How Verb Tense Shapes Persuasion

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When sharing information and opinions about products, services, and experiences, communicators often use either past or present tense (e.g., "That restaurant *was* great" or "That restaurant *is* great"). Might such differences in verb tense shape communication's impact, and if so, how? A multimethod investigation, including eight studies conducted in the field and lab, demonstrates that using present (vs. past) tense can increase persuasion. Natural language processing of over 500,000 online reviews in multiple product and service domains, for example, illustrates that reviews that use more present tense are seen as more helpful and useful. Follow-up experiments demonstrate that shifting from past to present tense increases persuasion and illustrate the underlying process through both mediation and moderation. When communicators use present (rather than past) tense to express their opinions and experiences, it suggests that they are more certain about what they are saying, which increases persuasion. These findings shed light on how language impacts consumer behavior, highlight how a subtle, yet central linguistic feature shapes communication, and have clear implications for persuasion across a range of situations.

Keywords: language, certainty, persuasion, verbs, natural language processing

Communication is an integral part of marketplace interactions. Marketers communicate with consumers (e.g., through advertisements), salespeople communicate with clients (e.g., through pitches), and consumers communicate with one another (i.e., through word of mouth). Furthermore, these communications have a huge impact on product evaluation, choice, and purchase (Babic Rosario et al. 2016; Chevalier and Mayzlin 2006; Mathwick and Rigdon 2004; Moorthy, Ratchford, and Talukdar 1997).

But while communicating information and opinions is both frequent, and important, the tense used to share such content can vary. Someone who saw a great movie, for example, could say "It *has* great cinematography" (i.e., present tense) or "It *had* great cinematography" (i.e., past tense). Similarly, someone could say "that beach *is* beautiful" (i.e., present tense) or "that beach *was* beautiful" (i.e., past tense).[1] While these might seem like subtle variations, could they influence communication's impact? And if so, why*?*

A multimethod investigation, combining experiments with natural language processing (NLP) of over 500,000 online reviews, begins to address these questions.

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1 While people also talk about a product's future, it is much rarer in the communication context we examine. Across the over half a million online reviews examined in this article across four field data sets (studies 1–2C), 93.5% of sentences used present and/or past tense, leaving only 6.5% of sentences that might contain expressions about the future. Furthermore, predictions about the future are conceptually and semantically distinct from sharing opinions and experiences (which almost always use past and present tense). Consequently, we focus on the past and present tenses but discuss expressions about the future in detail later in the article.

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Specifically, we suggest that present tense should make information more helpful, useful, and persuasive because it suggests that the communicator is more certain about what they communicated. While past tense indicates that something was a particular way, or that a particular person had a particular experience at a particular point in time, present tense suggests greater confidence. When communicators use present tense, it suggests that they are certain enough to go beyond simply saying something *was* true and make an assertion about the way things *are* (Austin 1962; Searle 1969; certainty as *correctness*, Cheatham and Tormala 2015; Petrocelli, Tormala, and Rucker 2007). Seeming more certain, in turn, should increase the helpfulness and persuasiveness of what communicators communicate (Karmarkar and Tormala 2010; Pezzuti, Leonhardt, and Warren 2021).

This work makes four main contributions. First, we add to the growing literature on consumer language research (Berger and Packard 2023). While almost everything consumers do involves language, researchers are only starting to examine how words shape attitudes and behavior (Berger et al. 2019; Moore 2015; Moore and Lafreniere 2020; Packard and Berger 2017, 2021). The present research demonstrates a novel way that language shapes consumer behavior, and a psychological process underlying the effect.

Second, we demonstrate the importance of verb tense.[2] While tense is a fundamental aspect of language and is said to hold important rhetorical potential (Fahnestock 2011; Stab and Gurevych 2014), little work has examined how and why tense might shape persuasion. We demonstrate that using present, rather than past, tense to describe products, services, and experiences makes information seem more helpful and useful, and boosts persuasion.

Third, we showcase how language can impact perceived certainty. While a great deal of work has revealed consequences of certainty (e.g., on judgment and decision-making, Tormala and Rucker 2007, 2018), less is known about the antecedents, or factors that influence certainty perceptions. We demonstrate that a subtle linguistic feature—verb tense—can help shape how certain communicators seem about what they are communicating.

Fourth, these findings have implications for a range of audiences. For public health officials, salespeople, and others who want to persuade, changing tense may be a simple way to help do so. Rather than talking about things in the past tense, shifting to present can make communicators seem more certain, boosting persuasion.

LANGUAGE IN WORD OF MOUTH

Word of mouth is both frequent and important. Consumers have dozens of conversations each day (Gray 2010) and talk to others to collect information, express themselves, and facilitate decision-making (Berger 2014). Such interpersonal communication generates trillions of brand impressions (Keller and Libai 2009) and shapes everything from the products people buy and services they use, to the decisions they make and attitudes they hold (Babic Rosario et al. 2016).

Word of mouth, however, would not exist without words, and the language consumers use to describe products and experiences shapes word of mouth's impact (Moore and Lafreniere 2020; Packard and Berger 2017). Descriptive adjectives, for example, make reviews more helpful (Min and Park 2012; Schindler and Bickart 2012) and emotional adjectives can increase purchase (Rocklage, Rucker, and Nordgren 2018). Nouns and pronouns can make reviews more helpful (Schindler and Bickart 2012), but pronouns can also decrease a review's impact if they make the information seem too subjective (Ghose and Ipeirotis 2011). Even swear words and slang convey important information about communicators' attitudes and can heighten persuasion (Lafreniere, Moore, and Fisher 2022; Rizvi, Moore, and Messinger 2020).

But while work has provided important insights into how what is said (e.g., adjectives and nouns) shapes communication's impact, there has been less attention to verbs, and particularly, their tense. When talking about a book they liked, for example, someone could say "that book *was* great" or "that book *is* great." When sharing how well a tool works, someone could say, "it *did* the job" or "it *does* the job." Might these subtle variations shape persuasion*?*

VERBS AND TENSE

Verbs are an indispensable part of sharing ideas (Chomsky 1975; Strunk and White 1999). While nouns indicate who or what is being discussed, verbs convey a noun's state or action. Consumers shop. Cars are driven. Food is eaten. Verbs put the subject of an utterance into a particular position or motion. Without them, communication would entail relatively meaningless finger pointing at people, places, and things.

Prior research has explored how different verbs impact people's own beliefs or behavior. Saying "I *don't*" rather than "I *can't*" eat cookies, for example, can make people more likely to stick to their goals (i.e., avoid sweets) because it makes them feel more empowered (Patrick and Hagtvedt 2012). Similarly, rather than thinking about what they *should* do when faced with dilemmas, thinking about what they *could* do helps people generate more creative solutions (Zhang, Gino, and Margolis 2018). But while some work has examined the effect of switching one verb for another, there has been less attention to whether the *same* verb might have different effects depending on the particular tense in which it is expressed.

