

Incentives Increase Relative Positivity of Review Content and Enjoyment of Review Writing

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Abstract

A series of controlled experiments examine how the strategy of incentivizing reviews influences consumers' expressions of positivity. Incentivized (vs. unincentivized) reviews contained a greater proportion of positive relative to negative emotion across a variety of product and service experiences (e.g., videos, service providers, consumer packaged goods companies). This effect occurred for both financial and nonfinancial incentives and when assessing review content across multiple natural language processing tools and human judgments. Incentives influence review content by modifying the experience of writing reviews. That is, when incentives are associated with review writing, they cause the positive affect that results from receiving an incentive to transfer to the review-writing experience, making review writing more enjoyable. In line with this process, the effect of an incentive on review positivity attenuates when incentives are weakly (vs. strongly) associated with review writing (i.e., incentive for "participating in an experiment" vs. "writing a review") and when the incentive does not transfer positive affect (i.e., when an incentive is provided by a disliked company). By examining when incentives do (vs. do not) adjust the relative positivity of written reviews, this research offers theoretical insight into the literature on incentives, motivation, and word of mouth, with practical implications for managers.

Keywords

enjoyment, incentives, motivation, natural language processing, reviews, word of mouth

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Product reviews are critical for companies and customers. From a marketing perspective, written reviews are important in determining product sales. For example, the more reviews a product has, the more likely a customer is to buy it (Chevalier and Mayzlin 2006). From a customer perspective, reviews enable people to make more informed purchase decisions (Simonson and Rosen 2014). For this reason, people rely heavily on written product reviews, with 82%–93% of U.S. adults saying they sometimes or always read online reviews for new purchases (Podium 2017; Smith and Anderson 2016).

Given the importance of online reviews for marketers and customers, many companies use financial and nonfinancial incentives to encourage people to review their past purchases (Burtch et al. 2018; Cabral and Li 2015; Khern-am-nuai, Kannan, and Ghasemkhani 2018). This strategy of providing small incentives (e.g., loyalty points, entry into a sweepstakes drawing) is intended to help customers overcome the costs of writing reviews, and it is quite common. In a survey we conducted of 285 participants, one in two (51.2%) reported that they were previously incentivized by a company to write a product

review, including companies such as Adidas, Bath & Body Works, Nordstrom, Lenovo, and Walmart (for pilot study details, see Web Appendix A).

Incentivizing customers to write reviews has advantages; incentives are useful for motivating behavior (Goswami and Urminsky 2017; John et al. 2011) and are often effective at increasing review volume (i.e., the proportion of consumers who write reviews; Burtch et al. 2018; Khern-am-nuai, Kannan, and Ghasemkhani 2018). Incentives typically increase review volume by causing a selection effect; that is, they motivate different types of people to write reviews, increasing reviews from those who may not typically post (Moe and Schweidel 2012; see also Keller, Hesselton, and Volpp 2020). However, beyond selection effects, which modify *who* writes reviews, might incentives also change review content—that is, might they modify *what* reviewers write? The current research suggests the answer to this question is yes.

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We theorize that incentivizing reviews changes review content by increasing consumers' enjoyment of review writing. This prediction is supported by research on affect transfer, which finds that properties of achieving a goal (e.g., enjoyment of losing weight) can transfer over to the means of achieving the goal (e.g., running) (Fishbach, Shah, and Kruglanski 2004; Kruglanski et al. 2002). This prediction is further supported by work on evaluative conditioning (De Houwer, Thomas, and Baeyens 2001), which demonstrates that a stimulus's valence changes when it is paired with a positively valenced stimulus, such as when pairing the word "puzzles" with positive (vs. neutral or negative) words increased people's interest in completing puzzles (Custers and Aarts 2005).

In the context of an incentivized review, we propose that the properties of receiving an incentive (i.e., enjoyment) transfer over to the act of review writing, making the experience of writing the review more enjoyable as a result. By increasing enjoyment of the review-writing process, we predict that incentives change consumers' linguistic expressions in their reviews. Specifically, incentivized consumers feel greater interest and enjoyment during the review-writing process, which causes them to express a greater proportion of positive (relative to negative) emotions in their reviews.

Overall, this research makes several contributions to the literature on incentives, motivation, and word of mouth (WOM). At a broad level, we contribute to literature on online WOM (e.g., Berger 2014) by identifying that incentives modify the relative positivity of consumer-generated content (i.e., online product reviews) and documenting the underlying process by which this occurs. In addition, this research makes contributions to the literature on incentives and rewards, which focuses on how incentives can be harnessed to motivate behavior (e.g., Gneezy, Meier, and Rey-Biel 2011; Goswami and Urminsky 2017; John et al. 2011; Prendergast 1999). For example, incentives modify the volume and length of reviews, which may occur by changing who writes reviews (Burtch et al. 2018; Khern-am-nuai, Kannan, and Ghasemkhani 2018; Sun, Dong, and McIntyre 2017). Independent of selection effects, we highlight a novel effect of incentives in inducing adjustment effects (Moe and Schweidel 2012), demonstrating that incentives increase the relative positivity of what consumers write in their reviews. Thus, whereas prior research has found that incentives may influence review content by changing *who* writes reviews, we are the first to demonstrate that incentives change *what* consumers write.

Finally, in examining the effect of incentives on relative positivity of review content, we are the first to examine how incentives influence enjoyment of review writing. Thus, another contribution is in identifying the process by which incentives influence review positivity. We propose and find that incentives increase relative positivity of reviews by increasing enjoyment of review writing, and test key moderators of this effect. As such, we address a call for research on the processes by which incentives influence interest in review writing (Burtch et al. 2018).

We first review literature on online WOM, detailing research on the role incentives play in review generation. Then, drawing on literature on affect transfer and evaluative conditioning, we propose our theory for how incentives change consumers' enjoyment of the review-writing process. We then present seven experiments testing our predictions across various product reviews, using multiple natural language processing tools and human judgments of positivity.

Conceptual Framework

A considerable body of research has examined antecedents of WOM (Berger 2014; Berger et al. 2020; Chen and Yuan 2020; De Angelis et al. 2012; Hennig-Thurau et al. 2004) and consequences for consumer decisions and product sales (Chevalier and Mayzlin 2006). For example, prior research has examined why some products receive more WOM than others (Berger and Milkman 2012) and how the communication channel (Berger and Iyengar 2013; Lovett, Peres, and Shachar 2013) and audience (Barasch and Berger 2014; Chen 2017) can influence what people share.

In particular, research has examined the influence of external cues on online WOM for consumer-generated product reviews, including the role of social dynamics (Godes and Silva 2012; Li and Hitt 2008; Moe and Schweidel 2012; Moe and Trusov 2012), features of the device reviews are generated on (Melumad, Inman, and Pham 2019; Ransbotham, Lurie, and Liu 2019), and environmental factors, such as sunlight and weather (Bakhshi, Kanuparth, and Gilbert 2014). For example, a greater proportion of emotional words (i.e., greater percentage of positive and negative content) is generated on smartphones than on computers (Melumad, Inman, and Pham 2019; Ransbotham, Lurie, and Liu 2019). Expanding the research on external factors that influence review content, we focus on how incentives influence what consumers write in their reviews.

Incentives for Reviewing

At first glance, it is unclear how, if at all, incentives will influence review content. Some insight into this question comes from prior research asking a different question, namely, how incentives affect review volume. Prior research focusing on review volume also analyzed valence (i.e., review text sentiment or a proxy [star rating]). Some articles that examined the effect of incentives on review volume suggest that incentives may increase positivity of review text (Khern-am-nuai, Kannan, and Ghasemkhani 2018) and star ratings (Burtch et al. 2018). Yet other research has revealed a negative effect of incentives; for example, in a field experiment of Airbnb reviews, incentivized (vs. unincentivized) reviews were associated with *lower* star ratings (Fradkin et al. 2015). Adding to the mixed findings, the same paper that found a positive effect of incentives on star ratings (i.e., for a set of Amazon product reviews; Burtch et al. 2018) found no association between incentives and positivity of review content for a different set

of reviews, similar to conclusions from other research (Stephen et al. 2012).

To understand these divergent findings, we build on a framework distinguishing between two different effects that can co-occur when consumers post product reviews: first, there can be selection effects that modify whether a person chooses to post or not, and second, there can be adjustment effects that modify the content of what is posted (Moe and Schweidel 2012; see also Keller, Hesselton, and Volpp 2020). Whereas people with very positive or very negative experiences may be more likely to post a review in the absence of incentives (compared with those who had a moderate experience; Hu, Zhang, and Pavlou 2009; Li and Hitt 2008), incentives can motivate consumers who had more moderate experiences to post. By modifying *who* writes a review, incentives can decrease (increase) review positivity if existing reviews are more positive (negative).

Independent of influencing who writes reviews (i.e., selection effects), we propose that incentives cause adjustment effects, influencing what consumers write. We first explored this in a field study by analyzing real product reviews written by customers of a home improvement store. To test for the possibility of an adjustment effect (rather than/in addition to a selection effect), we focused our analysis on users in our data set who posted both a review for a product that was incentivized and another review for a different product that was not incentivized. That is, to reduce issues of self-selection, we examined the effect of an incentive on relative positivity of review content within subject (Melumad, Inman, and Pham 2019). This analysis revealed that, holding the review writer constant, incentivized (vs. unincentivized) reviews contained a significantly greater proportion of positive (vs. negative) emotional words ($M_{\text{incentive}} = 7.83\%$, $M_{\text{no incentive}} = 4.27\%$; $t(436) = 7.63$, $p < .001$).¹ This field study thus provided initial evidence that incentives could cause adjustment effects, modifying the relative positivity of what review writers post.

Incentives Modify the Experience of Writing Reviews

Why might incentives cause an adjustment effect and increase positivity of review content? We theorize that receiving an incentive (vs. no incentive) for writing a review causes people to experience review writing as more enjoyable. This in turn leads them to express more positive emotions, manifesting as greater relative positivity, in the content of their review.

This prediction, that incentives will *increase* enjoyment of reviewing, may seem at odds with research on how incentives can reduce task enjoyment in the period after they are removed (Lepper, Greene, and Nisbett 1973; Ryan and Deci 2000). There are two main reasons why our prediction diverges from

this previous literature. First, we examine enjoyment when incentives are *present* (i.e., we do not examine their removal). When incentives are present, we propose that properties of the incentive can transfer over to the associated task, increasing task enjoyment, which we detail subsequently. Second, we examine enjoyment of a task that is commonly incentivized (i.e., review writing). Whereas incentives can undermine interest in activities that are not associated with incentives, such as coloring (in a study with children; Lepper, Greene, and Nisbett 1973) or completing puzzles (in a study with high school students; Harackiewicz 1979), we examine incentives for writing reviews, which most people associate with incentives (Hennig-Thurau et al. 2004; see also results of our pilot study on the prevalence of companies incentivizing customer reviews).

