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## HOW TO INCREASE CITATIONS TO LEGAL SCHOLARSHIP

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### Abstract

*Using nearly 250,000 law review articles published on HeinOnline over a five-year period, the authors analyze citation patterns and their relation to characteristics of the articles such as title length, number of authors, article length, publication format, and more. The authors also describe past citation studies and best practices in Search Engine Optimization (SEO). The authors find that factors beyond article quality likely impact scholarly citations. Drawing from the lessons in the citation patterns, article characteristics, and SEO best practices, the authors offer techniques to increase the article citation counts of articles published in U.S. law journals. Using lessons from the SEO world, the authors conclude with a detailed discussion of potential problems with citation ranking schemes, such as citation cartels, keyword stuffing, and perverse incentives for authors to avoid writing on obscure but important legal topics.*

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## Introduction

Like many authors, we wrote this article because we want to share our ideas, thoughts, and data. One way to verify that others are taking in what we've shared is to monitor this article's citation count. So, like most scholars, we wrote this article to get cited.

In this article, we share characteristics that correlate to increased citations in legal scholarship, with the goal of helping scholars get cited more. We found these characteristics by looking at the differences between articles that are well-cited and those that are not, searching for characteristics that the data indicate will increase chances of citation. Based on our findings, we created a set of guidelines to increase the likelihood that an article will be cited. Our interest in this area grew out of experience, working closely with faculty publications, and with optimizing websites for Google's search algorithm. That is why we use SEO studies on Google's algorithm as a source of comparison to many of our findings.

When we began this study, we had theories on what would lead to increased citation counts, primarily based on our personal preferences and what we knew about Search Engine Optimization (SEO). In some cases, the data aligned with our assumptions, but, in several instances, the study's results surprised us. They may surprise you too. Regardless, we believe that if you are a scholar writing to get cited, you will benefit from reading this article. At the very least, it will make you think differently about how you write, structure, and publish your article. The majority of the articles we reviewed have a legal focus, but many of the findings align with similar studies in other fields.<sup>1</sup>

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<sup>1</sup> See, e.g., Maarten van Wesel, Sally Wyatt & Jeroen ten Haaf, *What a Difference a Colon Makes: How Superficial Factors Influence Subsequent Citation*, 98 SCIENTOMETRICS 1601 (2014) (finding, as we did, that longer articles tend to get more citations).

Over the course of gathering data, one thing that stood out is how many articles have no citations. The total set we considered included 242,924 articles. From that set, 199,865 articles (or roughly 82 percent) had zero citations. Don't let that be you! What you have to say matters. Put in the time, whether by using the suggestions in this article or ideas of your own, to make sure people read and consider your work.

Perhaps the potential for increased emphasis on citations that *U.S. News*' proposed law school faculty scholarly impact ranking would add also helped put the idea for this study on our minds. If done well, this new ranking system has the potential to improve *U.S. News*' influential law school ranking. However, the proposal has a wide range of pitfalls. Using the experience of other disciplines and the SEO world, we conclude this article by highlighting some of these pitfalls. Our hope is that drawing attention to these issues will allow the relevant parties to learn from the mistakes others have already made.

### **Our Interest in Citations**

Our library is responsible for uploading faculty papers to SSRN.<sup>2</sup> We also help faculty with various research projects as they author articles. Through our experience, we've seen how much download and citation counts matter to faculty. This makes sense, as they are a factor in tenure decisions and generally viewed as a measure of a scholar's influence.<sup>3</sup> Given our closeness to the process, the importance of citations had been

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<sup>2</sup> *SSRN FAQ Page*, SSRN, <https://www.ssrn.com/index.cfm/en/ssrn-faq/> [<https://perma.cc/M9FE-ACTK>] ("SSRN is a platform for the dissemination of early-stage research.").

