how willing they were to date the person in the profile. These behavioral intentions served as the dependent measure. First, we expected attitudes to predict behavioral intentions overall (ABC). Second, and more importantly, given that feelings of low knowledge could be associated with positive meanings within a hedonic mindset in a dating context (e.g., mystery, potential), we expected that low perceived knowledge might enhance ABC more than high knowledge. Therefore, we predicted a two-way interaction between perceived knowledge and attitudes.

4. Method

4.1. Participants and design

Two hundred and sixty-two participants from the U.S. (59.2 % males, 39.7 % females, 1.1 % non-binary; $M_{age} = 39.60$; $SD = 9.34$) were recruited anonymously via CloudResearch and participated in exchange for monetary compensation. The participants were placed via random assignment into a 2 (Perceived Knowledge: High vs. Low) \times 2 (Favorability of Attitudes: Positive vs. Negative) factorial design with behavioral intentions as the key dependent variable. A *sensitivity* analysis for a linear multiple regression was run using G*Power. Results of the analysis (Faul et al., 2009) revealed that our sample size ($N = 262$) with power of 0.80 could detect an effect size for the predicted two-way

Table 1
Summary of studies in the main text.

	Study 1	Study 2	Study 3	Study 4
N	262	248	389	356
Mindset/meaning	Hedonic Mindset	Epistemic vs. Hedonic Mindset	Epistemic vs. Hedonic Mindset	Positive vs. Negative Knowledge Meaning
Perceived Knowledge	10 % vs. 90 %	10 % vs. 90 %	10 % vs. 90 %	10 % vs. 90 %
Attitudes	Favorable vs. Unfavorable	Measured	Favorable vs. Unfavorable	Measured
Dependent Variable/ Decision	Dating (Hedonic by default for all participants)	Dating (Hedonic default but made to vary)	Hotel Room (relatively neutral by default made to vary)	Recruitment (Epistemic by default but made to vary)
Main Finding	Low (vs. High) Perceived Knowledge predicts ABC.	Impact of Knowledge on ABC moderated by Mindset.	Impact of Knowledge on ABC moderated by Mindset. Demonstration of Meaning as plausible mediator.	Impact of Knowledge on ABC moderated by Meaning.

Table 2
Summary of studies in the Supplementary Material.

	Study 1 s	Study 2 s	Study 3 s	Study 4 s
N	261	161	119	222
Mindset/meaning	Epistemic Mindset	Epistemic vs. Hedonic	Epistemic Mindset	Epistemic Mindset
Perceived Knowledge	10 % vs. 90 %	10 % vs. 90 %	Measured	10 % vs. 90 %
Attitudes	Favorable vs. Unfavorable	Measured	Measured	Measured
Dependent Variable/ Decision	Recruitment (Epistemic)	Recruitment (Epistemic)	Recruitment (Epistemic)	Recruitment (Epistemic)
Main Finding	High (vs. Low) Perceived Knowledge predicts ABC	Impact of Knowledge on ABC moderated by Mindset	High (vs. Low) Perceived Knowledge predicts ABC	High (vs. Low) Perceived Knowledge predicts ABC

interaction greater than Cohen's $f^2 = 0.023$.

4.2. Procedure

Participants were told that we wanted to test a new dating app and that they would be presented with information about a potential dating partner. They also answered a few questions about their dating preferences to increase the ecological validity of the procedure. Participants were also informed that the goal of the following tasks was to enjoy themselves and have fun when evaluating the dating profile. The perceived amount of knowledge was then manipulated. All participants were presented with the same profile of a potential dating partner.

Both a male profile and a female profile were created for this study. After participants selected whether they were interested in meeting men or women, the corresponding opposite sex profile was shown.² The profile included an appropriate picture, and a short bio of the potential date. The bio included the following text. Female participants were shown a text describing a male (Javi) whereas male participants were shown a text describing a female (Miriam): "Hello! My name is Miriam (vs. Javi). I am a university student. I am 24 years old, and I want to meet people and, perhaps, find someone special. I really like watching series (especially comedies!), playing sports, and spending time with my friends. Also, it's important to me...". (see the online supplement for the full text). The profile was intended to appear incomplete to support the perceived knowledge induction (see below). Next, participants were randomly assigned to list positive or negative aspects about the profile they just read. Participants then reported their attitudes towards the date and completed the dependent variable regarding their behavioral intentions. Lastly, we debriefed and thanked all participants for their engagement.

4.3. Predictor variables

4.3.1. Perceived knowledge

All participants were presented with the same amount of actual information in the profile. Participants randomly assigned to the low

perceived knowledge condition were informed that the profile they were about to see was 10 % of the entire profile. Participants assigned to the high perceived knowledge condition were told that they would see 90 % of the entire profile.

4.3.2. Favorability of attitudes

Participants were randomly assigned to list either three positive or three negative characteristics about the profile they had received. Specifically, in the favorable attitudes condition, participants were asked to list 3 strengths and positive aspects of the potential partner. In the unfavorable attitudes condition, they were asked to list 3 weaknesses and negative aspects of the potential partner.

4.4. Dependent measures

4.4.1. Attitudes manipulation check

Participants' attitudes towards the date were assessed using four 9-point semantic differential scales (i.e., good-bad, positive-negative, I like-I don't like, in favor-against). Ratings on the scales were highly intercorrelated ($\alpha = 0.924$), thus were averaged to create a composite attitude index. Responses to the attitude measures were scored so that higher values represented more favorable evaluations of the date.

4.4.2. Behavioral intentions

Participants reported their willingness to go on a date with the person by answering the following question: "Are you willing to go on a date with this person?" using a 9-point semantic differential scale (1 = Not willing at all vs. 9 = Totally willing).

4.5. Results

4.5.1. Attitudes manipulation check

This manipulation check was submitted to a two-way ANOVA. Perceived knowledge and favorability of attitudes served as independent variables, and the measured attitudes served as the dependent variable. A main effect of the manipulation of attitude favorability was found, $F(1, 258) = 68.830, p < .001, \eta^2 = 0.211$, such that participants' attitudes towards the person were more favorable for those assigned to the

² All participants self-identified as 'straight' before the study began.

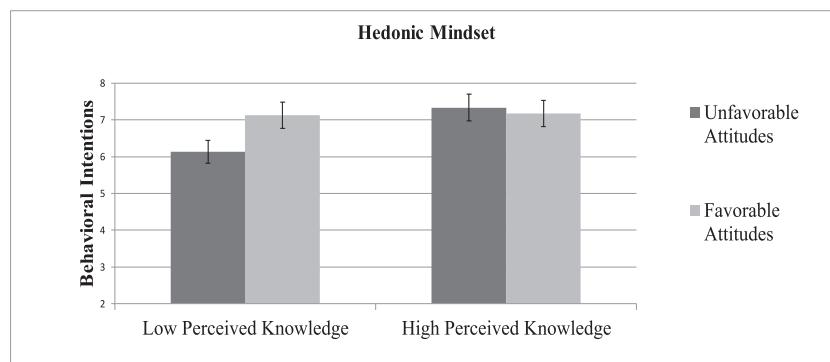


Fig. 1. Behavioral Intentions as a function of manipulated Perceived Knowledge (High vs. Low) and Favorability of Attitudes (Favorable vs. Unfavorable) with 5 % confidence interval error bars.

positive condition ($M = 7.32$; $SD = 1.18$) than for those assigned to the negative condition ($M = 5.87$; $SD = 1.63$). A main effect of the manipulation of perceived knowledge was also found, $F(1, 258) = 4.45, p = .036, \eta_p^2 = 0.017$, such that participants' attitudes towards the person were more favorable for those who were assigned to the low ($M = 6.76$; $SD = 1.66$) than to the high ($M = 6.42$; $SD = 1.53$) perceived knowledge condition. The two-way interaction did not reach statistical significance, $F(1, 258) = 0.33, p = .565, \eta_p^2 = 0.001$.

4.5.2. Behavioral intentions

This measure was submitted to a two-way ANOVA. Perceived knowledge, and favorability of attitudes served as independent variables and behavioral intentions to date the person served as the dependent variable. A main effect of the manipulation of perceived knowledge was found, $F(1, 258) = 5.07, p = .025, \eta_p^2 = 0.019$, such that participants behavioral intentions towards the person were higher for those who were assigned to the high perceived knowledge condition ($M = 7.25$; $SD = 2.16$) than for those assigned to the low perceived knowledge condition ($M = 6.59$; $SD = 2.47$).

More importantly, a significant two-way interaction between attitudes and perceived knowledge emerged, $F(1, 258) = 4.43, p = .036, \eta_p^2 = 0.017$. As illustrated in Fig. 1, manipulated attitudes were significantly more predictive of behavioral intentions for those who were assigned to the low perceived knowledge condition, $F(1, 258) = 6.69, p = .010, \eta_p^2 = 0.025$, than for those who were assigned to the high perceived knowledge condition, $F(1, 258) = 0.16, p = .690, \eta_p^2 = 0.001$.

5. Discussion

As expected, attitudes towards the dating partner served to predict an intention about the dating partner – whether or not to date him/her. More importantly, perceived knowledge moderated this main effect of attitudes on intentions in a novel way. Given that all participants were assigned to a hedonic mindset, low (rather than high) perceived knowledge was significantly more predictive of ABC, therefore reversing the traditional effect of perceived knowledge. Notice that, in contrast, the prediction consistent with the existing literature is that it would be under high (vs. low) perceived knowledge where attitudes would be significantly more predictive of intended behavior (Fabrigar et al., 2006; Kallgren & Wood, 1986; Wood et al., 1995).

Notably, Study 1 manipulated perceived knowledge about the potential dating partner, while ensuring that all participants were provided with the same amount of information about that candidate. Consistent with previous literature on attitude strength comparing actual vs. perceived elaboration (Barden & Petty, 2008; Moreno et al., 2021), this study showed that subjective perceptions (in this case, feelings of knowing) are important even when there is no difference in objective amount of information. An open question is whether we are able to find the traditional perceived knowledge effect in epistemic conditions, as

well as replicating the reverse effect in hedonic conditions within the same study. Our primary goal for the next two studies was to find and replicate the traditional two-way interaction between attitudes and perceived knowledge in predicting intentions as well as the novel two-way observed in Study 1. Producing these different two-way interactions would result in a three-way interaction between mindset, perceived knowledge, and attitudes.

6. Study 2

As just explained, Study 2 was designed to provide a direct test of the potential moderating role of mindset (epistemic vs. hedonic) on the impact of perceived knowledge on ABC by manipulating that variable experimentally. Additionally, having found evidence for a causal role for attitudes in the prior study (in which attitudes were manipulated), in this study we moved to a more ecological and common scenario in the literature in which attitudes are free to vary naturally. Similar to Study 1, participants were informed that the study aimed to test a new dating app and that they would be presented with information about a potential dating partner. Before they were shown the profile of the person, participants were randomly assigned to either an epistemic or hedonic mindset condition. Then, perceived knowledge was manipulated. Participants then read the same profile used in Study 1. Following this, participants completed the attitude measure, as well as a perceived knowledge measure and a meaning of knowledge measure. Finally, participants indicated their behavioral intentions regarding the person. We again expected attitudes to predict behavioral intentions (ABC) overall. Most relevant we predicted a three-way interaction between mindset, perceived knowledge, and attitudes. This three-way would be the result of different two-way interactions in the different mindset. In the epistemic mindset, we expected high perceived knowledge enhance ABC relative to low perceived knowledge. This would be a replication of the traditional attitude strength effect. In the hedonic mindset, we expected that the impact of perceived knowledge would reverse replicating Study 1.

