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Marketing Ideas: How to Write Research Articles that Readers Understand and Cite

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Abstract

Academia is a marketplace of ideas. Just as firms market their products with packaging and advertising, scholars market their ideas with writing. Even the best ideas will make an impact only if others understand and build on them. Why, then, is academic writing often difficult to understand? In two experiments and a text analysis of 1,640 articles in premier marketing journals, this research shows that scholars write unclearly in part because they forget that they know more about their research than readers, a phenomenon called "the curse of knowledge." Knowledge, or familiarity with one's own research, exacerbates three practices that make academic writing difficult to understand: abstraction, technical language, and passive writing. When marketing scholars know more about a research project, they use more abstract, technical, and passive writing to describe it. Articles with more abstract, technical, and passive writing are harder for readers to understand and are less likely to be cited. The authors call for scholars to overcome the curse of knowledge and provide two tools—a website (writingclaritycalculator.com) and a tutorial—to help them recognize and repair unclear writing so they can write articles that are more likely to make an impact.

Keywords

citations, methods, readability, relevance, text analysis, writing

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Some articles are easy to understand. Professors, doctoral students, and practitioners alike effortlessly absorb and remember the ideas. Other articles befuddle anyone who is not already familiar with the research. Consider two hypothetical titles that would not be out of place in a premier marketing journal.

Title 1: "The Interactive Effects of Ideological Orientation and Corporate Sociopolitical Activism on Owned Media Engagement"

Title 2: "How Liberal and Conservative Consumers Respond When Brands Post Polarizing Messages on Social Media"

The titles describe the same research but use different writing styles. Consequently, most readers have an easier time understanding Title 2. Why is Title 1 less clear than Title 2? Why do scholars tend to write using the unclear style in Title 1? Which article is more likely to succeed in the academic marketplace?

Academic journals provide a marketplace of ideas (Moorman et al. 2019). Successful ideas spread. Scholars cite them. Managers implement them. They change scholarly discourse, policy decisions, and industries (Deighton, Mela, and Moorman 2021). Yet editors (e.g., Frazier 2011; Grewal 2017; Moorman et al. 2019), presidents (e.g., Campbell 2017; Mick 2006; Pham 2013), and fellows (e.g., Lutz 2018; Wells 1993) worry that the research published in top marketing journals has little influence on marketers, policy makers, consumers, or even other scholars. A conservative measure of impact is whether an article gets cited. Even by this metric, few are succeeding. Pham (2013, p. 412) states, "The vast majority of the research that gets published, even in our top journals—perhaps 70% of it—hardly has any measurable scholarly impact in terms of citations."

Why do many articles make little impact? One reason is because their writing is unclear. Readers who are not already familiar with the research struggle to understand it. And when readers do not understand an article, they are unlikely to read it, much less cite it.

We argue that knowledge, although vital, makes researchers less likely to write clearly about their research. Conducting good research requires authors to know a lot about their work.

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It takes years to create research that meaningfully advances scientific knowledge. Consequently, academic articles are written by authors who are intimately familiar with their topic, methods, and results. Authors, however, often forget that potential readers (e.g., doctoral students, scholars in other subdisciplines) are less familiar with the research, a phenomenon called "the curse of knowledge" (Heath and Heath 2007; Pinker 2014). The curse of knowledge prevents authors from recognizing when their writing is too abstract, technical, or passive. And, as we will show, abstraction, technical language, and passive writing make articles less clear and less likely to be cited. If unchecked, knowledge can thus prevent scholars from writing articles that make an impact.

We build our argument as follows. First, we review the research on how writing influences scholarly impact and suggest why this work has found inconsistent results. We next hypothesize that familiarity with their own research can lead scholars to overuse abstract, technical, and passive writing, practices that make research articles more difficult to understand and less likely to make an impact. We then describe three studies that document each step in our hypothesized process: (1) scholars are less likely to understand articles that use more abstract, technical, and passive writing; (2) scholars are less likely to cite articles that are more difficult to understand; and (3) scholars are less likely to recognize that their writing is unclear, and more likely to write unclearly, when they know more about the research project.

We contribute to research practice by revealing why researchers write unclearly, how they can write more clearly, and that clear writing can help them make a larger impact. Specifically, we show that knowledge increases the use of three practices (abstraction, technical language, and passive writing) that muddle scholarly writing and limit its impact. We provide scholars with two tools (Web Appendices A and B) to help them recognize and repair unclear writing. We also contribute to the literature on academic writing by highlighting the difference between writing clarity and readability. Previous research has attempted to assess the effect of an article's readability by measuring the average length of its sentences and words (e.g., Sawyer, Laran, and Xu 2008; Stremersch et al. 2015; Stremersch, Verniers, and Verhoef 2007). Yet this work has produced mixed results, including a pair of studies that show that articles with higher readability scores are cited less often (Stremersch et al. 2015; Stremersch, Verniers, and Verhoef 2007). In contrast, we show that clarity—which we conceptualize as a function of abstraction, technical language, and passive writing—is distinct from readability and better predicts which articles scholars understand and cite. Thus, if scholars want to make an impact, they should limit abstract, technical, and passive writing rather than worry about the length of their words and sentences.

Communicating Scientific Ideas

Articles succeed in the marketplace of ideas when they influence other scholars or practitioners—ideally, both (Lutz 2018; MacInnis et al. 2020; Moorman et al. 2019). It is difficult to measure an article's influence on practice, but researchers can measure scholarly impact by counting citations (e.g., Bettencourt and Houston 2001; Hartley, Sotto, and Pennebaker 2002). On average, articles have a larger impact when they offer relevant, high-quality ideas and when they are published by an established author or in a prestigious journal (Haslam and Koval 2010; Stremersch et al. 2015; Stremersch, Verniers, and Verhoef 2007). But the literature suggests that the impact of an article may also depend on its writing[1] (Huber 2008; Judge et al. 2007; Peracchio and Escalas 2008; Stremersch, Verniers, and Verhoef 2007).

To be influenced by an idea, scholars need to understand it. Yet academic writing is not easy to understand (Crosier 2004; Gazni 2011; Holbrook 1986; Metoyer-Duran 1993). For example, Sawyer, Laran, and Xu (2008) note that the *Journal of Marketing* and *Journal of Consumer Research* are tougher to understand than *PC World* and the *New York Times*. However, academic journals and popular press outlets target different readers. Academic writing being unclear to the average *New York Times* reader may not be a problem, so long as scholars can understand it. Unfortunately, many do not: 87% of the marketing professors who completed our first study reported that they sometimes or often do not understand articles published within their research area. The fact that scholars struggle to understand articles within their own field suggests that unclear writing could be limiting the impact of academic research.

Researchers have attempted to study how writing influences impact by correlating the number of times an article is cited with its "readability," and they have measured readability by assuming that articles with longer words and sentences are more difficult to read (e.g., fog index, Flesch score; Armstrong 1980; Crosier 2004; Gunning 1952; Metoyer-Duran 1993). Do articles with higher readability scores have a larger impact? The answer is unclear. Three studies report that articles with more readable writing are *less likely* to be cited (Stremersch et al. 2015; Stremersch, Verniers, and Verhoef 2007; Van Wesel, Wyatt, and Ten Haaf 2014). Other studies, however, report no relationship between readability and citations (Didegah and Thelwall 2013; Lei and Yan 2016) or that articles with a higher readability score are *more likely* to earn acclaim (Hartley, Sotto, and Pennebaker 2002; Oliver, Dallas, and Eckman 1998; Sawyer, Laran, and Xu 2008).

We believe that research on readability cannot tell us whether writing clarity reliably influences an article's scholarly impact because readability provides only a rough proxy of how

[1] Stremersch et al. (2015) and Stremersch, Verniers, and Verhoef (2007) identify three types of factors that potentially influence the number of times it is cited: (1) the importance and relevance of the research (universalist factors); (2) the prestige of the authors and their social connections (social constructivist factors); and (3) title length, attention-grabbers, equations, tables, figures, and writing (presentational factors). Because our research focuses on writing, but not other presentational factors, we discuss writing as its own category alongside universalist, social constructivist, and other presentational factors.

easy an article is to understand (Benjamin 2012; Klare 2000). Sentence and word length may indicate whether an article is readable (i.e., easy to read) but not whether it is clear (i.e., easy to understand). Although long sentences are less readable, readers often better understand ideas that are connected in a single longer sentence rather than split into two shorter sentences (Clark 2008). Conversely, writers can make sentences shorter—and thus more readable—without making them clearer. "A transaction transpired" is shorter than "Person A purchased product X from company Z," which in turn is shorter than "Homer bought a 4K Ultra High-Definition television from Best Buy." Readers can better understand Homer buying a high-def TV than a transaction transpiring, yet the shorter sentence is more readable.