2 We focus on English but discuss potential implications for other languages in the General Discussion.

One of verbs' key roles is telling time. Through conjugation, verbs become either past or present tense. Similar to the work on verbs more generally, however, research on tense has focused on how it influences communicators (i.e., speakers or writers). When people describe past events using imperfective verb phrases (e.g., "I was doing the dishes") rather than simple past tense (e.g., "I did the dishes"), for example, it leads them to think of that past event as more continuous (Madden and Zwaan 2003), shaping their willingness to do it again in the future (Hart and Albarracin 2009; c.f. Carrera et al. 2012). Similarly, people whose languages have future tense verbs (e.g., French) are less likely to save for future needs than those that do not (e.g., English), potentially because they cognitively separate the future from the present (Chen 2013).

But while prior work has provided some insight into how tense impacts communicators, or the people that use it, could simple shifts in verb tense also influence audiences, or people who consume language produced by others? And if so, why?

THE PERSUASIVE PRESENT

We suggest that using present, rather than past, tense to share opinions or experiences should increase persuasion. Furthermore, we suggest that this occurs in part because present tense makes communicators seem more certain about what they are saying.

Different tenses contain different semantic meanings. Prior experience, by definition, occurred in the past. Consequently, when someone uses past tense, it suggests that something *was* true at a particular point in time. If someone says "That book *had* a great plot" or "France *was* fun," it suggests that they liked the book when they read it or enjoyed France whenever they visited. Because experiences are necessarily subjective, using past tense should also suggest that the content conveyed is more subjective (Englebretson 2007). Saying "France was fun" implies that the content hinges on a particular, potentially idiosyncratic experience (i.e., I found it fun when I went). Consequently, using past tense to express attitudes suggests a degree of subjectivity and specificity: this is my opinion, based on my experience(s), at the time I experienced it.

Using present tense, in contrast, suggests something more generalizable or universal: that something is true across people, and potentially across time. "France is fun," for example, suggests not only that France *was* fun for the speaker but that it *is* fun for others as well. While past tense describes something that may no longer be true, present tense always "is" and thus is never out of date. Indeed, philosophers of language suggest that present tense offers a "feeling of presence" (Longinus 1st century AD/2015), the sense that something is a genuine and active part of current reality (Benoit and Harthcock 1999).

As a result, when communicators use present tense, it should suggest that they are more confident or certain about what they are communicating. Assertive speech acts are utterances that express beliefs about the objective state of things (Austin 1962). Present tense statements like "France is fun" or "that book has a great plot" suggest that a communicator is committing to an assertion describing the true state of the world. Rather than simply expressing opinion based on subjective experience(s), they are taking on a tone of fact or generalizable, objective reality, "making manifest her confident belief that things are thus-and-so. Such a confident belief amounts, in practice, to a (tacit) state of certainty" (Labinaz and Sbisa 2014, 41). It is not just that the communicator thinks or feels something, but she is sufficiently confident to assert the way things *are*.

We suggest that tense should therefore shape how certain communicators seem. In addition to someone's general evaluation of something (i.e., how good or bad it is), attitudes can be characterized by their certainty, the confidence or conviction with which someone holds them (Tormala 2016; Tormala and Rucker 2018). Consequently, regardless of whether someone likes something or not, that same attitude can be held, and expressed, with more or less certainty that it is the true, objective, valid way to think about it (Cheatham and Tormala 2015; Lee and Kronrod 2020; Petrocelli et al. 2007). Such certainty suggests that an attitude is true not only for the person who holds it but for other people as well (Lee and Kronrod 2020; Petrocelli et al. 2007).

Building on these ideas, we suggest that present tense suggests that communicators are more certain about what they are saying. Just as hedging can convey lower confidence (e.g., saying "it might" rather than "it will" rain; Crismore and Vande Kopple 1988; Crompton 1997), compared to past tense statements (e.g., "the food *was* good"), present tense should suggest a more universal or objective truth (e.g., "the food *is* good") consistent with greater certainty or confidence. The speaker is willing to go beyond their own subjective past experience and generalize to the permanence of present tense. Not just to share something from personal experience, but to confidently assert that something is generally the case.

Consistent with this notion, rhetoricians going back to Aristotle note the importance of present tense in maxims (e.g., "A fool and his money *are* soon parted") because it suggests the timelessness, generality, and certainty of a maxim's intended meaning (Corbett and Connors 1999; Roberts 1984). If a fool *was* parted with his or her money, it is less clear whether this rule applies generally or just to a particular fool. For this reason, present tense is used to communicate laws, norms, and other broad mandates because it helps signal things that are generally right or correct (Perelman and Olbrechts-Tyteca 1991). Similarly, journalists may use present tense to make recent past

events seem more permanent and true (Fahnestock 2011). Rather than using a headline like "Biden Has Beaten Trump," for example, the actual November 2020 *New York Times* headline "Biden Beats Trump" seems to give that assertion a stronger sense of timeless conviction or certainty.

Greater perceived certainty about the information shared, in turn, should boost perceived helpfulness and persuasion. People often look for certainty cues to decide whether information is helpful or persuasive (Gershoff, Broniarczyk, and West 2001; Gershoff and Johar 2006; Naylor, Lamberton, and Norton 2011) and perceiving certainty often increases persuasive impact (Pezzuti et al. 2021). Confident eyewitnesses are seen as more credible (Tenney et al. 2007; Whitley and Greenberg 1986), people prefer financial advisors who express greater confidence (Price and Stone 2004), and expressing certainty when sharing word of mouth can boost persuasion (Karmarkar and Tormala 2010). Such effects occur because certainty can make communicators seem more knowledgeable (Price and Stone 2004), trustworthy (Sniezek and Van Swol 2001), and powerful (Pezzuti et al. 2021). Such credibility cues can make whatever the communicator shares seem more helpful and increase persuasion (Petty and Wegener 1998; Pornpitakpan 2004).

In sum, we predict that using present (vs. past) tense should make information seem more helpful and useful and shape intentions and choice, because it makes communicators seem more certain about what they said.

THE PRESENT RESEARCH

A multimethod investigation tests these possibilities through both experiments and field data. Study 1 analyzes over 100,000 book reviews to test whether communications seem more helpful when they use present tense. The next three studies explore the generalizability of this effect, examining it across repeatedly consumed products (i.e., music, study 2A), durable goods (i.e., consumer electronics, study 2B), and services (i.e., restaurants, study 2C).

To test tense's causal effect and explore the hypothesized mechanism (i.e., perceived certainty), the last four studies use experiments. Study 3 manipulates tense, measures persuasion, and tests whether perceived certainty mediates the effect. Study 3B tests whether this effect extends to a different domain and rules out alternative explanations. The last two studies (studies 4 and 4B) further examine the hypothesized role of certainty through moderation and test boundary conditions.[3]

While one could wonder why we focus on past and present tenses, note that expressions about the future (e.g., "You will like this book") are relatively rare (e.g., they occur in less than 7% of sentences, on average, across the four field data sets for studies 1–2C). Furthermore, expressions about the future play a fundamentally different communicative role (i.e., involving prediction) and thus likely involve a completely different mechanism. Consequently, they merit their own conceptual and empirical effort. We discuss this opportunity for future research in the general discussion.