7. Method

7.1. Participants and design

Two hundred and forty-eight participants from the U.S. (50.4 % males, 48.8 % females, 0.8 % non-binary; $M_{age} = 39.25$; $SD = 10.58$) were recruited anonymously via CloudResearch and participated in exchange for monetary compensation. The goal was to collect about 250 participants to have at least 30 participants per experimental condition. They were placed via random assignment in a 2 (Mindset: Epistemic vs. Hedonic) \times 2 (Perceived Knowledge: High vs. Low) factorial design with measured attitudes as an additional predictor, and behavioral intentions as the key dependent variable. A sensitivity analysis for a linear multiple

regression was run using G*Power. Results of that analysis (Faul et al., 2009) revealed that our sample size ($N = 248$) with an estimated power of 0.80 was capable of detecting an effect size of the predicted three-way interaction greater than Cohen's $f^2 = 0.031$, a small to medium effect size.

7.2. Procedure

Similar to Study 1, participants were informed that the study aimed to test a new dating app and that they would be presented with information about a potential dating partner. Before viewing the partner's profile, all participants were randomly assigned to either an epistemic or hedonic mindset condition. Perceived knowledge was also manipulated. Participants then read the *profile*, which included a brief biography of the person (e.g., academic background, hobbies, etc.) and a picture. Following this, they reported their attitudes towards the person, responded to questions assessing their perceived knowledge and the meaning of knowledge. Finally, participants indicated their behavioral intentions regarding the person. At the end of the session, participants were debriefed and thanked for their participation.

7.3. Predictor measures

7.3.1. Mindset

Before reading the potential dating partner's profile, all participants were placed in an epistemic or hedonic mindset. In the epistemic condition, participants were told that their goal was to be as accurate as possible. In contrast, participants in the hedonic condition were informed that their goal was to enjoy and have fun (similar to all participants in Study 1). We designed this manipulation to influence the mindset that participants used to make decisions about the person (for similar inductions see, Cancela et al., 2021; Côte, 2005; Jiang et al., 2014; Maimaran & Fishbach, 2014; Scarabis et al., 2006).³

³ A pilot study was carried out to test the extent to which the mindset manipulation affected the intended construct while not affecting an unrelated construct that could also potentially moderate the relationship between perceived knowledge and ABC (i.e., elaboration; see Petty & Briñol, 2011). One hundred and fifty-eight participants from the U.S. (59.5 % males, 39.2 % females; $M_{age} = 39.86$; $SD = 9.35$) were recruited anonymously via *CloudResearch* and participated in exchange for monetary compensation. They were placed via random assignment in a two-cell (Mindset: Epistemic vs. Hedonic) design. All participants were asked to read a *dating profile* of a person. Before they read the profile, participants' mindsets were manipulated following the same procedure used in Study 2. As a manipulation check, participants answered the following two questions: "What was the motive/mindset you had in mind when reading the profile?" using two 7-point semantic differential scales anchored at (1) *Enjoyment/Entertainment* and (7) *Accuracy/Professional*. The two items were averaged ($r = 0.299$, $p < .001$) to create a composite index designed to reflect differences in mindset. Higher values indicated that participants perceived their mindset as more epistemic. Beyond these two items, participants were also asked to report the amount of perceived elaboration in which they engaged while reading the profile. Ratings were provided on two 7-point semantic differential scales, anchored at (1) *Very inattentive/Very unfocused* and (7) *Very attentive/Very Focused*. A composite index of perceived elaboration was formed by averaging responses to these two measures [$r(157) = 0.897$, $p < .001$]. The composite index reflecting participants' perceptions of mindset and elaboration were submitted to two separate one-way ANOVAs using the induction of mindset (Epistemic vs. Hedonic) as the factor. The results revealed that there was a significant main effect of the mindset manipulation on perceived mindset, $F(1, 156) = 7.235$, $p = .008$, $\eta_p^2 = 0.044$. This main effect indicated that participants in the epistemic mindset condition reported a significantly more epistemic motive ($M = 5.30$; $SD = 1.25$) than did those in the hedonic condition ($M = 4.75$; $SD = 1.227$). Results also showed that participants' perceived elaboration was not affected by the induction of mindset, $F(1, 156) = 0.030$, $p = .862$, $\eta_p^2 < 0.001$.

7.3.2. Perceived knowledge

This manipulation was identical to the one used in Study 1. Participants randomly assigned to low perceived knowledge were informed that the profile they were about to see was 10 % of the entire profile. Participants assigned to the high perceived knowledge condition were told that the excerpt was 90 % of the entire profile.

7.3.3. Attitudes

The attitude measure consisted of four items. Participants were asked to report their attitude towards the potential dating partner by rating the person using the following 9-point scales (1 = *Not intelligent, not warm, uninteresting, I don't like him/her*, 9 = *intelligent, warm, interesting, I like him/her*). Item-ratings were highly inter-correlated ($\alpha = 0.862$), therefore we created one overall attitude index by averaging the items. Higher values on this index reflected more positive evaluations of the potential dating partner.⁴

7.4. Dependent measures

7.4.1. Perceived knowledge manipulation check

We asked all participants to indicate their perceived knowledge regarding the potential date. Responses were recorded on three different 9-point Likert scales (1 = *Not at all*, to 9 = *Completely*) using the following questions: "How much knowledge do you have about the person?"; "How much information do you have to evaluate the person?"; and "To what extent do you have enough knowledge about the person?" We created an index of perceived knowledge by averaging participants' responses to these individual measures ($\alpha = 0.721$). Higher values on this composite index reflected the perception that participants had more knowledge about the person.

7.4.2. Dating intentions

Participants reported their dating intentions towards the person in the profile by answering four questions about their intentions to "go on a date," "take the person out for dinner," "go on a vacation with the person," and "share activities with the person" using four 9-point semantic differential scales (1 = *Not willing at all* vs. 9 = *Totally willing*). Item-ratings were highly inter-correlated ($\alpha = 0.822$); therefore, we created one overall dating intentions index by averaging the items. Higher values in the responses to this index reflected greater dating intentions. Similar measures have been used in previous dating research (Engeler & Raghuram, 2018; Haselton & Buss, 2000).⁵

8. Results

8.1. Perceived knowledge manipulation check

To test whether the perceived knowledge manipulation check varied as a function of our key predictors, we performed a multiple linear regression, using attitudes towards the person (centered), perceived knowledge (low perceived knowledge = -1, high perceived knowledge = 1), mindset (epistemic mindset = -1, hedonic mindset = 1), and their interactions as the independent variables. The data indicated a main

⁴ Attitudes were not affected by the mindset manipulation, $F(1, 244) = 2.121$, $p = .147$, $\eta_p^2 = 0.009$, the perceived knowledge manipulation, $F(1, 244) = 0.138$, $p = .711$, $\eta_p^2 = 0.001$, nor the two-way interaction $F(1, 244) = 0.137$, $p = .712$, $\eta_p^2 = 0.001$.

⁵ For exploratory purposes, we also included a measure of participants' perceptions of having low knowledge (e.g., it's a great feeling when you discover something you did not know before). Results showed that those in the hedonic mindset condition ($M = 4.97$; $SD = 1.58$) tended to value low knowledge more than those in the epistemic mindset condition ($M = 4.72$; $SD = 1.47$), but this difference did not reach the 0.05 level of significance, $B = 0.125$, $t(240) = 1.884$, $p = .061$, 95 % CI: [-0.006, 0.256].

effect of attitudes towards the profile, $B = 0.265$, $t(240) = 3.223$, $p = .001$, 95 % CI: [0.103, 0.428], revealing that having more positive attitudes towards the profile was associated with a significantly higher perceived knowledge. More importantly, the results showed a main effect of the perceived knowledge manipulation, $B = 0.259$, $t(240) = 2.478$, $p = .014$, 95 % CI: [0.053, 0.464], revealing that being assigned to the high perceived knowledge condition was linked to higher perceived knowledge about the person ($M = 6.06$; $SD = 2.27$) than being randomly assigned to the low perceived knowledge condition ($M = 5.54$; $SD = 2.41$). No other effects reached significance, $t(240) < 0.790$, $p > .430$.

8.2. Dating intentions

To test whether attitudes influenced participants' behavioral intentions based on perceived knowledge and mindset, we performed the same multiple linear regression described for the manipulation check. The data indicated a main effect of attitudes towards the dating profile, $B = 1.013$, $t(240) = 11.986$, $p < .001$, 95 % CI: [0.846, 1.179], revealing that having more positive attitudes towards the profile was associated with greater dating intentions. Results also showed a non-significant main effect of perceived knowledge, $B = 0.203$, $t(240) = 1.890$, $p = .060$, 95 % CI: [-0.009, 0.414], revealing that being assigned to the high amount of knowledge condition tended to be associated with greater dating intentions than being randomly assigned to the low perceived knowledge condition.

Of critical importance, a significant three-way interaction emerged between mindset, perceived knowledge, and attitudes towards the person, as predicted, $B = -0.307$, $t(240) = -3.557$, $p < .001$, 95 % CI: [-0.477, -0.137], Cohen's $f^2 = 0.052$. As seen in Fig. 2, the three-way interaction revealed that the pattern of effects between attitudes and perceived knowledge changed according to the mindset manipulation (epistemic vs. hedonic). As expected, a two-way interaction between attitudes towards the person and perceived knowledge emerged in the epistemic condition, $B = 0.329$, $t(240) = 3.057$, $p = .002$, 95 % CI: [0.117, 0.542]. Conceptually replicating prior research on ABC, a significantly greater effect of attitudes on dating intentions was found for participants who were randomly assigned to the high perceived knowledge condition, $B = 1.278$, $t(240) = 8.111$, $p < .001$, 95 % CI: [0.968, 1.589], than for those who were assigned to the low perceived knowledge condition, $B = 0.620$, $t(240) = 4.217$, $p < .001$, 95 % CI: [0.330, 0.909]. In contrast, a significant two-way interaction in the opposite direction was found for those who were assigned to the hedonic condition, $B = -0.285$, $t(240) = -2.111$, $p = .036$, 95 % CI: [-0.550, -0.019]. Specifically, a significantly greater effect of attitudes on dating intentions was found for participants who were randomly assigned to the low perceived knowledge condition, $B = 1.365$, $t(240) = 6.056$, $p < .001$, 95 % CI: [0.921, 1.809], than for those who were assigned to the high perceived knowledge condition, $B = 0.795$, $t(240) = 5.367$, $p < .001$, 95 % CI: [0.504, 1.088]. This finding is a replication of the novel effect found in Study 1, reversing the traditional effect of perceived knowledge on ABC.

9. Discussion

As expected, attitudes towards the dating partner served to predict whether or not to date him/her. More uniquely, mindset along with perceived knowledge moderated this traditional effect. For those assigned to the hedonic mindset, having low (vs. high) perceived knowledge enhanced ABC, therefore replicating the effect identified in Study 1 and reversing the traditional effect of perceived knowledge when in this mindset. In contrast, for those assigned to an epistemic mindset, higher levels of perceived knowledge about a person were

associated with greater ABC, identifying when the typical effect is more likely to emerge. Additionally, this interaction pattern may explain applied scenarios of actual dating behavior. For instance, a user evaluating dating profiles under an epistemic mindset (e.g., reading bios, comparing interests) may feel knowledgeable about a match. Their attitude (liking someone) is more likely to predict behavior (initiating contact or agreeing to meet) when they perceive high knowledge. However, a user swiping for fun might feel like "knowing" the person is not as necessary. Interestingly, under this mindset, lower perceived knowledge may increase attitude-behavior correspondence by adding mystery, romanticism or "magic" to a potential date without emphasizing too much about the accuracy of their decision.