We hypothesize that unclear writing is limiting the impact of scholarly research, yet readability measures are ill-equipped to identify this problem, let alone diagnose its underlying cause. If long words and sentences do not lead to unclear writing, then what does? We argue that scholars possess an asset that, when communicating their ideas, can become a curse: knowledge. As scholars become more knowledgeable about their own research, they have a harder time imagining what it is like to be a reader who is unfamiliar with it. This "curse of knowledge" prevents scholars from detecting when their writing is unclear.

The Curse of Knowledge

Scholars spend years learning about their research area, honing their hypotheses, running their studies, and analyzing their results. They know a lot about their research. Once people know something, it is difficult for them to imagine what it is like to not know it (Fischhoff and Beyth 1975; Roese and Vohs 2012). People use their own knowledge as a starting point when estimating what others know and often fail to account for the fact that others might not have access to the same information (Camerer, Loewenstein, and Weber 1989; Kelley and Jacoby 1996). For example, students who know that Napoleon was born in Corsica assume that a higher percentage of other students also know this fact (Nickerson, Baddeley, and Freeman 1987).

The tendency to assume that others know what you know creates a curse of knowledge (Camerer, Loewenstein, and Weber 1989; Heath and Heath 2007; Pinker 2014). Because researchers understand their theory, methods, and analyses, they tend to overestimate what their readers will understand. For example, after proposing that laughter is caused by "incongruity of knowledge from perception and abstract knowledge," Schopenhauer (1969, pp. 58–59) writes, "I shall not pause here to relate anecdotes as examples of this, for the purpose of illustrating my explanation; for this is so simple and easy to understand that it does not require them."

The curse of knowledge can prevent even all-star scholars like Schopenhauer from realizing when they are writing unclearly. When mixed with other motives, knowledge can create a cocktail of impenetrable prose. Knowledge, combined with length restrictions and the desire to articulate a theoretical contribution, leads to abstract writing (Kelley and Jacoby 1996; Trope 2004). Knowledge, combined with a desire to signal competence, leads to technical writing (Armstrong 1980; Brown, Anicich, and Galinsky 2020). Finally, knowledge, combined with a desire to present research as being objective and general, leads to passive writing (Cornelis 1997). Because scholars know a lot about their own work, it is difficult for them to recognize when abstraction, technical language, and passive writing are likely to confuse readers.

Abstraction

Abstraction refers to the process of thinking about tangible objects or activities as part of a broader, intangible category (Rosch 1999; Spiggle 1994; Trope and Liberman 2010). Scholars write about abstract concepts, such as brand experience, satisfaction, postpurchase behavior, or, in Schopenhauer's case, the incongruity of knowledge from perception. Concrete concepts, in contrast, are things that we can see, feel, taste, smell, and hear, such as a brick building, a grease fire, or a puddle of melted ice cream. At a restaurant, customers can smell the caramelized onions, taste the flank steak, and feel the broken spring poking their leg through the seat cushion. They can feel a wet burning sensation if the waiter spills coffee on their lap and hear his half-hearted apology as they begin to thumb-type a one-star review into the Yelp app on their iPhone. This negative dining experience may have left the customers feeling dissatisfied, but they cannot hold a "negative experience" in their hand, nor can they pick up "dissatisfaction" and eat it, because these concepts are abstract.

As people learn more about something, they naturally begin to think about it more abstractly (Alba and Hutchinson 1987; Pinker 2014). Seasoned researchers see "service failures" rather than long lines and spilled coffee. They think "negative word of mouth" when a customer writes a one-star review or tweets about finding a fingernail in their chowder. Researchers need to write about abstract constructs to advance theory. Readers, however, will not understand the meaning of service failures, postpurchase behaviors, or other abstractions unless (1) they have previously mapped these abstract concepts onto concrete actions and sensations, or (2) the writing provides examples to help them do this (Pinker 2014). Not only are readers less able to understand abstract writing, they are also less likely to remember it (Begg 1972; Sadoski, Goetz, and Rodriguez 2000). After reading excerpts as part of an experiment, participants were more likely to recall concrete phrases (e.g., "rusty engine") and sentences (e.g., "when an airplane blasts down the runway and passengers lurch backward in their seats") than abstract phrases (e.g., "subtle fault") and sentences (e.g., "moving air will push up against a surface placed at an angle to the airflow"; Begg 1972).

Because of the curse of knowledge, however, it is easy for writers to forget that readers will struggle to connect abstract ideas to the actions and sensations that give them meaning. Consequently, as people become more knowledgeable about something, they often become worse at explaining it (Hinds,

Patterson, and Pfeffer 2001). For example, an experiment by Hinds, Patterson, and Pfeffer (2001) asked one group of participants (teachers) to explain how an electronic circuit works to another group of participants (students). Students made three times more mistakes and took 50% longer when guided by teachers with advanced training in electronics than when guided by teachers with less training. This occurred because the more knowledgeable teachers gave abstract instructions (e.g., "close the circuit"), but students better understood concrete instructions (e.g., "place the tip of the wire into the connector").

In summary, one reason why academic articles are difficult to understand is because they are abstract. Authors, who long ago made the journey from concrete (e.g., spilled coffee, one-star Yelp reviews) to abstract (e.g., customer service failure, postpurchase behaviors), forget that their readers were not along for the ride. As a result, authors often fail to ground their ideas with concrete examples, leaving readers stranded in the ether. We thus predict that scholars will be less likely to understand and cite articles that use more abstract writing.

Technical Language

Familiarity with a research topic not only causes scholars to think abstractly, it also unlocks a trove of technical vocabulary (i.e., jargon) that they can use to describe their research. Researchers instinctively use technical language, and they are especially likely to do so when they want to impress readers (Armstrong 1980; Brown, Anicich, and Galinsky 2020). However, technical language makes writing harder to understand. Technical language refers to words and phrases that are used by a particular profession or group but not by everyone else. Researchers develop technical terms so they do not need to repeat a longwinded phrase each time they refer to something (Pinker 2014). For example, "incongruity" is faster than writing "things that don't fit together," just as "marketization" uses fewer words than writing "when a country transitions from a planned economy to a market economy."

As researchers become more familiar with their research topic, they naturally begin to wield a more technical vocabulary. Instead of writing "People use what they see, hear, taste, smell, and feel to understand the world," they write sentences like "Abstract rational knowledge is the reflex of the representation from perception" (Schopenhauer 1969, p. 58). Researchers need to use technical language, but they also need to calibrate it to their target audience; otherwise, technical language will limit the number of readers who understand the research (Pinker 2014). The sentence "the ANOVA confirmed that we operationalized our manipulations sufficiently" will make sense to experimenters, but it might lose ethnographers, econometricians, and managers. Likewise, the sentence "Assemblage theory provides a bottom-up framework for analyzing social complexity by emphasizing fluidity, exchangeability, and multiple functionalities" (https://en.wikipedia.org/wiki/Assemblage_theory) will confuse anyone who is not already familiar with assemblage theory.

Because of the curse of knowledge, researchers tend to overestimate the amount of technical language that their readers will understand. Even when readers understand technical language, they need to work harder to process it, which leaves them less able to comprehend, remember, and think about the researchers' focal idea (Alba and Hutchinson 1987; Oppenheimer 2006). Furthermore, rather than making the researcher sound smarter, using technical language in place of simpler words can cause readers to doubt the researcher's intelligence. Stanford University students who read essays with technical words (e.g., "institutional," "development") understood less of the essay and thought the writer was less intelligent than students who read essays with simpler language (e.g., "social," "advance"; Oppenheimer 2006).

In summary, a second reason why academic writing is unclear is because researchers overuse technical language. We predict that scholars will be less likely to understand and cite articles that use technical compared with colloquial writing.