STUDY 1: PRESENT TENSE IN THE FIELD

Study 1 provides a preliminary test of whether present tense is more impactful in the field. Using NLP, we analyze over 100,000 book reviews to examine whether a content seems more helpful when it uses more present tense.

Method

We obtained book review data from a public repository of 8.9 million Amazon consumer reviews (https://jmcauley.ucsd.edu/data/amazon/; He and McAuley 2016; Last Accessed January 26, 2023). Processing all the reviews was not computationally feasible, so a random sample was taken (multiple independent random samples show similar results, web appendix table W4–W7). Given the typical number of reviews analyzed in recent consumer behavior papers (Chen and Lurie 2013; Kupor and Tormala 2018; Ordenes et al. 2019), we set out to extract a sample of at least 100,000 reviews that contained both a review text and at least one helpfulness vote. Based on prior reports of helpfulness voting incidence, a hypothesis-blind research assistant pulled an initial random sample of 250,000 book reviews from the three most recent years available in the dataset (2012–2014), and 112,934 reviews met the analysis criteria. In addition to review text and helpfulness votes, we extracted reviewer ID, product ID, and review timestamp metadata. Sales rank and price were available for a subset of books (N = 72,629), so we extracted those variables as well.

Natural language processing (NLP) was used to capture the key independent variables (Berger and Packard 2022). First, we split each review into sentences using the tokenize function in Python's NLTK platform. Next, we detected each sentence's tense using the vocabulary morphology tagger in spaCy. spaCy is a state-of-the-art library among NLP taggers, surpassing 97% accuracy (Explosion 2021; Hawkins, Frank, and Goodman 2020).[4] Descriptive

3 Studies 3B and 4B are presented in the web appendix.

4 This approach accurately excludes present tense verbs used to convey future expressions (i.e., "I will go." "It is going to," or "It will be" are not counted as present tense) and treats imperfective verb phrases and participles that include present tense verbs to discuss the past (e.g., "I was doing" or "They were saying") as past tense. In the study 1 data, 92.3% of sentences were classified as either past or present tense, with the remaining small fraction being undetermined (e.g., potentially being expressions about the future).

statistics indicate that past or present tense appears in 100% of the reviews, with 71.3% of reviews containing a mixture of tenses across sentences.

To capture helpfulness, following prior work (Chen and Lurie 2013; Moore 2015; Mudambi and Schuff 2010), we measured the proportion of each review's ratings that consider it helpful. Until 2020, Amazon allowed reviews to be rated as either "helpful" or "not helpful", so helpfulness rating = [helpful/(helpful + not helpful)].

Results

As predicted, linear regression found that book reviews that used more present tense were more impactful (i.e., seen as more helpful). This was true whether present tense was examined as a proportion of sentences ($b = 0.09$, SE $= 0.003$, $t = 24.73$, $p < .001$) or as a count ($b = 0.01$, SE $= 0.0002$, $t = 55.23$, $p < .001$).[5] For the average review, changing just one of seven sentences from past to present tense is associated with a 1.2 percentage point increase in helpfulness (e.g., from 66.5% helpful to 67.7% helpful).

Control Variables. While these initial results are consistent with our theorizing, one could wonder whether they are driven by some other factors. Consequently, we control for a range of other variables to rule out alternatives and test robustness.

First, reviews that include more present tense could be (1) longer, (2) more complex or readable, use more (3) certain, (4) concrete or (5) technical language, use more (6) active (or passive) voice, (7) first person voice, or (8) other major aspects of review language that are also linked to helpfulness, and these factors, rather than the present tense itself, could be driving the effect. To test these possibilities, we control for *review length* in words, complexity using words per sentence (*Sentence Length*) and the number of long words in the review (*Six Letter Words*; Ghose and Ipeirotis 2011; Lee and Choeh 2014; Mudambi and Schuff 2010), readability using the Flesch reading ease score (*Flesch Score*) and the Gunning fog index (*Fog Index*), LIWC's dictionary for confident or certain language (*Certainty*; Pennebaker et al. 2015), a measure of concreteness (*Concrete*) using the bootstrapped extension (Paetzold and Specia 2016) of Brysbaert, Warriner, and Kuperman's (2014) concreteness measure (cf. Packard and Berger 2021), Warren et al.'s (2021) measures of technical language (*Word Frequency*), Sepehri, Markowitz and Mir's (2022) measure of active versus passive voice (*Active Voice*), LIWC's dictionary capturing first person pronouns (*First Person*; Pennebaker et al. 2015), LIWC's main psychological process dictionaries (e.g., *Affect, Social, Cognitive, Perceptual, Biological, Drives, Temporal, and Informal*; Pennebaker et al. 2015), as well as measures for specific dictionaries previously linked to review helpfulness or persuasion (*Swearing*, *Exclamations*, *Questions*; Li and Zhan 2011; Petty, Cacioppo, and Heesacker 1981; Scherer and Sagarin 2006).

Second, it could be that negative reviews are more likely to use past tense because the reviewer does not like or use the product anymore, and such reviews are seen as less helpful. The correlation between past tense use and the reviewers' product rating was weak ($r = -0.11$), but to test this possibility, we control for the reviewer's overall rating for the book (*Rating*) and how long ago they wrote the review (*Age*).

Third, imperative language ("Read this book!") or explicitly persuasion-focused expressions ("I strongly recommend this book!"; Packard and Berger 2017) tend to use present tense constructions, so maybe this kind of language, rather than present tense itself, is driving helpfulness. To account for these possibilities, we created a custom dictionary for imperatives (*Imperative*) using Jurafsky and Martin's (2021) approach, counting sentences that begin with a verb phrase but have no grammatic subject (e.g., "Read this book!"). In addition, this dictionary counted imperative sentences that begin with second person pronoun subjects (e.g., "You need to buy it"). To capture explicitly persuasion-focused statements (*Persuasive*) like "I strongly recommend" linked to the impact of online reviews, we followed a procedure previously used to capture such explicit product endorsements (Packard and Berger 2017).[6]

Fourth, beyond individual words, maybe the particular topics discussed (e.g., the book's plot, characters, or pacing) drive helpfulness. To account for this, we include the mixture of topics in each review using latent Dirichlet allocation (LDA; Blei 2012, see web appendix for more details). LDA captures the mixture of words that co-occur within and across texts (e.g., reviews) to discover the main topics or themes discussed (e.g., plot or pacing), and the prevalence of each topic or theme in each text (e.g., 20% about plot, 40% about pacing). A grid search identified the lowest number of topics that maximized predictive power (i.e., perplexity), supporting 30 topics. We control for the proportion of each *topic* in each review.

Fifth, because many books have multiple reviews, we included random effects for book ($N = 4{,}941$). Because some reviewers wrote more than one review, we also included random effects for reviewer ($N = 65{,}427$), which helps control for unobservables such as a reviewer's idiosyncratic writing style.