An open question worth examining is whether these results could be replicated in a full experimental design, using a different attitude domain, and to what extent these results are associated with the meaning of knowledge. That is, in an epistemic mindset, people presumably associate high knowledge with a more positive meaning than low knowledge. However, under a hedonic mindset, people presumably associate low knowledge with a more positive meaning than high knowledge.

10. Study 3

Study 3 was designed to provide a fully experimental replication of the moderating impact of mindset on the relationship between perceived knowledge and ABC in a different domain and in a preregistered experiment. Another goal was to provide evidence of the proposed psychological mechanism responsible for this effect by using a mediational approach. Participants were first asked to evaluate a hotel and a room in it either for a business trip (epistemic mindset) or for a vacation trip (hedonic mindset). We aimed to generalize our findings from an interpersonal domain (assessing people in the dating domain) to assessing a service in the consumer domain. Similar to previous studies, the hotel and the information were identical for all participants. Participants were then randomly assigned to a low or high perceived knowledge condition. After participants saw the pictures and the hotel description, the favorability of attitudes towards the hotel was manipulated by randomly assigning participants to list either three positive or negative features of the hotel. Finally, participants indicated how willing they were to book a room in the hotel, which as the dependent measure. Participants then reported the perceived meaning they attached to having high knowledge.

Overall, once again we expected attitudes to predict behavioral intentions. Also, we predicted a three-way interaction between the three experimentally manipulated independent variables that would be a result of opposite two-way interactions of attitudes and perceived knowledge under the epistemic and hedonic mindsets. Importantly, we expected participants to have a more positive meaning associated with having high knowledge when they were in the epistemic rather than the hedonic mindset. Or conversely, they would value high knowledge less when in the hedonic than epistemic mindset. Furthermore, we expected this measure to mediate the impact of the independent variables on the dependent measure.

11. Method

11.1. Participants and design

Three hundred and thirty-seven participants from the U.S. (51.6 % males, 46 % females, 1.8 % non-binary, and 0.6 % preferred not to disclose it; $M_{age} = 42.61$; $SD = 12.33$) were recruited anonymously via *CloudResearch* and participated in exchange for monetary compensation. They were placed via random assignment into a 2 (Mindset: Epistemic

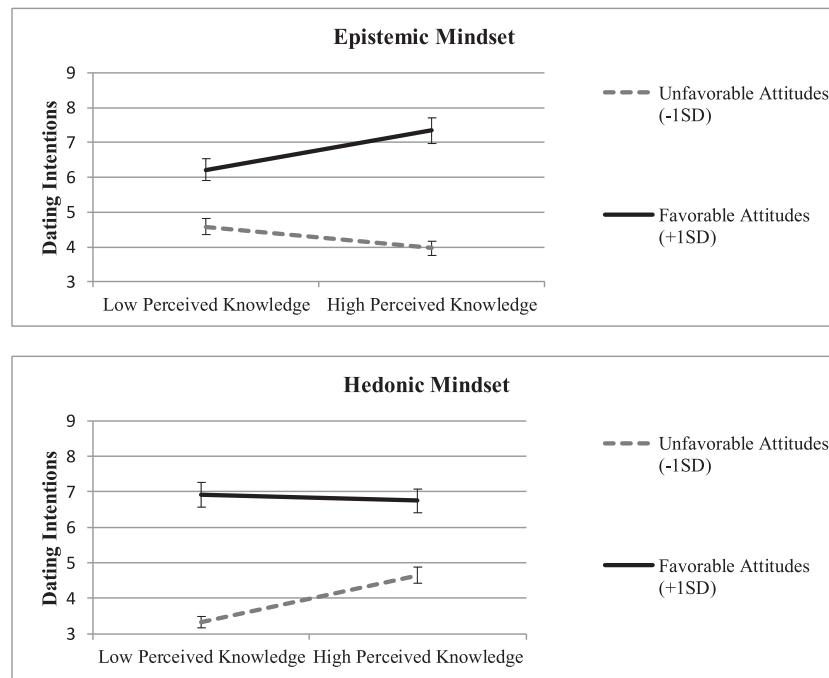


Fig. 2. Dating Intentions as a Function of Manipulated Perceived Knowledge (High vs. Low) and Attitudes towards the Person in Study 2 under Epistemic (top Panel) and Hedonic Mindsets (bottom Panel) with 5 % confidence interval error bars.

vs. Hedonic) \times 2 (Perceived Knowledge: High vs. Low) \times 2 (Favorability of Attitudes: Positive vs. Negative) factorial design with behavioral intentions as the key dependent variable, and the meaning of knowledge as a potential mediator.⁶ A sensitivity analysis for an ANOVA was run using G*Power. Results of this analysis (Faul et al., 2009) revealed that our sample size ($N = 337$) with an estimated power of 0.80 could detect an effect size for the predicted three-way interaction greater than Cohen's $\delta^2 = 0.023$. This study was pre-registered (https://aspredicted.org/49P_R15). In the pre-registration, we predicted the three-way interaction between mindset, knowledge, and attitudes on behavioral intentions. Importantly, we also tested the meaning of knowledge as a potential mediator of the effects in an exploratory mediational model (not preregistered).

11.2. Procedure

Upon arrival, participants were told that they would be presented with information about a hotel. First, the participant's mindset was manipulated. Then, the perceived amount of knowledge was manipulated. Next, all participants read the same information regarding the hotel, which was accompanied by three pictures of three different rooms. Next, participants were randomly assigned to list three positive or negative aspects of the hotel to vary the favorability of the attitudes towards the target object. Participants completed the dependent variable regarding their behavioral intentions to book the hotel. Participants then reported the perceived meaning they attached to high knowledge. Lastly, we debriefed and thanked all participants for their engagement with the study.

11.3. Predictor measures

11.3.1. Mindset

Participants' mindset was manipulated using a procedure similar to that used by Kronrod and Danziger (2013). In the epistemic condition, participants were told to imagine they were searching for a hotel for a business trip and that they had to form an impression as accurately as possible. Specifically, they read: "Imagine that you are searching for a hotel for a business trip. You are going to be shown pictures of a hotel room that you can book to attend an work-related conference in Spain. As you take a look, we would like you to try to create an impression of this hotel room that is as accurate as possible. Thank you!" In the hedonic condition, participants were told to imagine they were searching for a hotel for a vacation trip and that they should try to have fun while doing the search. Specifically, they read: "Imagine that you are searching for a hotel for a vacation trip. You are going to be shown the profile of a hotel room that you can book to visit Spain. As you take a look, we would like you to try to have as much fun as you can and to enjoy yourself as much as possible. Thank you!" In a hedonic mindset, the goal is for participants to leave aside strict accuracy concerns and instead focus on their enjoyment of the experience—even if some aspects of the hotel room may be glossed over.

11.3.2. Perceived knowledge

Like the previous studies, all participants were presented with the same amount of actual information for the hotel (3 pictures). Participants randomly assigned to the low perceived knowledge condition were informed that the pictures they were about to see resembled around 10 % of the rooms available in the entire hotel. Participants assigned to the high perceived knowledge condition were told that what they would see resembled around 90 % of the rooms available in the entire hotel.

11.3.3. Favorability of attitudes

Similar to Study 1, participants were randomly assigned to list either three positive or three negative characteristics about the hotel rooms they had seen. Specifically, in the favorable attitudes condition,

⁶ In our preregistration, we reported a power analysis using G*Power (Faul et al., 2009). We aimed for power to detect a relatively small-to-medium effect (Cohen's $\delta^2 = 0.030$; Cohen, 1988). The results showed that the required sample size for a two-tailed test ($\alpha = 0.050$) of the predicted three-way interaction with 0.80 power was $N = 264$ participants. Our recruited sample was larger than that number but the three-way interaction remains significant when only the first 264 participants are used, $F(1, 256) = 5.026, p = .026, \eta^2 = 0.019$.

participants were asked to list three positive thoughts or aspects of the hotel. In the unfavorable attitudes condition, they were asked to list three negative thoughts or aspects of the hotel.

11.4. Dependent measures

11.4.1. Attitudes manipulation check

Participants' attitudes towards the hotel were assessed using the same four 9-point semantic differential scales used in Study 1 (i.e., good-bad, positive-negative, unfavorable-favorable, in favor-against). Ratings on the scales were highly intercorrelated ($\alpha = 0.972$), thus were averaged to create a composite attitude index. Responses to the attitude measures were scored so that higher values represented more favorable evaluations of the hotel.

11.4.2. Behavioral intentions

Similar to the previous studies, participants reported their willingness to book a hotel room by answering the following question: "Will you be willing to book the hotel?" using a 9-point semantic differential scale (1 = *Not willing at all* vs. 7 = *Totally willing*). Other research in consumer domains has used similar behavioral intentions measures (Bergkvist & Rossiter, 2007).

11.4.3. Meaning of knowledge

The meaning associated with having high knowledge was rated on one 7-point single-item asking their rating of the following statement: "*Having extensive knowledge about something/someone is exciting (1) or boring (7)*." This item was re-coded so higher values were associated with a more positive meaning of knowledge.

11.5. Results

11.5.1. Attitudes manipulation check

The attitudes manipulation check was submitted to a three-way ANOVA. Mindset, perceived knowledge, and favorability of attitudes served as independent variables along with the interactions among these variables. As predicted, a main effect of the manipulation of attitude favorability was found, $F(1, 329) = 41.324, p < .001, \eta^2 = 0.112$, such that participants measured attitudes towards the hotel were more favorable for those who were assigned to the positive condition ($M = 7.71, SD = 1.30$) than for those assigned to the negative condition ($M = 6.74, SD = 1.47$). No other main effects, $Fs < 2.192, ps > 0.140$, two-way interactions, $Fs < 1.502, ps > 0.221$, or a three-way interaction, $Fs (1, 329) = 3.407, p = .066$ emerged.

11.5.2. Behavioral intentions

This measure was also submitted to a three-way ANOVA. A main effect of the manipulation of attitude favorability was found, $F(1, 329) = 6.962, p = .009, \eta^2 = 0.021$, such that participants intentions to book the hotel were higher for those who were assigned to the favorable attitudes condition ($M = 5.33, SD = 1.36$) than for those assigned to the unfavorable attitudes condition ($M = 4.96, SD = 1.35$). No other main effects nor two-way interactions emerged, $Fs < 2.404, ps > 0.122, \eta^2 < 0.007$.

Most central to our predictions, the hypothesized and pre-registered three-way interaction between mindset, perceived knowledge, and attitude favorability was significant, $F(1, 329) = 4.893, p = .028, \eta^2 = 0.015$, Cohen's $f^2 = 0.015$. As illustrated in Fig. 3 (top panel), for those assigned to the epistemic mindset, a non-significant interaction between attitudes and perceived knowledge emerged in the expected direction, $F(1, 164) = 1.827, p = .178, \eta^2 = 0.011$. Specifically, in the high perceived knowledge condition, favorable (vs. unfavorable) attitudes predicted more behavioral intentions in accord with their valence, $F(1,$

$164) = 8.556, p = .004, \eta^2 = 0.050$. In contrast, in the low knowledge condition, there was no difference between favorable and unfavorable attitudes, $F(1, 164) = 1.343, p = .248, \eta^2 = 0.008$.

Regarding those who were assigned to the hedonic condition (see Fig. 3, bottom panel), a non-significant interaction between attitudes and perceived knowledge also emerged in the expected direction, $F(1, 165) = 3.173, p = .077, \eta^2 = 0.019$, but it was opposite to that in the epistemic condition. Specifically, in the low perceived knowledge condition, attitudes tended to predict behavioral intentions in accord with their valence, $F(1, 165) = 3.307, p = .071, \eta^2 = 0.020$. In contrast, in the high knowledge condition, the manipulation of attitude favorability did not predict behavioral intentions, $F(1, 165) = 0.499, p = .481, \eta^2 = 0.003$.

