Journal of the Association for Information Systems (2023) **24**(4), 1162-1183
doi: 10.17705/1jais.00823

RESEARCH ARTICLE

ISSN 1536-9323

Positive or Negative Reviews? Consumers' Selective Exposure in Seeking and Evaluating Online Reviews

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Abstract

How and why positive and negative reviews influence product sales differently has critical implications for both research and businesses. Although earlier online word-of-mouth research empirically documented that negative reviews influence product sales to a greater extent than positive reviews (i.e., a negativity bias), later research has revealed that positive reviews are generally more helpful (i.e., a positivity bias). We propose that an answer to this conundrum may be that negative reviews get more exposure than positive reviews. As consumers are often overwhelmed by the massive number of online reviews, they need to be selective when searching for reviews. This research investigates consumers' preference for positive vs. negative reviews during both the information-seeking and information-evaluation stages of their decision-making process. Drawing on the motivated reasoning literature, we propose that consumers exhibit a negativity bias when they search for reviews to read but manifest a confirmation bias when they evaluate the helpfulness of reviews. We conducted three experiments and found consistent support for these hypotheses. Our findings expand the current understanding of consumers' processing of online reviews to the information-seeking stage, reveal differential biases at different stages, demonstrate a possible explanation for the negativity bias in product sales, and provide important practical implications.

Keywords: Selective Exposure, Negativity Bias, Confirmation Bias, Information Seeking, Information Evaluation

Huigang Liang was the accepting senior editor. This research article was submitted on August 20, 2021 and underwent two revisions.

1 Introduction

The popularity of online reviews and their importance in driving product sales have attracted tremendous interest from researchers and practitioners (e.g., Jiang et al., 2021; Lin & Wang, 2018). Beginning with the early days of online reviews, a well-documented finding is that negative reviews hurt product sales more than positive reviews help them (Basuroy et al., 2003; Cao et al., 2011; Chevalier & Mayzlin, 2006). This finding is in accordance with the phenomenon of the negativity bias—i.e., the contention that negative information has a greater impact than positive information (Baumeister et al., 2001). A common explanation for the negativity bias in online reviews is that negative reviews are perceived to be more helpful and are thus weighted more heavily by consumers when they evaluate reviews. However, later research exploring the helpfulness evaluation of positive vs. negative reviews has revealed mixed findings (see Hong et al., 2017), with some studies observing greater helpfulness of negative reviews in line with the negativity bias (e.g., Sen & Lerman, 2007; Zhang et al., 2010) but others finding positive reviews to be more helpful (e.g., Korfiatis et al., 2012; Pan & Zhang, 2011).

Some recent studies have started to explore possible reasons underlying these mixed findings. Notably, Yin et al. (2016) attempted to reconcile such contradictory findings and provided empirical evidence for the possibility of a confirmation bias in consumers' evaluation of reviews—i.e., they may evaluate confirmatory reviews that are consistent with their initial beliefs more favorably. Specifically, consumers usually form initial beliefs about a product based on its summary rating statistics (such as the average rating and number of ratings) before reading reviews. Such beliefs can, in turn, influence consumers' helpfulness evaluation of reviews, making them more likely to perceive positive (negative) reviews as more helpful when they have positive (negative) initial beliefs because of their desire to reduce cognitive dissonance. Given that the average rating of most products is positive (Chevalier & Mayzlin, 2006), consumers would then demonstrate an overall tendency toward a positivity bias—evaluating positive reviews that confirm their positive initial beliefs as generally more helpful than negative reviews. This tendency is also in line with anecdotal evidence on review platforms such as Amazon, where a majority of the most helpful reviews prominently displayed on product pages are positive in valence.

However, this overall positivity bias in consumers' helpfulness evaluation of reviews (Yin et al., 2016) contradicts the repeatedly demonstrated negativity bias in the impact of online reviews on product sales (e.g., Basuroy et al., 2003): How can negative reviews exert a *greater impact* than positive reviews on product sales when the former is generally considered to be *less helpful* than the latter? A possible answer to this conundrum involves the way in which consumers look for reviews to read. Consumers' purchase decisions are determined not only by the helpfulness of the reviews they read but also by the types of reviews they actively seek out. Given the vast number of available reviews, consumers need to be selective in deciding which reviews to read (Liu et al., 2019). The latest evidence suggests that the number of reviews consumers seek out before making a decision varies (Yin et al., forthcoming) and that the reviews they end up reading can sway their purchase preferences (Lei et al., 2022). If consumers are more likely to look for negative reviews, then negative reviews would get more exposure, be read by more consumers, and would thereby have a greater impact on product sales than positive reviews.

In addition, a better understanding of the types of reviews that consumers seek out can help review platforms incorporate the demand factor into their calculations of review rankings. The existing practice relies solely on readers' helpfulness votes for ranking reviews and identifying top reviews to highlight, but helpful reviews may not be the primary driver of purchase decisions (Yin et al., 2021), and consumers rarely stop after reading top reviews (Yin et al., forthcoming). Therefore, knowledge about consumers' information-seeking tendencies would allow review platforms to highlight the most sought-after content, even if the content is relatively new or rated as less helpful. Such knowledge could also help product manufacturers prioritize efforts in dealing with reviews based on their likely exposure to prospective consumers.

Despite the importance of information seeking in the context of online reviews, little research has explored this earlier stage of the consumer decision-making process, which is challenging to study using secondary data (Yin et al., forthcoming). In this paper, we use experimental methods to explore the types of reviews consumers prefer in both the information-seeking and information-evaluation stages. Building on and extending the concepts of accuracy and defense motivations from the motivated reasoning literature, we propose that consumers demonstrate a negativity bias when they look for reviews to read, but they tend to evaluate confirmatory reviews as more helpful (i.e., confirmation bias). We conducted three laboratory experiments to test these hypotheses.

Our paper makes three primary contributions to the online review literature. First, although we know a great deal about factors driving consumers' evaluations of review helpfulness, this research is among the first to examine how consumers seek out reviews to read in the earlier stages of their decision-making process (see also Yin et al., forthcoming). Second, our demonstration of consumers' preference for negative reviews in information seeking provides a plausible explanation for the negativity bias that has been reliably shown to influence product sales in the prior literature (You et al., 2015). Third, this paper expands our understanding of the role of consumers' initial beliefs (see also Yin et al., 2016) in coherently accounting for both a negativity bias and a confirmation bias at different stages of their decision-making process. Our findings also offer important practical implications for product manufacturers and review platforms.

2 Literature Review and Hypothesis Development

2.1 Consumers' Initial Beliefs

A premise of our investigation is that consumers' search for and evaluation of online information are not context free (Peng et al., 2020). Consumers generally form initial beliefs about a product before seeking out or reading reviews. Because online reviews play a critical role in consumers' purchase decisions, most review sites prominently display the summary statistics of a product's ratings, including the average rating and

number of ratings. These rating profiles can help consumers form their initial beliefs about a product before they read any reviews (Yin et al., 2016).

Once formed, consumers' initial beliefs can shape their subsequent judgment and decision-making (e.g., Cheung et al., 2009). Regarding the helpfulness judgment of reviews, emerging evidence suggests that consumers prefer reviews that are consistent with their initial beliefs and evaluate such confirmatory reviews more favorably (Yin et al., 2016). However, the influence of consumers' initial beliefs may not be limited to the evaluation process, as consumers may be similarly selective when deciding on the kinds of reviews to read first. Consumers' preference for different kinds of information is called *selective exposure* in the social cognition literature, which we turn to next.