Passive Writing

Consider the following description of an experiment: "A press release was read about a new product with emphasis placed on quality. They were then given notification of the release date." Does "quality" refer to the quality of the product or press release? What about "notification of the release date"? Did the press release or the experimenters emphasize its quality? Who or what told participants about the release date? The authors of this fictional methods section know the answer to all of these questions. Yet, just as familiarity with their theory can cause authors to overuse abstract and technical language, familiarity with their methods can enable a third practice that makes academic writing unclear: passive writing.

We use the term "passive" to describe writing that obscures who is doing something or what is being done. Most sentences include some person, place, or thing (i.e., an actor) performing an action, but writers can hide these actors and actions through passive writing. For example, the sentence "An exclusion manipulation was administered" identifies neither who administered the manipulation nor whom the manipulation was administered to. Moreover, the words "exclusion" and "manipulation" obscure actions by disguising verbs, "exclude" and "manipulate," as nouns. Active writing, conversely, clearly names the actors and the actions they perform: "The experimenter manipulated whether the participants felt excluded."

One form of passive writing that is familiar to most academics is passive voice. Whereas active voice begins by naming the actor that performs the action (e.g., "*the experimenter* conducted research," or "*people* know things"), passive voice demotes the actor to a supporting role (e.g., "research was conducted by *the experimenter*," or "it is known by *people*") or eliminates the actor altogether (e.g., "research was conducted," or "it is known"; Bostian 1983). Writers can use passive voice to hide the actors in their sentences. "It was

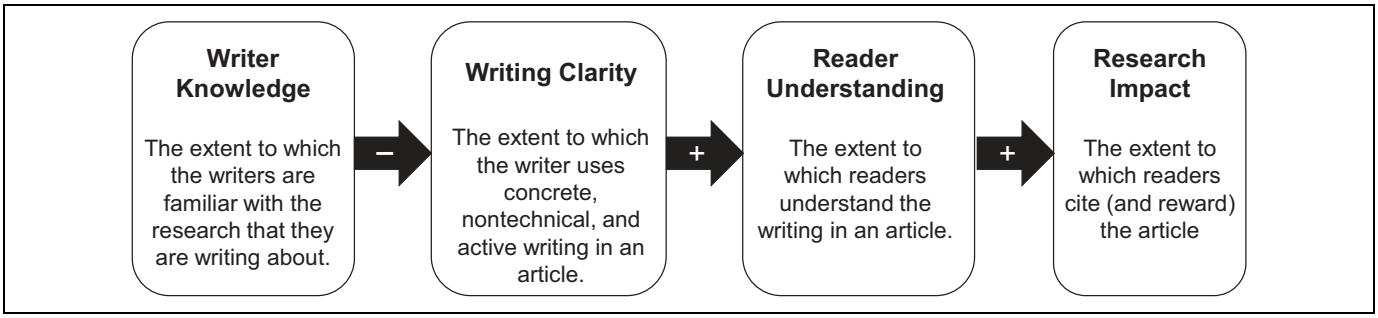

Figure 1. Conceptual model and predictions.

hypothesized," for example, obscures who did the hypothesizing.

Passive voice is not the only way that writers can hide the actors and actions in their sentences. The sentence "Abstract rational knowledge is the reflex of the representation from perception" (Schopenhauer 1969, p. 58) uses active voice but does not reveal who or what is knowing, representing, or perceiving. Similarly, an author who writes "We study the effects of corporate sociopolitical activism on owned media engagement" obscures that she is studying how *consumers respond* when *businesses post* political messages online.

Research suggests that readers are less likely to understand passive writing (Bostian 1983; Coleman and Blumenfeld 1963; Slobin 1966). Bostian and Thering (1987), for example, created two versions of an essay. One version used active writing (e.g., "Researchers conclude that adding sulfur . . . "); the other used passive writing (e.g., "The conclusion of researchers is that the addition of sulfur . . . "). Participants read the active version faster and remembered it better.

In summary, a third reason why academic writing is difficult to understand is because it is too passive. We predict that scholars will be less likely to understand and cite articles that use more passive writing.

Method Overview

We conducted three studies designed to answer the following questions. (1) Do scholars understand less of academic articles that use more abstract, technical, and passive writing? We examined this question in Study 1 by asking marketing professors to read and evaluate an excerpt from an article with a high, average, or low amount of abstract, technical, and passive writing. (2) Do articles that are easier to understand have a larger impact than articles with unclear writing? We examined this question in Study 2 by analyzing the relationship between writing clarity, readability, and citations in articles published in the *Journal of Marketing* (*JM*), *Journal of Marketing Research* (*JMR*), and *Journal of Consumer Research* (*JCR*). (3) Does knowledge (i.e., familiarity with their own work) prevent researchers from realizing that their writing will be difficult for readers to understand? We examined this question in Study 3 by testing whether PhD students are less likely to detect unclear writing when they describe their own research compared with when they describe a colleague's research. Figure 1 illustrates our conceptual model and predictions. Note that we begin by testing the effect of writing practices on reader understanding (Study 1) and research impact (Study 2) before directly testing the hypothesis that knowledge enables unclear writing (Study 3).

Article Sample

To test whether articles with abstract, technical, and passive writing are more difficult to understand and less likely to make an impact, we analyzed the text of 1,640 articles published in *JM*, *JMR*, and *JCR* between 2000 and 2010.[2] We used 2010 as a cutoff to allow a minimum of ten years for the audience to read, learn from, and cite the articles. The sample included 428 articles from *JM*, 562 articles from *JMR*, and 650 articles from *JCR*. Similar to previous research, we measured the readability of each article. In addition, we attempted to measure three practices that readability indices do not capture but that we predict will make academic writing unclear: abstraction, technical language, and passive writing.

Measuring Abstraction

Recall that abstraction refers to thinking about tangible objects or activities as part of a broader, intangible category (Rosch 1999; Spiggle 1994; Trope and Liberman 2010). Writing that uses concrete words and more examples is less abstract. We therefore operationalized abstraction by measuring (1) the extent to which the words in the article were concrete and (2) the number of examples the article uses per page.

To calculate the extent to which each word in the article was concrete or abstract, we used an established list of concreteness ratings by Brysbaert, Warriner, and Kuperman (2014). These authors measured the concreteness of 39,954 English words and two-word phrases (e.g., "zoom in," "pin up") by asking 4,000 Amazon Mechanical Turk respondents to rate a subset of words on a five-point scale from "abstract" (coded as 1) to "concrete" (coded as 5). For example, the word "logo" received

[2] We did not collect data from *Marketing Science* because this journal tends to focus more on quantitative methods, which are not as easy to communicate using words or assess using text analysis.

a score of 4.41, whereas the word "equality" received a score of 1.41. This list provided a concreteness rating for most of the words in the articles; we then calculated an overall concreteness rating for each article by using the average concreteness rating for all of the words that had been rated in the Brysbaert, Warriner, and Kuperman study.

We measured examples by counting how many times the article used the following phrases: "for example," "for instance," "namely," "e.g.," "as in," and "such as." To control for article length, we divided the total number of example phrases by the number of pages.

Measuring Technical Language

By definition, technical words (e.g., "manipulation," "endogeneity") are less likely to appear in websites, blogs, and Facebook posts than in academic journals. We therefore operationalized technical language by measuring how frequently the words in the article are used in other writing, on average (i.e., frequency). We used the frequency with which a word appears as a sign that a word is not technical. We hypothesize that articles with frequently used words will be easier to understand and have a larger impact than articles with infrequently used words.

We assigned a frequency score to each word in each article using a database collected by Peter Norvig, Google's director of research (Segaran and Hammerbacher 2009). The database lists the number of times that the 50,000 most frequently used words in the English language appear in the *Google Web Trillion Word Corpus* (Brants and Franz 2006). To make the word frequency measure easier to interpret, we normalized the raw count measure by (1) assigning the most common word ("the") a score of 1, (2) calculating a score for the other 49,999 words on the list by dividing the number of times each of these words appeared by the number of times "the" appeared, and (3) assigning a score of 0 to any words that did not crack the top 50,000. Thus, every word in the article had a frequency score ranging from 0 to 1. We calculated a score for each article by averaging the frequency score of all of its words.