11.5.3. Meaning of knowledge

The plausible mediator was submitted to the same three-way ANOVA. A main effect of mindset was found, $F(1, 329) = 5.384, p = .021, \eta^2 = 0.016$, such that participants' meaning of high knowledge was more associated with positivity (excitement rather than boredom) in the epistemic condition ($M = 3.13; SD = 1.43$) than in the hedonic condition ($M = 2.79; SD = 1.33$). No other main effects nor interactions emerged, $Fs < 1.955, ps > 0.163, \eta^2 < 0.006$.

11.5.4. Moderated mediation model

To analyze the moderated mediation effect of meaning, we employed Model 19 from the Hayes' PROCESS macro in SPSS (see Hayes, 2018). This model is a moderated mediation analysis in which mindset was treated as the independent variable, behavioral intentions as the dependent variable, meaning of knowledge as the mediator, and perceived knowledge and attitude favorability as moderators of both the relationship between mindset and behavioral intentions and the relationship between meaning of knowledge and behavioral intentions (see Fig. 4).

The model predicting meaning of knowledge found a significant effect of mindset, $B = -0.169, t(335) = -2.247, p = .025, 95\% \text{ CI: } -0.317, -0.021$. The model predicting behavioral intentions found a non-significant but consistent effect of the Mindset \times Perceived Knowledge \times Attitude Favorability interaction, $B = -0.140, t(331) = -1.874, p = .062, 95\% \text{ CI: } -0.287, 0.007$. In addition, a significant main effect of attitude favorability, $B = 0.199, t(331) = 2.695, p = .007, 95\% \text{ CI: } 0.054, 0.345$, was found. This model also yielded a significant Meaning of Knowledge \times Perceived Knowledge \times Attitude Favorability interaction, $B = 0.114, t(331) = 2.074, p = .039, 95\% \text{ CI: } 0.006, 0.221$, consistent with the overall three-way effect found on intentions, but substituting mindset with the meaning of knowledge. That is, higher perceived knowledge is associated with more ABC when meaning of knowledge is relatively positive, but the opposite (low perceived knowledge leads to more ABC) when the meaning is relatively negative. This is consistent with our rationale that mindset modifies the meaning people attach to knowledge. Most importantly, results revealed that the indirect effect via meaning of knowledge was significantly different from zero, $B = -0.080, SE = 0.056, 95\% \text{ CI: } [-0.228, -0.002]$, consistent with the proposed mediation.

11.6. Discussion

Using a consumer context, a different attitude object (a hotel) in a consumer domain, and a full experimental design that was preregistered, this third study replicated the impact of attitudes on behavioral intentions. More importantly, this study also replicated the role of mindset as a moderator of the impact of perceived knowledge on ABC. High perceived knowledge was associated with increased ABC for people in an epistemic mindset but decreased ABC for people in a hedonic

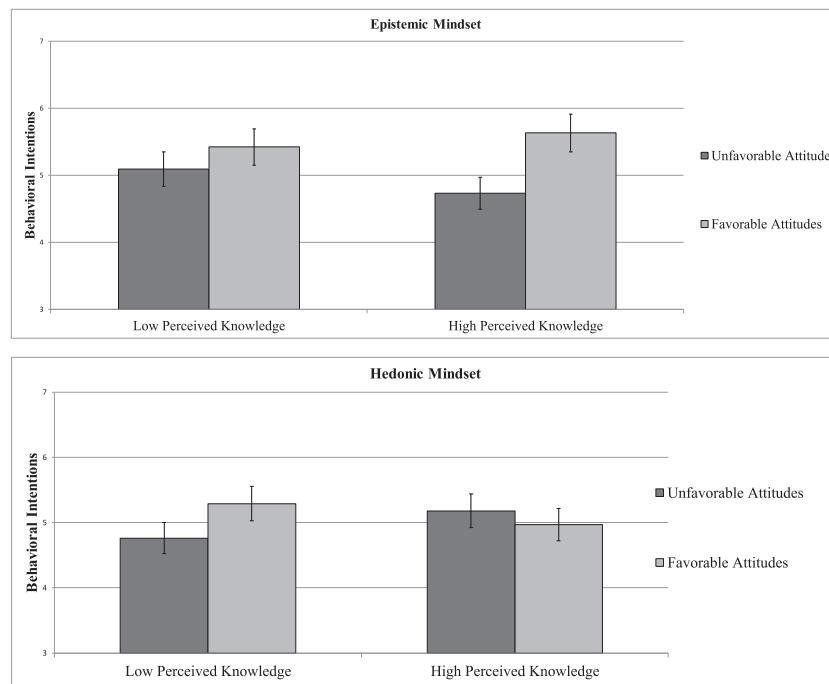


Fig. 3. Behavioral Intentions as a function of manipulated Perceived Knowledge (High vs. Low) and Favorability of Attitudes (Favorable vs. Unfavorable) in Study 3 under Epistemic (top Panel) and Hedonic conditions (bottom Panel) with 5 % confidence interval error bars.

mindset. Furthermore, mindset affected the meaning of high knowledge, and these variations in meaning were predicted and found to be a mediator of the obtained effects. Therefore, this experiment provided convergent evidence for the key interaction and extended the contribution by providing mediational evidence of the proposed process (i.e., mindset changes the meaning of high knowledge).⁷ This Study adds to emerging evidence of the varying impact of knowledge on consumer decisions (see Lee & Qiu, 2009; Zhu et al., 2023). Despite Study 3 already providing mediational evidence of our proposed mechanism, the final Study 4 was designed to provide further evidence about such underlying mechanism by manipulating (rather than measuring) the proposed mediator. Importantly, we aimed to test whether the effect of perceived knowledge on ABC as a function of the meaning of knowledge could be replicated under a different, likely more epistemic context by default than the ones used previously (i.e., hiring decision about a job candidate). In addition to providing mediational evidence of the measured mediator, establishing a causal relationship when determining psychological processes can often provide the most compelling case for a theoretical account of such processes (for a review, see Spencer et al., 2005).

12. Study 4

After showing mediational evidence for the underlying mechanism of the moderating effect of mindset on perceived knowledge and ABC, the final study was designed to manipulate the core psychological mechanism: the meaning associated with knowledge. Thus, the goal of this experiment was to manipulate the proposed mediator by varying whether high knowledge was associated with a relatively positive or negative meaning. We argue that the perceived meaning of knowledge is the critical element for perceived knowledge to moderate the impact of attitudes on intentions. Thus, if we disrupted the normal link between

knowledge and its typical positive meaning, we could modify the traditional results. Thus, in addition to manipulating the extent of perceived knowledge, we introduced a new variable manipulating the valence of knowledge orthogonal to the other variables. Throughout the manuscript, we have focused on the different perceptions of whether high knowledge is better than low in the epistemic mindset versus whether low knowledge is better than high in the hedonic mindset. So, we decided to vary this perception directly and lead people in both the high and low perceived knowledge conditions to believe that the high or low knowledge they were assigned to was good or bad. Based on this induction, our prediction is that when people think the knowledge they have regardless of whether it is low or high, is positive, they will use their attitudes based on this knowledge more than when they think that whatever degree of knowledge they have is negative. Lastly, we decided to test this notion in another consequential person-perception context, this time in one that likely has a more epistemic approach by default (i.e., evaluation of job candidates).

Participants first received an interview transcript describing an interaction between a recruiter and a job candidate. After reading the interview, participants were randomly assigned to the high or low perceived knowledge induction. Then, participants were randomly assigned to the second manipulated independent variable: high vs. low positivity of the meaning of their knowledge. This induction associated the knowledge to which had been assigned (high vs. low) with relatively positive vs. negative meanings. Participants then reported their attitudes towards the job candidate and indicated whether they would hire the candidate or not and how much they would offer as a starting salary. These two final decisions served as the dependent measures of the study.

First, we expected that overall, attitudes towards the candidate would predict behavioral intentions (ABC). Importantly, we expected to find greater ABC when whatever knowledge that people were perceived to have (high or low) was associated with a positive rather than a negative meaning. If proved correct, this would mean that when high perceived knowledge was said to be good rather than bad, ABC would be increased. This would conceptually replicate what was obtained previously in the epistemic mindset conditions. Conversely, when low perceived knowledge was said to be good rather than bad, ABC would be

⁷ Although the three-way on attitudes was not significant, it was in the same pattern as intentions. However, this was not the case for any of the other studies which suggests that it does not provide a plausible alternative interpretation of the results overall.

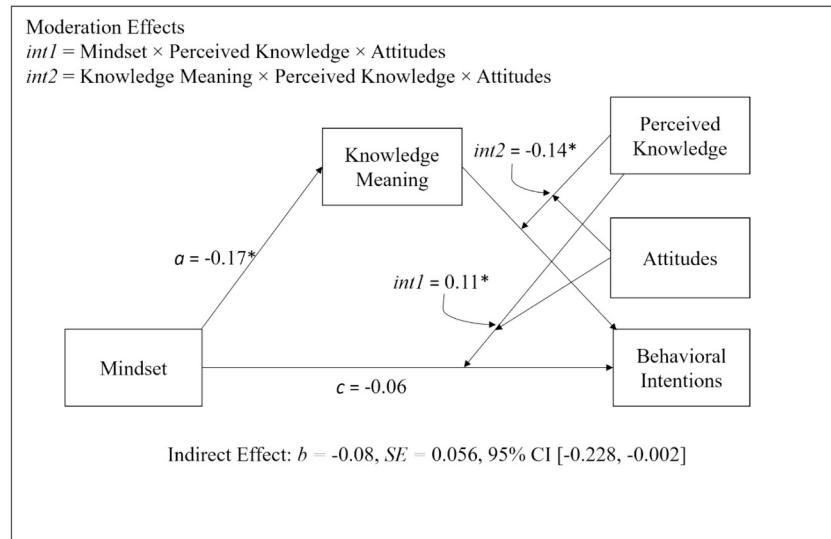


Fig. 4. Moderated mediation model in Study 3.

increased. This would conceptually replicate what was obtained previously in the hedonic mindset conditions. In sum, a positive (vs. negative) meaning of knowledge was expected to be associated with more ABC, regardless of whether such knowledge was perceived to be high (vs. low). We test this prediction because the core assumption of our framework involves people's perceptions about whether their amount of subjective knowledge is relatively good or bad, which we have argued can vary naturally depending on mindset (epistemic or hedonic).

13. Method

13.1. Participants and design

Three hundred and fifty-six undergraduate students (85.4 % females, 12.6 % males, 2 % non-binary; $M_{age} = 19.71; SD = 1.58$) at a large public university in Spain participated in exchange for course credit. They were placed via random assignment into a 2 (Perceived Knowledge: High vs. Low) \times 2 (Meaning: Positive vs. Negative) factorial design with measured attitudes as an additional predictor, and behavioral intentions as the key dependent variable. A *sensitivity* analysis for a linear multiple regression was run using G*Power. Results of this analysis (Faul et al., 2009) revealed that our sample size ($N = 356$) had statistical power of 0.80 to detect an effect size for the predicted two-way interaction greater than Cohen's $f^2 = 0.017$.

13.2. Procedure

First, we informed participants that they would take part in a project designed to test and validate personality scales related to academic and professional contexts. Each participant received a job interview transcript. The transcript included information about the challenges the candidate overcame during his/her career, his/her known areas of improvement, and perceived capabilities as a potential leader/manager. Importantly, all participants received identical information. Then, they were randomly assigned to the same low or high perceived knowledge induction used in the previous studies. Next, participants were assigned to an induction leading them to believe that the meaning of the knowledge they had received was positive or negative. After this, participants reported their attitudes towards the job candidate and then indicated their willingness to hire the candidate by providing a signature and they proposed a starting salary for the candidate. Finally, participants were thanked, debriefed, and dismissed.