2.2 Selective Exposure

Selective exposure refers to individuals' systematic preference for attitude-congruent or attitude-incongruent information (Knobloch-Westerwick et al., 2013). Substantial evidence from experimental studies shows that people tend to prefer information that is consistent (vs. inconsistent) with their initial beliefs (Jonas et al., 2001; Lazarsfeld et al., 1944). For instance, in the context of presidential elections, voters prefer political messages that align with their personal political views and leanings (Chaffee et al., 2001; Stroud, 2008). In the context of health communication, people actively avoid messages that challenge their beliefs (Case et al., 2005; Knobloch-Westerwick et al., 2013; Pease et al., 2006). In interpersonal relationships, people also tend to seek information that is consistent with their initial beliefs about a target individual (Snyder, 1981, 1984).

However, the evidence on people's preference for attitude-consistent information is not entirely conclusive, with a number of studies reaching the opposite conclusion (Edwards & Smith, 1996; Taber & Lodge, 2006). For example, one study showed that when participants were given synopses of criminal trials and then asked to read the summation of the defense or the prosecution, they preferred to seek out information that contradicted their own opinions (Sears, 1965). There is also evidence suggesting that the preference for attitude-consistent information could be attenuated or even reversed if the inconsistent information has higher informational utility (Hastall, 2009; Knobloch et al., 2003; Knobloch-Westerwick et al., 2005). Taken together, although the preference for attitude-consistent information is largely ubiquitous, evidence from prior research conducted in diverse contexts is not conclusive. In the following, we introduce different motivations as a possible explanation for the different patterns of selective exposure that consumers may engage in at different stages of their decision-making process.

2.3 Accuracy and Defense Motivations

The motivated reasoning literature from social psychology provides a theoretical foundation for explaining the divergent findings regarding selective exposure (Eagly et al., 1999; Johnson, 1994; Prislin & Wood, 2005). A basic premise of motivated reasoning is that people's motivations can affect their reasoning process—i.e., forming beliefs, evaluating evidence, and making decisions (Erdelyi, 1974; Festinger, 1957). Two fundamental motivations proposed in this literature are accuracy motivation and defense motivation (Kunda, 1990). Accuracy motivation refers to the desire to uncover the truth and form accurate evaluations of stimuli, whereas defense motivation refers to the desire to defend prior beliefs, attitudes, and behaviors (Chaiken et al., 1989; Kunda, 1990).

Accuracy and defense motivations have been found to influence how people process attitude-inconsistent and attitude-consistent information (Chaiken et al., 1996; Prislin & Wood, 2005; Wyer & Albarracín, 2005). On the one hand, when people are motivated to uncover the truth and make good decisions, they tend to prefer attitude-inconsistent information (Chaiken et al., 1989; Hart et al., 2009). Accuracy motivation also reorients people's attention toward information utility (Hart et al., 2009), defined as the degree to which information can be used to make successful decisions (Fischer et al., 2011). In our context, consumers' accuracy motivation may drive them to prefer information with greater utility because such information can better fulfill their goal of making good purchase decisions (Fischer & Greitemeyer, 2010; Knobloch-Westerwick & Kleinman, 2012). Information that is inconsistent with people's existing beliefs generally has higher utility because it provides more evidence or opinions beyond their knowledge and thus has more informational value. Compared with attitude-consistent information, inconsistent information is also more salient and more likely to evoke people's attention and interest (Berlyne, 1970; David, 1996). Therefore, to make the "right" decision, consumers are more likely to prefer disconfirmatory information.

On the other hand, when people are motivated to defend their prior beliefs, they tend to prefer information that confirms their beliefs (Chaiken et al., 1989; Hart et al., 2009). Defense motivation is activated when people hold strong beliefs about a subject and are reluctant to change their opinions (Brechan, 2002). This motivation can also arise from people's general tendency to reduce inconsistency or conflict. Disconfirmatory information that is incompatible with consumers' prior beliefs provokes the negative arousal state of cognitive dissonance (Festinger, 1957), which arises from the discomfort caused by cognitive conflicts (Beauvois & Joule, 1996; Harmon-Jones, 2000). Because people generally dislike cognitive dissonance and its associated discomfort,

disconfirmatory information is more likely to be refuted and disregarded (Wyer & Frey, 1983) or subject to more extensive and critical scrutiny than confirmatory information (Ditto & Lopez, 1992; Koehler, 1993; Kunda, 1990). As a result, when experiencing cognitive dissonance, people tend to prefer attitude-consistent information by assigning more weight to it (Fischer et al., 2011; Frey, 1986; Hart et al., 2009). Thus, consumers subject to the defense motivation are more likely to favor confirmatory information.

Next, we posit that the activation of consumers' accuracy and defense motivations depends on the stage of their decision-making process and, under certain circumstances, the valence of their initial beliefs. We first introduce the two stages of the consumer decision-making process and then explain the probable activation of consumers' motivations at each stage.

2.4 Two Stages of the Consumer Decision-Making Process

When consumers decide whether to purchase certain products, their pre-purchase decision-making process involves two stages: information seeking and information evaluation. [1] During the information-seeking stage, consumers actively search for related information. During the information-evaluation stage, consumers evaluate and appraise available information to reform their beliefs and attitudes, which then impact their final decisions (Fischer et al., 2008a). According to several prominent models of the consumer decision-making process (Mathieson & Wall, 1982; Woodside & MacDonald, 1994), the information-seeking stage is normally followed by the information-evaluation stage before consumers make a final decision.

Among prior studies examining selective exposure to information in diverse contexts, most have focused on either information seeking or information evaluation. For example, some studies have investigated how individual differences shape the way that people seek out information about relationships (Brannon et al., 2007; Holton & Pyszczynski, 1989; Rholes et al., 2007; Sargent, 2007). Other studies have explored selective exposure in the information-evaluation stage, such as different decision criteria that people use to assess attitude-consistent and attitude-inconsistent information (Carlson & Russo, 2001; Ditto & Lopez, 1992; Greitemeyer & Schulz-Hardt, 2003; Russo et al., 1998).

However, very few studies have examined selective exposure in both stages simultaneously. In addition, as mentioned earlier, the evidence on consumers' selective exposure to information during the decision-making process is inconclusive. Next, building on the motivated reasoning literature and the unique context of online reviews, we propose that consumers are likely to reveal a negativity bias in the information-seeking stage but a confirmation bias in the information-evaluation stage.

2.4.1 Negativity Bias in Information Seeking

Given the abundance of product options and available information for any purchase decision, consumers often limit their attention and evaluation to a subset of available options (i.e., the "consideration set") to simplify their decision-making (Roberts & Lattin, 1991; Wright & Barbour, 1977). Because consumers typically engage in in-depth information processing and make final purchase decisions among product options that fall within their consideration set, the determinants of consumers' consideration sets play a fundamental role in their judgment and choices (Shocker et al., 1991). The likelihood of a product option being included in consumers' consideration sets is determined by a largely rational cost-benefit analysis; a product is more likely to be included if the perceived benefit of evaluating it exceeds the perceived cost (Roberts & Lattin, 1991). To the extent that the costs of evaluating all products are the same, consumers should be more likely to include a product option in their consideration set if they have more positive beliefs about the option (i.e., they expect the option to have greater utility and benefits).