The prediction that incentives can increase activity enjoyment is supported by two literatures: affect transfer in goal systems and evaluative conditioning. First, research on affect transfer demonstrates that positive emotions associated with successful goal attainment (e.g., excitement from losing weight) can transfer over to the activity used to pursue the goal (e.g., running) by sheer association (Fishbach, Shah, and Kruglanski 2004; Kruglanski et al. 2002; Kruglanski et al. 2018). Affect transfer is a consequence of a strong association between a goal and an activity (Fishbach, Shah, and Kruglanski 2004); the positive qualities of goal attainment are more likely to transfer to a task that achieves the goal to the extent that the task and goal are connected. For example, more immediate (vs. delayed) incentives increase enjoyment of a task because immediate incentives arrive *during* the task and are perceived as more (vs. less) closely associated with the task (Woolley and Fishbach 2018). When activities are weakly associated with goals, this transfer effect is less likely to occur.

Second, literature on evaluative conditioning demonstrates that pairing a neutral stimulus with a positively valenced stimulus increases the valence of the initially neutral stimulus (Aarts, Custers, and Holland 2007; De Houwer, Thomas, and Baeyens 2001; Hofmann et al. 2010; Sweldens, Van Osselaer, and Janiszewski 2010). For example, people were more interested in completing puzzles when the word “puzzles” appeared in proximity to positive words than negative or neutral words (Custers and Aarts 2005). Similar to how pairing positive stimuli with neutral words increases positive evaluations of the words (De Houwer, Thomas, and Baeyens 2001), we propose that pairing incentives (generally perceived as positive) with writing reviews (generally perceived as neutral) increases review-writing enjoyment. Importantly, this prior research demonstrated that neutral stimuli are evaluated more positively as a function of their close proximity to positive stimuli (Balsam, Drew, and Gallistel 2010; Boakes and Costa 2014; De Houwer, Thomas, and Baeyens 2001). Thus, similar to affect transfer in goal systems, it is the strength of the cognitive association between positive and neutral stimuli that increases evaluations of the neutral stimuli.

We accordingly predict that positive affect from receiving an incentive can transfer over to the review-writing process, such that people experience review writing as more enjoyable.

¹ We computed relative positivity in review content as the difference between the percentage of positive and negative emotional words assessed via the Linguistic Inquiry and Word Count (LIWC) program (Pennebaker et al. 2015) as in previous research (Berger and Milkman 2012; Rocklage, Rucker, and Nordgren 2018). Web Appendix B reports full details of this field study.

Importantly, our theory proposes key instances when incentives *will* versus *will not* increase enjoyment of review writing, which we test. First, if affect transfer is indeed the process wherein incentives influence review-writing enjoyment, then incentives should increase enjoyment of review writing when they are perceived as more (vs. less) connected with review writing, as in prior research (Kruglanski et al. 2018; Woolley and Fishbach 2018). In other words, when incentives are tied to the activity of reviewing, positive affect from the incentive can transfer over to the review-writing activity, increasing enjoyment of review writing. However, when incentives are *weakly* associated with the process of review writing, this effect should attenuate.

In addition, if incentives influence enjoyment of review writing by causing properties of the incentive to transfer over to the review-writing task, incentives should increase enjoyment only when receiving an incentive is a net positive. Receiving an incentive is often, but not always, a positive experience. Take, for example, a disliked or unethical company that offers consumers an incentive for writing a product review. In this case, consumers may perceive the incentive from this company as less positive, such that receiving the incentive does not increase positive affect compared with receiving no incentive. Indeed, contagion research has demonstrated that objects can acquire the negative properties of immoral entities they are associated with (Rozin and Royzman 2001). For example, people are reluctant to wear a sweater described as belonging to Hitler (Nemeroff and Rozin 1994), and they value a sweater designed by an immoral (vs. moral or neutral) person less (Stavrova et al. 2016). Building on this research, when an incentive is provided by a disliked company, receiving the incentive should be experienced less positively, such that it does not increase enjoyment of review writing.

Consequences of Modifying the Process of Writing Reviews for Review Content

If incentives increase enjoyment of writing reviews, how might this influence consumers' linguistic expressions in their reviews? There is limited research examining the link between task enjoyment and what consumers choose to express; we examine this link and predict that experiencing enjoyment during the review-writing process induces review writers to express more positive words, leading to greater relative positivity (i.e., greater proportion of positive emotion relative to negative emotion), in the content of their review.

Indirect support for this prediction comes from prior research examining emotional expressions when describing enjoyable tasks (Oliver et al. 2008). This research found that students describing their creative challenges, which are relatively more interesting and enjoyable (Amabile 1996; Hoffmann et al. 2016), used a greater proportion of positive (vs. negative) emotional words compared with students describing their academic challenges, which are more work-like. Thus, people expressed themselves relatively more positively when describing more positive tasks.

We test a different question: Holding the product being described constant, we predict that experiencing greater enjoyment during the *process* of describing the product causes people to use a greater proportion of positive relative to negative words. This prediction is further consistent with classic research, which shows that postconsumption information can influence how people describe a past experience. For example, viewing a positive advertisement *after* consuming orange juice led consumers to describe their experience with orange juice more positively (Braun 1999). We suggest that in the context of review writing, incentives can similarly influence how consumers describe a product they experienced in the past and that this occurs by modifying the experience of review writing. Formally, we predict the following:

- H₁:** Incentivized (vs. unincentivized) reviews increase the percentage of positive (vs. negative) emotion in review content (i.e., increase relative positivity in reviews).
- H₂:** Incentivized (vs. unincentivized) reviews increase enjoyment of review writing, which mediates the effect of incentives on relative positivity of review content.

We further test our theory by examining key moderators of the effect of incentives on review enjoyment. As mentioned previously, our theory predicts that incentives will increase enjoyment of writing reviews when incentives are more (vs. less) associated with review writing. To test this, we manipulated the delivery of incentives, holding the presence of incentives constant, by framing incentives as delivered in exchange for writing a review versus for taking an experiment. We expected that incentives would increase enjoyment of review writing when they were strongly associated with review writing (i.e., delivered for writing a review) than when they were weakly associated with review writing (i.e., delivered for taking an experiment), which in turn would influence relative positivity of review content:

- H₃:** If incentives increase relative positivity of review content through enjoyment of the review-writing process, this effect should attenuate when the association between incentives and reviews is weaker (vs. stronger).

As an additional test of our process, we manipulated the positivity of the incentive. If an incentive increases review enjoyment because properties of the incentive, which are generally positive, transfer to the task of reviewing (De Houwer, Thomas, and Baeyens 2001; Fishbach, Shah, and Kruglanski 2004), this effect should attenuate for incentives that are *not* perceived as positive, such as those provided by a disliked company. Indeed, people dislike objects that are associated with negative sources (e.g., Nemeroff and Rozin 1994). When an incentive is not experienced positively, the effect should attenuate such that incentives do no increase enjoyment of review writing:

H₄: If incentives increase relative review positivity through enjoyment of the review-writing process, this effect should attenuate when receiving an incentive is not experienced positively, such as when provided by a disliked company.

Whereas we predict that incentives increase relative positivity of review content by increasing enjoyment of writing reviews, incentives can also influence review positivity via reciprocity (Cialdini 2001; Gouldner 1960; Khern-am-nuai, Kannan, and Ghasemkhani 2018). If reviewers feel gratitude toward the company providing the incentive, they may write more positively to show their appreciation. Incentivized consumers may feel obligated to post a positive review, be more lenient toward the review sponsor, and/or want to help the company out (Palmatier et al. 2009).

We accordingly test between our proposed account and one based on reciprocity by examining whether incentives increase relative positivity of reviews even when reciprocity concerns would predict the opposite. Consider a company offering an incentive for consumers to review a competitor's product. In this case, an account based on reciprocity would predict that incentivizing a review of a competitor's product will *decrease* positivity of the review content. For example, if Burger King is sponsoring a review of a McDonald's product, consumers who wish to "help out" Burger King may feel obligated to write more negatively about McDonald's.² However, our account based on review enjoyment predicts that an incentive (vs. no incentive) will *increase* positivity of review content, to the extent that the incentive is positively perceived, regardless of which company incentivizes the review. This is because a positive incentive makes the experience of reviewing more enjoyable regardless of the incentive provider:

H₅: Incentives (vs. no incentives) increase relative positivity of reviews even when the review is for a competitor, addressing an alternative account based on reciprocity.

Present Research

Seven experiments (five preregistered) assessing real behavior tested these predictions. First, financial incentives (vs. no incentives) increased relative positivity of review content, which was mediated by increased enjoyment of review writing (Experiment 1). This effect held for a nonfinancial incentive (Experiment 2) and was driven by enjoyment of reviewing, rather than reciprocity (Experiment 3). Examining key moderators predicted by our theory, we find that the effect of an incentive on review-writing enjoyment attenuated when the incentives were weakly (vs. strongly) associated with writing

reviews (Experiment 4) and when incentives were no longer perceived as positive (i.e., provided by a disliked company; Experiment 5); both moderators eliminated the effect of an incentive on relative positivity of review content. Lastly, we tested the generalizability of this effect and demonstrated that both humans and automated measures can detect the emotional content present in incentivized reviews (Experiments 6a and 6b). Further, readers of incentivized (vs. unincentivized) reviews expressed greater purchase intention for the reviewed product, with no effect on review helpfulness (Experiment 6a).

Experiment 1: Financial Incentives for Writing a Review

Experiment 1 had three objectives. First, we provide a causal test of the effect of an incentive on relative positivity of review content, holding the reviewed product constant. All participants watched the same video and wrote a review of the video. We expected that receiving an incentive (vs. no incentive) for writing a review would increase relative positivity (i.e., increase percentage of positive relative to negative emotional words) in the written review.

Second, we test the process underlying this effect. We propose that incentives increase the relative positivity of review content by increasing enjoyment of writing reviews. As such, after participants wrote their review, we measured their experience of reviewing (i.e., whether they felt the process of writing reviews was interesting and enjoyable).