13.3. Predictor measures

13.3.1. Perceived knowledge

As in the previous studies, participants were presented with the same amount of actual information in all conditions. Participants randomly assigned to the low perceived knowledge condition were informed that the profile they were about to see was 10 % of the entire profile. Participants assigned to the high perceived knowledge condition were told that they would see 90 % of the entire profile.

13.3.2. Meaning of knowledge

The valence of the meaning of knowledge was manipulated orthogonally with the amount of perceived knowledge by having participants answer leading questionnaires with items suggesting a positive (vs. negative) meaning for whatever perceived knowledge (high vs. low) they had been assigned to previously. Participants in the positive meaning condition who were assigned to the high perceived knowledge induction were presented with words suggesting that having high knowledge signals interest and control. For those assigned to the low perceived knowledge induction, they were presented with words suggesting that having low knowledge was associated with mystery and curiosity. Participants in the negative meaning condition who were assigned to the high perceived knowledge induction were presented with words suggesting that high knowledge was associated with boredom and mental rigidity. For those assigned to the low perceived knowledge induction, they were presented with words suggesting that having low knowledge was linked to stupidity and lack of information. As should be obvious from this description, the meaning conditions differ in several features. We used multiple approaches because different people focus on different aspects of knowledge when assessing its value.

13.3.3. Attitudes

The attitude measure consisted of five items. We asked participants to report their attitude towards the potential job candidate by rating the person using the following 9-point scales (good-bad, positive-negative, I like-I don't like, in favor-against, with potential-without potential). Item-ratings were highly inter-correlated ($\alpha = 0.788$). Therefore, we created one overall attitude index by averaging the items. Higher values in the responses to this index reflected more positive evaluations of the

potential candidate.⁸

13.4. Dependent measures

13.4.1. Starting salary

As a measure of commitment towards the candidate, participants proposed the starting salary that the candidate should have on a scale from 1 to 10 by responding to the following question: "If the applicant were to be offered this job, what would his/her yearly starting salary be?" (From 1 = "Very much below average starting salary," to 10 = "Very much above average starting salary"). Previous research has shown that the decision about the starting salary for entry-level candidates is a valid indicator of desire to hire in recruitment contexts (Bordieri & Drehmer, 1986; Padgett & Morris, 2005).

13.4.2. Hiring decision

We also used a behavioral measure of deciding to hire the candidate. We coded that variable as 0 = *Not signed* and 1 = *Signed*. Overall, 78.9 % of participants signed the document, showing their commitment to hire the candidate. Providing one's signature is a well-established behavioral measure of commitment (Lokhorst et al., 2013). These measures of commitment (e.g., salary, signature) are conceptually aligned with behavioral intentions, capturing consequential and action-oriented decisions consistent with prior research on ABC.

14. Results

14.1. Starting salary

To test whether attitudes influenced participants' behavioral intentions based on perceived knowledge and meaning, we performed a multiple linear regression, using attitudes towards the person (centered), perceived knowledge (low perceived knowledge = -1, high perceived knowledge = 1), meaning (negative meaning = -1, positive meaning = 1), and their interactions as the independent variables. There was no main effect of attitudes towards the profile, $B = 0.255$, $t(348) = 1.377$, $p = .170$, 95 % CI: [-0.109, 0.620], nor perceived knowledge, $B = 0.040$, $t(348) = 0.127$, $p = .899$, 95 % CI: [-0.581, 0.661], nor meaning of knowledge, $B = -0.063$, $t(348) = -0.405$, $p = .686$, 95 % CI: [-0.371, 0.244].

Of most importance, our core hypothesis that the meaning of knowledge induction would interact with attitudes to predict intentions was supported. That is, a significant two-way interaction emerged between attitudes towards the person and meaning of knowledge, $B = 0.664$, $t(348) = 3.581$, $p < .001$, 95 % CI: [0.299, 1.029], Cohen's $f^2 = 0.071$. As shown in Fig. 5, this interaction revealed that attitudes were predictive of hiring decisions for participants who were randomly assigned to the positive meaning of knowledge condition, $B = 0.916$, $t(348) = 3.401$, $p < .001$, 95 % CI: [0.386, 1.445], but not for those who were assigned to the negative meaning of knowledge condition, $B = -0.412$, $t(348) = -1.617$, $p = .107$, 95 % CI: [-0.914, 0.089]. As expected, the three-way interaction did not reach significance, $B = -0.154$, $t(348) = -0.414$, $p = .679$, [-0.886, 0.578].

The absence of the Perceived Knowledge \times Attitudes and the three-way interaction indicate that the meaning \times attitudes two-way interaction was not further moderated by perceived knowledge. This suggests that the variation in the meaning of knowledge (not the amount of perceived knowledge per se) is the key element for the effects observed in the previous studies.

⁸ Attitudes were not affected by the perceived knowledge manipulation, $F(1, 352) = 0.040$, $p = .841$, $\eta_p^2 < 0.001$, the meaning manipulation, $F(1, 352) = 0.241$, $p = .623$, $\eta_p^2 = 0.001$, nor the two-way interaction $F(1, 352) = 0.083$, $p = .773$, $\eta_p^2 < 0.001$.

14.2. Hiring decision

We performed a logistic binary regression, using attitudes towards the person (centered), perceived knowledge (low perceived knowledge = -1, high perceived knowledge = 1), meaning (negative meaning = -1, positive meaning = 1), and their interactions as the independent variables with signature presence versus absence as the dependent outcome. The data indicated a main effect of attitudes towards the candidate, $B = 1.061$, $z(348) = 5.775$, $p < .001$, 95 % CI: [0.701, 1.421], revealing that reporting more positive attitudes was associated with a greater likelihood of deciding to hire the candidate. There was no main effect of perceived knowledge, $B = -0.088$, $z(348) = -0.281$, $p = .779$, 95 % CI: [-0.701, 0.525], nor meaning of knowledge, $B = -0.102$, $z(348) = -0.658$, $p = .511$, 95 % CI: [-0.405, 0.202].

Of critical importance, a significant two-way interaction emerged between meaning of knowledge and attitudes towards the person in predicting hiring decisions, $B = 0.422$, $z(348) = 2.303$, $p = .021$, 95 % CI: [0.063, 0.782], Cohen's $f^2 = 0.007$. As shown in Fig. 6, this interaction revealed that attitudes were more predictive of the hiring decision (signature presence) for participants who were randomly assigned to the positive meaning of knowledge condition, $B = 1.481$, $z(348) = 5.131$, $p < .001$, 95 % CI: [0.915, 2.046], than for those who were assigned to the negative meaning of knowledge condition, $B = 0.636$, $z(348) = 2.808$, $p = .005$, 95 % CI: [0.192, 1.080].

The other two-way interactions (between perceived knowledge and attitudes, and between perceived knowledge and meaning) as well as the three-way interaction were not significant ($B < 0.575$, $z(348) < 1.595$, $p > .111$).

14.3. Discussion

This study applied a process-by-moderation approach, which offers a test for causal examination of the mechanism driving the effect (Spencer et al., 2005). In this study, the key underlying process was manipulated, namely the valence of the meaning associated with perceived knowledge. When the meaning of either relatively high or low knowledge was positive, that degree of perceived knowledge led to greater ABC than when the meaning of that knowledge was relatively negative. Additionally, we tested whether the predicted effect of meaning could be applied to a context that was more likely to be relatively epistemic by default (i.e., hiring a job candidate) rather than hedonic (e.g., making a dating or vacation decision). Importantly, we replicated for both dependent measures the traditional findings (more ABC for high vs. low knowledge) in the conditions mimicking the epistemic mindset in which the knowledge people had (whether relatively high or low) was perceived to be good. In contrast, when whatever knowledge people had was perceived to be bad the impact of attitudes on intentions was either attenuated (for the hiring decision; Fig. 6) or reversed (for the salary decision, Fig. 5). Taken together, these results suggest that the key element for perceived knowledge to moderate ABC is the perceived meaning of that knowledge rather than its perceived amount. This study's findings may also speak to real-world scenarios in the context of job hiring and recruitment. Many interviewers are focused on accuracy (i.e., an epistemic mindset). Thus, if the interviewer feels well-informed (even if the actual information is minimal), the attitudes about a candidate are more likely to guide hiring decisions. However, if those same interviewers are in a hedonic mindset (e.g., at an informal lunch or social setting), low perceived knowledge could make initial positive feelings even more predictive of hiring behavior, potentially leading to decisions that are then attributed to perceived "chemistry." Taken together, Studies 3 & 4 provide strong evidence of the proposed mechanism. Specifically, Study 3 showed that a hedonic (vs. epistemic) mindset does have an impact on the meaning associated with perceived knowledge, which in turn is associated to more (vs. less) ABC when perceived knowledge is low (vs. high). Nevertheless, although the mediation was statistically significant, our model only tested the proposed sequence of

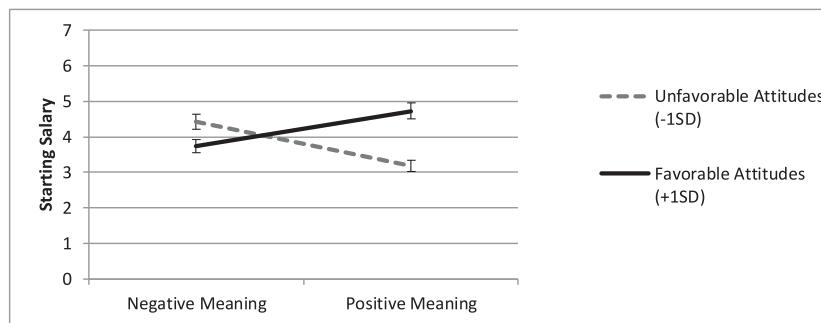


Fig. 5. Starting Salary as a function of Knowledge Meaning (Positive vs. Negative) and measured attitudes in Study 4 with 5 % confidence interval error bars.

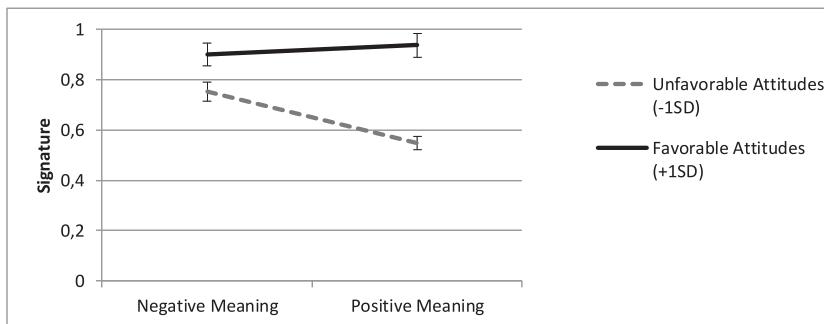


Fig. 6. Hiring Decision (signature) as a function of Knowledge Meaning (Positive vs. Negative) and measured attitudes in Study 4 with 5 % confidence interval error bars.

variables that were assessed and therefore it can be also compatible with other potential variables that were not measured (Fiedler et al., 2018). Therefore, Study 4 showed that experimentally manipulating the meaning associated with perceived knowledge directly impacts the extent to which such knowledge predicts ABC. Thus, it is this combined approach with convergent evidence across mediation and moderation studies that reinforce our proposal, offering compelling evidence that mindset creates differences in meaning associated with knowledge, which are the underlying process behind the impact of perceived knowledge on ABC.