<sup>3</sup> Erin C. McKlernan et al., *Use of the Journal Impact Factor in Academic Review, Promotion, and Tenure Evaluations*, *eLIFE*, Jul. 31, 2019, at 1; Dag W. Aksnes, Liv Langfeldt & Paul Wouters, *Citations, Citation Indicators, and Research Quality: An Overview of Basic Concepts and Theories*, *SAGE OPEN*, Feb. 7, 2019, at 1.

in the back of our minds for years. With *U.S. News*' proposed ranking system, the focus on citations will only increase.<sup>4</sup>

### Leveraging Google's Expertise for Scholars

We started our study by thinking about why some articles gain widespread popularity, while others do not. Experience with Search Engine Optimization,<sup>5</sup> an industry that has grown out of website owners' desire to rank well in search results, led us to wonder whether some of the principles SEO experts have identified would apply to scholarly articles.<sup>6</sup> Ranking well on Google has similarities to being well-cited. Most obviously, Google's ranking algorithm considers the websites that link to (i.e., cite) the webpages it ranks.<sup>7</sup> Additionally, Google's algorithm looks at factors that indicate whether the content it

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<sup>4</sup> Robert Morse, *U.S. News Considers Evaluating Law School Scholarly Impact*, U.S. NEWS (Feb. 13, 2019, 1:00 PM), <https://www.usnews.com/education/blogs/college-rankings-blog/articles/2019-02-13/us-news-considers-evaluating-law-school-scholarly-impact> [<https://web.archive.org/web/20200212212525/https://www.usnews.com/education/blogs/college-rankings-blog/articles/2019-02-13/us-news-considers-evaluating-law-school-scholarly-impact>].

<sup>5</sup> For interested readers, here's a little more on SEO. Google regularly crawls the internet for content. It then creates an index of that content and runs it through an algorithm. How the algorithm values or rates the indexed content determines where each webpage displays in search results. The earlier a webpage appears in results, the more likely a user will access it. Although underlying motivations may differ, the goal of most website owners is to increase quality traffic to their websites, which means they want to be as close as possible to the top position in search results. Google does not reveal how its algorithm works. Since there is no authoritative source for what will lead to a high website ranking, people have speculated, conducted studies, and done extensive research on what websites can do to increase their chances of ranking well. Generally, these efforts to rank well in search results are referred to as Search Engine Optimization or SEO.

<sup>6</sup> Cf. Mary Whisner, *My Year of Citation Studies, Parts 1-4*, 110 L. LIBR. J. 167, 167-80, 283-94, 419-28, 561-77 (2018) (Once we started research, we found that others had similar ideas. For example, Mary Whisner investigated what leads an article to be well-cited). If you are interested in another perspective on this topic, we recommend also taking a look at Whisner's work.

<sup>7</sup> See *What is SEO?*, MOZ, <https://moz.com/learn/seo/what-is-seo> [<https://perma.cc/VWD6-VLJ4>] (chart under *How SEO works* heading indicating that SEO professionals view link related items as making up roughly 40 percent of Google's ranking algorithm).

ranks provides the information people are seeking — similar to how a citation indicates that the citing author found an article useful.<sup>8</sup> Here, it's important to remember that Google's algorithm does not simply look at the content itself — proper spelling, grammar, character count, etcetera — Google also factors in indicators from actual users.<sup>9</sup> For example, Google tracks how often users click an item when it appears in their search results (the “click-through rate” in SEO jargon).<sup>10</sup> This indicates how effective a page's title and search snippet are. This data signals people's preference for one piece of content over another, and Google uses this information to adjust its algorithm to better match its users' preferences. Scholarly articles also have titles, and the search snippet has similarities to an article abstract. Given these and other similarities, we thought there might be common ground between well-cited articles and well-ranked websites.

Furthermore, there is a reason that Google's search engine dominates the search market.<sup>11</sup> Think about your own experience with Google compared to a less popular search engine. In most instances, Google provides superior results. Google gives users excellent results because Google has spent countless dollars and hours honing and refining search algorithms by analyzing the behavior of billions of users. Our study has similar aims: we, like Google, want to find what types of content people prefer and why. Of course, websites and scholarly articles are different, and we consider those differences in our analysis.