5 Given English does not have sentences without verb tense, there is no clear "control" condition and, thus, the effects of past and present must be expressed relative to one another. The results are framed in terms of the positive effect of present tense, but they could also be framed as the negative effect of past. The result for the proportion of past tense verbs ($b = -0.09$, SE $= 0.003$, $t = -24.73$, $p < .001$), for example, is simply the inverse of the present tense result.

6 We thank a reviewer for these suggestions.

Given the large set of controls considered, we used Lasso penalized linear regression to eliminate non-essential controls and account for multi-collinearity (Tibshirani 1996; see the web appendix for more details). We then included all surviving variables in a mixed effects linear regression model to support the inclusion of random effects.

Even after accounting for 55 fixed effect controls and more than 70,000 product and reviewer random effects, book reviews that used more present tense were still more helpful. This was true regardless of whether present tense was measured through proportion ($b = 0.02$, SE $= 0.004$, $t = 7.28$, $p < .001$) or as a simple count ($b = 0.004$, SE $= 0.0004$, $t = 9.85$, $p < .001$). Detailed results with the present tense proportion IV model are presented in table 1 (see web appendix table W3 for results using the count model IV).

Additional Robustness Checks. We also conducted a number of other robustness checks. First, one could wonder whether book popularity is driving the effect. Fewer helpfulness ratings available for books with few reviews might make the results unstable. Even after excluding books that had fewer than 10 reviews ($N = 99{,}444$), the results remained the same (proportion IV $b = 0.08$, SE $= 0.004$, $t = 20.40$, $p < .001$; count IV $b = 0.01$, SE $= 0.0002$, $t = 52.46$, $p < .001$). Results also remained the same after excluding books with fewer than 20 reviews or 30 reviews.

Alternatively, top-selling books might have less helpful reviews because many others have already shared their opinion. Or perhaps more expensive books attract a different type of reader who tends to find reviews more or less helpful. To test these possibilities, we used two additional variables, *Sales Rank* and *Price*, which were available for a subset of the sampled reviews ($N = 72{,}629$). Even after controlling for these variables, reviews with more present tense were still seen as more helpful (proportion IV $b = 0.03$, SE $= 0.005$, $t = 5.02$, $p < .001$; count IV $b = 0.004$, SE $= 0.0005$, $t = 8.31$, $p < .001$).

Second, one could wonder whether these results are driven by present tense somehow being less frequent. But this is not the case. Present tense appears in almost all the reviews (90.8%) as does past tense (81.5%), casting doubt on this alternative (see web appendix table W3 for additional summary statistics).

Third, one could wonder whether the results are somehow driven by the order in which tenses appear in reviews that include both past and present tense sentences. To control for this possibility, we focus only on reviews that are completely past or completely present tense ($N = 31{,}278$; effects coded as -1 and 1, respectively). Results remain the same. Present tense reviews are more helpful than past tense reviews ($b = 0.05$, SE $= 0.002$, $t = 20.41$, $p < .001$). The effect also holds looking only at mixed tense reviews ($N = 81{,}428$; proportion IV $b = 0.13$, SE $= 0.006$, $t = 21.93$, $p < .001$; count IV $b = 0.01$, SE $= 0.0002$, $t = 34.59$, $p < .001$).

Fourth, while English grammar expects tense consistency at the sentence level, one might wonder if the effect is robust to considering present versus past tense at the level of each individual verb. To test this, we counted present and past tense verb instances in each review using the Penn Treebank part-of-speech tagger rather than using the sentence-level approach. Results remain the same (proportion IV $b = 0.14$, SE $= 0.006$, $t = 23.70$, $p < .001$; count IV $b = 0.004$, SE $= 0.00007$, $t = 56.77$, $p < .001$).

Fifth, while our identification of sentence tense uses a state-of-the-art NLP approach, one might wonder if the observed effects are somehow due to the method used. Using LIWC's (Pennebaker et al. 2015) past or present focus measures, however, shows the same results (i.e., present focus is linked to greater helpfulness, $b = 0.008$, SE $= 0.003$, $t = 2.38$, $p = .017$). This suggests that the

TABLE 1

PRESENT TENSE'S IMPACT IN THE FIELD (STUDY 1)

	Std. β	SE
Present tense (%)	**0.020**	**(0.004)*****
Controls		
Review Length	0.122	(0.000)***
Sentence Length	0.030	(0.000)***
Six Letter Words	0.057	(0.000)***
Flesch Score	−0.021	(0.000)***
Fog Index	–	–
Concreteness	–	–
Word Frequency	0.030	(0.043)***
Active Voice	−0.004	(0.010)^
Rating	0.133	(0.001)***
Age	−0.069	(0.000)***
Affect	−0.039	(0.000)***
Social	0.008	(0.000)***
Cognitive	−0.009	(0.000)*
Perceptual	0.008	(0.001)**
Biological	0.019	(0.001)***
Drives	–	–
Temporal	−0.003	(0.000)
Informal	−0.003	(0.001)
Swearing	−0.003	(0.004)
Exclamations	−0.038	(0.001)***
Questions	−0.005	(0.002)
Certainty	−0.012	(0.001)***
First Person	−0.040	(0.000)***
Imperative	−0.003	(0.003)
Persuasive	0.023	(0.003)***
LDA topics 1–30	Included[+]	
Random effects		
Product, *N*	4,941	
Reviewers, *N*	65,247	
Intercept	0.000	(0.048)
Total *N*	112,706	

[+]See web appendix for LDA topic coefficients.
*$p < .05$.
**$p < .01$.
***$p < .001$.
^$p < .1$.

observed effects are not simply driven by the NLP method used.

Sixth, one could wonder whether reviews that use more past tense are less helpful because they refer to information that is older and thus less relevant. To empirically test this possibility, two research assistants rated a random sample of reviews ($N = 100$) based on the degree to which the information was so old as to no longer be useful. As expected, for almost all reviews (96%), judges saw no evidence that the information was no longer useful. Furthermore, there was little relationship between tense and age-driven relevance ($r = 0.14$). Finally, even after controlling for how old the review content is using the NLP measure of temporal contiguity from Chen and Lurie (2013), the results remained the same. Reviews that used more present tense were still rated as more helpful (proportion IV $b = 0.02$, SE $= 0.004$, $t = 6.43$, $p < .001$; count IV $b = 0.004$, SE $= 0.0004$, $t = 9.97$, $p < .001$).

Seventh, while we took a large random sample, used a hypothesis-blind research assistant, and sampled over a long time period (i.e., three years), perhaps there was somehow some bias in the sample analyzed. To address this possibility, we repeated the main regression analysis on 10 randomly extracted subsets of 10,000 records (with replacement). The relationship between present tense language and review helpfulness remained significant at $p < .05$ or better for 37 of the 40 resamples (10 models each for the proportion and count IVs including all 54 fixed effects and 70,000 random effect controls) and at $p < .10$ for the remaining three samples. See web appendix tables W5–W8 for details. This demonstrates generalizability to sampling.

Discussion

Results of study 1 support the notion that present tense makes reviews seem more helpful. Analysis of over 100,000 book reviews demonstrates that consumers found opinions more helpful when they used more present tense. The results were robust to a variety of approaches, controls, and robustness checks.