15. General discussion

Across four studies (see Table 1), this research introduced a new variable (i.e., epistemic vs. hedonic mindsets) that helps illuminate the conditions under which a previously established phenomenon (i.e., the impact of perceived knowledge on moderating ABC) is more likely to occur. That is, this traditional effect of perceived knowledge on ABC was confined to situations in which people were in an epistemic mindset, when high knowledge is valued. Furthermore, this new variable of mindset was capable of reversing the previously established effect, therefore introducing a new phenomenon into the literature of perceived knowledge, attitudes, and person perception. That is, the emergence of the traditional effect of perceived knowledge differed depending on mindset, thereby also contributing to literature on goals.

We also report four additional studies (detailed in the supplement, see Table 2), that also pointed to the important role of mindset in determining the moderating role of perceived knowledge in ABC. Three of these supplementary studies used an epistemic mindset and reproduced the traditional effect of perceived knowledge and one of the supplemental studies manipulated mindset and produced the three-way interaction mirroring the one reported in the core text studies. In all eight of the studies we conducted, we measured or manipulated perceived knowledge to be high versus low while keeping actual

knowledge about the attitude object constant. Importantly, to the extent of our awareness, few studies have examined the impact of perceived knowledge on ABC in the absence of variations in actual knowledge, and none in the domain of person perception. Even more uniquely, as just noted, the manipulation of mindset moderated the effect of perceived knowledge on ABC. In Studies 2, 3, and 1 s to 4 s, under an epistemic mindset, ABC was greater for those with higher perceived knowledge (measured or manipulated), specifying under what conditions the traditional effect of perceived knowledge is more likely to emerge. In contrast, in Studies 1, 2, 3, and 2 s, under a hedonic mindset, lower perceived knowledge was significantly more predictive of ABC, reversing for the first time the traditional effect and offering a novel moderator.

Under epistemic conditions, where people wish to be correct, they presumably value high knowledge as an indicator of the value of their attitudes and thus rely on their high knowledge attitudes more. However, under hedonic conditions, where people want to be entertained, they presumably value low knowledge attitudes more as this could indicate people who have unrecognized potential or the ability to surprise, and thus they rely on their low knowledge attitudes more (see Fig. 1s in the appendix for the collapsed dataset).⁹ Importantly, our data in Study 3 show that the impact of mindset on ABC is mediated by the meaning of knowledge. A fourth study manipulated the valence of the meaning associated with knowledge and showed that high (or low) perceived knowledge led to greater ABC only to the extent that it was associated with a positive meaning. Moreover, these effects were attenuated or reversed when high (or low) perceived knowledge was associated with a negative meaning. As noted in the introduction, these findings are consistent with prior research suggesting that the feeling of knowing can sometimes be associated with negative meaning (i.e., extensive or too much information is associated with *boredom*, Wilson

⁹ The collapsed dataset shows all predicted effects to be significant (See supplementary materials).

et al., 2005; or *arrogance*, Dunning et al., 1990), while the feeling of not knowing can be associated with a positive meaning (e.g., signaling *potential*, Tormala et al., 2012; *novelty*, Wilson et al., 2005; *mystery*, Buechel & Li, 2023; *fun*, Oh & Pham, 2022; or *curiosity*, Loewenstein, 1994).

Reflecting on the empirical evidence offered by the current set of studies, it seems clear that the effect of a hedonic mindset alone might not always reverse the traditional effect of perceived knowledge on ABC but it might instead sometimes attenuate or eliminate that traditional effect. Indeed, our studies find evidence suggesting that both outcomes are possible [e.g., Study 2 s in the supplementary material shows that the traditional effect of perceived knowledge on ABC was eliminated in the hedonic mindset whereas other studies showed the full reversal of the traditional effect under hedonic mindset]. The effects observed across studies likely lie on a continuum from attenuation to reversal, likely depending on factors such as the strength of the activated mindsets and the context in which they are activated. While in some cases the hedonic mindset merely weakens the influence of knowledge in guiding ABC, in others it may change its meaning sufficiently to produce a full reversal of its effect on ABC. In sum, the influence of hedonic motivation on ABC may not always involve a reversal but could sometimes involve diminished attitude-behavior consistency or the decoupling of perceived knowledge from behavioral guidance. In addition to examining when hedonic mindsets attenuate or fully reverse the traditional effect of perceived knowledge, future research can also examine other potential outcomes, such as a general decrease in the extent to which attitudes predict behavior overall, or a null effect, in which perceived knowledge does not moderate ABC at all.

Our results also suggest that, in addition to having a hedonic goal/mindset (e.g., doing the task for fun), one might *also* need to make a relatively hedonic decision for a reversal to occur (e.g., making a dating decision, a decision about a vacation hotel room) to get low perceived knowledge to enhance ABC. This is implied by the different results obtained in Study 2 from Study 2 s in the supplementary materials (where the epistemic decision in a hedonic context did not produce a reversal) and in Studies 2 & 3 in the main text (where both a hedonic mindset *and* a hedonic decision were used to produce the reversal). That is, the hedonic mindset alone might not be enough.

One could speculate about other contexts in which both the mindset and the decision naturally tend to be relatively hedonic. For instance, when considering going to a movie for enjoyment, both the mindset (people tend to go to the movies to be entertained) and the task (the actual choice of which movie to watch) are hedonic. In such cases, low perceived knowledge might enhance the ability of attitudes to predict behavior. However, our studies suggest that deciding which movie to watch (hedonic task) as a movie critic (epistemic mindset) is unlikely to create the necessary conditions for low perceived knowledge to enhance ABC.

It is also worth noting that, although the effect we obtained under a hedonic mindset might make more intuitive sense for positive attitudes, the results suggest that the interaction effect was driven more by responses among those with negative attitudes (see Supplementary materials, Fig. 1s bottom panel). That is, participants in the hedonic condition with unfavorable attitudes show that those with high perceived knowledge are more likely to act in a way contrary to their attitudes (i.e., date, hire) than those who have low perceived knowledge. In other words, those in a hedonic mindset who dislike the attitude object and perceive high knowledge about it are more likely to approach it than those who perceive low knowledge about it. However, our overall hypothesis is that in a hedonic mindset people are more likely to act in accord with their attitudes when perceived knowledge is low. This means that when attitudes are favorable, those with low perceived knowledge should act more positively (be more willing to hire, date) than those with high perceived knowledge, but when attitudes are unfavorable, those with low perceived knowledge should act more negatively (be more unwilling to hire or date) than those with high perceived knowledge. This, of course, is what the data show. Whether in any given

study the predicted interaction effect is driven more by people with favorable attitudes or those with unfavorable attitudes will depend on many factors such as the variation in perceived knowledge and how favorable or unfavorable attitudes are overall. Put simply, within each mindset condition, once any main effects for perceived knowledge and attitude favorability (which depend on study-specific factors) are removed, the pattern of the interaction is the same (see Petty et al., 1996; Rosnow & Rosenthal, 1989, Rosnow & Rosenthal, 1991, for more detail and discussion).

Nonetheless, some readers may view the results for unfavorable attitudes in a hedonic mindset to be somewhat counterintuitive, an illustrative example of this phenomenon might help. Consider someone who believes that a new movie is likely to be terrible based on a newspaper headline alone (i.e., has an unfavorable attitude based on minimal information). This person might be more willing to skip the movie (i.e., act in accord with their negative attitude) than a person who had *high perceived knowledge* about *why* the movie is considered to be terrible (e.g., "This is the movie with the infamous wooden acting" or "The dialogue is notoriously cheesy). This more detailed knowledge about the negative elements can even become a potential source of enjoyment under a hedonic mindset and thus people with negative attitudes about a new movie based on more knowledge might be more willing to go against their negative attitude and see the movie.

15.1. Future directions for epistemic vs. hedonic mindsets

Although one might expect attitudes to guide behavior in general, in this research we argue that attitudes guide important social decisions even better under some circumstances than others (i.e., higher perceived knowledge under an epistemic mindset, or lower perceived knowledge under a hedonic mindset). When considering future research, one option might be to explore how the interplay between perceived knowledge and personal relevance or the complexity of the information on which that knowledge is based affects ABC (Fabrigar et al., 2006; Pelham, 1991). For example, one could imagine how a small amount of highly important information might have a considerable influence on a recipients' perceived knowledge, their attitudes, and subsequent behavior, whereas a large amount of relatively trivial information might have a comparatively weaker effect. In the case of the attitude-impact on behavior, attitudes formed as a result of a small amount of highly important information should be more predictive of behavior than attitudes formed as a result of a large amount of relatively trivial information. Thus, in an epistemic context, one might expect the importance of information to be a stronger driver of attitude strength, especially if the importance of information creates a greater perception of value than does the mere amount of information. On the other hand, in a hedonic mindset, relatively incomplete information could help maintain a sense of potential mystery (e.g., "anything can happen"), especially if it creates a feeling of not knowing everything already. Similar predictions could be drawn regarding attitudinal ambivalence. That is, research has shown that, for ambivalent attitudes, the effect of perceived knowledge on ABC is attenuated or eliminated (Wallace et al., 2019). However, these findings were shown mostly on epistemic topics (e.g., voting decisions, biofuel purchase decisions). One might also argue that, relative to an epistemic mindset, ambivalence might lead to more exploration and approach under a hedonic mindset.

Future research should examine whether mindset (epistemic vs. hedonic) can moderate the impact of other attitude strength indicators such as certainty or ambivalence in addition to perceived knowledge. Therefore, an additional area for future research is to explore what other strength indicators beyond perceived knowledge might differentially predict ABC as a function of mindset. In an epistemic mindset, people might be looking for indicators of correctness, therefore factors like high knowledge would enhance ABC, but potentially other indicators of validity such as high perceived elaboration and/or high certainty might as well. In a hedonic mindset, people are looking for indicators of what

might be entertaining, or fun and so low knowledge (which can indicate potential) would work but other indicators might too (e.g., low perceived elaboration which can indicate novelty; low certainty which can indicate openness).

As avenues for future research, subsequent research could also explore the extent to which an epistemic vs. hedonic mindset can moderate the impact of perceived knowledge on ABC in samples varying in ethnicity. Although mindset could potentially vary as a function of cultural differences, we do not make a priori predictions that ethnicity will moderate the extent to which people rely on high (vs. low) knowledge in using their attitudes to guide behavior. However, our current data did not measure ethnicity, thus we cannot answer that question empirically. Additionally, although in these studies we examined two very common and consequential person-perception behaviors (i.e., job recruitment and dating) and consumer contexts (evaluating services rather than persons), future research should explore whether the pattern of effects found in the present research are generalizable to other epistemic and hedonic contexts (e.g., entertainment, art, comedy, etc.). After having demonstrated the importance of mindset by controlling its causal role in the present studies, the use of actual social apps that differ in the mindset they engender in more naturalistic settings could potentially expand the ecological validity of the findings even further.

15.2. Reinterpreting past research as a function of mindset

Although highly speculative at this point, the present results have the potential to shed light on the findings of some prior research. A highlight of the current research is the identification of episodic vs. hedonic mindsets as capable of moderating the effect of perceived knowledge on the attitude-behavior link. We suspect that considering mindset can also contribute to re-interpreting or extending some past findings. For example, [Buechel and Li \(2023\)](#) found ABC to be greater for consumer contexts associated with *mystery*. Similarly, [Cline and Kellaris \(1999\)](#) showed that strong arguments in print advertising were more persuasive in the absence (vs. presence) of incidental humor. One could argue that using humorous and/or mysterious products might have primed a hedonic mindset. Thus, we suggest that any variable that is related to either the person or the situation that stimulates mindsets that are more hedonic than epistemic could potentially reverse the impact of perceived knowledge on guiding ABC.