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<sup>8</sup> See *How Search Algorithms Work*, GOOGLE, <https://www.google.com/search/howsearchworks/algorithms/> [<https://perma.cc/HB2U-633K>].

<sup>9</sup> *Id.*

<sup>10</sup> Brian Sutter, *7 User Engagement Metrics That Influence SEO*, FORBES (Mar. 24, 2018, 5:32 PM), <https://www.forbes.com/sites/briansutter/2018/03/24/7-user-engagement-metrics-that-influence-seo/#6726bec6567b> [<https://perma.cc/2DT3-DVAX>].

<sup>11</sup> Estimates of Google's share of the search engine market vary, but it's clear that Google dominates. See, e.g., *Search Engine Market Share Worldwide Jan - Dec 2019*, STATCOUNTER: GLOBAL STATS, <https://gs.statcounter.com/search-engine-market-share/all/worldwide/2019> [<https://perma.cc/RX2-N6WD>] (putting Google's market share at 91.89 percent in 2019).

As it turns out, most of the characteristics we identify as increasing the chances of citation align with generally accepted SEO principles. This led us to examine other SEO principles for items that we did not include in our study but that may apply to legal scholars. Below we layout the findings of our study and the corollary SEO principles, followed by additional SEO principles that we did not study but may still have relevance.

### **“Black Hat” SEO & Manipulation of *U.S. News*’ Scholarly Impact**

Of course, applying SEO principles to legal scholarship has the potential to impact articles in both positive and negative ways, as we touch on in our concluding section. Today, most SEO experts include helping their clients create the “compelling and useful content” that Google says it wants as a key part of their services.<sup>12</sup> In the early days of SEO, this wasn’t the case. Early iterations of Google’s algorithm were much less advanced, and SEO experts quickly discovered they could trick the algorithm to get their client’s sites to rank higher.<sup>13</sup> As Google caught on to these tricks, it adjusted its algorithm and essentially punished websites that used these tactics.<sup>14</sup> These adjustments have made Google’s algorithm more difficult to deceive.<sup>15</sup> The increased difficulty, combined with the risks of Google penalizing sites caught attempting to manipulate its algorithm, has led most SEO experts to

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<sup>12</sup> *Search Engine Optimization (SEO) Starter Guide*, GOOGLE HELP: SEARCH CONSOLE HELP, <https://support.google.com/webmasters/answer/7451184?hl=en> [<https://perma.cc/8B3F-83PQ>].

<sup>13</sup> Razvan Gavrilas, *44 Black Hat SEO Techniques that Will Tank Your Site*, COGNITIVE SEO, <https://cognitiveseo.com/blog/12169/44-black-hat-seo-techniques/> [<https://perma.cc/8BRV-NP42>] (illustrating that examples of this include: keyword stuffing, the practice of adding keywords in a way that hurts the writing; paying for links to your site; and so on).

<sup>14</sup> *Id.*

<sup>15</sup> *But see* Roger Monti, *SEO Contest Exposes Weakness in Google’s Algorithm*, SEARCH ENGINE J. (Nov. 13, 2018), <https://www.searchenginejournal.com/google-algorithm-loopholes/278093/> [<https://web.archive.org/web/20200104220816/https://www.searchenginejournal.com/google-algorithm-loopholes/278093/>] (discussing how a website written in nonsensical strings of Latin nearly won a ranking contest between SEO experts).



focus on making sites easy to use, easy for Google's bots to access, and filled with good content. As deceptive tactics fell out of favor, they became referred to as "black hat" SEO.<sup>16</sup>