Measuring Passive Writing

Passive writing refers to a menagerie of styles that mask the actors and actions in a sentence. We operationalized passive writing by measuring the percentage of each article that used passive voice. We measured passive voice rather than attempting to capture all of the ways that authors write passively because passive voice is prevalent in academic writing, easy to measure, and almost always makes it harder for readers to identify who is doing what in a sentence (Slobin 1966). Other forms of passive writing (e.g., transforming a verb into a noun) are tougher to measure. We thus relied on passive voice as a proxy for all passive writing and hypothesized that articles that use more active voice will be easier to understand and have a larger impact.

We took three steps to calculate an active voice score for each article. First, we counted the total number of sentences in each article. Next, we used a pattern-matching package in Python to classify whether each sentence used a form of the verb "to be" followed by a past participle of another verb (e.g., "participants *were given* instructions"). We coded these sentences as being passive. Finally, we calculated the ratio of active voice in the paper as follows:

$$\text{Active} = 1 - \frac{\text{Number of passive sentences}}{\text{Total number of sentences}}. \quad (1)$$

Study 1: Which Articles Do Marketing Scholars Understand?

The first objective of Study 1 was to test whether scholars are less likely to understand articles that use more abstract, technical, and passive writing. To do this, we measured the concreteness, examples, word frequency, and active voice in the first page of each article in our sample. We selected the article excerpts that scored highest, closest to average, and lowest on these four measures in each of three subfields in marketing: consumer behavior, strategy, and quantitative modeling. We then asked marketing scholars to read one of the article excerpts and indicate the extent to which they understood what they read. We predicted that scholars would understand less of excerpts with more abstract, technical, and passive writing. The second objective was to explore how scholars respond when they understand less of an article, which we did by asking about their impression of both the article and its authors.

Method

Sample. We recruited marketing academics to complete an online survey by emailing 2,771 tenured or tenure-track marketing faculty employed by the top 300 universities on University of Texas at Dallas's business school global ranking. We also posted a link to our survey on our LinkedIn accounts and on Facebook groups that target marketing academics. In total, 266 participants completed the focal dependent variable and 255 completed the survey.[3] We thanked participants by donating $510 to the United Food Bank, $2 on behalf of each who completed the study. We provide details about the participants in the Web Appendix.

Study design. The study used a 3 (clarity: low, average, high) × 3 (research area: strategy, modeling, consumer behavior) between-subjects design. Participants read an excerpt from one of nine academic articles. We included only the first page to page and a half of each article to keep the excerpts the same length and the survey short. To get three excerpts from each subfield, and to keep the articles as similar as possible within each journal, we considered only *JM* papers in the strategy

[3] Three hundred thirty-two participants opened the survey, but 66 dropped out after seeing the article but before completing any measures. The dropout rate was similar regardless of the article that participants viewed (omnibus effect: $F(8, 323) = .78$, $p = .62$).

subfield, *JMR* papers in the modeling subfield, and *JCR* papers in the consumer behavior subfield. Then, we used the algorithm described in Web Appendix C4 to select the articles that scored the highest, lowest, and closest to average on our four clarity measures.

Procedure and measures. Participants read an article excerpt and briefly summarized its research question and intended contribution. Participants then indicated the percentage of the excerpt that they understood (%Understood),[4] the extent to which they agreed that the writing was clear (Understandable), and the percentage of the article that they thought the average practitioner would understand (%Practitioner Understanding). Participants next rated their opinion of the article (Impression of the Article) and their inferences about the authors (Impression of the Authors). On the following page, participants read title and author of the article and indicated if they were familiar with it. The results are similar (significance does not change) if we include familiarity as a covariate. We next collected exploratory measures by asking participants to reread and evaluate the clarity of the first page of their most recently published article. We report the details about these exploratory measures and results in Web Appendix C9. Next, we measured whether the participants read an article from within their research area by asking if they were most familiar with consumer behavior (60.2%), quantitative/modeling (10.5%), strategy/managerial (24.6%), or another research area (4.6%).[5] Finally, we asked participants about their goals and beliefs related to scholarly writing, current academic position, years since completing their doctorate, gender, age, and English ability. We describe all of the measures in Web Appendix C3.

Confound Checks

We sent a posttest survey to the same pool of marketing professors to check whether the clear, average, and unclear articles in the experiment differed along dimensions other than writing clarity. Posttest participants (N = 107) read the title, author, and abstract from the three high-clarity articles, the three average-clarity articles, or the three low-clarity articles. Participants rated the quality of the research and prestige of the authors based on the title, abstract, and author information. Neither ratings of research quality ($M_{clear} = 4.58$, $M_{average} = 4.22$, $M_{unclear} = 4.40$; $F(2, 104) = 1.40$, $p = .25$) nor ratings of author prestige ($M_{clear} = 4.94$, $M_{average} = 4.81$, $M_{unclear} = 4.90$; $F(2, 104) = .131$, $p = .88$) differed significantly across the clear, average, and unclear articles. We provide details about the posttest in Web Appendix C5.

[4] The words in parentheses correspond to the variables presented in Table 2.

[5] We coded research area as a match when participants familiar with consumer behavior read an article from *JCR*, participants familiar with quantitative research read an article from *JMR*, or participants familiar with managerial research read an article from *JM*. Otherwise, we coded the research area as a mismatch (e.g., if a quantitative researcher read an article from *JCR*).

Results

Understanding. We examined the extent to which participants understood the excerpt using a 3 (research area: strategy, modeling, consumer behavior) × 3 (clarity: high, average, low) × 2 (research match: match, mismatch) analysis of variance. As we predicted, participants understood a higher percentage of the articles with high clarity (82.0%) than articles with average (73.7%) or low (68.5%) clarity ($F(2, 248) = 6.18$, $p = .002$, $\eta^2 = .047$; see Table 1). Participants also understood a higher percentage of the article when it matched their research (82.4% vs. 71.2%; $F(1, 248) = 7.91$, $p = .005$, $\eta^2 = .031$), but clarity and research match did not interact ($F(2, 248) = .37$, $p = .69$, $\eta^2 = .003$). We observed similar results for the supplemental understanding measures (for details, see Table 1). Research area did not have a main effect ($F(2, 248) = 1.03$, $p = .36$, $\eta^2 = .008$), nor did it interact with the other factors ($ps > .10$). Because research area had neither a significant main effect nor an interaction, we do not discuss it further. Interested readers can find the means and standard deviations for all of the conditions in Web Appendix C6 and Web Appendix C7.

Impression of the article. Did writing clarity influence participants' impression of the article? Yes. Participants formed a better impression of the excerpts with clear writing than the excerpts with average or unclear writing ($M_{clear} = 4.11$, $M_{average} = 3.21$, $M_{unclear} = 3.51$; $F(2, 245) = 3.59$, $p = .029$, $\eta^2 = .028$). Consistent with our prediction that scholars do not like unclear articles because they do not understand them, the %understood measure mediated the effect of writing clarity on impression of the article (indirect effect: .30, 95% confidence interval = [.17, .45]; for details, see Web Appendix C8). Participants also had a more favorable impression of the articles within rather than outside their research area ($M = 4.40$ vs. $M = 3.26$; $F(1, 248) = 20.96$, $p < .001$, $\eta^2 = .079$), but participants enjoyed the clear articles more regardless of whether the research matched their interest (clarity × match interaction: $F(1, 248) = .11$, $p = .89$, $\eta^2 = .001$).

Impression of the authors. One reason why scholars write technically is to signal status and competence (Brown, Anicich, and Galinsky 2020). Did technical writing help writers appear more competent? Not in our sample. Participants who read the excerpts with clear writing thought that the authors were more competent ($M_{clear} = 5.47$, $M_{average} = 5.43$, $M_{unclear} = 4.93$; $F(2, 245) = 3.12$, $p = .046$, $\eta^2 = .025$). Furthermore, the %understood measure mediated the effect of writing clarity on impression of the author (indirect effect: .11, 95% confidence interval = [.05, .19]), which indicates that scholars perceived the authors to be more competent because they better understood the writing (details in Web Appendix C8). Competence ratings did not depend on whether the article was in the participant's research area (main effect: $F(1, 245) = .51$, $p = .48$, $\eta^2 = .002$; interaction: $F(2, 245) = .44$, $p = .64$, $\eta^2 = .004$).