Furthermore, additional past research has shown that there are many complex experiences that can be subject to different interpretations, including the resolution of puzzles (e.g., [Millar & Millar, 1996](#)) and jokes ([Santos et al., 2018](#)), as well as more complex cognitive experiences such as the tip of the tongue phenomenon ([Stavraki et al., 2021](#)), and experiencing multi-faced emotions such as surprise ([Brñol et al., 2018](#)). The effects of these and other complex experiences could vary depending on whether a person is in a hedonic vs. epistemic mindset. For example, experiencing an emotion like awe (associated with pleasantness but uncertainty; see [Ellsworth & Smith, 1988](#)) are likely to have positive effects when people are placed in a hedonic mindset which would focus them on the pleasantness of the emotion but are likely to have a negative effect when people are led to have an epistemic mindset (which would highlight the uncertainty rather than the pleasantness appraisal).

15.3. Potential applications

In closing, we note that the current set of findings offer a number of potential applications to real-world contexts. On the one hand, imagine you know that a friend has a positive attitude towards a movie that you would also like to see, but if they feel like they know too much about it, their positive attitude won't guide their choice. Thus, because consideration of movies is likely to put people in a hedonic mindset, based on the current research you would want to suggest to your friend that their knowledge is relatively low so they would use their positive attitude to

guide their decision about attending the movie. Similarly, not revealing all of the information up front to create a sense of mystery could be advantageous when going on a date (or engaging in any other hedonic experiences), again assuming positive attitudes. According to our pattern of results, in these hedonic situations, feelings of knowing would potentially be expected to reduce the behavioral impact of evaluations on decisions and actions. If anything, under a hedonic mindset, high feelings of knowing would only be helpful if we assumed negative attitudes.

Open science practices

We report how we determined our sample size, all data exclusions, all manipulations, and all relevant measures in these studies ([Simmons et al., 2012](#)). All data, analysis code, and research materials are available at (https://osf.io/69bk3/?view_only=e9af325d65ca4ac79da28bb922fd8042). Study 3 was pre-registered at (https://aspredicted.org/49P_R15). Finally, research was conducted in accordance with APA guidelines on the ethical treatment of human subjects. Permission to conduct this research was provided by the university institutional ethics committee before the studies began [UAM-CEI 104-2009; 31/01/2022].

CRediT authorship contribution statement

Borja Paredes: Writing – review & editing, Writing – original draft, Resources, Project administration, Methodology, Investigation, Funding acquisition, Data curation, Conceptualization. **Pablo Brñol:** Writing – review & editing, Validation, Supervision, Resources, Conceptualization. **David Santos:** Writing – original draft, Methodology, Investigation, Formal analysis. **Lorena Moreno:** Writing – review & editing, Methodology, Investigation, Formal analysis, Data curation. **Joshua J. Guyer:** Writing – review & editing. **Richard E. Petty:** Writing – review & editing, Investigation, Funding acquisition, Formal analysis, Conceptualization.

Declaration of competing interest

We have no known conflict of interest to disclose. This research was supported by the Ministerio de Ciencia, Innovación y Universidades (Spain) (PID2020-116651GB-C31; PID2023-148050NA-I00; PID2023-148146NB-I00) and the Consejería de Educación, Ciencia y Universidades, Comunidad de Madrid (Spain) (SI4/PJI/2024-00244). This work was supported also by the Templeton World Charity Foundation under Grant TWCF2023-32571. The funding source has not been involved in the design of the study, the collection, analysis or interpretation of data, the writing of the manuscript, or the decision to submit it for publication.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jesp.2025.104857>.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Alba, J. W., & Williams, E. F. (2013). Pleasure principles: A review of research on hedonic consumption. *Journal of Consumer Psychology*, 23(1), 2–18. <https://doi.org/10.1016/j.jcps.2012.07.003>
- Appelbaum, M., Cooper, H., Kline, R. B., Mayo-Wilson, E., Nezu, A. M., & Rao, S. M. (2018). Journal article reporting standards for quantitative research in psychology: The APA publications and communications board task force report. *American Psychologist*, 73(1), 3–25. <https://doi.org/10.1037/amp0000191>
- Asano, R., Igarashi, T., & Tsukamoto, S. (2020). The hedonic and eudaimonic motives for activities: Measurement invariance and psychometric properties in an adult Japanese sample. *Frontiers in Psychology*, 11, 1220. <https://doi.org/10.3389/fpsyg.2020.01220>

Barden, J., & Petty, R. E. (2008). The mere perception of elaboration creates attitude certainty: Exploring the thoughtfulness heuristic. *Journal of Personality and Social Psychology*, 95(3), 489–509. <https://doi.org/10.1037/a0012559>

Baumeister, R. F. (1991). *Escaping the self*. Basic Books.

Bergkvist, L., & Rossiter, J. R. (2007). The predictive validity of multiple-item versus single-item measures of the same constructs. *Journal of marketing research*, 44(2), 175–184.

Bordieri, J. E., & Drehmer, D. E. (1986). Hiring decisions for disabled workers: Looking at the cause. *Journal of Applied Social Psychology*, 16(3), 197–208.

Botti, S., & McGill, A. L. (2011). The locus of choice: Personal causality and satisfaction with hedonic and utilitarian decisions. *Journal of Consumer Research*, 37(6), 1065–1078. <https://doi.org/10.1086/656570>

Briñol, P., & Petty, R. E. (2022). Self-validation theory: An integrative framework for understanding when thoughts become consequential. *Psychological Review*, 129(2), 340–367. <https://doi.org/10.1037/rev0000340>

Briñol, P., Petty, R. E., Stavraki, M., Lamprinakos, G., Wagner, B. C., & Díaz, D. (2018). Affective and cognitive validation of thoughts: An appraisal perspective on anger, disgust, surprise, and awe. *Journal of Personality and Social Psychology*, 114, 693–718. <https://doi.org/10.1037/pspa0000118>

Buechel, E. C., & Li, R. (2023). Mysterious consumption: Preference for horizontal (vs. vertical) uncertainty and the role of surprise. *Journal of Consumer Research*, 49(6), 987–1013. <https://doi.org/10.1093/jcr/ucac039>

Cancela, A., Briñol, P., & Petty, R. E. (2021). Hedonic vs. epistemic goals in processing persuasive communications: Revisiting the role of personal involvement. *Motivation and Emotion*, 45, 280–298. <https://doi.org/10.1007/s11031-021-09873-7>

Carpenter, C. J. (2015). A meta-analysis of the ELM's argument quality \times processing type predictions. *Human Communication Research*, 41(4), 501–534. <https://doi.org/10.1111/hcre.12054>

Chaiken, S., Liberman, A., & Eagly, A. H. (1989). Heuristic and systematic information processing within and beyond the persuasion context. In J. S. Uleman, & J. A. Bargh (Eds.), *Unintended thought* (pp. 212–252). Guilford. <https://psycnet.apa.org/recode/1989-98015-007>

Chung, J., Lee, L., Lehmann, D. R., & Tsai, C. I. (2023). Spending windfall ("found" time on hedonics versus utilitarian activities. *Journal of Consumer Research*, 49(6), 1118–1139. <https://doi.org/10.1093/jcr/ucac032>

Clarkson, J. J., Tormala, Z. L., Rucker, D. D., & Dugan, R. G. (2013). The malleable influence of social consensus on attitude certainty. *Journal of Experimental Social Psychology*, 49(6), 1019–1022. <https://doi.org/10.1016/j.jesp.2013.07.001>

Cline, T. W., & Kellaris, J. J. (1999). The joint impact of humor and argument strength in a print advertising context: A case for weaker arguments. *Psychology & Marketing*, 16(1), 69–86. [https://doi.org/10.1002/\(SICI\)1520-6793.1601006](https://doi.org/10.1002/(SICI)1520-6793.1601006)

Côte, S. (2005). Reconciling the feelings-as-information and hedonic contingency models of how mood influences systematic information processing. *Journal of Applied Social Psychology*, 35, 1656–1679. <https://doi.org/10.1111/j.1559-1816.2005.tb02189.x>

Crites, S. L., Fabrigar, L. R., & Petty, R. E. (1994). Measuring the affective and cognitive properties of attitudes: Conceptual and methodological issues. *Personality and Social Psychology Bulletin*, 20(6), 619–634. <https://doi.org/10.1177/0146167294206001>

Dunning, D., Griffin, D. W., Milojkovic, J. D., & Ross, L. (1990). The overconfidence effect in prediction. *Journal of Personality and Social Psychology*, 58, 568–581. <https://doi.org/10.1037/0022-3514.58.4.568>

Ellis, S., & Kruglanski, A. W. (1992). Self as an epistemic authority: Effects on experiential and instructional learning. *Social Cognition*, 10(4), 357–375. <https://doi.org/10.1521/soco.1992.10.4.357>

Ellsworth, P. C., & Smith, C. A. (1988). From appraisal to emotion: Differences among unpleasant feelings. *Motivation and Emotion*, 12, 271–302. <https://doi.org/10.1007/BF00993115>

Engeler, I., & Raghbir, P. (2018). Decomposing the cross-sex misprediction bias of dating behaviors: Do men overestimate or women underreport their sexual intentions? *Journal of Personality and Social Psychology*, 114(1), 95–109. <https://doi.org/10.1037/pspi0000105>

Fabrigar, L. R., Petty, R. E., Smith, S. M., & Crites, S. L., Jr. (2006). Understanding knowledge effects on attitude-behavior consistency: The role of relevance, complexity, and amount of knowledge. *Journal of Personality and Social Psychology*, 90, 556–577. <https://doi.org/10.1037/0022-3514.90.4.556>

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149–1160. <https://doi.org/10.3758/BRM.41.4.1149>

Fazio, R. H. (1990). Multiple processes by which attitudes guide behavior: The MODE model as an integrative framework. *Advances in Experimental Social Psychology*, 23, 75–109. [https://doi.org/10.1016/S0065-2601\(08\)60318-4](https://doi.org/10.1016/S0065-2601(08)60318-4)

Fiedler, K., Harris, C., & Schott, M. (2018). Unwarranted inferences from statistical mediation tests—An analysis of articles published in 2015. *Journal of Experimental Social Psychology*, 75, 95–102. <https://doi.org/10.1016/j.jesp.2017.11.008>

Haselton, M. G., & Buss, D. M. (2000). Error management theory: A new perspective on biases in cross-sex mind reading. *Journal of Personality and Social Psychology*, 78(1), 81–91. <https://doi.org/10.1037/0022-3514.78.1.81>

Hayes, A. F. (2018). Partial, conditional, and moderated moderated mediation: Quantification, inference, and interpretation. *Communication Monographs*, 85(1), 4–40. <https://doi.org/10.1080/03637751.2017.1352100>

Jawahar, I. M. (2001). Attitudes, self-monitoring, and appraisal behaviors. *Journal of Applied Psychology*, 86(5), 875–883. <https://doi.org/10.1037/0021-9010.86.5.875>

Jiang, Y., Adaval, R., Steinhart, Y., & Wyer, R. S., Jr. (2014). Imagining yourself in the scene: The interactive effects of goal-driven self-imagery and visual perspectives on consumer behavior. *Journal of Consumer Research*, 41, 418–435. <https://doi.org/10.1086/679666>

Judge, T., Weiss, H., Kammeyer-Mueller, J., & Hulin, C. (2017). Job attitudes, job satisfaction, and job affect: A century of continuity and of change. *Journal of Applied Psychology*, 102(3), 356–374. <https://doi.org/10.1037/apl0000181>