Last, we explore who benefits most from incentives during the review-writing process. We reasoned that incentives may be less effective for those who are already predisposed to enjoy writing reviews. Before assignment to condition, we assessed baseline interest in review writing, confirming that for most individuals, review-writing is a neutral activity. We accordingly anticipated a boundary condition whereby incentives increase enjoyment of review writing for most individuals, but this effect would attenuate among those predisposed to like reviewing.

Method

We recruited 867 U.S. Prolific participants ($M_{\text{age}} = 34.28$ years, $SD = 11.89$ years; 46.5% female). To participate, participants needed to pass a sound check, typing in a word from a sound clip. To measure baseline interest in reviewing, we asked, "How much do you like writing reviews?" (1 = "do not like writing reviews," and 7 = "like writing reviews"). We confirmed that most participants feel neutrally about writing reviews ($M = 4.31$, $SD = 1.66$). Participants then watched a two-minute video clip to hold the product experience constant (OSF link to video: <https://osf.io/6mnhb/>).³

² Supplemental data confirmed this expected pattern; participants incentivized by Burger King to write a review of McDonald's thought it would benefit Burger King more if they wrote a negative (vs. positive) review of McDonald's (see the Web Appendix).

³ We selected this video, which represents a neutral experience, to reduce ceiling or floor effects; in a pretest involving a separate group of participants from the same population, this video received a rating of 4.59 on a scale from 1 = "less positive" to 7 = "more positive."

We then assigned participants to condition in a 2 (incentive vs. no incentive) between-subjects design. Participants in the incentive condition read, “For rating and reviewing this video, you will receive a \$0.25 bonus immediately after submitting your review. This bonus will be automatically credited to your account today.” Participants in the no-incentive condition did not read this information. Participants rated the video on a ten-star scale and wrote their review.

We included a four-item scale to assess consumers’ enjoyment of review writing adapted from the interest/enjoyment dimension of the Intrinsic Motivation Inventory (McAuley, Duncan, and Tammen 1989; Vallerand 1997; Woolley and Fishbach 2018; $\alpha = .91$): (1) “How interested were you in writing this review?,” (2) “How enjoyable was it for you to write this review?,” (3) “To what extent did writing a review feel like something you had to do or feel like something you wanted to do?,” and (4) “How meaningful was it to you to write this review?” Responses ranged from 1 to 7, with higher scores corresponding to greater interest and enjoyment of review writing.

Results

We first examine how incentives influence enjoyment of review writing and relative positivity of review content. We then examine interest in reviewing as a boundary condition of the effect of incentive on review enjoyment and report additional exploratory text analyses.

Enjoyment of review writing. We found a significant effect of incentive on enjoyment of the review-writing process ($M_{\text{incentive}} = 4.56$, $SD = 1.53$; $M_{\text{no incentive}} = 4.10$, $SD = 1.67$; $t(865) = 4.20$, $p < .001$). Incentivized (vs. unincentivized) participants enjoyed writing their review more.

Relative positivity of review text. For all experiments, we tested for the effect of an incentive on relative positivity of review text by conducting a text-based content analysis with the Linguistic Inquiry and Word Count program (LIWC; Pennebaker et al. 2015). LIWC is a tool for applied natural language processing used to analyze a variety of marketing communications, including reviews (Ludwig et al. 2013; Melumad, Inman, and Pham 2019). LIWC has two categories for emotional words, denoting the percentage of positive and percentage of negative emotional words. We accordingly computed relative positivity of review content as the difference between the percentage of positive emotional words and negative emotional words as in previous research (Berger and Milkman 2012; Rocklage, Rucker, and Nordgren 2018).

As we predicted, an incentive (vs. no incentive) significantly increased relative positivity of review content ($M_{\text{incentive}} = 7.91\%$, $SD = 8.56\%$; $M_{\text{no incentive}} = 6.56\%$, $SD = 8.37\%$; $t(865) = 2.34$, $p = .020$). Examining our underlying process, we find that review-writing enjoyment significantly mediated the effect of receiving an incentive on relative positivity ($B_{\text{indirect}} = .59$, $SE = .17$, 95% confidence interval

[CI] = [.29, .94]; Hayes and Preacher 2014, Model 4; we use 10,000 bootstrap samples for all mediations).

Robustness check. Next, we utilized a second natural language processing tool to test for the robustness of the effect of an incentive on linguistic expressions of positivity: the positive–negative emotionality continuum from Evaluative Lexicon (EL 2.0; Rocklage, Rucker, and Nordgren 2018). This measure provides a continuum for the emotionality of reactions and attitudes in natural language and was highly correlated with relative positivity assessed via LIWC in this experiment ($r = .51$) and subsequent experiments (see Web Appendix C). Using this positive–negative emotionality continuum, we again found an incentive (vs. no incentive) significantly increased review positivity ($M_{\text{incentive}} = 2.20$, $SD = 3.48$; $M_{\text{no incentive}} = 1.60$, $SD = 3.66$; $t(865) = 2.47$, $p = .014$), which was also mediated by increased enjoyment ($B_{\text{indirect}} = .27$, $SE = .07$, 95% CI = [.13, .42]).

Initial interest in reviewing as a boundary condition. To examine whether initial interest in reviewing serves as a boundary condition of the effect of an incentive on review-writing enjoyment, we regressed review-writing enjoyment on incentive condition, initial interest in reviewing, and their interaction ($B = -.12$, $SE = .05$; $t(863) = -2.52$, $p = .012$). Probing this interaction, we find the effect of an incentive on increased enjoyment of review writing attenuated among individuals who strongly liked writing reviews (Johnson–Neyman point = 6.10); for the majority below this point (89.62% of participants), incentives significantly increased enjoyment of review writing.

Additional exploratory analyses. Our main prediction is on enjoyment of review writing and relative positivity of review content. We focus on relative positivity as a proportion, as this controls for word count. Furthermore, we expected incentives to increase the proportion of positive words and decrease the proportion of negative words. Valence is often considered bipolar, with positive and negative emotion on opposite sides of the same underlying variable (Bagozzi, Wong, and Yi 1999; Green, Goldman, and Salovey 1993; Larsen 2017). Indeed, across our studies, the proportion of positive and negative words were negatively correlated (Web Appendix C). When separately analyzing these variables as a function of condition, we find that incentives increase the percentage of positive words and decrease the percentage of negative words. However, when examining the absolute number of positive and negative words, we find that incentives increase the number of positive words, with no systematic effect on the number of negative words. Thus, we find that incentives cause people to use more positive emotions, which manifests as greater relative positivity. We summarize these and additional exploratory analyses from Experiment 1 in Table 1; Web Appendix D reports corresponding analyses for Experiments 2–6b.

In addition to relative positivity, which captures valence, we examined relative emotionality (i.e., total percentage of positive and negative emotional words). This analysis revealed a

Table 1. Summary of Main Results and Additional Exploratory Analyses in Experiment 1.

Main Variables	Incentive	No Incentive	Significance Test
Review-writing enjoyment (four-item scale)	4.56 (1.53)	4.10 (1.67)	$t(865) = 4.20, p < .001$
Relative positivity (% positive – negative words; LIWC)	7.91% (8.56%)	6.56% (8.37%)	$t(865) = 2.34, p = .020$
Positive–negative emotionality continuum (EL 2.0)	2.20 (3.48)	1.60 (3.66)	$t(865) = 2.47, p = .014$
Exploratory Variables			
% of positive emotional words	9.04% (7.68%)	8.15% (7.27%)	$t(865) = 1.75, p = .080$
% of negative emotional words	1.13% (2.25%)	1.58% (3.09%)	$t(865) = -2.47, p = .014$
Absolute number of positive emotional words	2.63 (1.85)	2.33 (1.68)	$t(865) = 2.49, p = .013$
Absolute number of negative emotional words	.45 (.99)	.51 (.86)	$t(865) = -.90, p = .371$
Emotionality (% positive + % negative words)	10.25% (7.40%)	9.86% (7.42%)	$t(865) = .78, p = .436$
Word count	38.60 (26.22)	35.62 (23.76)	$t(865) = 1.76, p = .079$
Star rating	6.65 (2.36)	5.89 (2.49)	$t(865) = 4.61, p < .001$

Notes: Standard deviations are in parentheses.

nonsignificant effect of incentive ($t(865) = .78, p = .436$), suggesting that incentives influence relative positivity (i.e., valence) rather than emotionality. There was a marginally significant effect of incentive on word count, such that those who received an incentive wrote longer reviews ($t(865) = 1.76, p = .079$). We note that this cannot account for the effect of incentive on our relative measure of review positivity, which is computed as a proportion out of total words. Last, we examined the effect of an incentive on star rating, a proxy for positivity of review content that correlated with our review positivity measure ($r = .48$). We found a significant effect of incentive on star rating ($t(865) = 4.61, p < .001$). Similar to relative positivity, this effect was mediated by enjoyment of review writing ($B_{\text{indirect}} = .35, SE = .09, 95\% \text{ CI} = [.18, .52]$).

Discussion

Experiment 1 provided causal evidence for our prediction that incentives increase relative positivity of review content. Participants reviewing a video expressed a greater percentage of positive, relative to negative, emotional content when incentivized (vs. not). Examining the underlying process, receiving an incentive (vs. not) increased enjoyment of review writing, which mediated the effect of an incentive on relative positivity. We further document a boundary condition for this effect: the effect of an incentive on enjoyment of review writing attenuates for those predisposed to like reviewing. For the majority of people who felt neutrally about reviewing, receiving an incentive increased enjoyment of the review process; however, this effect attenuated for those predisposed to enjoy reviewing.

Our additional exploratory analyses provided further insights into this effect. An incentive increased the proportion of positive emotional content and decreased the proportion of negative emotional content, increasing relative *positivity* rather than *emotionality* of the review. The effect of incentives on relative positivity was robust to multiple natural language processing tools, as we found evidence when assessing relative positivity with LIWC and EL 2.0. Building on these findings, our next experiment tested our prediction across different incentive structures.

Experiment 2: Financial and Nonfinancial Incentives for Writing a Review

Experiment 2 extends our prior experiment in two key ways. First, we test how different incentive structures prevalent in the marketplace, including nonfinancial incentives, affect review positivity. Second, we assess reviews of consumers' real prior experiences, rather than reviews of a video clip we required them to watch. Whereas Experiment 1 serves as a clean test of our prediction by holding the product being reviewed constant, Experiment 2 tests the robustness and generalizability of this effect to a broader range of experiences.