Doing something with the intent of deception, even if the thing being deceived is an algorithm, seems intrinsically wrong. Yet, attorneys can likely understand the ethical dilemma that early SEO experts faced. Like attorneys, SEO experts have a duty to advocate on behalf of their clients. This includes the use of all legal methods. Most black hat SEO tactics are not and have never been illegal, so many SEO experts viewed using them as a duty to their clients. Further, black hat tactics became so widespread that an expert who did not use these tactics risked letting the sites they managed drop below inferior sites in the search result rankings.<sup>17</sup>

With the SEO background in mind, we wondered: will law schools attempt to game and deceive the *U.S. News* and other ranking systems the way early SEO experts gamed Google's algorithm? They will have similar motivations to those held by SEO experts, and the stakes for law schools may even be higher. Plus, the early *U.S. News* system or other scholarly impact ranking schemes may be particularly susceptible to abuse, as Google's algorithm was in its early days. Deans trying to decide what to do may argue that not doing everything they can to increase citation counts may lead to good schools dropping below peers who choose to aggressively go after citations. Given these sorts of arguments and the stakes involved, it seems likely that at least some schools will try to manipulate the system. So, after our discussion on ways to increase citations, we will briefly examine how schools and scholars could manipulate the rankings.

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<sup>16</sup> *What Is Black Hat SEO?*, WORDSTREAM, <https://www.wordstream.com/black-hat-seo> [<https://perma.cc/EE83-YK75>].

<sup>17</sup> *See A Brief History of SEO*, HEROSMYTH (Apr. 20, 2020), <https://www.herosmyth.com/article/brief-history-seo> [<https://perma.cc/YXD9-WSMM>].

To conclude the discussion of manipulative tactics, we want to point out that the goal of this paper is not to create “black hat” tactics for legal scholars. We do not recommend doing anything that will deceive readers or algorithms. We recommend incorporating our suggestions into your work only when you believe it can enhance the quality of your work. There is a difference between purposefully manipulating a system and applying lessons from the success of others to help your work have a broader impact.

### **TL;DR<sup>18</sup>**

This article is on the longer side because the data indicates that longer articles tend to be cited more often. However, we realize that many in our target audience do not have time to read through and pull out all the details. So, for those who just want a findings summary, we created a simple chart.<sup>19</sup>

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<sup>18</sup> *TL;DR*, MERRIAM WEBSTER, <https://www.merriam-webster.com/dictionary/TL%3BDR> [<https://perma.cc/YPF9-GRBD>] (defining TL;DR as an informal abbreviation for “too long; didn’t read.”).

<sup>19</sup> We give full details on our dataset in the body of the paper, but a few notes may aid in understanding the chart. Our study focused on three sets of articles from 2015-2019 (inclusive): one with the most-cited articles over that time period, a second with a subset of articles with three citations, and a third where each article in the set has one citation and at least one author with over 100 total citations to their name. We think the dataset with authors that have over 100 total citations offers the best comparison to the top articles. Consequently, the chart only includes the most-cited article data and the data from articles with one citation written by at least one author with over 100 total citations.

**Table 1: TL;DR Summary of Recommendations for Increasing Citations**

Recommendation	Details	More Details
DO — Write long articles	<ul style="list-style-type: none"> <li>• Top articles averaged 63 pages per article.</li> <li>• The most frequently occurring page lengths for top articles were 68 and 66 pages respectively.</li> <li>• 79 percent of top articles were between 36-90 pages.</li> <li>• By comparison, less cited articles averaged 27 pages, per article and 72 percent ranged between 2-35 pages.</li> </ul>	Page 174
DO — Keep titles short	<ul style="list-style-type: none"> <li>• Top articles averaged 52 characters per title.</li> <li>• The most frequently occurring title lengths for top articles were 27 and 32 characters respectively.</li> <li>• Only 6.8 percent of top article titles had over 100 characters.</li> <li>• By comparison, less cited articles averaged 70 characters per title and 18 percent had over 100 characters per title.</li> </ul>	Page 188
DON'T — use colons in your title	<ul style="list-style-type: none"> <li>• Only 32 percent of top articles had a colon in the title.</li> <li>• Comparatively, 55 percent of less cited articles had a colon in the title.</li> </ul>	Page 189
DO — Write on a popular/timely topic	Articles on trending topics appear to garner more citations per article than articles on other topics.	Page 200
CONSIDER — Publishing in widely accessible journals	Limited data indicates that journals available on Hein have more citations per article than those with embargoes or not available.	Page 209