Readability measures. The Flesch score and fog index were only modestly correlated with our measures of clarity (see Web

Table 1. The Effects of Writing Clarity and Research Match in Study 1.

	Writing Clarity			Research Match	
	Low Clarity	Average Clarity	High Clarity	Outside the Reader's Area	Inside the Reader's Area
% understood (0 to 100%)	68.5[a] (25.3)	73.7[a] (21.0)	82.0[b] (15.9)	71.2[a] (21.6)	82.4[b] (20.2)
Understandable (1 to 7)	3.86[a] (1.71)	4.04[a] (1.63)	4.80[b] (1.42)	3.99[a] (1.60)	4.79[b] (1.59)
% practitioner understanding (0 to 100%)	37.3[a] (24.6)	42.7[a] (25.1)	54.6[b] (26.1)	44.5[a] (26.3)	46.1[a] (26.4)
Impression of the article (1 to 7)	3.51[a] (1.67)	3.21[a] (1.68)	4.11[b] (1.68)	3.26[a] (1.64)	4.40[b] (1.60)
Impression of the authors (1 to 7)	4.93[a] (1.18)	5.43[b] (1.04)	5.47[b] (1.02)	5.21[a] (1.16)	5.39[a] (1.00)

Notes: This table shows the means (standard deviations in parentheses) for each measure in the low-clarity, average-clarity, and high-clarity conditions and the match and mismatch conditions.
Means with different superscript letters are significantly different from one another ($p < .05$).

Appendix C6). Moreover, when we entered the readability scores as covariates in a 3 (clarity) × 2 (research match) analysis of covariance, neither the Flesch score ($F(2, 258) = .07$, $p = .80$, $\eta^2 = .000$) nor the fog index ($F(2, 258) = .39$, $p = .53$, $\eta^2 = .002$) predicted the amount that scholars understood, whereas both clarity ($F(2, 258) = 3.28$, $p = .039$, $\eta^2 = .025$) and research match ($F(1, 258) = 18.12$, $p < .001$, $\eta^2 = .066$) remained significant.

Discussion

Study 1 shows that marketing scholars do not always understand the articles published in top marketing journals, especially when the articles use more abstract, technical, and passive writing. Importantly, the extent to which an article used concrete language, examples, common words, and active voice predicted how much of the article readers understood. This was true even when scholars read articles from their own subdiscipline, which shows that unclear writing prevents articles from effectively communicating even to a niche audience of like-minded scholars. Scholars who understood less of an article formed a worse impression of both the article and its authors. These results offer preliminary evidence for our hypothesis that academic articles with unclear writing make a smaller impact. We directly test this hypothesis in Study 2.

Study 2: Do Articles with Clear Writing Make a Larger Impact?

Our second study analyzed the full sample of 1,640 articles published in *JM*, *JMR*, and *JCR* between 2000 and 2010 to test whether articles that use more abstract, technical, and passive writing have a smaller impact than articles with clear writing.

Analysis Plan

We tested the extent to which our four writing clarity measures—concreteness, examples, word frequency, and active voice—predicted the number of times an article was cited after controlling for as many relevant variables as we could collect. We initially analyzed the entire article text but had two concerns with doing so: (1) the writing in the methods and results sections might necessarily be technical and (2) differences in the writing in these sections might depend more on the article's methodology than its writing clarity. Thus, we also tested whether our results were robust by analyzing only the text from the title to the beginning of the methods section. For brevity, we report the full-text analysis here and the pre–methods section analysis in Web Appendix D6.

Dependent Variables

We measured impact by collecting the number of times the article had been cited on Google Scholar (Google_Citation) and Web of Science (WoS_Citation) as of May 10, 2020.

Control Measures

We controlled for a variety of factors that could potentially influence how often an article is cited but that are not necessarily related to abstract, technical, or passive writing. We briefly describe the control variables here and provide details in Web Appendix D1.

Readability. To test whether abstract, technical, and passive writing influence citations over and above the effect of readability, we controlled for two popular readability measures: the Flesch reading ease score (Flesch 1948; Gazni 2011; Sawyer, Laran, and Xu 2008; Stremersch et al. 2015; Stremersch, Verniers, and Verhoef 2007) and the fog index (e.g., Armstrong 1980; Goes, Lin, and Au Yeung 2014; Sawyer, Laran, and Xu 2008). Because the Flesch and fog measures are highly correlated, including both measures in the same model could lead to multicollinearity. We thus used the Flesch score in the primary analyses (Flesch), and ran supplementary analyses using the fog index instead. The results were similar in both analyses (see Web Appendix D7).

Characteristics related to quality and relevance. Articles with high-quality and relevant research have a larger impact than articles with lower quality and relevance (Stremersch, Verniers, and Verhoef 2007; Tellis, Chandy, and Ackerman 1999). We thus controlled for five factors related to this "universalist perspective" (Stremersch, Verniers, and Verhoef 2007). First, we coded whether the article won an award (Award). Second, we coded for whether the article used each of the following methods: econometrics models, survey data, experiments, qualitative research, and meta-analyses. Third, we coded the topic of the paper by creating a set of dummy variables to classify the article into one of 11 topics. Finally, we controlled for the length of the article (NumberofPages) and whether it was a lead article (LeadArticle).

Characteristics related to presentation. Previous research suggests that the impact of an article depends on factors related to its presentation, aside from its readability (Jamali and Nikzad 2011; Judge et al. 2007; Stremersch, Verniers, and Verhoef 2007; Van Wesel, Wyatt, and Ten Haaf 2014). We followed this research by controlling for (1) the number of acronyms per page (Acronyms), (2) the length of the title (Title: Length), (3) whether the title of the article used words such as "marketing" and "new" (Title: Attention_Grabber), (4) whether the title included a colon (Title: Colon), (5) whether the title included a question mark (Title: Question), (6) the number of tables in the article (NumberofTables), (7) the number of figures in the article (NumberofFigures), and (8) whether the article included one or more appendices (Appendix).

Characteristics related to source. The impact of an article also depends on "social constructivist factors," including the journal in which it is published and the prestige of the authors (Stremersch et al. 2015; Stremersch, Verniers, and Verhoef 2007). We used dummy variables to control for the source of the article, including whether the article was published in *JM, JMR,* or *JCR* and the specific issue in which the article was published (Issue). We also controlled for four variables related to the authors and the citation network: (1) the rank of the authors' university (AuthorRank), (2) the number of authors (NumberofAuthors), (3) the number of references in the article (NumberofReferences), and (4) the recency of the references in the article (AgeofReferences).

Publication year. Scholars have more time to cite articles that were published earlier. Thus, we controlled for both the linear (Quarters) and quadratic ($Quarters^2$) amount of time that had passed since the article was published (Stremersch, Verniers, and Verhoef 2007).

Manually Checking the Measures

We manually coded a random subsample of 100 articles to ensure that the computer algorithms measured the independent and control variables accurately. The hit rate was 86%, a level that the literature considers acceptable (Berger et al. 2019).

Models

We tested the effects of the independent and control variables on Google Scholar citations and Web of Science citations. To make it easier to compare the size of the regression coefficients, we standardized the independent and control variables by setting their means to equal 0 and their standard deviations to equal 1.

The articles in our sample were cited an average of 415 times on Google Scholar and 155 times on the Web of Science. The median citation counts, however, were 204 and 80, respectively, and the standard deviations were 740 and 277, which indicates that the distributions were overdispersed. The citation count measures were not zero inflated, as all of the articles were cited at least once on Google Scholar, and only one was not cited on Web of Science. The model that is most appropriate given these properties is negative binomial regression[6] (Greene 2003; Kennedy 2008), which is what we used to predict citations depending on the independent measures and control variables:

$$\begin{aligned}\text{Citations}_i = {} & \beta_0 + \beta_1\text{Concrete}_i + \beta_2\text{Examples}_i \\ & + \beta_3\text{Frequency}_i + \beta_4\text{Active Voice}_i \\ & + \beta_5\text{Readability}_i + \beta_6\text{Award}_i + \beta_7\text{Econometrics}_i \\ & + \beta_8\text{Survey}_i + \beta_9\text{Experiment}_i + \beta_{10}\text{Qualitative}_i \\ & + \beta_{11}\text{MetaAnalysis}_i + \beta_{12}\ \text{NumberofPages}_i \\ & + \beta_{13}\text{LeadArticle}_i + \beta_{14}\text{Acronyms}_i \\ & + \beta_{15}\text{Title : Length}_i + \beta_{16}\text{Title : AttentionGrabber}_i \\ & + \beta_{17}\text{Title : Colon}_i + \beta_{18}\text{Title : Question}_i \\ & + \beta_{19}\text{NumberofTable}_i + \beta_{20}\text{NumberofFigure}_i \\ & + \beta_{21}\text{Appendix}_i + \beta_{22}\text{AuthorRank}_i \\ & + \beta_{23}\text{NumberofAuthors}_i + \beta_{24}\text{NumberofReferences}_i \\ & + \beta_{25}\text{AgeofReferences}_i + \beta_{26}\text{Quarters}_i \\ & + \beta_{27}\text{Quarters 2}_i + \sum\beta_j\text{Journal}_i + \sum\beta_k\text{Issue}_i + \epsilon_i, \end{aligned} \quad (2)$$

where i indicates the article, Citation is Google_Citation in Model 1 and WoS_Citation in Model 2, and ϵ_i is the robust error term.