In our context, consumers can readily form initial beliefs about product options before they encounter any consumer reviews. Specifically, the aggregated rating profiles of a product, such as the average rating and number of ratings, are often prominently displayed along with product options. These rating profiles have been found to help consumers form initial beliefs about a product (Yin et al., 2016). For instance, consumers generally perceive that a product's average rating reflects its quality (De Langhe et al., 2015) and that the number of ratings reflects the product's popularity (Chevalier & Mayzlin, 2006; Duan et al., 2008). Thus, these salient cues can help consumers form positive or negative initial beliefs about a product, which in turn facilitate their decisions on whether to include the product in their consideration set. Because of the close association of the valence of a consumer's initial beliefs about a product option and the likely inclusion of the option in their consideration set, we argue in the following that consumers' initial beliefs could drive distinct motivations.

First, consumers with positive initial beliefs are more likely to be motivated by accuracy than defense when seeking reviews. When consumers form positive initial

[1] Both information seeking and evaluation are pre-purchase stages of the consumer decision-making process. Because the post-purchase stage is beyond the interest of this work, our theorizing and predictions are applicable before consumers make purchase decisions but not after (see Ho et al., 2017).

beliefs about a product with a high average rating or a large number of ratings, they are more likely to place the product in their consideration set and eventually purchase it. At the same time, such initial beliefs developed based on aggregated rating cues are typically not strong or validated because they cannot help consumers make a choice among similarly rated product options. To avoid making a poor decision under such uncertainty, people tend to be vigilant and maintain a cautious mindset. Compelling evidence also supports the contention that people are more motivated by accuracy in uncertain and ambiguous circumstances (Fischer et al., 2011; Fischer et al., 2008b; Greitemeyer & Schulz-Hardt, 2003). Thus, when consumers seek reviews primarily to reduce the uncertainty about a product that they are very likely to purchase (Dellarocas, 2003), they tend to be motivated by accuracy in order to increase the chance of making a wiser and better decision. Combining this with earlier arguments that accuracy motivation prompts consumers to seek out disconfirmatory reviews, we predict that consumers with positive initial beliefs about a product are more likely to be motivated by accuracy and that this accuracy motivation will likely drive them to search for negative reviews that have greater utility and informational value over positive reviews.

Next, we posit that consumers with negative initial beliefs are more likely to be motivated by defense when seeking out reviews. Consumers can form negative initial beliefs about a product based on the product's rating profiles, such as when the product has a low average rating or very few reviews (Forman et al., 2008). After forming a negative impression about a product in such cases, consumers are less likely to include the product in their consideration set (Shocker et al., 1991). When consumers exclude a product from their consideration set, their likelihood of purchasing the product is low because final purchase decisions are typically made among the options in their consideration set. As a result, consumers would have less of a vested interest to uncover the product's true quality and would thus be less motivated by accuracy. Instead, the largely strong and certain nature of consumers' negative initial beliefs would likely activate their defense motivation, which typically accompanies strong beliefs and attitudes (Brechan, 2002). Combining this with earlier arguments that defense motivation leads consumers to prefer confirmatory information, we predict that consumers with negative initial beliefs about a product will likely be motivated to defend their existing impression of the product and argue that this defense motivation will drive them to search for negative reviews rather than positive reviews.

Taken together, our preceding predictions regarding consumers' preferences in the information-seeking stage are in line with the general tendency of people to seek out negative information (Rozin & Royzman, 2001). We posit that consumers generally prefer to read negative reviews, and our accounts, based on differential motivations, provide a plausible explanation. Thus, we propose the following hypothesis.

H1 (negativity bias in information-seeking stage): Consumers prefer to read negative reviews over positive reviews in the information-seeking stage.

2.4.2 Confirmation Bias in Information Evaluation

After consumers read actual review content, we posit that confirmation bias (i.e., preference for attitude-consistent information) is likely to occur. At this stage, consumers are exposed to the actual content of individual reviews. When they encounter information that is incongruent with and directly contradicts their initial beliefs and attitudes, such conflict can cause discomfort, a form of psychological stress that people generally dislike (Festinger, 1957). Such discomfort can trigger consumers' motivation to reduce it and defend their existing opinions (e.g., Beauvois & Joule, 1996; Harmon-Jones, 2000). The heightened likelihood of encountering actual conflict in information evaluation (as opposed to information seeking, in which no conflict is experienced) will likely contribute to the dominance of consumers' defense motivation during this stage regardless of whether their initial beliefs were positive or negative.

Integrating this and earlier arguments about the consequences of the defense motivation, we predict that confirmation bias is likely to occur when consumers evaluate the helpfulness of reviews. Because of consumers' direct access to the substantive content of actual reviews, they are more likely to encounter cognitive conflict and discomfort when reading disconfirmatory reviews, which would thus activate their defense motivation. Fueled by this motivation, consumers might refute or discount disconfirmatory information and evaluate confirmatory reviews more favorably. As such, we propose the following hypothesis.

H2 (confirmation bias in information-evaluation stage): Consumers perceive confirmatory reviews to be more helpful than disconfirmatory reviews in the information-evaluation stage.

To test these hypotheses, we conducted three controlled experiments with different groups of participants. In the first two studies, we tested H1 and H2 when the valence of participants' initial beliefs was positive. Study 1 was a hypothetical online decision-making task in which participants formed positive initial beliefs about a product before they were presented with a number of the product's reviews to choose from and subsequently read. Study 2 utilized a more realistic scenario and replicated the first study's findings. In the final study, we manipulated the valence

of participants' initial beliefs about the product to rule out alternative explanations and test whether the earlier findings would still hold when participants' initial beliefs were negative.

3 Study 1

In Study 1, we designed an experiment in which participants formed positive initial beliefs about a product before selecting and reading its reviews. Specifically, participants were presented with the rating profiles of two wireless mouse products and then they were asked to pick one that they were more likely to purchase. We varied the average ratings of the two product options so that one option would appear superior and participants would develop a positive impression of the superior option. After participants (presumably) picked the superior product for further investigation, they were asked to select three out of six reviews (three positive and three negative) of the product to read based on the reviews' titles, read the content of selected reviews, and then report their helpfulness evaluation of the reviews.

Following the classic paradigm of assessing selective exposure (e.g., Fischer et al., 2008a; Fischer et al., 2005; Jonas et al., 2006), this design allowed us to capture biases in both pre-purchase stages. Because participants needed to select three out of six reviews to read, there were four possibilities: three positive reviews, two positive and one negative review, one positive and two negative reviews, and three negative reviews. Since participants could not choose an equal number of positive and negative reviews, their choices should have reflected their preference for positive information (i.e., the first two possibilities) or negative information (i.e., the last two possibilities) in information seeking. Moreover, we measured participants' selective exposure in the information-evaluation stage by comparing their helpfulness evaluation of the selected confirmatory and disconfirmatory reviews.

3.1 Stimulus Materials

In this experiment, we selected a compact and foldable wireless mouse because it was familiar and useful to the undergraduate participants. This type of mouse requires no wires to send signals and allows for easy transport.