Kallgren, C. A., & Wood, W. (1986). Access to attitude-relevant information in memory as a determinant of attitude-behavior consistency. *Journal of Experimental Social Psychology*, 22, 328–338. [https://doi.org/10.1016/0022-1031\(86\)90018-1](https://doi.org/10.1016/0022-1031(86)90018-1)

Koriat, A., & Levy-Sadot, R. (1999). Processes underlying metacognitive judgments: Information-based and experience-based monitoring of one's own knowledge. In S. Chaiken, & Y. Trope (Eds.), *Dual process theories in social psychology* (pp. 483–502). Guilford Publications. <https://psycnet.apa.org/record/1999-02377-023>

Kousi, S., Halkias, G., & Kokkinaki, F. (2023). Hedonic objects and utilitarian experiences: The overriding influence of hedonism in driving consumer happiness. *Psychology & Marketing*, 40(8), 1634–1645. <https://doi.org/10.1002/mar.21829>

Kronrod, A., & Danziger, S. (2013). "Wii will rock you!" The use and effect of figurative language in consumer reviews of hedonic and utilitarian consumption. *Journal of Consumer Research*, 40(4), 726–739. <https://doi.org/10.1086/671998>

Krosnick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. In R. E. Petty, & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 1–24). Mahwah, NJ: Erlbaum. <https://doi.org/10.4324/9781315807041>

Kruglanski, A. W., & Thompson, E. P. (1999). Persuasion by a single route: A view from the unimodal. *Psychological Inquiry*, 10(2), 83–109. <https://doi.org/10.1207/S15327965PL100201>

Lee, Y. H., & Qiu, C. (2009). When uncertainty brings pleasure: The role of prospect imageability and mental imagery. *Journal of Consumer Research*, 36(4), 624–633. <https://doi.org/10.1086/599766>

Loewenstein, G. (1994). The psychology of curiosity: A review and reinterpretation. *Psychological Bulletin*, 116(1), 75–98. <https://doi.org/10.1037/0033-2909.116.1.75>

Lokhorst, A. M., Werner, C., Staats, H., van Dijk, E., & Gale, J. L. (2013). Commitment and behavior change: A meta-analysis and critical review of commitment-making strategies in environmental research. *Environment and Behavior*, 45(1), 3–34. <https://doi.org/10.1177/0013916511411477>

Luttrell, A., Petty, R. E., Briñol, P., & Wagner, B. C. (2016). Making it moral: Merely labeling an attitude as moral increases its strength. *Journal of Experimental Social Psychology*, 65, 82–93. <https://doi.org/10.1016/j.jesp.2016.04.003>

Maimaran, M., & Fishbach, A. (2014). If it's useful and you know it, do you eat it? Preschoolers refrain from instrumental food. *Journal of Consumer Research*, 41, 642–655. <https://doi.org/10.1086/677224>

Maio, G. R., Haddock, G., & Verplanken, B. (2019). *The psychology of attitudes and attitude change*. Sage. <https://uk.sagepub.com/en-gb/eur/the-psychology-of-attitudes-and-attitude-change/book240842>

Maslow, A. H. (1962). *Toward a psychology of being*. Van Nostrand. <https://doi.org/10.1037/10793-000>

Metcalfe, J. (2000). Feelings and judgments of knowing: Is there a special noetic state? *Consciousness and Cognition*, 9, 178–186. <https://doi.org/10.1006/cog.2000.0451>

Millar, M. G., & Millar, K. U. (1996). The effects of direct and indirect experience on affective and cognitive responses and the attitude-behavior relation. *Journal of Experimental Social Psychology*, 32(6), 561–579. <https://doi.org/10.1006/jesp.1996.0025>

Moreno, L., Requero, B., Santos, D., Paredes, B., Briñol, P., & Petty, R. E. (2021). Attitudes and attitude certainty guiding pro-social behavior as a function of perceived elaboration. *European Journal of Social Psychology*, 51, 990–1006. <https://doi.org/10.1002/ejsp.2798>

Oh, T. T., & Pham, M. T. (2022). A liberating-engagement theory of consumer fun. *Journal of Consumer Research*, 49(1), 46–73. <https://ssrn.com/abstract=3909337>

Ottati, V., Price, E. D., Wilson, C., & Sumaktoyo, N. (2015). When self-perceptions of expertise increase closed-minded cognition: The earned dogmatism effect. *Journal of Experimental Social Psychology*, 61, 131–138. <https://doi.org/10.1016/j.jesp.2015.08.003>

Packard, M. D., & Clark, B. B. (2020). Mitigating versus managing epistemic and aleatory uncertainty. *Academy of Management Review*, 45(4), 872–876. <https://doi.org/10.5465/AMR.2020.0266>

Padgett, M. Y., & Morris, K. A. (2005). Keeping it "all in the family": Does nepotism in the hiring process really benefit the beneficiary? *Journal of leadership & organizational studies*, 11(2), 34–45.

Pelham, B. W. (1991). On confidence and consequence: The certainty and importance of self-knowledge. *Journal of Personality and Social Psychology*, 60, 518–530.

Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. *Advances in Experimental Social Psychology*, 19, 123–205. [https://doi.org/10.1016/S0065-2601\(08\)60214-2](https://doi.org/10.1016/S0065-2601(08)60214-2)

Petty, R. E., & Petty, R. E. (1990). Involvement and persuasion: Tradition versus integration. *Psychological Bulletin*, 107(3), 367–374. <https://doi.org/10.1037/0033-2950.107.3.367>

Petty, R. E., Fabrigar, L. R., Wegener, D. T., & Priester, J. R. (1996). Understanding data when interactions are present or hypothesized. *Psychological Science*, 7, 247–252. <https://doi.org/10.1111/j.1467-9280.1996.tb00368.x>

Petty, R. E., Siev, J. J., & Briñol, P. (2023). Attitude strength: What's new? *The Spanish Journal of Psychology*, 26, Article e4. <https://doi.org/10.1017/SJP.2023.7>

Priester, J. R., Petty, R. E., & Park, K. (2007). Whence univalent ambivalence: From the anticipation of conflicting reactions. *Journal of Consumer Research*, 34(1), 11–21. <https://doi.org/10.1086/513042>

Rauwolf, P., Millard, S. K., Wong, N., Witt, A., Davies, T. J., Cahill, A. M., ... Rogers, R. D. (2021). "Just not knowing" can make life sweeter (and saltier): Reward uncertainty alters the sensory experience and consumption of palatable food and drinks. *Journal of Experimental Psychology: General*, 150(10), 2015–2035. <https://doi.org/10.1037/xge0001029>

Raz, I., Reggev, N., & Gilead, M. (2024). Is it better to be happy or right? Examining the relative role of the pragmatic and epistemic imperatives in momentary affective evaluations. *Emotion*, 24(6), 1343–1357. <https://doi.org/10.1037/emo0001349>

Rosnow, R. L., & Rosenthal, R. (1989). Definition and interpretation of interaction effects. *Psychological Bulletin*, 105, 143–146. <https://doi.org/10.1037/0033-2909.105.1.143>

Rosnow, R. L., & Rosenthal, R. (1991). If you're looking at the cell means, you're not looking at only the interaction (unless all main effects are zero). *Psychological Bulletin*, 110, 574–576. <https://doi.org/10.1037/0033-2909.110.3.574>

Rydell, R. J., Hugenberg, K., & McConnell, A. R. (2006). Resistance can be good or bad: How theories of resistance and dissonance affect attitude certainty. *Personality and Social Psychology Bulletin*, 32(6), 740–750. <https://doi.org/10.1177/0146167205286110>

Santos, D., Stavraki, M., Gandarillas, B., Cancela, A., & Briñol, P. (2018). Interrupting a joke validates thoughts and polarizes attitudes towards a recycling company. *International Journal of Social Psychology*, 33(3), 529–554. <https://doi.org/10.1080/02134748.2018.14836>

Scarabis, M., Florack, A., & Gosejohann, S. (2006). When consumers follow their feelings: The impact of affective or cognitive focus on the basis of consumers' choice. *Psychology and Marketing*, 23, 1015–1034. <https://doi.org/10.1002/mar.20144>

Shaw, D., & Thomson, J. (2013). Consuming spirituality: The pleasure of uncertainty. *European Journal of Marketing*, 47(3–4), 557–573. <https://doi.org/10.1108/03090561311297454>

Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2012). A 21-word solution. *Dialogue*, 26 (2), 4–7.

Spencer, S. J., Zanna, M. P., & Fong, G. T. (2005). Establishing a causal chain: Why experiments are often more effective than mediational analyses in examining psychological processes. *Journal of Personality and Social Psychology*, 89(6), 845–851. <https://doi.org/10.1037/0022-3514.89.6.845>

Stavraki, M., Lamprinakos, G., Brinol, P., Karantinou, K., Díaz, D., & Petty, R. E. (2021). The influence of emotions on information processing and persuasion: A differential appraisals perspective. *Journal of Experimental Social Psychology*, 93. <https://doi.org/10.1016/j.jesp.2020.104085>. ArtID: 104085.

Tannenbaum, D., Fox, C. R., & Ülkümen, G. (2017). Judgment extremity and accuracy under epistemic vs. aleatory uncertainty. *Management Science*, 63(2), 497–518. <https://doi.org/10.1287/mnsc.2015.2344>

Thorndike, E. L. (1927). The law of effect. *The American Journal of Psychology*, 39, 212–222. <https://doi.org/10.2307/1415413>

Tormala, Z. L., Clarkson, J. J., & Henderson, M. D. (2011). Does fast or slow evaluation foster greater certainty? *Personality and Social Psychology Bulletin*, 37(3), 422–434. <https://doi.org/10.1177/0146167210397378>

Tormala, Z. L., Jia, J. S., & Norton, M. I. (2012). The preference for potential. *Journal of Personality and Social Psychology*, 103, 567–583. <https://doi.org/10.1037/a0029227>

Wallace, L. E., Patton, K. M., Luttrell, A., Sawicki, V., Fabrigar, L. R., Teeny, J., ... Wegener, D. T. (2019). Perceived knowledge moderates the relation between subjective ambivalence and the "impact" of attitudes: An attitude strength perspective. *Personality and Social Psychology Bulletin*, 46(5), 709–722. <https://doi.org/10.1177/0146167219873492>

Warren, C., & Reimann, M. (2019). Crazy-funny-cool theory: Divergent reactions to unusual product designs. *Journal of the Association for Consumer Research*, 4(4), 409–421. <https://doi.org/10.1086/705036>

Wilson, T. D., Centerbar, D. B., Kermar, D. A., & Gilbert, D. T. (2005). The pleasures of uncertainty: Prolonging positive moods in ways people do not anticipate. *Journal of Personality and Social Psychology*, 88(1), 5–21. <https://doi.org/10.1037/0022-3514.88.1.5>

Wood, W., Rhodes, N., & Biek, M. (1995). Working knowledge and attitude strength: An information-processing analysis. In R. E. Petty, & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and consequences* (pp. 283–313). Lawrence Erlbaum Associates, Inc. <https://psycnet.apa.org/record/1995-98997-011>

Zanna, M. P., & Rempel, J. K. (1988). Attitudes: A new look at an old concept. In D. Bar-Tal, & A. W. Kruglanski (Eds.), *The social psychology of knowledge* (pp. 315–334). Cambridge University Press. <https://psycnet.apa.org/record/1988-98502-013>

Zhu, H., Zhu, Z., Ou, Y., & Yin, Y. (2023). To be precise (imprecise) in utilitarian (hedonic) contexts: Examining the influence of numerical precision on consumer reactions to artificial intelligence-based recommendations. *Psychology & Marketing*, 40(12), 2668–2685. <https://doi.org/10.1002/mar.21904>