We recruited participants who subscribed to an online streaming service (e.g., Netflix, Amazon Prime) to write a review of their service provider. We compared the effect of three different incentives with an unincentivized control condition. This experiment was designed to map onto real incentive structures marketers employ to encourage consumers to post reviews. Given the variety of incentives marketers use, this experiment enabled us to examine if the effect of an incentive on review positivity is robust across different delivery methods and incentive types. Participants were assigned to one of the following incentive conditions: lottery for \$200 (similar to other sweepstakes marketers use, including our field study), \$.20 guaranteed (similar to Experiment 1 and small rewards marketers use, e.g., points), lottery for a nonfinancial incentive (\$200 value), and no incentive. We predicted that an incentive (vs. no incentive) for reviewing would increase positivity of review content, which would be mediated by increased enjoyment of reviewing.

Method

We preregistered this experiment (aspredicted.org/ps8n4.pdf) and recruited 792 U.S. Prolific participants ($M_{\text{age}} = 31.61$ years, $SD = 10.58$ years; 51.4% female). Before participants were assigned to their condition, we asked them to select the primary video streaming service that they used from a list of options (e.g., Netflix, Hulu, Amazon Prime). If participants subscribed to multiple options, they were instructed to select the one they most recently used. Participants who did not subscribe to a streaming

Table 2. Specific Wording for Each Incentive Condition (Experiment 2).

Guaranteed Small Financial Incentive	Lottery for Large Financial Incentive	Lottery for Large Nonfinancial Incentive
For rating and reviewing [selected streaming service], you will receive a \$0.20 bonus for submitting your review today.	For rating and reviewing [selected streaming service], you will be entered into a lottery to receive a \$200 bonus for submitting your review today.	For rating and reviewing [selected streaming service], you will be entered into a lottery to receive the following bonus gift for submitting your review today: Apple AirPods—\$200 value.

service were filtered out of the survey before random assignment; no participants were excluded after random assignment.

We assigned participants to condition in a four-cell (small financial incentive vs. large financial lottery incentive vs. large nonfinancial lottery incentive vs. no incentive) between-subjects design. Table 2 provides the exact manipulation from each incentive condition; those in the no-incentive condition did not read this information. Participants provided a rating out of ten stars and wrote a review for the streaming service. We measured review-writing enjoyment as in Experiment 1 ($\alpha = .91$).

Results

For each measure, we preregistered two analyses. We first conducted regressions on three dummy variables representing the three incentive conditions. We then examined the overall effect of incentive (vs. no incentive) by collapsing across the three incentive conditions.

Enjoyment of review writing. As we predicted, an incentive (vs. no incentive) significantly increased enjoyment of reviewing for all incentive conditions: small financial incentive ($M_{\text{small financial}} = 4.73$, $SD = 1.44$; $M_{\text{no incentive}} = 4.39$, $SD = 1.59$; $B = .34$, $SE = .15$; $t(788) = 2.24$, $p = .026$), financial lottery incentive ($M = 4.80$, $SD = 1.47$; $B = .41$, $SE = .15$; $t(788) = 2.73$, $p = .007$), and nonfinancial lottery incentive ($M = 4.79$, $SD = 1.50$; $B = .40$, $SE = .15$; $t(788) = 2.63$, $p = .009$). There were no significant differences between the incentive conditions ($ts < .480$, $ps > .630$). Collapsing across the three incentive conditions, we find a significant effect of incentive (vs. no incentive) on enjoyment of review writing ($B = .38$, $SE = .12$; $t(790) = 3.10$, $p = .002$).

Relative positivity of review text. As we predicted, an incentive (vs. no incentive) significantly increased relative positivity of review text for all incentive conditions: small financial incentive ($M_{\text{small financial}} = 9.91\%$, $SD = 13.13\%$; $M_{\text{no incentive}} = 6.37\%$, $SD = 5.84\%$; $B = 3.53$, $SE = 1.22$; $t(788) = 2.90$, $p = .004$), financial lottery incentive ($M = 9.31\%$, $SD = 14.10\%$; $B = 2.94$, $SE = 1.21$; $t(788) = 2.42$, $p = .016$), and nonfinancial lottery incentive ($M = 9.47\%$, $SD = 13.33\%$; $B = 3.10$, $SE = 1.22$; $t(788) = 2.55$, $p = .011$). There were no significant differences between the incentive conditions ($ts < .493$, $ps > .621$). These results suggest that incentivizing reviews (vs. not) increased the relative positivity of review content. Indeed, an analysis comparing incentive versus no-

incentive conditions, collapsing across the three incentive conditions, was significant ($B = 3.19$, $SE = .99$; $t(790) = 3.21$, $p = .001$).

As in Experiment 1, we tested for mediation through enjoyment of review writing, this time using a multicategorical mediation method with three dummy variables representing our incentive conditions and no incentive as the reference group. The analysis yielded a significant indirect effect for no incentive versus financial small incentive ($B_{\text{indirect}} = .45$, $SE = .24$, $95\% \text{ CI} = [.06, .98]$), financial lottery incentive ($B_{\text{indirect}} = .55$, $SE = .26$, $95\% \text{ CI} = [.13, 1.13]$), and nonfinancial lottery incentive ($B_{\text{indirect}} = .53$, $SE = .26$, $95\% \text{ CI} = [.11, 1.11]$; PROCESS Model 4).

Discussion

Results of this experiment directly build on Experiment 1, providing additional evidence that receiving an incentive for writing a review increases linguistic expressions of positivity (vs. negativity) in review content. This pattern held across three different types of incentives (i.e., small guaranteed financial incentive and lotteries for large financial and nonfinancial incentives). This experiment also provides additional evidence for *why* incentives increase relative positivity of review content. Regardless of incentive type, incentives increased enjoyment of writing reviews, which mediated the effect of incentive condition on overall review positivity.

Whereas we propose that incentives increase positivity of review content by increasing enjoyment of writing a review, it is possible that incentives increase positivity through feelings of reciprocity or gratitude. Our next experiment accordingly tested between these two accounts.

Experiment 3: Financial Incentives for Company (vs. Competitor) Reviews

Experiment 3 examined whether incentives increase relative positivity of review content by increasing enjoyment of review writing, as we propose, or by increasing reciprocity toward the incentive provider. We solicited reviews of McDonald's and assigned participants to receive either: no incentive for their review, an incentive from McDonald's, or an incentive from Burger King—a competitor of McDonald's. If incentives increase relative positivity of review content by increasing enjoyment of reviewing, we should find that an incentive (vs. no incentive) increases review positivity regardless of the

incentive provider (i.e., the company or a competitor). Alternatively, if incentives instead increase positivity of review content via reciprocity, then relative to no incentive, an incentive from Burger King should *reduce* positivity, as people would feel obligated to write a negative review of Burger King's competitor.

Method

We preregistered this experiment (aspredicted.org/x6mj5.pdf) and recruited 600 U.S. participants from Amazon Mechanical Turk (MTurk).⁴ Participants were required to have eaten food from both McDonald's and Burger King at least once in the past year to participate. As preregistered, we excluded four participants who failed an attention check asking them which company they reviewed, leaving a total of 596 participants ($M_{\text{age}} = 40.06$ years, $SD = 12.50$ years; 52.5% female).

We randomly assigned participants to condition in a three-cell (incentive from company [McDonald's] vs. incentive from competitor [Burger King] vs. no incentive) between-subjects design. Participants reviewed their most recent meal from McDonald's. Those in the company incentive condition read, "This review is sponsored and funded by McDonald's. For rating and reviewing your recent food consumption experience from McDonald's, McDonald's is offering you a \$0.50 bonus." Those in the competitor incentive condition read, "This review is sponsored and funded by Burger King, a competitor of McDonald's. For rating and reviewing your recent food consumption experience from McDonald's, Burger King is offering you a \$0.50 bonus." Those in the no-incentive condition did not learn about an incentive.

Participants completed their review of McDonald's and rated their experience out of five stars. We assessed enjoyment of review writing using a single item measure from the four-item scale used in Experiments 1 and 2, "How enjoyable was it for you to write this review?" (1 = "not at all," and 7 = "very much"). We asked the following attention check "Which company did you review in this study?" with the option to select McDonald's, Burger King, Home Depot, Lowes, Panera Bread, and Wendy's, which we used to carry out preregistered exclusions. After measuring our primary dependent variables, we included exploratory items reported in Web Appendix D.

Results

Enjoyment of review writing. As we predicted, an incentive (vs. no incentive) significantly increased enjoyment of review writing regardless of whether the incentive was from the company ($M_{\text{McDonald's}} = 5.30$, $SD = 1.39$; $M_{\text{no incentive}} = 4.58$, $SD = 1.81$; $B = .72$, $SE = .16$; $t(593) = 4.48$, $p < .001$) or from the competitor ($M_{\text{Burger King}} = 5.04$, $SD = 1.54$; $B = .45$, $SE = .16$; $t(593) = 2.85$, $p = .004$; Figure 1, Panel A), with no significant

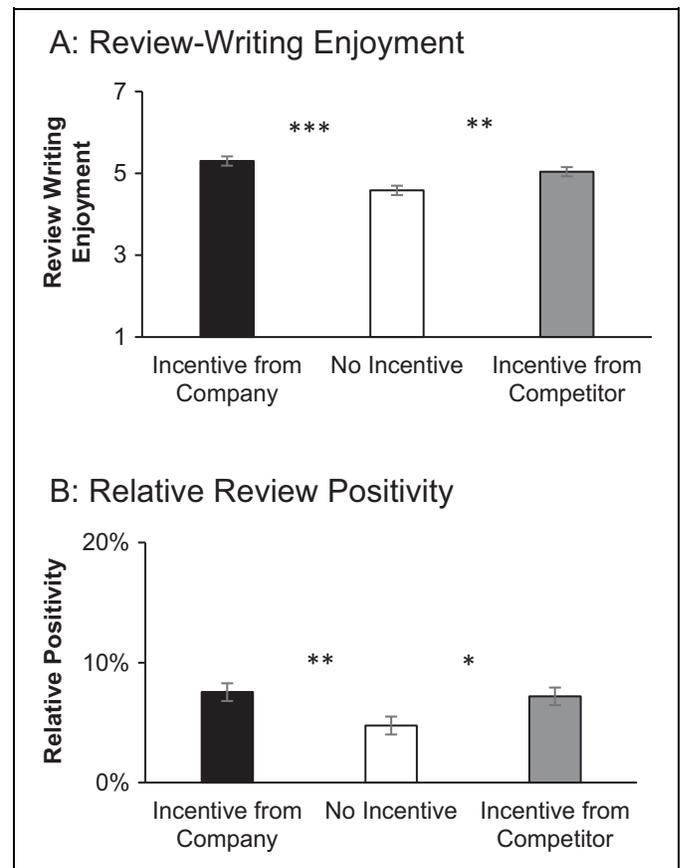


Figure 1. Effect of incentive condition on review-writing enjoyment and relative review positivity.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Notes: Bars indicate ± 1 SE.

difference when receiving an incentive from the company (vs. competitor) ($B = -.26$, $SE = .16$; $t(593) = -1.65$, $p = .099$).