DO — Publish in a top journal	<ul style="list-style-type: none"> <li>• 37 percent of top articles were published in one of 2018 W&amp;L Law Journal Rankings top-ten journals.</li> <li>• Only 4 percent of less cited articles were published in one of 2018 W&amp;L Law Journal Rankings top-ten journals.</li> </ul>	Page 212
CONSIDER — Publishing with a co-author	Our data only showed a slight difference in number of authors per paper between different segments, but other researchers have found publishing with a co-author to be beneficial.	Page 215
DO	Read the rest of the article.	

## Methodology

*U.S. News*' proposal for its Scholarly Impact metric called for using citations to articles available on HeinOnline and published in the previous five years.<sup>20</sup> Since part of this paper looks at issues with *U.S. News*' proposal, and many law school deans and faculty are likely most interested in any use of citations that may impact the *U.S. News*' ranking, we used the five most recent years for our study. Further, the databases, technologies, and expectations of authors change over time, so what may have led to a high citation count fifteen or more years ago, may not today.<sup>21</sup> We also chose to pull our data from HeinOnline (Hein)

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<sup>20</sup> Morse, *supra* note 4.

<sup>21</sup> See Samuel D. Warren & Louis D. Brandeis, *The Right to Privacy*, 4 HARV. L. REV. 193 (1890) (the most cited article of all-time on HeinOnline, *The Right to Privacy*, does follow our recommendation when it comes keeping the title short (just 20 characters), but it falls well short of the ideal article length (28 pages, while the top articles in our study averaged 63 pages)). Also, below we discuss an older, similar study by Ian Ayres and Fredrick E. Vars. Ian Ayres & Fredrick E. Vars, *Determinants of Citations to Articles in Elite Law Reviews*, 29 J. LEGAL STUDS. 427, 440 (2000) (finding an optimal page length of 53 pages, less than our study found optimal).

because *U.S. News* plans to use Hein's data for its ranking<sup>22</sup> and because Hein, arguably, has the best collection of legal journals of any database.<sup>23</sup> Hein includes data for number of times accessed, articles citations, and case citations. *U.S. News* plans to use "citations, publications and other bibliometric measures"<sup>24</sup> for its ranking. Since there are comparatively few case citations, we used only article citations to rank the articles in our datasets.

When we pulled our data on the most-cited articles, Hein had 242,924 published articles from 2015-2019 (inclusive) in its Law Journal Library.<sup>25</sup> Since Hein had more articles than we could reasonably collect data on and analyze, we opted to focus on the top and bottom ends of the entire set of data, hypothesizing that any trends would be most pronounced at the extremes. Picking the top was easy: we simply gathered data on the 500 most-cited articles between 2015-2019 (we'll refer to this sample as the "**top-articles**"). Choosing what to include in the bottom proved harder. There were roughly 4000 articles with 3

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<sup>22</sup> Morse, *supra* note 4; see also Paul Caron, *U.S. News to Publish Law Faculty Scholarly Impact Ranking in 2021*, TAXPROF BLOG (Nov. 9, 2020), [https://taxprof.typepad.com/taxprof\\_blog/2020/11/us-news-to-publish-law-faculty-scholarly-impact-ranking-in-2021.html](https://taxprof.typepad.com/taxprof_blog/2020/11/us-news-to-publish-law-faculty-scholarly-impact-ranking-in-2021.html) [<https://perma.cc/GM96-X3AY>] [hereinafter Caron, *U.S. News to Publish*] (publishing an email stating that *U.S. News* plans to publish its first scholarly ranking in 2021 and will use Hein for data).