Results

Descriptive statistics. We report descriptive statistics and the correlations between variables in Web Appendix D2. The variance inflation factor scores for all of the variables had an average of 1.24 and a maximum of 2.13, which was well below 10, indicating that multicollinearity was not a problem.

Citations. We assessed the effects of the independent and control variables on the number of times an article was cited on both Google Scholar (Model 1) and Web of Science (Model 2)

[6] Poisson is not an appropriate model for our sample because the test of equidispersion was rejected ($p < .001$).

Table 2. The Relationship Between Writing Clarity, Readability, and the Control Measures on Citations in Study 2.

	Sample: 1,640 Articles Published in *JM*, *JMR*, and *JCR* between 2000 and 2010	Model 1 DV: Google Citation β	SE	Model 2 DV: Web of Science Citation β	SE
Writing	Clarity: Concrete (Not abstract 1)	.081**	(.03)	.10***	(.03)
	Clarity: Examples (Not abstract 2)	.083**	(.03)	.080**	(.04)
	Clarity: Frequency (Not technical)	.13***	(.03)	.10***	(.03)
	Clarity: Active voice (Not passive)	.11***	(.03)	.11***	(.02)
	Readability: Flesch Score	−.069*	(.03)	−.073**	(.03)
Controls related to the research	Award	.12***	(.03)	.14***	(.03)
	Method: Econometrics	.025	(.03)	.031	(.04)
	Method: Survey	−.058*	(.03)	−.046	(.02)
	Method: Experiment	−.0053	(.03)	−.023	(.03)
	Method: Qualitative	.066	(.04)	.081*	(.05)
	Method: Meta-Analysis	−.023	(.02)	−.022	(.02)
	Number of Pages	.12***	(.04)	.11**	(.04)
	Lead Article	.044	(.03)	.070*	(.04)
Controls related to the presentation	Acronyms	.11**	(.03)	.12***	(.03)
	Title: Length	−.13***	(.03)	−.10***	(.03)
	Title: Attention Grabbers	−.076**	(.03)	−.060*	(.03)
	Title: Colon	.070**	(.03)	.059*	(.03)
	Title: Question	.060*	(.02)	.055*	(.03)
	Number of Tables	−.072**	(.03)	−.11***	(.03)
	Number of Figures	.041	(.03)	.039	(.03)
	Appendix	−.024	(.02)	−.037	(.02)
Controls related to the authors and source	Author Rank	−.062**	(.03)	−.058**	(.02)
	Number of Authors	.023	(.02)	.022	(.02)
	Number of References	.18***	(.04)	.18***	(.04)
	Age of References	−.029	(.02)	−.028	(.02)
	Journal 1: JM vs. JMR	.40***	(.09)	.37***	(.08)
	Journal 2: JCR vs. JMR	−.0038	(.08)	−.00093	(.07)
	Linear Time: Quarters	.36***	(.04)	.34***	(.03)
	Quadratic Time: Quarters^2	−.0061	(.03)	−.031	(.03)
Fit	Log-likelihood	−11,148.07		−9,576.01	
	χ^2	722.51***		661.59***	

*$p < .1$.
**$p < .05$.
***$p < .01$.
Notes: For brevity, we omitted the effects of the dummy variables for topics and issues. We provide the complete table of results, and comparative models with goodness-of-fit statistics in the Web Appendix D4.

(see Table 2). Articles were cited more when they used more concrete words (Google: $\beta = .081$, $p = .025$; WoS: $\beta = .10$, $p = .005$) and examples (Google: $\beta = .083$, $p = .033$; WoS: $\beta = .080$, $p = .037$), which is consistent with the hypothesis that abstraction limits the impact of an article. Articles that used common words were cited more often than articles that used uncommon words (Google: $\beta = .13$, $p < .001$; WoS: $\beta = .10$, $p = .004$), which is consistent with the hypothesis that technical language limits the impact of an article. In addition, articles that used more active voice were cited more often (Google: $\beta = .11$, $p < .001$; WoS: $\beta = .11$, $p = .001$), which is consistent with the hypothesis that writers who do not clearly state who is doing what will have less impact. In contrast, yet consistent with previous research (Stremersch et al. 2015; Stremersch, Verniers, and Verhoef 2007; Van Wesel, Wyatt, and Ten Haaf 2014), articles with higher readability scores were cited *less* often (Google: $\beta = -.069$, $p = .061$; WoS: $\beta = -.073$, $p = .049$). In summary, articles with concrete language, examples, active voice, and common words were cited more; articles with higher readability scores were not.

To what extent does abstract, technical, and passive writing influence the number of times an article is cited? The nature of negative binomial models makes it difficult to interpret the size of the coefficients; however, these models do let us approximate how, all else being equal, an article with average writing differs from an article with above- or below-average writing. For example, an article published in *JM* that is one standard deviation above average on all four measures of clear writing (e.g., from 88% to 95% active voice, from 2.33 to 3.66 examples per page) earns 157 more citations on Google Scholar

and 60 more citations on Web of Science than an article with average clarity. Conversely, a *JM* article that is one standard deviation below average earns 56 fewer citations on Google Scholar and 16 fewer on Web of Science than an article with average clarity.

Robustness tests. We tested whether our results were robust across different ways of analyzing the data. First, we examined if the results changed when we analyzed only the text from before the method section. The results were similar regardless of whether we analyzed the entire article or just the text before the method section (see Web Appendix D6). Second, we examined if the results changed when we measured readability using the fog index rather than the Flesch score. The results were similar regardless of whether we controlled for readability using the Flesch score or the fog index (see Web Appendix D7). Third, we examined if the results changed if we used a different method to account for the unobserved variance related to the journal, issue, and year in which the article was published. In the negative binomial models, we addressed the endogeneity caused by unobserved factors by calculating the time trend and including dummy variables for the journal and issue. A more common approach to control for the time-specific and journal-specific factors in a panel data set is the fixed-effect method (Germann, Ebbes, and Grewal 2015; Hausman, Hall, and Griliches 1981). We did not use the fixed-effect method in our main analysis because the unconditional fixed effects estimators produce inconsistent and biased estimates in nonlinear models, including negative binomial models (Greene 2003). To test the robustness of our model choice, we analyzed the data using linear fixed-effect panel regressions after transforming the citation variables from integers to natural continuous numbers by performing a logarithmic transformation on the dependent variables. The results were similar regardless of whether we controlled for unobservable variance with dummy variables or fixed effects (see Web Appendix D8). Finally, we investigated the effect of writing clarity on the likelihood that an article wins an award, as an alternative proxy for impact. The analysis with awards as the dependent variable produced similar results, although the effects were smaller compared with the analysis with citations as the dependent variable (see Web Appendix D9).

Discussion

Academic articles with abstract, technical, and passive writing were cited less often than articles with concrete, nontechnical, and active writing. The size of these effects was not trivial, and the results were robust across different ways of analyzing the data. The results complement Study 1 by showing that articles have a larger impact when their writing is easier to understand.

Why do scholars write unclearly? We have argued that the curse of knowledge enables abstract, technical, and passive writing by preventing scholars from realizing when their writing is unclear. We test this hypothesis next.