Relative positivity of review text. Following results on enjoyment, an incentive (vs. no incentive) significantly increased relative positivity of review content when provided by the company ($M_{\text{McDonald's}} = 7.53\%$, $SD = 10.80\%$; $M_{\text{no incentive}} = 4.75\%$, $SD = 7.40\%$; $B = 2.78$, $SE = 1.05$; $t(593) = 2.65$, $p = .008$) or a competitor ($M_{\text{Burger King}} = 7.19\%$, $SD = 12.36\%$; $B = 2.44$, $SE = 1.05$; $t(593) = 2.33$, $p = .020$; Figure 1, Panel B). This suggests that the effect of incentives on increased positivity is independent of reciprocity concerns. Indeed, there was no significant difference in review positivity when receiving an incentive from the company (vs. competitor) ($B = -.35$, $SE = 1.04$; $t(593) = -.33$, $p = .739$). Consistent with Experiments 1 and 2, enjoyment of review writing significantly mediated the effect of an incentive on positivity of review content (company incentive vs. no incentive: $B_{\text{indirect}} = .78$, $SE = .25$, 95% CI = [.35, 1.34]; competitor incentive vs. no incentive: $B_{\text{indirect}} = .50$, $SE = .22$, 95% CI = [.12, .99]; PROCESS Model 4).

⁴ This was a conceptual replication of Supplemental Experiment 1 reported in Web Appendix E.

Discussion

As in Experiments 1 and 2, receiving an incentive for writing a review increased relative positivity of review content compared with no incentive. This effect occurred both when the incentive was sponsored by the company whose product was being reviewed and when sponsored by a competitor. Further, this effect was mediated by increased enjoyment of review writing. This experiment thus addresses an alternative explanation: that incentives increase positivity of review content due to reciprocity concerns. Reciprocity should lead to the opposite result when an incentive is provided by a company's competitor, such that people write less positively about the company as a favor to the competitor. Instead, we find that an incentive increased positivity of review content regardless of who provides the incentive.

It is possible that participants assigned to receive an incentive from Burger King wrote positively about McDonald's because they believed that Burger King wanted to know what they liked about their competitor. That is, participants may have thought that writing a positive review of McDonald's would benefit Burger King. To address this possibility, we utilized a funneled debriefing procedure in a posttest to examine participants' thoughts in the Burger King condition. For example, we asked, "Why did you think Burger King was asking you to review McDonald's?" and "What do you think Burger King wanted you to write in your review of McDonald's?" Most participants thought Burger King would benefit from a negative review (57%) or an honest review (33%), with only 6% indicating that a positive review of McDonald's would benefit Burger King (the remaining 4% indicated that they were unsure). Although these findings do not completely rule out this alternative account, they provide additional evidence that these results are not entirely due to reciprocity, as most participants believed Burger King would benefit more from a negative or honest review of McDonald's (see details in Web Appendix D). Having documented a main effect of incentive on review positivity through enjoyment of review writing and addressed an alternative explanation for this effect, our next two experiments more deeply examine the underlying process, testing for moderation as predicted by our theory.

Experiment 4: Moderating the Incentive–Review Association

Experiment 4 tested our proposed process by examining whether modifying the strength of association between incentives and reviews attenuates the documented effect. Our theory builds on prior research demonstrating that positive stimuli can increase evaluations of neutral stimuli when they are more (vs. less) closely associated (De Houwer, Thomas, and Baeyens 2001; Kruglanski et al. 2018; Woolley and Fishbach 2018). We propose that properties of the incentive (i.e., excitement about receiving it) transfer over to the activity itself, increasing enjoyment of review writing, when incentives are more

(vs. less) associated with review writing. This suggests that the effect of an incentive on enjoyment of review writing, and relative review positivity, should attenuate when incentives are weakly (vs. strongly) associated with the act of reviewing.

To examine this process, we held the presence of an incentive constant and manipulated the association between the incentive and the review. In one condition, incentives were described as arriving specifically for writing a product review (as in Experiments 1–3). We contrasted this condition with one in which incentives were weakly associated with review writing—describing the incentive as connected to the experiment rather than to the act of reviewing.⁵ If incentives increase enjoyment of review writing because the properties of the incentive transfer to the act of reviewing when the two are strongly associated, receiving an incentive (vs. no incentive) for writing a review should increase enjoyment of review writing, and thus review positivity, which should attenuate when receiving an incentive (vs. no incentive) for taking part in an experiment.

In examining this prediction, we also address alternative explanations for the findings in Experiments 1–3. First, one alternative explanation is that receiving an incentive improves mood, which increases review positivity. That is, people may write more positively not because they associate the incentive with review writing, but because they are in a better mood. If this were the case, we would not expect a difference between the two incentive conditions. To further address a mood account, we measured mood in the current experiment. Second, this experiment provides an additional test of reciprocity, as receiving an incentive for writing a review or for completing an experiment both could lead people to write more positive reviews because they feel grateful or indebted to the experimenter.

Method

We recruited 600 U.S. MTurk participants and excluded participants who failed to pass a sound check, leaving a final sample of 581 ($M_{\text{age}} = 38.32$ years, $SD = 12.34$ years; 45.1% female). Before random assignment, participants learned that they would watch and review a two-minute video clip and that their review would help future participants decide whether or not to watch the video. All participants then watched the video from Experiment 1. We randomly assigned participants to condition in a three-cell (incentive for review vs. incentive for experiment vs. no incentive) between-subjects design. In the incentive-for-review condition, participants read, "We are now

⁵ We confirmed this manipulation in a separate pretest with participants from the same population. Participants indicated whether the incentive was "more connected to writing the review" (1) or "more connected to taking the study" (7) as a function of these two conditions. Confirming our manipulation, participants in the incentive-for-review condition perceived the incentive as more connected to review writing ($M = 3.50$; $SD = 2.40$) than in the incentive-for-experiment condition ($M = 5.76$, $SD = 1.49$; $t(99) = 5.71$, $p < .001$; see Web Appendix D).

asking you to rate and review the video that you watched. This is an incentivized review, we will pay you a bonus of \$0.10 immediately after submitting your review today.” In the incentive-for-experiment condition, participants read “We are now paying you a bonus. You will receive a bonus of \$0.10 immediately after the experiment today.” Thus, in this condition, the incentive was not described in connection with writing the review. In the no-incentive condition, participants did not learn about an incentive for their review.

Participants provided a rating out of ten stars and wrote a review. We measured enjoyment of review writing as in Experiments 1 and 2 (four-item scale; $\alpha = .90$) and positive mood using a ten-item scale (Positive and Negative Affect Scale; Watson, Clark, and Tellegen 1988; $\alpha = .92$) anchored at 1 = “not at all” and 5 = “extremely,” with higher scores conveying a more positive mood.

Results

Enjoyment of review writing. As we predicted, enjoyment of reviewing was greater in the incentive-for-review (vs. no incentive) condition ($M_{\text{incentive for review}} = 4.25$, $SD = 1.63$; $M_{\text{no incentive}} = 3.74$, $SD = 1.67$; $B = -.51$, $SE = .17$; $t(578) = -3.06$, $p = .002$) and in the incentive-for-review (vs. incentive-for-experiment) condition ($M_{\text{incentive for experiment}} = 3.82$, $SD = 1.65$; $B = -.43$, $SE = .17$; $t(578) = -2.59$, $p = .010$), with no significant difference between the no-incentive and incentive-for-experiment conditions ($t(578) = .48$, $p = .634$). Thus, the effect of an incentive on enjoyment of review writing occurs when incentives are more (vs. less) associated with reviews.

Relative positivity of review text. As we predicted, relative positivity was greater in the incentive-for-review (vs. no incentive) condition ($M_{\text{incentive for review}} = 10.50\%$, $SD = 15.83\%$; $M_{\text{no incentive}} = 7.00\%$, $SD = 11.91\%$; $B = -3.50$, $SE = 1.33$; $t(578) = -2.63$, $p = .009$) and in the incentive-for-review (vs. incentive-for-experiment) condition ($M_{\text{incentive for experiment}} = 7.22\%$, $SD = 11.05\%$; $B = -3.28$, $SE = 1.33$; $t(578) = -2.47$, $p = .014$). There was no significant difference between the no-incentive and incentive-for-experiment conditions ($t(578) = .16$, $p = .872$). As in Experiments 1–3, enjoyment of review writing mediated the effect of incentive-for-review on relative positivity of review content (vs. no incentive: $B_{\text{indirect}} = -.73$, $SE = .31$, $95\% \text{ CI} = [-1.42, -.21]$; vs. incentive for experiment: $B_{\text{indirect}} = -.62$, $SE = .29$, $95\% \text{ CI} = [-1.27, -.12]$).

Mood. Positive mood did not significantly differ by incentive condition ($M_{\text{incentive for review}} = 3.10$; $M_{\text{incentive for experiment}} = 3.11$; $M_{\text{no incentive}} = 3.17$; $F(2, 578) = .33$, $p = .721$).

Discussion

We again found that receiving an incentive for writing a review increased both enjoyment of review writing and relative positivity of review content compared with receiving no incentive.

Moreover, the effect of an incentive on review positivity was moderated by the association between the review and the incentive: receiving an incentive increased review positivity (vs. negativity) when it was more (vs. less) closely associated with the act of writing a review; when receiving an incentive was framed as arriving for taking the experiment (i.e., the incentive and review were less strongly associated), the incentive did not influence enjoyment of reviewing or relative positivity. This experiment thus demonstrates our underlying process: incentives increase relative positivity of review content through enjoyment of review writing when incentives are more (vs. less) closely associated with the act of reviewing, such that the positive affect of receiving an incentive can transfer over to the experience of writing a review.