Size of the Effect. While the results are consistent with our theorizing, one could wonder whether the effect is meaningful. As shown in table 1 (which reports standardized [*z*-scored] coefficients to facilitate comparison), though, present tense's effect size is far from trivial. The present tense coefficient is larger than almost all linguistic predictors examined in prior research, including LIWC psychological process variables, certainty, imperatives, swearing, and concreteness (which was penalized out of the model via Lasso regression). Furthermore, the effect size is comparable to several language measures examined in prior research including explicitly persuasion-focused statements (*Persuasive*), first person pronouns (*First Person*), readability (*Flesch Score*), and sentence complexity (*Words per Sentence*). Overall, this suggests that present tense has a similar or larger effect than many other linguistic features.

Theoretically and Practically Relevant Moderator. While experiments provide controlled tests of the predicted psychological process, we also use the field data to consider whether present tense's effect is moderated by language linked to certainty. Specifically, if consumers use present tense as a cue to how certain the reviewer is about what they are communicating, as we suggest, then its beneficial impact should be weakened in the presence of other, more overt certainty cues. To test this possibility, we examine whether LIWC's certain language dictionary (111 words such as "definitely," "every," and "all"; Pennebaker et al. 2015) moderates (i.e., suppresses) the effect.

As predicted, in addition to a positive effect of present tense ($b = 0.03$, SE $= 0.001$, $t = 6.93$, $p < .001$), results reveal a negative certainty × tense interaction ($b = -0.003$, SE $= 0.002$, $t = 1.95$, $p = .050$). Consistent with the notion that present tense enhances persuasive impact because it makes communicators seem more certain about what they are sharing, if reviewers used more certain language in their review, present tense's beneficial effect was weakened.[7]

STUDIES 2A, 2B, AND 2C: REPEATEDLY CONSUMED GOODS, CONSUMER DURABLES, AND SERVICES

The results of study 1 are intriguing, but one could wonder whether they are somehow due to something specific about the product category examined. Books are usually only read once, for example, so maybe book reviews are particularly likely to use past tense, making present tense helpful because it is unexpected. Alternatively, some work suggests that reviews for utilitarian items are processed differently (Babic Rosario et al. 2016), so perhaps the effect does not hold in utilitarian categories. Furthermore, given that reviews for services may be processed more carefully given their more subjective features (Moe and Trusov 2011), perhaps the effect only holds for products. Finally, the effect might somehow be restricted to the particular review website used.

To test these possibilities, studies 2A–2C examine alternate domains. They assess the generalizability of the effect and whether it extends to things that are frequently consumed (i.e., music, study 2A), utilitarian (i.e., consumer electronics, study 2B), or services instead of products (study 2C).

7 The web appendix also examines moderation by another theoretically and practically relevant moderator, first person voice.

They also examine whether the effect extends beyond the particular website (i.e., Amazon) and dependent variable (i.e., helpfulness) examined in study 1.

Method

Study 2A uses music (i.e., CDs and vinyl) reviews from Amazon (He and McAuley 2016). Following study 1, we looked to extract at least 100,000 reviews containing both a review text and at least one helpfulness vote. We pulled an initial random sample of 250,000 and 164,435 reviews met the same analysis criteria used in study 1.

Study 2B uses consumer electronic (e.g., memory cards and printers) reviews from Amazon (He and McAuley 2016). Following prior studies, we pulled an initial random sample of 250,000 reviews, and 157,649 met the analysis criteria.

Study 2C uses restaurant reviews from Yelp.com (https://www.yelp.com/dataset; Last Accessed January 26, 2023). As in prior studies, we pulled an initial random sample of 250,000, and 103,659 reviews met the analysis criteria.

For all three studies, verb tense was extracted using the same method as study 1.

The dependent variable in studies 2A and 2B (i.e., helpfulness) was calculated using the approach from study 1. Yelp has consumers vote on how useful rather than how helpful a review is, so study 2C uses that measure. Yelp does not provide a count of "not useful" votes, so following prior work, we control for the total number of reviews (Chen and Lurie 2013; Zhu, Yin, and He 2014) to capture the fact that some restaurants get more attention than others (i.e., useful = yes votes/total number of reviews).

Each dataset was analyzed using the same approach as study 1.

Results

Across all three studies, product reviews that used more present tense had greater persuasive impact (i.e., were more helpful or useful).

In study 2A, music reviews that used more present tense were more helpful. This was true whether present tense is examined as a proportion of all sentences ($b = 0.13$, SE = 0.003, $t = 52.15$, $p < .001$) or by using a simple count ($b = 0.006$, SE = 0.0001, $t = 41.58$, $p < .001$).

In study 2B, electronics product reviews that used more present tense were also more helpful. This was true whether present tense is examined as a proportion of sentences ($b = 0.04$, SE = 0.003, $t = 16.49$, $p < .001$) or as a count ($b = 0.01$, SE = 0.0002, $t = 58.13$, $p < .001$).

Finally, in study 2C, restaurant reviews that used more present tense were more useful. This was true whether present tense is examined as a proportion of all sentences ($b = 0.008$, SE = 0.001, $t = 5.45$, $p < .001$) or using a count ($b = 0.002$, SE = 0.0002, $t = 15.99$, $p < .001$).

Across the three studies, results remained the same after including the full set of 55 fixed and tens of thousands of random effect controls used in study 1 when possible. See table 2 for standardized coefficient results for the proportion IV model with all controls and web appendix table W4 for the corresponding count IV with controls model results for studies 2A–2C.

Discussion

Across various categories (i.e., music, electronics, and restaurants), websites (i.e., Amazon and Yelp), and outcome variables (i.e., helpfulness or usefulness), studies 2A–2C find the same pattern of results: present tense boosts persuasive impact. Including a range of controls and Lasso penalization speaks to the robustness of the effect and casts doubt on alternative explanations.

STUDY 3: MANIPULATING TENSE AND TESTING THE UNDERLYING PROCESS

Study 3 has two main goals. First, while the results of the first four studies are consistent with our theorizing, one could wonder whether the results are truly causal. To more directly test this, study 3 manipulates tense and examines its effect on persuasion and consequential choice.

Second, we begin to test the hypothesized underlying process. We measure how certain observers thought the communicator was and test whether it mediates the effect.

Method

Participants ($N = 394$, MTurk) imagined receiving word of mouth information about a vacation destination and were randomly assigned to one of two between-subjects conditions. The only difference between conditions was whether the information used past [or present] tense: "That beach did [does] have a great atmosphere." See the web appendix for sample size and exclusion criteria for all experiments.

To measure persuasion, participants were asked "How much do you think you'll like this destination?" (1 = not at all, 7 = very much). To examine a consequential choice, participants were told that they would read a short article about a beach they could visit and asked to choose whether they wanted to read an article about "the beach described" or "a different beach."

Finally, to test the hypothesized underlying process (i.e., perceived certainty), we collected two measures adapted from prior work ("How certain is their opinion?" and "How confident is their opinion"; 1 = not at all, 7 = very much; $r = 0.67$; Karmarkar and Tormala 2010).