Study 3: Knowledge Makes Writers More Confident but Less Clear

Scholars need to be knowledgeable about their work to conduct effective research. Yet we hypothesize that this very knowledge can curse scholars by enabling abstract, technical, and passive writing. If we are correct, then knowing more about a research project will make scholars less likely to recognize when their writing about the project is unclear. In Study 3, we tested this prediction by asking marketing PhD students to summarize both their own research and research by a colleague. The students subsequently rated the clarity of their summaries. We compared the students' subjective ratings of writing clarity with (1) the clarity measures from Studies 1 and 2, and (2) clarity ratings from two scholars who read the summaries. We predicted that students would be more likely to overestimate the clarity of their writing when describing their own research than when describing their colleague's research.

Method

We sent an email asking 688 students enrolled in marketing PhD programs in North America to participate in our study for a chance to win an Amazon gift card. Forty-eight students completed part of the study, and 47 finished it.

Participants wrote two summaries: one about their own research project (high-knowledge condition) and one about a colleague's research project (low-knowledge condition). We used a within-subject design and counterbalanced the order of the high- and low-knowledge conditions.

Before writing the high-knowledge summary, participants read, "Please write one paragraph (at least 3-5 sentences) summarizing the research project on which you have spent the most time." Before writing the low-knowledge summary, participants read, "Please write one paragraph (at least 3-5 sentences) summarizing a research project by a fellow PhD student (either in your program or at another school). Pick a research project that you are familiar with but that you are not a collaborator on." We told participants to summarize each project "so that other marketing scholars will understand" it. We asked them to use a third-person voice (e.g., "the authors found . . . ") without naming themselves or their colleagues (for complete instructions, see Web Appendix E). A minority of the participants (18%) did not use an impersonal, third-person voice. To hide the condition of these summaries from the human raters, we changed the personal pronouns (e.g., I, we), names (e.g., Albert, Dr. Einstein), and relationship markers (e.g., my colleague, my classmate) to third-person pronouns and generic labels (e.g., they, the authors).

Participants answered four questions after writing each summary. Two were manipulation checks: "How knowledgeable are you about the research you described in this summary?" and "How familiar are you with this research?" The other two measured the extent to which participants thought that their writing was clear (i.e., writer-rated clarity): "How clear do you think this summary will be to other PhD students in

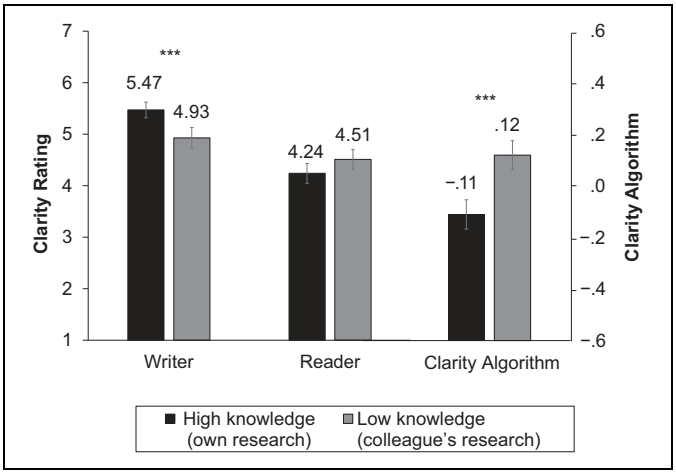

Figure 2. The mean clarity scores in Study 3.
Notes: Error bars = ±1 SE. The columns on the left illustrate how PhD students rated their own writing about both their own research and their colleague's research on a 1–7 scale. The columns in the center illustrate how clear other PhD students thought the writing was on a 1–7 scale. The columns on the right illustrate how clear our clarity algorithm thought the writing was on a normalized scale.

marketing?" and "How well do you think other PhD students in marketing will understand this summary?" All measures used seven-point scales (e.g., 1 = "not at all clear" and 7 = "extremely clear"). Finally, we asked participants about their research area, year in the PhD program, geographic location, English fluency, age, and gender. The results did not depend on the order in which participants wrote the essay, their research area, year in the program, age, gender, or proficiency in English (i.e., none of the interactions were significant).

Measuring Clarity

We assessed writing clarity using machines and human readers. As in Studies 1 and 2, we calculated a machine-rated clarity score by averaging the measures of concreteness, examples, frequency, and active voice. We also calculated a reader-rated clarity score by averaging the ratings of two advanced PhD students, who read the summaries and assigned each a score between 1 ("least clear") and 7 ("most clear) (See Figure 2). The ratings were correlated even though the readers had different areas of expertise ($r = .47$, $p < .001$): one was a consumer psychologist, the other was an empirical modeler. The readers were not aware of the purpose of the study or the condition of the summaries; that is, they did not know whether or not the participant was writing about their own research.

Results

Manipulation check. The knowledge manipulation worked. Participants reported that they were more familiar with their own research than their colleague's research ($M = 6.49$ vs. 4.01; $t(46) = 11.73$, $p < .001$, Cohen's $d = 1.71$). Note that we used paired-samples t-tests to compare the high-knowledge and low-knowledge means in this study.

Clarity, according to the writers themselves. Consistent with the hypothesis that knowledge makes researchers believe their writing is clearer, writers thought that their description of their own research was clearer than their description of a colleague's research ($M_{\text{high knowledge}} = 5.47$, $M_{\text{low knowledge}} = 4.93$; $t(46) = 2.84$, $p = .007$, Cohen's $d = .41$).

Clarity, according to readers. In contrast to writers' subjective clarity ratings, readers understood directionally less when writers summarized their own research than when they summarized a colleague's research ($M_{\text{high knowledge}} = 4.24$, $M_{\text{low knowledge}} = 4.51$; $t(46) = -1.21$, $p = .23$, Cohen's $d = -.18$).

Clarity, according to our algorithm. The curse of knowledge was even more apparent in the extent to which writers used abstract, technical, and passive writing, as measured by our clarity algorithm. Participants wrote significantly less clearly, according to our algorithm, when they summarized their own research than when they summarized a colleague's research ($M_{\text{high knowledge}} = -.11$, $M_{\text{low knowledge}} = .12$; $t(47) = -2.81$, $p = .007$, Cohen's $d = -.41$).

Discussion

PhD students were more likely to overestimate the clarity of their writing when they were more familiar with the research project that they summarized. To test whether this finding would generalize, we conceptually replicated the results in Study 4, which we report in Web Appendix F. We recruited college-educated workers on Prolific and taught half of the workers about research on social exclusion and the other half about research on advertiser credibility. We then asked all of the workers to proofread a report about social exclusion research. Prolific workers who had previously learned about social exclusion research were less likely to realize that abstract, technical, and passive sentences in the report would be unclear to other readers.

The results of both Study 3 and Study 4 confirm that as scholars become more knowledgeable about a research project, they become less likely to realize when their writing about it is unclear. How can scholars exorcise this curse of knowledge? How can they write so their research will be more likely to make waves in the marketplace of ideas? We begin to answer these questions next.

General Discussion

Why do many articles gain little share in the marketplace of ideas (Lutz 2018; Pham 2013; Wells 1993)? One reason is the writing. Consider again the title "The Interactive Effects of Ideological Orientation and Corporate Sociopolitical Activism on Owned Media Engagement." This style permeates academia, yet it is difficult to understand because it is abstract, technical, and passive. "Corporate sociopolitical activism" is more abstract than "controversial political messages." "Ideological orientation" is more technical than "liberal or conservative." And "owned media engagement"

obscures that the research investigates how consumers respond (actor/action 1) when firms post social media messages (actor/action 2).

We show that readers are less likely to understand articles that use more abstract, technical, and passive writing (Study 1). Consequently, articles that use abstract, technical, and passive writing are less likely to be cited (Study 2). The curse of knowledge enables unclear writing by preventing scholars from realizing when their writing is unclear. As they become familiar with a research project, scholars use more abstract, technical, and passive writing, and are less likely to realize when readers will struggle to understand (Study 3).

How can scholars overcome this curse? How can they write in a way that reaches experimentalists and econometricians, sociologists and neuroscientists, PhD students and professors emeriti, chief executive officers, brand managers, educators, journalists, and policy makers? First, they need to acknowledge that unclear writing is a problem. Second, they need to understand how to fix it.