In addition to ruling in our proposed process, this experiment addresses two alternative explanations. First, by demonstrating moderation by review–incentive association, these results suggest that this effect is not driven by increased mood. If this were the case, an incentive should influence enjoyment of review writing and review positivity for both incentive conditions, which we do not find. Further, we find no effect of condition on reported mood. Our proposed process is that positive affect from receiving incentives transfers to the process of writing reviews, making review writing a more enjoyable task. That is, the greater felt enjoyment is specific to the task itself, rather than increasing mood more broadly.

Second, by holding the presence of an incentive constant, and manipulating the strength of the association between the incentive and the review, we further address the possibility that people wrote more positive reviews because they felt indebted to the experimenter. Participants received an incentive in both incentive conditions and thus should feel similarly indebted to the experimenter. These results, in combination with the findings from Experiment 3, suggest reciprocity is not solely responsible for the increase in relative positivity of review content.

Whereas the primary goal of this study was to provide a test of our theoretical model, this study is also managerially relevant. It suggests that marketers can frame incentives as more closely connected to reviews to increase positivity of review content. For example, marketers can explicitly emphasize the connection between reviews and incentives or provide incentives closer in time to writing a review, such that they are temporally connected, to increase positivity.

Experiment 5: Moderating the Positivity of Receiving Incentives

Experiments 1–4 show that incentivizing a product review increases relative positivity of review content through enjoyment of reviewing. We further find that this effect attenuates when an incentive is less (vs. more) closely associated with review writing (Experiment 4). Experiment 5 provided another test of our proposed process by manipulating perceived positivity of receiving an incentive. Our theory predicts that incentives increase enjoyment of writing reviews by causing

properties of receiving an incentive to transfer to the experience of review writing. In general, receiving incentives is perceived positively; however, if receiving incentives is no longer positive, the effect of an incentive on enjoyment, and relative positivity, should attenuate.

To test this, we crossed the presence of an incentive and the positivity of the incentive. Participants wrote a review for a Kellogg's product that was either incentivized or not when Kellogg's was framed as unethical or not. Specifically, half of participants read information about the Kellogg's company revealing unethical practices the company had engaged in (e.g., using palm oil from rainforests, using manipulative advertising to young children), which was adopted from real articles about the company to maximize ecological validity (Askew 2018; Harvey 2020). We expected that consumers would be more excited to receive an incentive from Kellogg's in the control (vs. unethical-frame) condition (Rozin and Royzman 2001; Stavrova et al. 2016), which we confirmed in a pilot study ($M_{\text{control}} = 5.04$, $M_{\text{unethical}} = 3.82$; $t(108) = 3.36$, $p = .001$, $d = .65$; see Web Appendix D). As such, we predicted that receiving an incentive (vs. no incentive) would increase enjoyment of writing reviews, and thus increase positivity of review content, in the control condition but that there would be no effect of an incentive on increased enjoyment of reviewing, or relative positivity of review content, in the unethical-frame condition.

Method

We preregistered this experiment (aspredicted.org/2sm3y.pdf) and recruited 800 U.S. Prolific participants. We carried out the following exclusions in line with our preregistration: at the start of the survey, we asked participants an open response question, "What day was yesterday?" and filtered out illegible responses. We also asked participants to select companies that they were familiar with from a list of options and excluded those who were unfamiliar with Kellogg's. After carrying out these preregistered exclusions, we had a sample of 758 participants ($M_{\text{age}} = 31.39$ years, $SD = 11.67$ years; 44.2% female).

We assigned participants to condition in a 2 (incentive vs. no incentive) \times 2 (unethical frame vs. control) between-subjects design. In the unethical-frame condition, we created an article based on real news articles reporting unethical practices from Kellogg's. Participants read the following:

In terms of consumer ethics, Kellogg's food company gets a D-. Compared to other companies, like Annie's Homegrown and Bob's Red Mill Cereal, Kellogg's has been criticized for its high sugar content, use of palm oil from rain forests, and manipulative advertising to young children. They have also had to recall their products on numerous occasions, including for the presence of metal mesh pieces in their cereal as well as reports of Salmonella in their cereal and factories. This is one company to stay away from.

This information was taken from real articles about Kellogg's to maximize ecological validity, including an article

with the title "Stay away from Kellogg's Honey Smacks cereal at all costs, warns CDC" (Grothaus 2018; see also Askew 2018; Castillo 2012; Harvey 2020; Hyslop 2016). Participants in the control condition did not read this information.

Participants learned that the Kellogg's company was soliciting reviews of its various products. In the incentive condition, participants read, "The Kellogg's company is offering a \$0.40 bonus in exchange for writing a product review. You will receive this incentive today after writing your review." Those in the no-incentive condition did not receive an incentive. Participants then listed the name of a Kellogg's product they previously had, provided a rating of the product on a ten-point scale, and wrote a product review. We measured interest and enjoyment of review writing using the four-item scale from Experiments 1, 2, and 4 ($\alpha = .92$). Last, we included manipulation checks for the unethical-frame condition (three items; $\alpha = .91$; "How ethical do you think the Kellogg's company is?," "Do you like the Kellogg's company?," and "Are you a fan of the Kellogg's brand?"; 1 = "not at all," and 7 = "very much") and the incentive condition ("Were you paid by Kellogg's to write a review today?") (88% answered correctly).

Results

Manipulation check. Confirming our manipulation, Kellogg's was liked less in the unethical-frame (vs. control) condition ($M_{\text{unethical}} = 4.11$, $SD = 1.50$; $M_{\text{control}} = 5.00$, $SD = 1.26$; $t(756) = 8.75$, $p < .001$).

Enjoyment of review writing. An ANOVA of company frame and incentive condition on enjoyment of writing reviews revealed the predicted interaction ($F(1, 754) = 7.12$, $p = .008$; Figure 2, Panel A). An incentive (vs. no incentive) increased enjoyment of review writing in the control condition ($M_{\text{incentive}} = 4.79$, $SD = 1.57$; $M_{\text{no incentive}} = 4.08$, $SD = 1.60$; $F(1, 754) = 17.05$, $p < .001$). However, an incentive did not increase enjoyment of review writing in the unethical-frame condition ($M_{\text{incentive}} = 4.14$, $SD = 1.73$; $M_{\text{no incentive}} = 4.08$, $SD = 1.71$; $F(1, 754) = .14$, $p = .713$).

Relative positivity of review text. We found a significant incentive \times company-frame interaction on relative positivity of review content ($F(1, 754) = 10.00$, $p = .002$; Figure 2, Panel B). Replicating our previous findings, an incentive (vs. no incentive) significantly increased positivity of review content in the control condition ($M_{\text{incentive}} = 10.00\%$, $SD = 7.40\%$; $M_{\text{no incentive}} = 7.86\%$, $SD = 7.86\%$; $F(1, 754) = 7.40$, $p = .007$), with no significant effect in the unethical-frame condition ($M_{\text{incentive}} = 7.73\%$, $SD = 6.10\%$; $M_{\text{no incentive}} = 9.10\%$, $SD = 8.92\%$; $F(1, 754) = 3.06$, $p = .081$). A moderated mediation analysis with incentive as the independent variable, enjoyment of review writing as the mediator, company frame as the moderator, and review positivity as the dependent variable revealed a significant index of moderated mediation ($B_{\text{index}} = .43$, $SE = .21$, 95% CI = [.09, .90]; PROCESS Model 8). In the control condition, we replicated the finding from

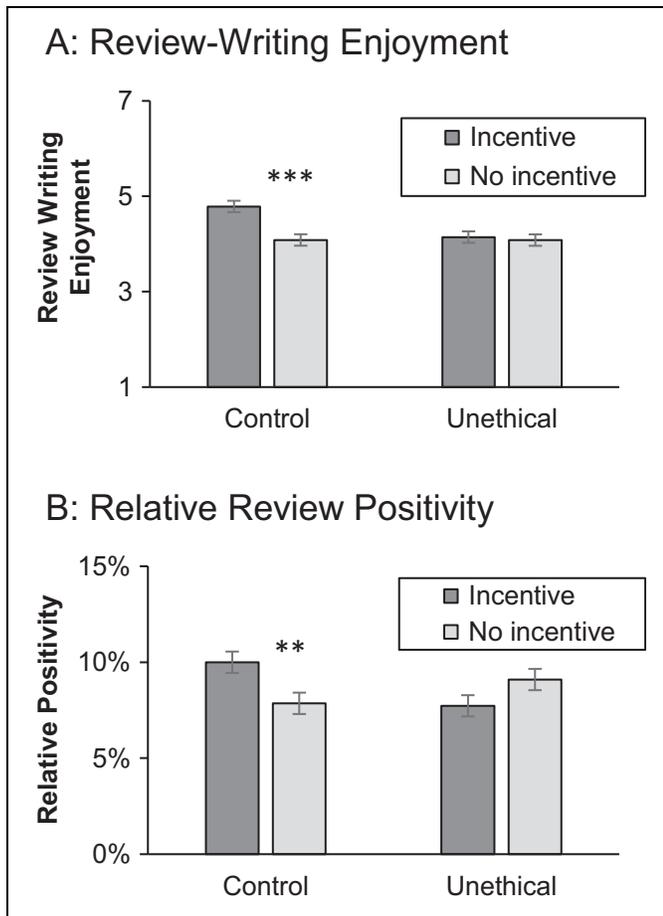


Figure 2. Incentive \times company frame interaction on review-writing enjoyment and relative review positivity.

** $p < .01$.

*** $p < .001$.

Notes: Bars indicate ± 1 SE.

Experiments 1–4: enjoyment mediated the effect of incentive on review positivity ($B_{\text{indirect}} = .47$, $SE = .18$, 95% $CI = [.17, .86]$). However, this attenuated when the incentive was no longer experienced positively ($B_{\text{indirect}} = .04$, $SE = .12$, 95% $CI = [-.20, .30]$).

Discussion

As in Experiments 1–4, receiving an incentive for writing a review increased relative positivity of review content and enjoyment of writing reviews compared with receiving no incentive. Specifically, this occurred when people perceived receiving an incentive as a positive occurrence, which we argue is generally the case when receiving an incentive. However, when receiving an incentive was less positive (i.e., when the incentive was provided by a disliked company), the effect of an incentive on enjoyment of review writing and positivity of review content attenuated. When an incentive comes from a disliked company, it is no longer experienced as positive; thus, there is no positive affect to transfer to the experience of writing a review.