TABLE 2

PRESENT TENSE'S IMPACT ACROSS CATEGORIES (STUDIES 2A–2C)

	Study 2A (CDs/vinyl)		Study 2B (Electronics)		Study 2C (Restaurants)	
	Std. β	SE	Std. β	SE	Std. β	SE
Present tense (%)	**0.129**	**(0.003)*****	**0.009**	**(0.003)****	**0.010**	**(0.002)****
Controls						
Review Length	0.071	(0.000)***	0.112	(0.000)***	0.051	(0.000)***
Sentence Length	0.007	(0.000)**	0.002	(0.000)	0.004	(0.000)
Six Letter Words	0.040	(0.000)***	0.024	(0.000)***	0.002	(0.000)
Flesch Score	−0.002	(0.000)	−0.411	(0.000)***	−0.006	(0.000)
Fog Index	0.012	(0.000)	−0.382	(0.000)***	–	–
Concreteness	0.025	(0.000)***	0.016	(0.000)***	0.008	(0.000)^
Word Frequency	0.024	(0.028)***	0.039	(0.031***	−0.012	(0.020)**
Active Voice	−0.004	(0.007)**	0.005	(0.008)*	−0.005	(0.006)^
Rating	0.348	(0.001)***	0.265	(0.001)***	−0.028	(0.000)***
Age	−0.013	(0.000)***	−0.074	(0.000)***	0.022	(0.000)***
Affect	−0.012	(0.000)***	0.009	(0.001)	−0.006	(0.000)***
Social	0.002	(0.000)	−0.002	(0.000)	0.007	(0.000)^
Cognitive	–	–	−0.027	(0.000)***	−0.006	(0.000)^
Perceptual	0.007	(0.000)*	0.017	(0.000)***	–	–^
Biological	0.009	(0.001)*	−0.003	(0.001)	−0.018	(0.000)***
Drives	−0.007	(0.000)	−0.012	(0.000)***	−0.011	(0.000)**
Temporal	0.018	(0.000)***	0.030	(0.000)**	–	–
Informal	−0.016	(0.001)***	−0.011	(0.001)***	–	–
Swearing	−0.011	(0.002)***	−0.011	(0.002)**	−0.004	(0.001)
Exclamations	−0.019	(0.000)***	−0.031	(0.000)***	–	–
Questions	−0.017	(0.001)***	−0.033	(0.001)***	0.004	(0.001)
Certainty	0.000	(0.000)***	0.010	(0.001)**	−0.004	(0.000)
First Person	−0.047	(0.000)***	−0.030	(0.001)***	−0.003	(0.000)
Imperative	–	–	−0.001	(0.002)	0.004	(0.001)
Persuasive	0.008	(0.002)*	0.016	(0.002)***	−0.004	(0.001)
30 LDA topics	Included++		Included++		Included++	
Random effects						
Product N	12,334		13,240		17,626	
Reviewers N	37,331		–+		–+	
Intercept	0.000	(0.021)	0.000	(0.035)	0.000	(0.016)*
Total N	164,435		157,649		103,659	

+The electronics (study 2B) and restaurant (study 2C) models did not converge with reviewer random effects, likely due to the large number of unique reviewers ($N = 73{,}874$ and 70,667) in those datasets.

++See web appendix for the 30 LDA topic coefficients.

*$p < .05$.

**$p < .01$.

***$p < .001$.

^$p < .1$.

Results

As predicted, present tense made participants think that they would like the vacation destination more ($M_{Present} = 6.08$, SD = 1.00 vs. $M_{Past} = 5.83$, SD = 1.14; $F(1, 392) = 5.54$, $p = .019$, $\eta^2_p = 0.01$) and led them to choose to invest more time in learning about it (present = 86.9% vs. past = 79.1%, χ^2 (1, $N = 394$) = 4.23, $p = .040$, OR = 1.75).

In addition, as predicted, present tense also made the communicator seem more certain about the information shared ($r = 0.52$; $M_{Present} = 5.92$, SD = 0.88 vs. $M_{Past} = 5.60$, SD = 0.99; $F(1, 392) = 11.30$, $p < .001$, $\eta^2_p = 0.03$).

Finally, consistent with our theorizing, a bias-corrected mediation model (PROCESS model 4; Hayes 2018) found that perceived certainty mediated the effect of tense on liking (indirect effect = 0.08, SE = 0.02, 95% CI [0.03, 0.12]) and choice (indirect effect = 0.04, SE = 0.03, 93% CI [0.001, 0.10]); PROCESS model 4; Hayes 2018). Using present tense increased perceived certainty ($b = 0.16$, $t = 3.36$, $p < .001$), which increased anticipated liking ($b = 0.48$, $t = 9.22$, $p < .001$) and choice (logit $b = 0.28$, $Z = 2.06$, $p = .039$). After accounting for this indirect effect through certainty, the direct effect of present tense on liking (direct effect = 0.050, SE = 0.05, 95% CI [−0.05, 0.15]) and choice (direct effect = 0.24,

SE = 0.139, $Z = 1.69$, $p = .090$) fell to non-significance, suggesting full mediation (Zhao, Lynch, and Chen 2010).

Discussion

Study 3 underscores the results observed in the field and provides evidence for the underlying driver behind the effect. First, experimentally manipulating verb tense provides direct causal evidence of its impact. Shifting language from past to present tense led people to think that they would like a vacation destination more and made them choose to learn more about it.

Second, the results shed light on the underlying process behind the effect. Consistent with our theorizing, present tense increased persuasion because it made communicators seem more certain about what they said. This, in turn, made listeners think that they were more likely to feel similarly and want to learn more.

Study 3B. An additional study (web appendix) provides further evidence of the causal effect of present tense on persuasion in a different category, demonstrates that the effects extend to perceived helpfulness, underscores the hypothesized underlying process, and tests potential alternative explanations.

STUDY 4: PROCESS THROUGH MODERATION

Study 4 further tests the hypothesized process through moderation. If present tense boosts persuasion because it makes communicators seem more certain about the information they are sharing, as we suggest, then providing another certainty cue should mitigate the effect. Said another way, if a communicator already seems certain, then tense should have less of an effect on persuasion. To test this possibility, in addition to manipulating tense, we manipulate the presence of an alternate certainty cue to see whether it moderates the effect (i.e., moderation of process; Spencer et al. 2005).

Method

Participants ($N = 359$; MTurk) were randomly assigned to condition in a 2 (tense: past vs. present) × 2 (certainty: baseline vs. cued) between-subjects design. To manipulate tense, participants read a sentence someone said about a book. The only difference between conditions was whether it was in past [or present] tense (i.e., "The plot was [is] interesting.").