Acknowledging the Problem

Unclear writing is a problem (Holbrook 1986; Ragins 2012). Marketing scholars could not understand 24% of the opening page of a typical article published in a premier marketing journal (see Study 1), and 87% reported that they sometimes, often, or always struggle to understand academic articles published within their research area (see Web Appendix C2). If even marketing scholars struggle to understand the articles published in marketing journals, what hope do scholars from neighboring disciplines, let alone practitioners, have?

The first step toward improving academic writing is admitting there is a problem. The curse of knowledge, however, prevents scholars from seeing this problem, at least in their own writing. Marketing professors who completed Study 1, for example, believed that their writing was clearer than the average writing in a premier marketing journal (see Web Appendix C9). Similarly, PhD students who described their own research in Study 3 overestimated the extent to which other PhD students would understand their writing.

In addition to the curse of knowledge, there are at least three other misguided beliefs, or myths, that prevent scholars from recognizing that unclear writing is a problem.

Myth 1: academic articles are not intended for a broad audience. Some scholars believe that inaccessible writing is not a problem because they think that articles should only speak to a narrow audience of scholars. Data from Study 1, however, reveal that most marketing scholars want their research to reach a broad audience: 96% of the scholars who completed Study 1 indicated that they try to write so that most scholars can understand their ideas, 66% said their research targets scholars in different academic areas, and 72% said that their research targets practitioners (see Web Appendix C10). Journal editors, similarly, aim to publish research that reaches a broad audience. Their editorials have encouraged marketing scholars to publish boundary-breaking research that influences both other scholarly disciplines and marketing practice (Inman et al. 2018; Moorman et al. 2019). We show that ideas are more likely to break out of their subdisciplinary niche if scholars describe them clearly.

Myth 2: unclear writing impresses readers. Scholars could be writing unclearly because they believe that readers will respond more favorably to unclear writing. They might think that technical language will make them look smart (Armstrong 1980; Brown, Anicich, and Galinsky 2020; Ragins 2012) or that unclear writing engages readers by forcing them to work harder to understand it (Schimel 2012). Previous research appeared to support these beliefs by showing that (1) articles with lower readability scores are cited more often (Stremersch et al. 2015; Stremersch, Verniers, and Verhoef 2007; Van Wesel, Wyatt, and Ten Haaf 2014) and (2) journals with lower readability scores are considered more prestigious (Armstrong 1980). Our research, however, suggests that these results are misleading because readability measures do not capture the problems that make academic writing unclear. We found only a weak relationship between readability measures, including the Flesch score and fog index, and measures of abstraction, technical language, and passive writing. Moreover, articles with less abstract, technical, and passive writing were more likely to be understood and cited; articles with higher readability scores were not.

Myth 3: scholars already know to avoid abstract, technical, and passive writing. *JM*, along with dozens of writing guides, advises scholars to use active voice and avoid technical language (https://www.ama.org/submission-guidelines-journal-of-marketing). Does the field need another reminder to avoid abstract, technical, and passive writing? We think so. The problem is that even if scholars believe that writing should be clear in theory, the curse of knowledge can prevent them from realizing when their writing is unclear in practice. Consequently, many continue to use abstract, technical, and passive writing despite repeated warnings. For example, most of the titles of the articles published in the May/June 2020 issues of *JM*, *JMR*, and *JCR* used these unclear writing practices. Park and Sela (2020) offer a notable exception. Rather than settle for an abstract, technical, and passive title, such as "Option Assortments: The Effect of Search Volume on Information Acquisition," they wrote a concrete, nontechnical, and active title: "Product Lineups: The More You Search, The Less You Find."

Exorcising the Curse of Knowledge

How can scholars write more clearly? The most common answer is to try harder. The literature suggests that extra practice, effort, care, and revision will cure unclear writing (Ragins 2012; Sawyer, Laran, and Xu 2008; Schimel 2012). Effort is necessary, but our research suggests that effort alone will not lift the curse. In fact, effort will make scholars even more familiar with their writing, which may perversely make it harder for them to realize when it is too abstract, technical, passive, or otherwise unclear. Although effort alone may not

lift the curse of knowledge, there are three steps that scholars can take to keep it at bay.

First, scholars should ask someone else to read their writing. It is better if this reader is not already familiar with the research, as knowledgeable readers will be more likely to glide through abstract, technical, and passive writing that will confuse less knowledgeable readers.

Second, scholars can check the extent to which their writing uses abstraction, technical language, and passive writing on a website that we created (writingclaritycalculator.com). Scholars can copy and paste part or all of their article into our writing clarity calculator and learn how their writing compares with the articles published in *JM*, *JMR*, and *JCR*. The website will not save or store the writing, but it will provide an objective measure of the extent to which it is abstract, technical, or passive. For example, the writing clarity calculator told us that a previous draft of the empirical section of our paper scored in the 75th percentile for concreteness, 95th on examples, 50th on frequency, and 70th on active voice. This informed us that we were doing a good job of including examples but could benefit from making the writing more active and concrete. (The writing in methods sections is often necessarily technical, so we did not worry as much about the frequency score for this section.) We thus revised this section by using words that were more concrete and by activating sentences that used passive voice unnecessarily. These steps made our writing more concrete (95th percentile) and active (75th percentile). We discuss the writing clarity calculator in greater detail in the Web Appendix.

Third, scholars need to better understand how to spot, and when to fix, abstract, technical, and passive writing. Scholars cannot and should not remove all abstraction, technical language, and passive writing. They need abstraction to describe theory, technical words to describe methods, and passive voice to focus readers on the important part of a sentence. The problem is that scholars overuse these practices without realizing it. We thus created a tutorial (see Web Appendix B) to help scholars learn (1) how to recognize abstract, technical, and passive writing; (2) why and when to use these practices; and (3) how to avoid overusing them.

Limitations and Future Research

We hope that future research will address several limitations of our work. The biggest limitation of our research stems from its greatest strength: the measures of abstraction, technical language, and passive writing. Our studies show that these measures assess the extent to which scholars understand academic writing better than traditional readability indices. The measures also give scholars a way to objectively calibrate the extent to which they are writing clearly. These measures, however, are crude. The concreteness measure is limited because phrases and sentences might be more or less concrete than the average of the words that comprise them. The examples measure is limited because skilled writers know how to use examples without explicitly saying "for example" (or one of the other markers we measured) and because unskilled writers often give examples that are just as abstract as the ideas they are trying to explain. The technical language measure is limited because scholars sometimes brew jargon by repurposing a word that is frequently used to mean something else (e.g., assemblage theorists use "body" to refer to a collection of people and objects rather than a collection of flesh and bone). The passive writing measure is limited because it assesses only passive voice without capturing the other tricks that writers use to obscure who is doing what, such as ambiguous pronouns and disguising verbs as nouns (e.g., Pinker 2014). We encourage researchers to improve these measures so the field can better assess what makes academic writing clear and influential.

Another limitation is that our measure of scholarly impact, the number of times an article has been cited, is imperfect. Citations are not an end in themselves, nor do they necessarily capture intellectual indebtedness. Articles can receive "perfunctory mentions," which increase their citation count but do not reflect genuine scholarly impact (Stremersch et al. 2015). Moreover, citations do not measure the extent to which an article influences nonacademic stakeholders, including managers, consumers, and policy makers. Future research could address these limitations by exploring different measures of impact, including the extent to which the research is mentioned in the press, discussed on social media, and changes the behavior of firms, consumers, or policy makers.

Conclusion

Scholars want their research to be relevant. *JM*'s mission is to "develop and disseminate knowledge about real-world marketing questions useful to scholars, educators, managers, policy makers, consumers, and other societal stakeholders around the world" (Moorman et al. 2019, p. 1). Similarly, *JMR* aspires to be "the journal of first choice among authors who seek a broad audience" (Grewal 2017, p. 1), and *JCR* attempts to take a "big tent approach" by publishing articles that "build bridges rather than silos" (Inman et al. 2018). The only way for scholars to build bridges and to disseminate knowledge to a broad audience is to cast aside the curse of knowledge and write so that readers outside of their narrow subject area understand what they have to say. By writing clearly, scholars will expand the market for their ideas. Clear writing will also help the marketing discipline take an important step toward realizing its potential to transform business, policy, and the lives of consumers (Mick 2006).

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