Our manipulation of unethicality in this experiment aimed to maximize ecological validity by using language from popular press articles. However, it is possible that this manipulation was heavy handed and resulted in a demand effect. That is, participants might have believed that the experimenters expected them to write a more negative review and to enjoy the process of writing a review less when Kellogg's was framed negatively. Although this is possible, we do not believe a demand effect could explain the interaction pattern we find, as this would predict a main effect of the unethical-frame manipulation. We instead find that writing a review about an unethical (vs. neutral) company is less enjoyable only when people are incentivized; there is no difference in enjoyment of writing a review for an unethical (vs. neutral) company when people are not incentivized. To provide additional insight into whether these results are due to demand, we conducted a posttest replicating the two key unethical-frame conditions utilizing a funneled debriefing to probe for any suspicions. A majority of participants (76%) reported no suspicions. Furthermore, the results hold when we excluded those who reported suspicions (see Web Appendix D).

Having provided evidence that enjoyment of reviewing when receiving an incentive is driven by (1) a stronger (vs. weaker) association between the incentive and the review (Experiment 4) and (2) the positivity associated with the incentive (Experiment 5), our final experiments examine the generalizability of these results and consequences for review readers.

Experiments 6a and 6b: Generalizing the Effect of Incentives for Reviews and Measuring Consequences for Review Readers

Experiments 6a and 6b had two objectives. First, we generalize our findings to a new sample. Whereas participants in the no-incentive condition in Experiments 1–5 did not receive a bonus for writing their review, they were compensated for taking the experiment. Experiments 6a and 6b eliminate this issue by recruiting participants who did not expect to receive incentives for taking the experiment. For Experiment 6a, we recruited students eating at an on-campus café to complete a survey on iPads. All participants wrote a review for the café they were eating at, either in exchange for an incentive or not, and we measured relative positivity of review content. In Experiment 6b, we recruited students from an online listserv who did not anticipate receiving compensation for writing their review; in this experiment, we measured relative positivity of review content and enjoyment of review writing to test for the underlying mechanism.

Second, in addition to assessing relative positivity using natural language processing tools as in our prior experiments, in Experiment 6a we conducted posttests with human judges to examine how incentivized reviews affect review readers. We measured readers' perceptions of review positivity and review helpfulness. Consumers are increasingly skeptical of online reviews (Luca and Zervas 2016; Mayzlin, Dover, and

Chevalier 2014) and are influenced by signals of credibility in reviews (Chu and Kamal 2008; Grewal and Stephen 2019; Smith and Vogt 1995). We accordingly examined whether incentives affect perceived review helpfulness, in addition to perceived positivity of reviews, when reviews are not labeled as incentivized.

Experiment 6a Method

We preregistered Experiment 6a (aspredicted.org/gj6dd.pdf) and planned to recruit 100 students over the course of two days. Research assistants blind to hypothesis and condition recruited a total of 111 students ($M_{\text{age}} = 21.10$ years, $SD = 4.92$ years; 55.0% female) from an à la carte café at Cornell University. Participants completed a Qualtrics survey on iPads. All participants who agreed to participate completed the survey.

The Qualtrics survey randomly assigned participants to condition in a two-cell (incentive vs. no incentive) between-subjects design. Participants in the incentive condition read, “You have an opportunity to rate and review your most recent dining experience at Trillium. For rating and reviewing your experience, we are giving you a \$1.00 bonus for writing your review.” Participants in the no-incentive condition read, “You have an opportunity to rate and review your most recent dining experience at Trillium.” Participants rated their dining experience on a ten-point scale and wrote their review. Afterward, all participants received candy as a thank you for participating, although we did not notify participants in advance that they would receive candy. We emailed a \$1 Amazon gift card to participants in the incentive condition.

Experiment 6a Results

Relative positivity of review text. As we predicted, there was a significant effect of incentive on the proportion of positive relative to negative emotional words in participants’ reviews ($M_{\text{incentive}} = 13.97\%$, $SD = 13.55\%$; $M_{\text{no incentive}} = 9.04\%$, $SD = 9.23\%$; $t(109) = 2.24$, $p = .027$).

Experiment 6a Posttests: Review Readers

Posttest 1: positivity. To confirm that consumers noticed the positivity of these reviews, we recruited a panel of U.S. MTurk participants to judge review positivity ($n = 100$; $M_{\text{age}} = 36.79$ years, $SD = 11.71$ years; 37.0% female). Readers evaluated 9–11 reviews, such that each review was rated by 8–10 readers blind to condition and hypothesis. As in prior research (Melumad, Inman, and Pham 2019), readers indicated the extent to which positive attributes ($\alpha = .94$; happiness, delight, and positive emotions) and negative attributes ($\alpha = .86$; anger, disappointed, and negative emotions) came across prominently in each review (1 = “not prominent,” and 7 = “very prominent”). We computed a difference score (positive – negative emotion scale), in line with our main measure of relative positivity of review text. Indeed, these measures were correlated ($r = .33$,

$p < .001$), suggesting convergence among human and automated measures.

An analysis of the effect of incentive condition on perceived positivity, controlling for repeated observations within participants, revealed a significant effect: incentivized reviews were rated as more positive ($M_{\text{incentive}} = 2.54$, $SD = 2.41$; $M_{\text{no incentive}} = 1.49$, $SD = 2.57$; $t(108) = 2.96$, $p = .004$). Separately analyzing the positivity and negativity scales revealed a similar pattern. Incentivized reviews were rated as containing greater positive emotion ($t(108) = 3.25$, $p = .002$) and lower negative emotion ($t(108) = -1.98$, $p = .050$). These results strengthen the conclusions from our prior experiments by demonstrating that automated measures lead to similar conclusions as readers’ assessments.

Posttest 2: product interest and review helpfulness. To explore how incentivizing reviews influences review readers’ interest in the reviewed product and perceived helpfulness of the review, we recruited a second panel of U.S. MTurk participants ($n = 101$; $M_{\text{age}} = 38.99$ years, $SD = 12.02$ years; 41.6% female). This experiment proceeded similarly to the posttest for review positivity. Following prior research (Grewal and Stephen 2019), readers indicated product interest (“How much would you consider dining at the reviewed cafe?”) and perceived review helpfulness (“How helpful is this review for choosing where to eat at this campus?”) (1 = “not at all, and 5 = “very much”).

An analysis of the effect of incentive condition on product interest, controlling for repeated observations within participants, revealed that reading an incentivized (vs. unincentivized) review increased interest in dining at the reviewed cafe ($M_{\text{incentive}} = 3.55$, $SD = 1.03$; $M_{\text{no incentive}} = 3.30$, $SD = 1.14$; $t(108) = 2.17$, $p = .032$). However, there was no significant effect of incentive condition on review helpfulness ($M_{\text{incentive}} = 3.53$, $SD = 1.23$; $M_{\text{no incentive}} = 3.45$, $SD = 1.28$; $t(108) = .56$, $p = .580$). This suggests that review readers blind to incentive condition are more interested in products when reading incentivized (vs. unincentivized) reviews.

Experiment 6b Method

Experiment 6b recruited another sample of students who did not expect compensation for participating. This time, we also measured enjoyment of review writing. We preregistered this experiment (aspredicted.org/tv7x3.pdf) and recruited 303 students from Cornell University via email listserv to write a review of their spring semester ($M_{\text{age}} = 22.46$ years, $SD = 4.26$ years; 73.6% female).

We randomly assigned participants to condition in a two-cell (incentive vs. no incentive) between-subjects design. All participants read, “In this survey, you have an opportunity to rate and review your most recent semester.” Those in the incentive condition learned they would be entered into a chance to win a \$100 Amazon gift card as a bonus for writing their review; those in the no-incentive condition did not read this information. Participants provided a rating on a ten-star scale and wrote their review. We then measured review-writing

enjoyment similar to Experiments 1, 2, 4, and 5 ($\alpha = .81$) on a scale from 0 to 8, with higher scores representing greater enjoyment. At the end of the experiment, two participants from the incentive condition were selected as lottery winners.

Experiment 6b Results

An incentive (vs. no incentive) significantly increased enjoyment of review writing ($M_{\text{incentive}} = 5.38$, $SD = 1.42$; $M_{\text{no incentive}} = 4.81$, $SD = 1.67$; $t(301) = 3.16$, $p = .002$) and increased positivity of review content ($M_{\text{incentive}} = 1.98\%$, $SD = 5.03\%$; $M_{\text{no incentive}} = .51\%$, $SD = 6.95\%$; $t(301) = 2.10$, $p = .036$).⁶ Enjoyment of review writing mediated the effect of incentive condition on review positivity ($B_{\text{indirect}} = .33$, $SE = .19$, $95\% \text{ CI} = [.03, .78]$; PROCESS Model 4).

Experiments 6a and 6b Discussion

Overall, Experiments 6a and 6b generalized the effect of receiving an incentive on relative positivity of review content among those who did not expect compensation for their participation. Students reviewing a current café experience expressed a greater proportion of positive, relative to negative, emotion in their review when offered \$1 (vs. no incentive) to write the review (Experiment 6a). Furthermore, students reviewing their spring semester wrote a relatively more positive review when entered into a lottery for a chance to win \$100 (vs. no incentive), which was mediated by increased enjoyment of review writing (Experiment 6b).

In addition, a posttest to Experiment 6a revealed that review readers blind to incentive condition rated reviews that were incentivized as more positive, and less negative, than reviews that were not incentivized. Thus, increased positivity in the content of incentivized reviews is noticeable to outside observers, strengthening the conclusions from our text analyses. In another posttest, review readers blind to incentive condition indicated greater interest in dining at the reviewed café when reading incentivized (vs. unincentivized) reviews and rated the reviews as similarly helpful. Thus, beyond influencing positivity, incentivized reviews can also increase interest in the reviewed product among review readers.

General Discussion

Understanding the factors that influence positivity of review content is an important issue for marketers, as positive reviews increase purchase (Chevalier and Mayzlin 2006; Godes and Mayzlin 2004; Ludwig et al. 2013) and receive greater transmission (Berger and Milkman 2012; Lau-Gesk and Meyers-Levy 2009). We identify a new antecedent influencing review positivity when holding the reviewer constant: incentives for writing reviews. Using a series of controlled experiments,

incentives increased the proportion of positive (vs. negative) emotion in reviews, highlighting an adjustment effect. This occurred for a variety of product reviews, including reviews of a short video and products from different companies (e.g., McDonald's, Kellogg's). We also observed similar effects when using multiple natural language processing tools (LIWC; EL 2.0) and human judgments to assess review positivity.