In addition, to boost certainty, for half the participants (i.e., certainty cue condition) we added the word "definitely," so it read "The plot definitely was [is] interesting." This approach is comparable to the explicit certainty cues used in prior research (Karmarkar and Tormala 2010). Supporting the manipulation's effectiveness, participants in the certainty cue conditions thought that the source seemed more certain about what they said *(*"How certain are they about their opinion?" and "How confident are they about their opinion?," 1 = not at all, 7 = very much; $r = 0.71$; $M_{cued} = 5.46$, SD = 1.19 vs. $M_{baseline} = 5.21$, SD = 1.15; $F(1, 355) = 4.01$, $p = .046$).

After reading the information about the book, participants were asked how much they thought that they would like the book (dependent variable) using the same measures as study 3.

Results

In addition to simple effects of tense *(*$F(1, 355) = 5.57$, $p = .012$) and certainty *(*$F(1, 355) = 5.35$, $p = .021$), omnibus ANOVA revealed the predicted tense × certainty interaction on anticipated liking *(*$F(1, 355) = 6.32$, $p = .012$). In the baseline condition, consistent with our prior studies, using present tense boosted persuasion ($M_{Present} = 5.54$, SD = 0.88 vs. $M_{Past} = 5.02$, SD = 1.10; $F(1, 355) = 12.05$, $p < .001$, $\eta^2_p = 0.07$). Consistent with the hypothesized underlying role of certainty, however, this difference disappeared when another certainty cue was already present ($M_{Present} = 5.52$, SD = 1.17 vs. $M_{Past} = 5.54$, SD = 0.88; $F(1, 355) = 0.01$, $p = .914$, $\eta^2_p = 0.00$; figure 1).

Discussion

Study 4 further underscores perceived certainty's role in driving the observed effects. While using present tense made people think they would be more likely to enjoy a book, consistent with the notion that these effects are driven by certainty, boosting certainty using more overt means mitigated the effect. Saying a book was "definitely" interesting made observers feel that the communicator was already more certain about what they said, which reduced tense's impact.

Study 4B. An additional study (web appendix) provides further evidence of the causal effect of present tense on persuasion, examines a conceptual moderator, and replicates mediation by perceived certainty.

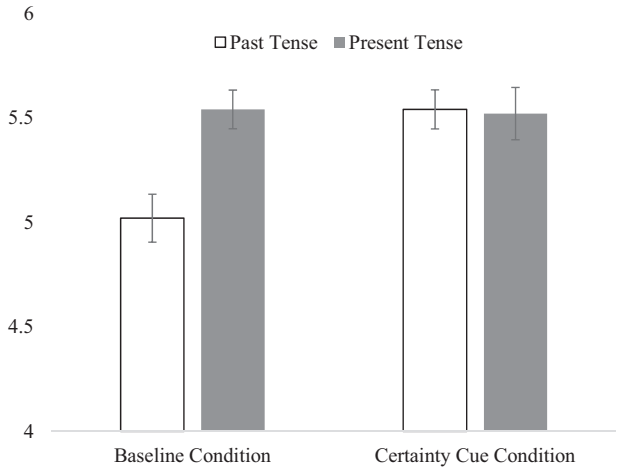
GENERAL DISCUSSION

Language is an integral part of consumer behavior and marketing. Consistent with its importance, much prior work has examined the impact of the words used in word of mouth, advertising, and other communication settings (Packard and Berger forthcoming). But while this work has provided important insights, less is known about how a basic, fundamental feature of language—verb tense—might shape communication's impact.

Eight studies begin to shed light on this question. First, field data and controlled experiments reveal that present

FIGURE 1

CERTAINTY CUE MODERATES THE EFFECT OF TENSE ON PERSUASION



NOTE.—Error bars are standard errors of the mean.

tense increases impact: it makes reviews seem more helpful and useful and makes information more persuasive. This was true regardless of whether the product talked about is more utilitarian (study 1) or hedonic (e.g., studies 2A, 2C, and 3) and consumed a small number of times (studies 1, 3, 3B, and 4B) or more regularly (studies 2A and 2C). It was also true whether the information shared was positive or negative (studies 1, 2A, 2B, and 2C)[8] and whether it was about a product (studies 1, 2A, 2B, 3B, and 4) or service (studies 2C, 3, and 4B). Results sustained over both naturally occurring (studies 1, 2A, 2B, and 2C) and experimentally manipulated variation in verbs (studies 3–4B). The persistence of the effect across such varied contexts speaks to its generalizability.

Second, using both mediation (studies 3 and 3B) and moderation (studies 4 and 4B), the studies highlight the role of perceived certainty in driving these effects. While most consumer information sharing is about past experiences (i.e., investigating, trying, or buying a product or service) using present tense to describe that experience can suggest greater conviction or certainty about what is shared. This increased perceived certainty, in turn, increased persuasion. Ancillary analyses cast doubt on alternative explanations based on currency or memory (study 3B). Furthermore, while the effect could be multiply determined, the fact that perceived certainty fully mediated the effect (studies 3, 3B, and 4B) suggests that at least for the stimuli used here, perceived certainty seems to be the primary driver.

Implications and Directions for Future Work

These results have some important implications. When communicating with others, people often have a choice about whether to use past or present tense. Whether they read a book for 5 minutes or 5 years ago, for example, they can say that it "*had* some real laughs" or "*has* some real laughs." While our field studies suggest that both types of statements are prevalent, merely shifting to present tense can increase communication's persuasive effect.

This should be useful to a range of communicators. Automobile manufacturers, for example, might benefit from advertising that their car "is" rather than "was voted" *Motor Trend's* Car of the Year. Similarly, doctors might encourage medical adherence by telling patients a treatment "has" rather than "had" a 90% success rate.

On the flip side, consumers may benefit from knowing that verb tense can subtly shift their perceptions. To temper this potential influence, consumers might be encouraged to consider other sources of information like body language, paralanguage, or vocal cues to infer certainty (Luangrath, Peck, and Barger 2017; Van Zant and Berger 2020).

Future work might examine whether present tense shapes the persuasiveness of firm communications. While we focused on word of mouth, the robustness of the effect in simple, experimental stimuli suggests that tense could be consequential in advertising, public relations, sales and service interactions, social media, and other marketing communications. As in word of mouth, ads commonly include people describing their experiences, whether in fictional slice-of-life interactions among actors, or by endorsers speaking directly to the audience. Retail salespeople can similarly describe their own experiences when trying to inform a customer. All these marketing spokespeople might enhance how certain and persuasive they seem by using more present tense.

Whether consumers accept or reject the perceived certainty that arises from present tense may hinge on whether this subtle language shift activates consumer's persuasion knowledge (Friestad and Wright 1994). This seems unlikely, but reactance could potentially arise if communicators seem too certain or overconfident. While our experimental results suggest that certainty fully mediates the effect, future research could examine contexts in which other features of tense might play a role (e.g., temporal factors). Tense's effect might also be moderated by the communication goal. Whether the communicator is trying to encourage consumers to act today or in the future might shape tense's persuasive effect.

8 We also experimentally tested present (vs. past) tense's effect in negative word of mouth using a version of the study 4 stimuli ("The plot wasn't [isn't] interesting"). As predicted, present rather than past tense led participants ($N = 203$, mTurk) to think that they would like the book less ($M_{Present} = 3.60$, SD = 1.80 vs. $M_{Past} = 4.41$, SD = 1.76; $F(1, 201) = 10.43$, $p < .001$, $\eta^2_p = 0.05$), revealing that present tense boosts persuasion even for negative information.