We developed the stimuli for this experiment in two steps. In the first step, we prepared six review titles that differed in valence but not extremity. We began with 12 review titles (six positive and six negative) after consulting actual review titles of similar products from Amazon.com. To identify positive and negative review titles that are equally extreme, we conducted a pretest with 36 Amazon Mechanical Turk (MTurk) workers. Each pretest participant was asked to read the 12 review titles, one at a time, and rate the extremity of each title on a 9-point scale (ranging from *not at all negative/positive* to *very negative/positive*) adapted from Lee et al. (2009) (see Appendix A for the titles and the measure). Based on the results of paired-sample *t*-tests, we selected three positive review titles ("Attractive," "Terrific," and "Wise Choice") and three negative ones ("It's Worthless," "Depressing Purchase," and "Disturbing")—comparisons in all pairs of positive versus negative titles yielded *t*-values of ≤ 1.650, with *p*-values of ≥ 0.108. Therefore, the six review titles used in this experiment were not significantly different in terms of their extremity.

In the second step, we prepared three sets of text reviews, with a positive version and a negative version in each set, so that the two versions within each set were equivalent in terms of their extremity and different review sets were equivalent in terms of their information quantity, quality, and realism. We started with six sets of text reviews by again consulting real reviews of similar products from Amazon.com. Within each set, we first created a positive review and then constructed a corresponding negative review by changing its valence (e.g., using antonyms and adding negations) while keeping the substantial content identical. We also kept the number of words constant between the two versions in each review set to reduce the likelihood of possible confounds; the only difference between the two versions was valence (see Appendix B for the reviews). Then we conducted another pretest, recruited 72 participants from MTurk, and asked them to read and evaluate six reviews chosen from different sets, one review at a time. Each participant was randomly assigned to read one version (positive or negative) of the reviews in each set. After reading each review, participants were asked to report their evaluation of the review's (1) extremity, using the same item as in the pretest of review titles; (2) information quantity, using two items adapted from Gao et al. (2012); (3) quality, using three items adapted from McKinney et al. (2002); and (4) realism, using two items adapted from Mafael et al. (2016). All items were presented along 9-point scales (see Appendix B for all the measures). Based on the results of independent-sample *t*-tests of extremity and paired-sample *t*-tests of all other variables (e.g., information quantity), we selected three sets of reviews that satisfied our criteria (see Table 1): comparisons of the extremity of two review versions within each set yielded *t*-values of ≤ 1.380, with *p*-values of ≥ 0.172; comparisons of all other relevant variables across the different sets of reviews yielded *t*-values of ≤ 1.587, with *p*-values of ≥ 0.117. Therefore, the three sets of chosen reviews used in this experiment were significantly different neither in terms of the extremity between the positive and negative versions of the same review set nor the other relevant aspects (e.g., information quantity, quality, etc.) of the reviews.

Table 1. Content of Reviews in the Three Sets

Set #	Positive version	Negative version
1	This is a great mouse and it works well. The mouse has the curved left side for the thumb, so it's very comfortable. Moreover, it allows me to change how quickly the cursor moves across my screen.	This is a worthless mouse and it doesn't work well. The mouse doesn't have the curved left side for the thumb, so it's very uncomfortable. Moreover, it doesn't allow me to change how quickly the cursor moves across my screen.
2	The mouse functions well. One feature that I found useful for saving battery life is the mouse turns off automatically after a long time of non-use. It is convenient for someone who walks away from their computer often.	The mouse functions poorly. One feature that I found harmful for saving battery life is the mouse doesn't turn off automatically after a long time of non-use. It isn't convenient for someone who walks away from their computer often.
3	Good value for the price. It includes a battery with the product, so you can use it immediately. It connects to my laptop very quickly. And it is responsive without any lag when I move it.	Poor value for the price. It doesn't include a battery with the product, so you cannot use it immediately. It connects to my laptop very slowly. And it isn't responsive with lags when I move it.

3.2 Procedure

Thirty-six undergraduate students (13 male) from a US university participated in this experiment in exchange for course extra credit;[2] 94% were originally from the US, 86% were juniors or seniors, and their average age was 20. In the cover story, participants were asked to imagine that they were planning to purchase a compact and foldable wireless mouse from Amazon.com, and their search returned two different wireless mice with the same price of $23.99. They were then asked to read the rating profiles of the two options. The two options had both accumulated hundreds of reviews, but their average ratings were 2 and 4 stars, respectively. To mitigate location effects, we counterbalanced whether the 4-star option appeared on the left or right of the screen. An example of rating profiles is presented in Figure 1.

After observing the rating profiles of the two product options side by side, participants were asked about their initial beliefs about each option to facilitate the formation of their initial impressions of the products. Afterward, they were asked to imagine that they were in a hurry and only had time to read reviews from one of the two product options. Thus, they were asked to choose one of the two options, ranging from *definitely choose Mouse A* to *definitely choose Mouse B* on an 8-point scale. Among the 36 participants, 35 preferred the wireless mouse with the 4-star average rating. We retained only these 35 participants in our main analyses to ensure that they had developed positive initial beliefs about the selected wireless mouse before they were exposed to the titles and content of the reviews.

Next, in the information-seeking stage, we asked the participants to select the reviews they would prefer to read. They were shown the titles of the six most recent reviews of their selected product option.[3] The participants were told that they did not have enough time to read all the reviews and that they needed to choose the three reviews they were most interested in reading based on the review titles. According to our pretest results, the six review titles differed in valence (three positive and three negative) but not extremity. The order of the six review titles was randomized.

Finally, in the information-evaluation stage, participants read the three text reviews corresponding to the titles they had selected in the previous stage and reported their evaluations of each review. These three text reviews were selected from the three sets of text reviews that we pretested earlier—one version was given from each set. The valence version (positive or negative) in each review set was determined by the valence of the selected review titles. For example, if participants chose two negative and one positive review titles, they would see two negative and one positive text reviews—one review from each of the three review sets. To strengthen the valence manipulation, we also displayed the review rating (5 stars for the positive review and 1 star for the negative review) and review title of each text review. An example of the three reviews given is illustrated in Figure 2.

[2] Because we measured the selective exposure in both information-seeking and information-evaluation stages through a within-subject design (i.e., participants were exposed to both positive information and negative information), a sample size of 35-40 (i.e., 36 in Study 1, 39 in Study 2, and 51-52 per condition in Study 3) is sufficient to capture a repeated-measure effect of at least moderate size ($f = 0.25$) with 80% power (Faul et al., 2007).

[3] We presented six "most recent" reviews for two reasons. First, the most recent reviews are typically prominently displayed on most review platforms such as eBay and Amazon. Second and more importantly, our emphasis on the "most recent" reviews can resolve a potential inconsistency between the average rating of 4 stars and an equal number of positive versus negative reviews shown to the participants because the most recent reviews are not a representative sample of all the reviews that are the basis for calculating the overall average rating.