In examining the underlying process, we find that incentives for writing reviews increased enjoyment of review writing, which mediated the effect of incentives on relative positivity of review content. Beyond mediational evidence, we tested and found moderation by manipulating two factors that determine the level of enjoyment of writing reviews when receiving an incentive. First, Experiment 4 found that the effect of an incentive on enjoyment of review writing, and review positivity, attenuates when incentives are less (vs. more) closely associated with writing reviews. When an incentive was described as arriving for a reason other than writing a review, incentives no longer increased enjoyment and thus had no effect on review positivity. Second, Experiment 5 found that the effect of an incentive on review positivity attenuates when incentives do *not* increase enjoyment of review writing, such as when delivered by a disliked company. When provided by a disliked (vs. liked) company, there is no transfer of positive affect, thus attenuating the effect of incentives on enjoyment of reviewing and review positivity.

We also tested for alternative explanations of this effect. First, we found that this effect cannot be explained solely by reciprocity. In Experiment 3, an incentive (vs. no incentive) increased positive reviews for McDonald's both when the incentive was provided by McDonald's and when it was provided by a competitor (i.e., Burger King). If the observed effect was primarily due to reciprocity concerns, an incentive from a competitor should *reduce* rather than increase review positivity. Second, Experiment 4 found that this effect is not driven by differences in mood, providing additional evidence for our mechanism that positive affect from receiving incentives transfers to the process of writing reviews, making review writing a more enjoyable task, rather than causing a general increase in mood.

In examining the effect of an incentive on review positivity, we focused on the proportion of positive, relative to negative, expressions of emotion. However, we report additional analyses in Web Appendix D, which we summarize here. First, we separately examined the effect of an incentive on percentage of positive and percentage of negative words, as well as on the absolute number of positive and negative words. Across experiments, we generally find that incentives influence relative positivity of review content by increasing the number of positive words. This results in a greater proportion of positive emotional words, and a lower proportion of negative emotional words, as these variables were negatively correlated across studies. This is in line with research suggesting that valence may be a bipolar construct (Green, Goldman, and Salovey 1993; Larsen 2017), especially among Western populations (Bagozzi, Wong, and Yi 1999), which characterizes the participants in our experiments.

⁶ Compared with other experiments, the relative positivity for reviews in this study was lower, presumably because students' reviews of their spring semester in 2020 were negative due to the COVID-19 pandemic.

In addition, across experiments we examined star rating, given that marketers typically measure ratings in conjunction with reviews. Star rating was correlated with linguistic expressions of positivity, and for all experiments, enjoyment of writing reviews mediated the effect of incentive condition on star rating. Finally, we do not find a consistent effect of incentive on relative emotionality (i.e., total percentage of positive plus negative words), in line with our prediction that incentives influence the relative positivity (i.e., valence) of review content rather than the relative emotionality of review content.

Theoretical Implications

This research contributes to literature on the use of incentives to motivate behavior (e.g., Gneezy, Meier, and Rey-Biel 2011; Prendergast 1999) and integrates this with research on WOM and online reviews. Previous research has focused on review volume, demonstrating the motivating effect of monetary incentives (Khern-am-nuai, Kannan, and Ghasemkhani 2018), norms (Burtch et al. 2018), and connectedness (Sun, Dong, and McIntyre 2017); we are the first to provide causal evidence of an adjustment effect, whereby incentives increase positivity of review content when holding the review writer constant.

In doing so, we contribute to literature examining the factors that influence the type of content shared in WOM—that is, *what* people write (e.g., Berger 2014). Previous research has found that more emotional content (i.e., greater positive and greater negative content) is shared with smartphones (vs. computers; Melumad, Inman, and Pham 2019; Ransbotham, Lurie, and Liu 2019) and more interesting content is transmitted via written (vs. oral) WOM (Berger and Iyengar 2013). We contribute by demonstrating that incentives are one such factor influencing the type of content shared. People write more positive content in their reviews when reviews are associated with incentives.

Beyond documenting the effect of incentives on relative positivity of review content, we provide evidence for why this effect occurs, answering a call for research on the processes by which incentivized reviews influence interest in reviewing (Burtch et al. 2018). Connecting research on WOM to the literature on affect transfer and evaluative conditioning, which suggests that the association between incentives and activities influences enjoyment of activities, we demonstrate that greater enjoyment when writing incentivized reviews increases the expression of positive emotion in the reviews themselves. As such, we are the first to demonstrate that incentivizing reviews increases the proportion of positive expressions, and decreases the proportion of negative expressions, in review content, which occurs by fostering enjoyment of the review-writing process.

These findings further speak to the literature on reciprocity when receiving an incentive in exchange for writing a review (Cialdini 2001; Gouldner 1960). Prior work has found that incentives can operate as a “small token of appreciation” that trigger a reciprocity demand. By demonstrating that incentives increase positivity of review content even when the

incentivized review is for a competitor, we find that incentives can increase review positivity independent of feelings of indebtedness to the incentive provider.

In addition, in examining a positive effect of incentives on activity enjoyment, this research connects to literature on when incentives enhance versus undermine intrinsic motivation (Eisenberger and Cameron 1996; Lepper, Greene, and Nisbett 1973; Ryan and Deci 2000). Prior research has demonstrated that providing and removing incentives can decrease interest in pursuing an activity, particularly for naturally interesting and enjoyable tasks. For example, children who colored, and then received an incentive for coloring, spent less time coloring when the incentive was removed (Lepper, Greene, and Nisbett 1973). In a meta-analysis, researchers concluded that such crowding-out effects are likely to emerge when rewards are provided to people for engaging in an initially interesting task not associated with incentives and are then removed (Cameron and Pierce 1994). We build on this research by examining how the presence of an incentive can increase enjoyment of pursuing an activity while being rewarded, specifically for an activity that many people feel neutrally about and which they already associate with receiving incentives.

Managerial Consequences

First, by demonstrating that incentivizing reviews causes adjustment effects in the content of what consumers express in their product evaluations, this research provides managerial implications for increasing review positivity for a range of products and experiences. We provide causal evidence that incentives change the linguistic content of what reviewers write. Beyond influencing review content, incentives change the experience of writing reviews, making review writing more enjoyable. Thus, while companies may be wary of using incentives for fear that incentives undermine interest in reviewing, our findings suggest otherwise.

An important implication in documenting this effect is that the manner in which an incentive is provided for writing a review matters for influencing review positivity. Incentives only increase positivity in review content when they are closely associated with the act of writing reviews. Thus, if companies *do* want to encourage more positive reviews, they should emphasize the connection between the incentive and the review. For example, instead of providing a free gift to consumers’ for making a purchase, they could provide a free gift to consumers for writing a review. Further, companies should ensure that consumers receive their incentive for reviewing relatively immediately. Indeed, incentives described as more immediate (vs. delayed) result in a stronger transfer effect (Woolley and Fishbach 2018). Because companies often provide incentives with a delay, delivering an incentive closer in time to when a review is written may be an easy change to implement that could increase review positivity.

Making the review-writing process more enjoyable, beyond providing financial incentives, can also influence review positivity as documented in Experiment 2 (i.e., physical,

nonfinancial incentive) and Supplemental Experiment 2 (i.e., intangible incentive; reported in Web Appendix E). For example, in this supplemental experiment, we manipulated positivity of the review-writing experience by either providing an incentive or playing a relaxing video while participants wrote their (unincentivized) review. Compared with a no-incentive control condition, receiving an incentive or listening to a relaxing video clip while writing a review increased enjoyment of review writing and increased relative positivity of the review content. This further emphasizes that the experience during the process of reviewing is what contributes to positive expressions in reviews. Managers could thus provide nonfinancial rewards or play pleasant sounds as consumers write their review, which could increase review positivity.

Our findings also indicate practices that should be avoided. For example, incentives do not influence enjoyment of review writing or positivity of reviews when they are provided by disliked companies. Thus, a company in the midst of a public relations crisis is unlikely to benefit from offering incentives to change the public's opinion of it. Incentives are also less effective at increasing enjoyment of review writing among those who already enjoy writing reviews; thus, companies could use incentives for those who enjoy reviewing less.

Last, in deciding whether to incentivize reviews, managers should consider consequences for review readers. Our research provides some insight into this question. We found that consumers blind to incentive condition perceived incentivized (vs. unincentivized) reviews as relatively more positive. Readers were also more interested in trying out the product after reading an incentivized (vs. unincentivized) review. However, it is possible that when reviews are labeled as incentivized (vs. not), consumers may respond less favorably to reviews (Stephen et al. 2012). Indeed, consumers are increasingly skeptical of reviews and look for cues of credibility in review content (e.g., Grewal and Stephen 2019; Mayzlin et al. 2014). While we find review readers perceive reviews as similarly helpful when blind to incentive condition, this may differ for reviews labeled as incentivized.

Avenues for Future Research

In examining how incentives influence review positivity, this research opens up questions for additional promising research, which we lay out here. The current research provided an initial test of how incentives influence perceived helpfulness of incentivized reviews, but more work is needed to better understand implications for readers' welfare (Stephen et al. 2012). If incentives cause an adjustment effect, increasing review positivity, this could mislead consumers who end up choosing a product on the basis of a positive review, only to find that their purchase does not live up to the hype. Thus, future research should examine whether consumers are less satisfied with their products if they made their decision on the basis of an incentivized (vs. unincentivized) review.

An additional avenue for research is on downstream consequences of incentives for review writers' interest in the

product category. Incentivizing reviews may increase positive evaluations of not only the reviewed product but also associated products. Thus, companies could incentivize reviews as part of a broader strategy for increasing interest in other similar products in the brand's portfolio, which we find initial evidence of in Supplemental Experiment 3 (Web Appendix E). For example, by incentivizing a review of shampoo, a brand may increase consumers' interest in trying out other shampoos or conditioners in the portfolio. Relatedly, consumers who receive an incentive for writing a review and come to evaluate the product more positively may also have more positive interactions with the brand, including liking others' reviews, sharing their review with others, or posting about the product on social media.

Conclusion

Overall, this research is the first to examine the causal effect of incentives on consumers' linguistic expressions of positivity in their reviews. We find that incentivizing consumers to write reviews increases the proportion of positive, relative to negative, emotion that they express. This effect is the result of a close association between incentives and review writing, such that positive features of receiving incentives transfer to the act of writing reviews, making the process of writing reviews more enjoyable. As such, this effect attenuates when incentives are not connected with the experience of reviewing or when they are not perceived positively. This research provides new insight into how incentives influence review behavior and the processes by which this occurs.

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