More broadly, verbs offer a rich area for future research. While a few papers have examined particular pairs of different verbs (e.g., can't vs. don't, or could vs. should; Patrick and Hagtvedt 2012; Zhang et al. 2018), there has been less attention to things like tense, or the impact of different grammatical types or forms of verbs.

Considering these various forms and types might be useful in trying to make sense of the over 25,000 different English verbs (Simpson and Weiner 1989). Verbs can be active or stative, for example, either describing actions (e.g., working, eating) or states of being (e.g., "She is hungry"). Verbs can also be transitive or intransitive, either taking a direct object (e.g., "She ate lunch") or not (e.g., "She ate"). Furthermore, auxiliaries (including modals) are a special type of verb that often add nuance to other verbs, describing whether a verb (say "*eat*") is an ability, a possibility, or a suggested obligation (e.g., "She *can*, *could*, or *should* eat lunch").

One possibility is that compared to when an object is mentioned (e.g., "The radio was playing. He listened to a jazz tune."), intransitive verbs without an object (e.g., "The radio was playing a jazz tune. He listened.") encourage audiences to attribute the verb's action more strongly to the subject ("He") than the object (the "jazz tune"). This idea is consistent with work on how different parts of speech can shape attribution (Carnaghi et al. 2008; Schellekens, Verlegh, and Smidts 2012).

Future research could also consider whether continuous verb forms (i.e., those that end in "-ing," like "enjoying") have a different effect than their simple tense counterparts ("enjoy" or "enjoyed"). While simple present tense ("I enjoy Paris") should be more persuasive than simple past ("I enjoyed Paris"), the present continuous form ("I'm enjoying Paris") may perform more like the past tense because it spotlights a specific, idiosyncratic experience (Bazin 2012) rather than something that seems true over time.

Auxiliary verbs' role in coloring the subject's ability or motivation (e.g., "She *could [would]* invest more") could also be examined in terms of the inferences they generate. "She could" might suggest ability but a lack of motivation, while "She would" signals motivation but some constraint on ability. Hopefully, future research will explore these and other possibilities in greater detail, but to begin to inform how different verb types might shape the relationship between tense and audience perception and persuasion, we present an ancillary analysis of high-frequency verbs using the study 1 data in the web appendix.

Finally, while we focused on the consequences of verb tense, future research might also examine when communicators tend to use past or present tense and why. Time likely plays a role. When knowing time is particularly important, people may carefully choose tense to communicate when something is happening (e.g., asking whether a store *does* or *did* have a 50% off sale). When talking about many goods and services, however, past and present are more interchangeable. Whether someone watched a movie last night or last year, they can say it "has" or "had" some funny scenes because the movie itself probably has not changed. Consequently, people might be more likely to use past tense if they think something changed since they experienced it. This could be particularly likely to occur for services, where frontline employees may introduce more inconsistency in the consumer experience. Consistent with this notion, among our four field data sets, past tense was used more for restaurants (which might change) than products (which are less likely to change, see web appendix table W2).

Future work could also examine whether tense is used strategically or varies based on the communication mode (i.e., speaking or writing), specific language used, and the communicator's cultural relationship or capability with a language (e.g., English vs. Hindi vs. English-Hindi bilinguals). Some languages have two tenses (e.g., English and Japanese), some have more than two (e.g., Irish and Turkish), and others have no tense at all (e.g., Mandarin and Thai). A comparative study of how different languages use tense, verb aspect, and context to describe opinions and experiences could shed light on how such variations shape persuasion.

While we focused on past and present tense, work might also examine the impact of expressions about the future.[9] As noted earlier, almost all content in our setting involved past or present tense (e.g., 92.3% in study 1), but when people do make expressions about the future, how might phrases like "the plot will be interesting," for example, or "I'm excited to go to this restaurant" influence helpfulness, usefulness, or persuasion?

Preliminary analyses of the study 1 field data show little evidence of a consistent effect of expressions about the future. When we analyzed the relationship between these sentences and helpfulness, the results were inconsistent in significance and sign (proportion with no controls $b = -0.11$, $t = -19.43$, $p < .001$; count with no controls $b = -0.01$, $t = 25.52$, $p < .001$; proportion with controls $b = -0.008$, $t = -1.18$, $p = .238$; count with controls $b = 0.003$, $t = 2.31$, $p = .021$).

It is also worth noting that expressions about the future play a fundamentally different communicative role. While utterances about the past or present share existing beliefs, attitudes, or experiences, expressions about the future necessarily involve prediction (Enc 1996; Lyons 1977), often about other's future experiences or behavior (e.g., "You will like this book"). Even predicting one's own attitudes (e.g., "I will like this book") serves a different function,

9 We use the phrase "expressions about the future" because the English language does not have future tense verbs, and many argue that it has no future tense (e.g., Celle 2004; Curme 1913; Huddleston 1995; Sarkar 1998).

indicating that someone has not experienced something yet. As a result, while past and present tense statements can involve the same communicative context and semantic motivation (i.e., describing one's own existing beliefs, attitudes, or experiences), expressions about the future are a different animal.

Statements like "the plot will be interesting" could make communicators seem more certain because it suggests that they are confident enough to make predictions about the future. On the other hand, present tense (i.e., "the plot is interesting") could be even better if it suggests things that could be relevant to future events without identifying them as predictions, while expressions about the future might draw attention to the fact that communicators do not necessarily know what will happen. Said another way, expressions about the future may simultaneously suggest that the speaker is confident but could also be wrong. Consequently, it is not clear whether, or how, expressions about the future will shape persuasion. Deeper examination, however, and future advances in NLP classification in computer science, may potentially shed light on this topic.[10]

Conclusion

In conclusion, while communication almost always involves a verb, there has been little attention to how tense might impact the communication's audience. Eight studies, looking across the lab and field, demonstrate that present tense increases helpfulness, usefulness, and persuasion, and does so because it makes communicators seem more certain. The work helps shed light on how language shapes consumer behavior and the subtle role of verb tense in persuasion.

DATA COLLECTION INFORMATION

The field data for study 1 were collected in fall 2020 by a research assistant, supervised by the second author. The field data for studies 2A–2C were collected during winter 2021 by the same research assistant. As indicated in the article, these data were collected from https://jmcauley.ucsd.edu/data/amazon/ (Last Accessed January 26, 2023). The data for studies 3 and 4 were collected by the first author in winter 2021 and spring 2022, respectively. Studies 3B and 4B were conducted by the first author in winter 2022. Studies 3, 3B, and 4 were conducted on Amazon Mechanical Turk. Study 4B was collected from a student course credit panel. All data analyses were conducted by the first author. The field data control measures were developed by the first author and the third author. The data are currently stored in a project directory on the Open Science Framework website.

10 See the web appendix for further opportunities and challenges in studying expressions about the future.

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