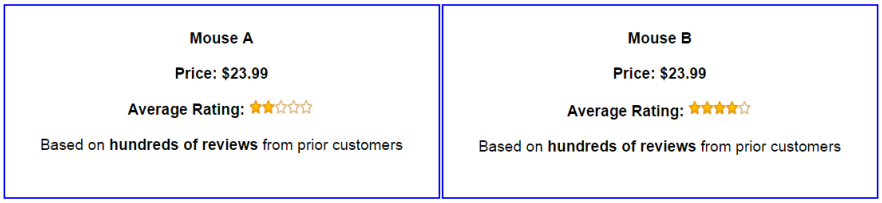


Figure 1. An Example of Rating Profile Stimuli Used in Study 1

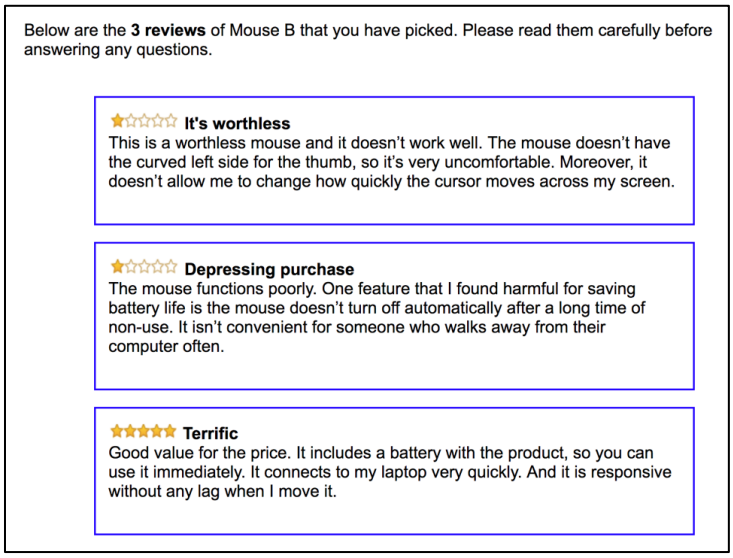


Figure 2. An Example of Review Stimuli Used in Study 1

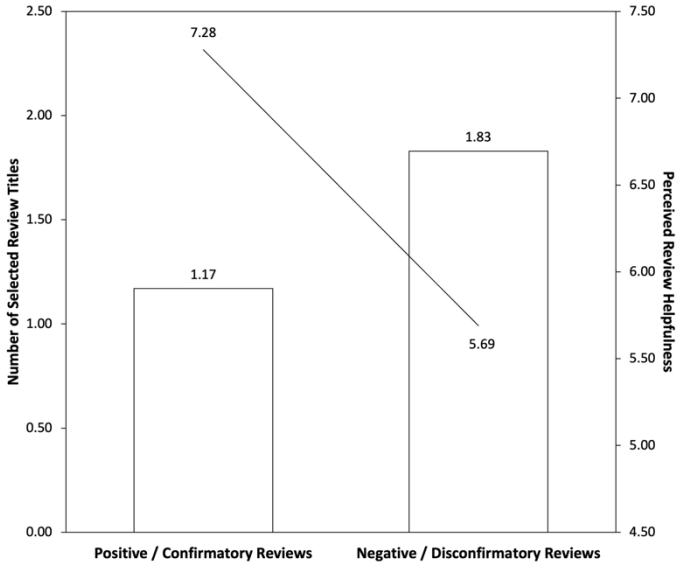
Participants were then asked to report the perceived helpfulness of each review. Perceived review helpfulness was measured using a 9-point scale, with two items adapted from Sen and Lerman (2007) and Chen and Lurie (2013): "Assuming that you were thinking about purchasing Mouse A/B in real life, how likely would you be to use this review in your decision-making? (very unlikely / very likely)" and "How much influence would this review have on your decision? (very little influence / a great deal of influence)." See Appendix C for all the measures.

3.3 Results

First, we investigated participants' selective exposure when seeking more information. We measured selective exposure in information seeking by comparing the number of selected positive review titles with the number of selected negative review titles. A repeated-measures ANOVA analysis showed that participants preferred to read negative reviews over positive reviews ($M = 1.83$ vs. 1.17, $F(1, 34) = 7.570$, $p = 0.009$) (see the bar chart in Figure 3). In addition, since the number of negative (or positive) review titles a participant could select ranged from 0 to 3, we conducted a paired-sample t-test between the number of selected negative review titles and the medium value (1.5) as a robustness check. The results were consistent with those given above ($M = 1.83$ vs. 1.5, $t(34) = 2.751$, $p = 0.009$).[4] These results provide evidence supporting a negativity bias in the information-seeking stage, as hypothesized by H1, when consumers' initial beliefs about a product are positive.

Next, we examined participants' selective exposure when they evaluated the helpfulness of reviews after reading their content. For this analysis, we retained 29 (out of 35) participants who read both positive and negative reviews (i.e., two positive and one negative reviews, or one positive and two negative reviews) because a within-subject comparison is only plausible in such cases. A repeated-measures ANOVA analysis showed that positive (i.e., confirmatory) reviews were perceived to be more helpful than negative (i.e., disconfirmatory) reviews ($M = 7.28$ vs. 5.69, $F(1, 28) = 17.004$, $p < 0.001$) (see the solid line in Figure 3). This result provides evidence supporting a confirmation bias in the information-evaluation stage, as hypothesized by H2, when consumers' initial beliefs about a product are positive.

[4] We also did the paired-sample t-test in the information-seeking stage for the following studies. The results were consistent with ANOVA analyses and thus omitted for succinctness.



Note: the bar indicates the number of selected titles; the solid line indicates perceived review helpfulness

Figure 3. Results of Negativity and Confirmation Biases in Study 1

3.4 Discussion

In this study, we conducted an experiment to test participants' selective exposure in two stages of information seeking and evaluation when they had positive initial beliefs about a product. We found evidence suggesting that consumers seek and prefer to read negative reviews but that after reading the review content, they evaluate confirmatory (i.e., positive) reviews more favorably. These results provide initial evidence for H1 and H2.

One notable limitation of this study is its artificiality: participants were asked to select from two product options, with one being clearly superior to the other (4-star vs. 2-star on average). Because it is not common for a product to have a 2-star average rating, participants would almost certainly purchase the option with the 4-star average rating (if no other options were available) and develop very strong positive beliefs about this superior option. In Study 2, we explored whether the biases observed in Study 1 could be replicated in a more realistic scenario where the positive initial beliefs of participants were manipulated more subtly.

4 Study 2

The primary purpose of Study 2 was to replicate the main findings of Study 1 in a more realistic scenario. This study followed a similar procedure to that of Study 1, except that we kept the average rating identical between the two product options but varied the number of reviews. Multiple products with similar average ratings but different numbers of reviews are likely to happen in real-life shopping scenarios.

4.1 Procedure

Thirty-nine undergraduate students (11 male) from a US university took part in this study for course extra credit; 92% were originally from the US, 90% were juniors or seniors, and their average age was 20. The cover story and procedure were similar to those in Study 1, with one major exception. We constructed the rating profiles of the two product options to have the same (4-star) average rating and price, but they differed in the number of reviews—one had 15 reviews and the other had 1730 reviews. After observing the rating profiles of both options side by side, participants were asked about their initial beliefs and then asked to select three out of six review titles for the somewhat superior product option (the product with 1730 reviews). An example of rating profiles is presented in Figure 4. The rest of the procedure was identical to that of Study 1.

4.2 Results

First, we investigated participants' selective exposure when seeking more information about the superior product option. We compared the number of selected positive review titles with the number of selected negative review titles in a repeated-measures ANOVA analysis. The results showed that the participants preferred to read negative over positive reviews (M = 1.85 vs. 1.15, $F(1, 38) = 9.308$, $p = 0.004$), supporting H1 (see the bar charts in Figure 5).