<sup>23</sup> See Bonnie J. Shucha, *Representing Law Faculty Scholarly Impact: Strategies for Improving Citation Metrics Accuracy and Promoting Scholarly Visibility*, 40 LEGAL REFERENCE S. Q. 81 (2021).

<sup>24</sup> Morse, *supra* note 4.

<sup>25</sup> Hein is constantly adding articles to its collection. On May 21, 2020, less than a month after we completed our data gathering for this portion, the count had gone up to 245,973. HEINONLINE (2020). Further, Hein notes that its library now includes material beyond traditional law journals. HEINONLINE MARKETING DEPARTMENT, LAW JOURNAL LIBRARY, <https://heinonline.org/HeinDocs/LawJournalLibrary.pdf> ("Though initially named the 'Law' Journal Library, this resource has grown from a small collection of law reviews to a multidisciplinary journals database spanning more than 39 million pages. Its coverage is comprehensive, beginning with the first issue ever published, and includes works from 60 different countries, as well as all 50 states and the District of Columbia. The nearly 3900 journals in the library span more than 1500 research subjects, including political science, history, technology, religion, business, gender studies, psychology, and many more.").

citations, by including every tenth article in this subset, we would have around 400 articles, giving us a similar sample size to the **top-articles** sample. We'll refer to this sample as the "**bottom-articles, 3 citations.**" While gathering the articles with 3 citations, we realized that a significant number were written by authors with only 3 total citations, likely indicating students who only authored a single note or comment.<sup>26</sup> It didn't seem fair to compare students writing a single article as a journal requirement with faculty whose careers depend on scholarship. And, although we didn't analyze this, it also seems possible there is a bias against citing student authored work. We also noticed that on average articles in the bottom sample were slightly younger than those at the top.<sup>27</sup> This makes sense for the simple fact that the older articles had more opportunity to garner citations.<sup>28</sup> Since the top-end we had chosen had two clear advantages over our first bottom sample, we decided to do a second bottom sample. For the second version, we looked at articles with one citation and only included articles from 2015 where at least one author had 100 or more total citations to their name (we'll refer to this sample as the "**bottom-articles, author over 100 citations**"). 2015 is the oldest year in our study, which meant that articles collected under the new criteria had maximum time to get cited. One hundred total citations may not seem like that many when Hein's most cited author has 28,279 total citations,<sup>29</sup> but these top authors are the exception, in a class by themselves. To get a sense of this, of the faculty Hein currently lists as being associated with Yale, 18 percent

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<sup>26</sup> Having so few citations indicates little incentive to gain them and, likely, very few published works. Although other scenarios are possible, we think it most likely that these are students who wrote a single note as part of a journal requirement.

<sup>27</sup> Adding up all the years in each data set and calculating the average had the most-cited articles coming in at 2015.73, while the set with three citations came in at 2016.29.

<sup>28</sup> Ayres & Vars, *supra* note 21, at 430; *see also* Whisner, *supra* note 6, at 170 (noting that four out of the five most cited works from the study came from the study's earliest year).

<sup>29</sup> *Law Journals - Most-Cited: Authors*, HEINONLINE, <https://heinonline.org/> (last visited May 21, 2020) (as of May 21, 2020, Cass Sunstein (28,279 article citations) led Richard Posner (24,155 article citations) by 4124 citations). These citations were compiled using Hein's authors profiles. From the databases landing page, navigate to "Law Journal Library"; choose "LibGuide"; choose "Most-Cited"; scroll down and select "Authors."

have under 100 total citations.<sup>30</sup> If 18 percent of the faculty at a top school have under 100 citations, it becomes clearer that one hundred is a significant number of citations, requiring a concerted effort by the author. Adding this requirement eliminated most student authored works. For these reasons, we believe our **bottom-articles, author over 100 citations** has better data. However, despite its shortcomings, we decided to also include our findings on the original **bottom-articles, 3 citations** sample to provide an additional perspective.