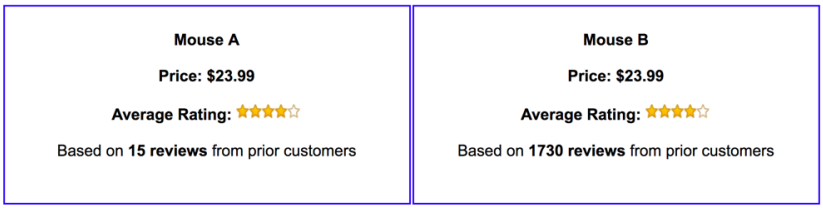
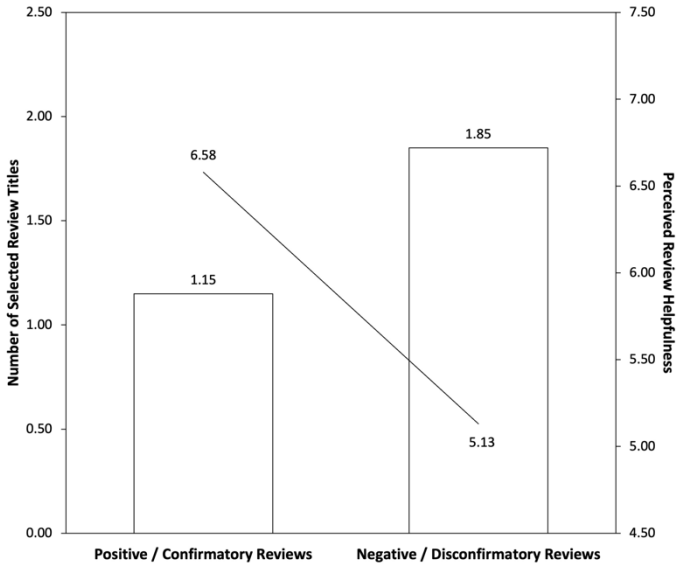


Figure 4. An Example of Rating Profile Stimuli Used in Study 2



Note: the bar indicates the number of selected titles; the solid line indicates perceived review helpfulness

Figure 5. Results of Negativity and Confirmation Biases in Study 2

Next, we explored selective exposure during participants' information-evaluation stage. As in Study 1, we only used the 32 (out of 39) participants who selected both positive and negative review titles. A repeated-measure ANOVA analysis revealed that positive (i.e., confirmatory) reviews were perceived to be more helpful than negative (i.e., disconfirmatory) reviews (M = 6.58 vs. 5.13, $F(1, 31) = 7.591$, p = 0.010), supporting H2 (see the solid line in Figure 5).

4.3 Discussion

In Study 2, we replicated the findings of the first study by utilizing a more realistic scenario and a more subtle manipulation of participants' positive initial beliefs about a product. In line with H1 and H2, we found consistent evidence suggesting that consumers with positive initial beliefs about a product prefer to read negative reviews in the information-seeking stage but perceive confirmatory reviews to be more helpful in the information-evaluation stage.

In both studies, we fixed participants' initial beliefs about a product to a positive level because consumers are more likely to consult reviews of products that are in their consideration set and thus more likely to be purchased. However, such a design precluded us from testing H1 and H2 with participants that had negative initial impressions of a product, a theoretically important condition. For example, we cannot rule out the role of initial beliefs in the observation of the negativity bias in the information-seeking stage or the role of valence in the observation of the confirmation bias in the information-evaluation stage. Therefore, we designed a final study to address this limitation and thereby extend previous findings.

5 Study 3

In Study 3, we manipulated participants' initial beliefs at two levels (positive and negative) and examined their selective exposure during both the information-seeking and information-evaluation stages.

5.1 Procedure

One hundred and three undergraduate students (45 male) from a US university participated in this study for course extra credit; 88% were originally from the US, 63% were juniors or seniors, and their average age was 21. The cover story and procedure were similar to those of Study 1, with one major exception: after observing

the rating profiles of two product options (2-star and 4-star on average) side by side and answering questions about their initial beliefs about each product, participants were told that the product on the left appeared first in their search results and caught their attention first, prompting them to check out its reviews first. This step was designed to simulate real-world situations and, more importantly, to justify participants' product choice, even if the chosen product had a negative average rating. Because we randomized the location of 2-star vs. 4-star product options, half of the participants were assigned to the negative valence condition (i.e., asked to seek out and evaluate reviews of the 2-star product) and the other half were assigned to the positive valence condition. The rest of the procedure was identical to that of Study 1.

5.2 Results

Before further analyses, we conducted a manipulation check for initial beliefs. Participants' initial beliefs were measured using a 9-point scale with three items adapted from Darke and Ritchie (2007) (see Appendix C for the measure). Results of an ANOVA analysis showed that participants' initial beliefs about the 2-star product were significantly lower than their beliefs about the 4-star product (M = 2.68 vs. 7.61, F(1, 101) = 616.544, p < 0.001). Thus, we determined that our manipulation of the valence of initial beliefs was successful.

We then examined whether participants' selective exposure was dependent on the valence of their initial beliefs about a product when seeking more information about the product. We conducted a mixed ANOVA analysis, with the valence of selected review titles (positive vs. negative) entered as a within-subject factor and the valence of participants' initial beliefs as a between-subject factor. Results revealed that the interaction between the two factors did not attain significance (F(1, 101) = 0.739, p = 0.392). Participants preferred to read negative over positive reviews (M = 1.92 vs. 1.08, F(1, 101) = 37.746, p < 0.001) regardless of the valence of their initial beliefs. This result provides more conclusive evidence supporting the negativity bias in the information-seeking stage hypothesized by H1.

As a supplementary analysis, we used the confirmatory (vs. disconfirmatory) nature of the review title instead of its valence as a within-subject factor and found that the interaction of this factor and the initial belief valence was significant (F(1, 101) = 37.746, p < 0.001). Pairwise comparisons showed that participants in the positive initial belief condition preferred to read disconfirmatory reviews (M = 1.86 vs. 1.14, F(1, 101) = 13.837, p < 0.001), while those in the negative initial belief condition preferred to read confirmatory reviews (M = 1.98 vs. 1.02, F(1, 101) = 24.764, p < 0.001) (see Figure 6). These results suggest that distinct motivations are a possible explanation for the presence of the negativity bias in information seeking.

Next, we investigated the direction of selective exposure during the participants' information-evaluation stage and examined whether it depended on the valence of their initial beliefs. As in Study 1, we used only participants who chose both positive and negative reviews (N = 82; 43 out of 51 participants in the positive initial belief condition and 39 out of 52 participants in the negative initial belief condition). Results from a mixed ANOVA revealed that the interaction between participants' initial belief valence and the confirmatory (vs. disconfirmatory) nature of the reviews did not attain significance (F(1, 80) = 2.299, p = 0.133). Moreover, confirmatory reviews were rated as significantly more helpful than disconfirmatory reviews (M = 6.59 vs. 5.41, F(1, 80) = 12.955, p = 0.001), providing more conclusive evidence for the confirmation bias in the information-evaluation stage hypothesized by H2.

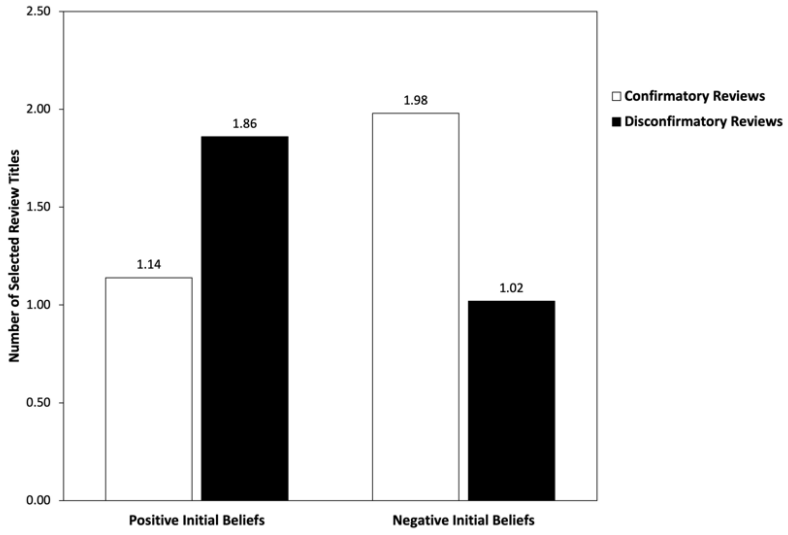


Figure 6. Results of Confirmatory and Disconfirmatory Preferences During Information Seeking in Study 3

5.3 Discussion

Study 3 provides more conclusive evidence for the two hypotheses by varying the valence of consumers' initial beliefs. In line with H1 and a motivational account, this study revealed a consistent tendency toward seeking negative reviews (negativity bias) in the information-seeking stage regardless of the valence of participants' initial beliefs. Similarly, in the information-evaluation stage, participants perceived confirmatory reviews to be more helpful than disconfirmatory reviews, regardless of the valence of their initial beliefs, supporting H2.

6 General Discussion

Drawing on the motivated reasoning literature, we hypothesized that consumers demonstrate a negativity bias in the information-seeking stage of their decision-making process but evaluate confirmatory reviews more favorably in the information-evaluation stage. Three experimental studies provided support for these hypotheses.

6.1 Theoretical Implications

Our paper makes several unique contributions to the online review literature. First, whereas prior research has focused mostly on factors that influence consumers' evaluation of review helpfulness *after* they read review content, this paper is likely the first to explore how consumers seek reviews *before* they read any review content. Information seeking is a critical initial step that occurs before consumers read and evaluate any particular piece of information (Fischer et al., 2005; Mathieson & Wall, 1982). The helpfulness of a review will be meaningless if consumers are not paying attention to it in the first place. Despite the importance of information seeking, little research has examined this earlier stage, possibly due to a lack of secondary data about consumers' review-seeking tendencies. Our research not only advances a hypothesis regarding consumers' selective exposure to information at this stage but also utilized experimental methods and carefully pretested stimuli to capture consumers' information-seeking tendencies. Thus, our examination of consumers' selective exposure *before* they read any particular review extends our understanding of consumers' decision-making process beyond the mere examination of review evaluation and opens up exciting opportunities for future research to examine consumers' information-seeking behavior (Yin et al., forthcoming).

Second, our results provide a possible explanation for the well-established negativity bias in product sales and help to reconcile contradiction with a recently demonstrated confirmation bias in the review helpfulness evaluation. Negative reviews have been found to have a greater influence on product sales than positive reviews (Basuroy et al., 2003; Cao et al., 2011; Chevalier & Mayzlin, 2006). A common explanation for this negativity bias is that negative reviews are perceived by consumers to be more helpful than positive reviews. However, Yin et al. (2016) provided empirical evidence for a confirmation bias in review evaluation—because the average rating of most products is positive, consumers tend to evaluate positive reviews (that confirm their positive initial beliefs) more favorably in most cases. Our proposed theoretical framework and findings provide a possible solution to this conundrum. Essentially, consumers engage in both information seeking and information evaluation before they make a purchase decision; thus, the negativity bias that is universally observed at the product level could be caused by a greater value assigned to negative reviews or a greater exposure to negative reviews versus positive reviews. While the former possibility has been disconfirmed by recent empirical evidence (e.g., Yin et al., 2016), our examination reveals a consistent tendency of consumers to search for negative reviews, regardless of whether their initial impression of the product was positive or negative. Therefore, the negativity bias at the product level might arise because negative reviews have more exposure and are consulted by more consumers seeking information, rather than because negative reviews are perceived as more diagnostic by consumers. Although the relative impact of exposure versus helpfulness/diagnosticity on consumers' purchase decisions is beyond the scope of the current paper, it is a worthy topic of future exploration. In addition, we extend the application of the general negativity bias (defined as a greater impact or stronger power of negative vs. positive information or events; see Baumeister et al., 2001) into the information-seeking stage of consumers' decision-making, expanding our understanding of the negativity bias.

Third, this paper provides additional evidence suggesting the important role of consumers' initial beliefs and different motivations in influencing their decision-making process. Most relevant to our research, Yin et al. (2016) empirically demonstrated that consumers' initial beliefs influence their judgment of review helpfulness and that they evaluate confirmatory reviews more favorably than disconfirmatory reviews (i.e., confirmation bias). Complementing and extending this work, we not only provide experimental evidence and replicate their findings on confirmation bias in information evaluation, but we also reveal a different bias—the information-seeking negativity bias—within the *same* study. Our findings imply that consumers' initial beliefs can also influence their review-seeking tendencies and that the confirmation bias found in the review-evaluation stage cannot be generalized to the review-seeking stage. Instead, consumers prefer to seek negative reviews regardless of the valence of their

initial beliefs. We offer one possible explanation for this negativity bias based on consumers' distinct motivations, which give rise to preferences for confirmatory or disconfirmatory information in different situations. Our results suggest that the negativity bias can occur when consumers look for more information and that this bias is guided by the valence of consumers' initial beliefs and the possible corresponding motivation activated at the time. These findings reveal the potential importance and value of tapping into consumers' fundamental motivations for understanding their behavior in navigating the vast amount of information available in online reviews.

6.2 Practical Implications

Our findings also offer practical implications for product manufacturers and review platforms. First, in establishing their priorities and strategies for dealing with a rapidly increasing number of online reviews (e.g., responding to reviewer comments), product manufacturers should take into account the number of consumers who are likely to be exposed to a review (and thus influenced by the review) in addition to the review's helpfulness. If a product's average rating is positive, then negative reviews of the product would be discounted as unhelpful because negative information contradicts consumers' initial beliefs formed on the basis of the average rating. As a result, such negative reviews are less likely than positive reviews to be included on a list of "most helpful" reviews or prominently displayed on the product page. A rational product manufacturer may disregard such reviews and focus their attention and resources on the most helpful reviews. However, our findings suggest that this strategy might be misguided, because negative reviews, in this case, contradict consumers' positive initial beliefs and would get more exposure (i.e., being sought after and read by more consumers; see H1). In addition, dealing with negative reviews proactively is an unequivocally superior strategy only when a product's average rating is negative because negative reviews are both sought after (see H1) and rated as more helpful (confirming consumers' negative initial beliefs; see H2) in this situation. Therefore, when product manufacturers prioritize their efforts to deal with distinct types of reviews, they should take a more balanced view, considering both the perceived value of the review and its likely exposure to prospective consumers.

Second, review platforms such as Amazon may need to reconsider the effectiveness of highlighting the most helpful reviews and, instead, seek to balance consumers' diverse interests at different stages of their decision-making process. Highlighting reviews rated by others as helpful might bring more confirmatory reviews to the forefront, as one reason that reviews are considered helpful is that they align with consumers' initial beliefs formed based on the product's average rating and other rating statistics. However, our findings suggest that the review helpfulness metric might not be the only factor that review platforms should incorporate to highlight and sort product reviews. Instead, negative reviews are what consumers are actively looking for regardless of the valence of their initial beliefs. Although listing the most helpful reviews by default is an intuitive and efficient strategy for review platforms to implement, this strategy neglects the potential of negative reviews to be sought after by more consumers and exert a greater impact on product sales. Note that Amazon does provide one "top positive review" and one "top critical review" after consumers click on "see all verified purchase reviews" at the end of the most helpful reviews on the product page. Nevertheless, our findings suggest that displaying negative reviews more prominently, along with the most helpful reviews, may help consumers most as they navigate the complex process of making purchase decisions.

6.3 Limitations and Future Research

Our paper has a few limitations for future examination. First, we fixed the average rating of the treatment product at 2 or 4 stars in all our studies because our interest is the (positive or negative) valance of consumers' initial beliefs. However, this design precluded us from examining situations where consumers had neutral or mixed initial beliefs about a product, such as when the product's average rating is 3 stars or when reviewers have wildly divergent opinions (characterized by a high dispersion of ratings). It would be interesting to investigate whether consumers are still selective in seeking and judging positive versus negative information when they have neutral or mixed initial impressions of a product. In addition, consumers' confidence in their initial beliefs may influence the strength of their accuracy versus defense motivation when searching for and evaluating reviews. Future research is needed to answer these intriguing questions.

Second, although our theoretical framework built on the differential motivations in consumers' two-stage decision-making process provides a plausible explanation for the negativity bias at the product level, the existence of other possibilities warrants further investigation. For example, one possibility is that helpful reviews may not always be persuasive and that consumers' attitudes toward a product might be "swayed" by particular review characteristics, even when those reviews are deemed unhelpful (see Liu & Karahanna, 2017). Given the lack of research exploring the association between review helpfulness and consumer attitudes and decision-making, this is a fertile area worth pursuing.

Finally, our findings provide evidence for the presence of differential biases during the consumer decision-making process in the context of product reviews. It

would be interesting to investigate the potential mechanisms underlying selective exposure in both stages. In addition to the linear sequence of the two stages examined in this paper, future research can also explore the dynamic, complex process of consumers' search for and evaluation of information during their decision-making process. Although our theoretical framework could apply to consumers' general decision-making process, future work is necessary to test the external validity of our findings in other contexts, such as other types of online reviews (e.g., retailer reviews) and other product categories.

7 Conclusion

In this paper, we tackle the conundrum of a prevalent negativity bias in product sales and an overall positivity bias in review helpfulness evaluation revealed in prior literature. We propose that consumers' tendency to seek out positive or negative information may hold the key to addressing this conundrum and suggest that both review-seeking and review-evaluation stages of consumers' decision-making process should be accounted for. Drawing on the motivated reasoning literature, we argue that consumers demonstrate a negativity bias in the information-seeking stage and that they generally evaluate confirmatory reviews to be more helpful in the information-evaluation stage. In the course of three experiments, we found converging evidence for these hypotheses. Our findings provide a possible explanation for the negativity bias in product sales and also highlight the critical role of consumers' initial beliefs and corresponding motivations in the two stages of their decision-making process.

Acknowlegments

We sincerely appreciate the senior editor, Huigang Liang, and three anonymous reviewers for their constructive guidance, comments, and suggestions throughout the review process. We are also grateful to Marius Florin Niculescu, Lizhen Xu, Michael Smith, and Adrian Gardiner for their help in recruiting experiment participants.

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Appendix A: Variable Measured and Titles Used in the Pretest of Review Titles

// *Extremity*: (Lee et al., 2009)

In your opinion, how negative are these titles?

- not at all very negative / very negative

In your opinion, how positive are these titles?

- not at all positive / very positive

// 12 review titles:

Positive titles: great product, fabulous, joyful experience, attractive product, terrific, and wise choice.

Negative titles: it's worthless, disturbing, depressing purchase, useless one, undesirable, and terrible product.

Appendix B: Variables Measured and Reviews Used in the Pretest of Reviews

// *Extremity*: (Lee et al., 2009)

In your opinion, how negative is this review above?

- not at all very negative / very negative

In your opinion, how positive is this review above?

- not at all positive / very positive

// *Information quantity*: (Gao et al., 2012)

In your opinion, how much information was presented in this review above?

- very little information / a great deal of information

- very few details / very many details

// *Information quality*: (McKinney et al., 2002)

Using the scales below, how would you describe this review above?

- very poor quality / very good quality

- very poor content / very good content

- very incomplete / very complete

// *Information realism*: (Mafael et al., 2016)

- not at all realistic / very realistic

- not at all real / very real

// Content of reviews in the 6 sets.

Set #	Positive version	Negative version
1	This is a great mouse and it works well. The mouse has the curved left side for the thumb, so it's very comfortable. Moreover, it allows me to change how quickly the cursor moves across my screen.	This is a worthless mouse and it doesn't work well. The mouse doesn't have the curved left side for the thumb, so it's very uncomfortable. Moreover, it doesn't allow me to change how quickly the cursor moves across my screen.
2	Very good wireless mouse. I like the side buttons, which are programmed to go back or forward on web browsers by default. The mouse has a setup software, so there is an easy way to reprogram the buttons.	Very bad wireless mouse. I don't like the side buttons, which are programmed to go back or forward on web browsers by default. The mouse has no setup software, so there is no easy way to reprogram the buttons.
3	It's easy to use. I purchased this item a few months ago and I am pleased with its performance. The tracking on this mouse is good. It's a desirable mouse for the price. I would definitely recommend it.	It's difficult to use. I purchased this item a few months ago and I am not pleased with its performance. The tracking on this mouse is poor. It's an undesirable mouse for the price. I would definitely not recommend it.
4	High quality. It is comfortable to use, especially if it's being used for over an hour in one sitting. Also, it is durable as the mouse was knocked off my desk and shown no clear sign of damage.	Poor quality. It isn't comfortable to use, especially if it's being used for over an hour in one sitting. Also, it isn't durable as the mouse was knocked off my desk and shown a clear sign of damage.
5	The mouse functions well. One feature that I found useful for saving battery life is the mouse turns off automatically after a long time of non-use. It is convenient for someone who walks away from their computer often.	The mouse functions poorly. One feature that I found harmful for saving battery life is the mouse doesn't turn off automatically after a long time of non-use. It isn't convenient for someone who walks away from their computer often.
6	Good value for the price. It includes a battery with the product, so you can use it immediately. It connects to my laptop very quickly. And it is responsive without any lag when I move it.	Poor value for the price. It doesn't include a battery with the product, so you cannot use it immediately. It connects to my laptop very slowly. And it isn't responsive with lags when I move it.

Appendix C: Variables Measured in Studies 1, 2, and 3

// *Initial beliefs*: (Darke & Ritchie, 2007) (used in Studies 1-3)

What is your overall opinion of Mouse A/B based on its rating profile on the top left/right of this page?

- very bad / very good

- very negative / very positive

- very unfavorable / very favorable

// *Product choice*: (used in Study 1)

Assume you are in a hurry and only have time to read reviews from one of the two mice. Based on their rating profiles above, which mouse would you choose to find out more information about it?

- definitely choose Mouse A / definitely choose Mouse B

// *Review helpfulness*: (Chen & Lurie, 2013; Sen & Lerman, 2007) (used in Studies 1-3)

Assuming that you were thinking about purchasing Mouse A/B in real life, how likely would you be to use this review in your decision-making?

- very unlikely / very likely

How much influence would this review have on your decision?

- very little influence / a great deal of influence

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