For our **top-articles** sample, we wanted to capture a complete picture at one moment in time. To do that, we gathered all our data for that subset from April 9 – 15, 2020. While gathering the data, we monitored for any changes to the ordering of the articles — none were observed. With the bottom datasets, we were less concerned with capturing them at an exact moment in time as both were only samples of a larger set and, as long as they met the criteria we set, would suffice for our needs. We compiled our **bottom-articles, 3 citations** sample between March 5 – April 23, 2020, and our **bottom-articles, author over 100 citations** sample between March 3 – April 8, 2020.

Our study focuses on correlation, not causation. With so many variables, proving causation is very challenging. However, we believe that correlation can give a strong indication of what’s working even without proving causality.

### Citation Breakdown

To gain context, the total population of law review articles from 2015-2019 in Hein was 242,924 when we gathered our data. As detailed above, we chose subsets of the top and bottom-most cited for our in-

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<sup>30</sup> We calculated these numbers with data from Hein’s author profiles. *Author Profiles by Institution: Yale Law School*, HEINONLINE, <https://heinonline.org/> (from the databases landing page, navigate to “Law Journal Library”; choose “Author Profiles”; scroll down to access data on Harvard and Yale).

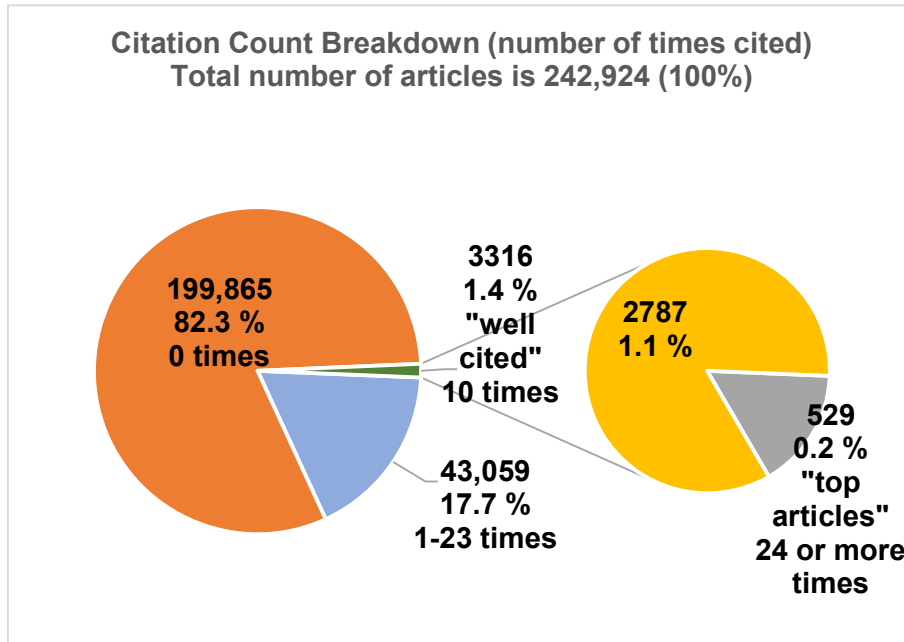
depth analysis. We also grouped the entire set of 242,924 by number of citations (i.e., how many articles had 10 citations, 11 citations, and so on). The results surprised us. First, 199,865 (82 percent) of the articles had zero citations.<sup>31</sup> Knowing how much time most authors invest in writing these articles, we found this troubling, but also realized it signaled a need for our article. Second, the number of citations needed for an article to be considered a “well-cited” article within the past five years, turned out to be lower than we had anticipated. Only the top 1.1 percent of all articles were cited ten or more times. Given this, it seems reasonable to call any article with ten or more citations “well-cited.” Further, it would certainly be fair to call an article with 24 citations (the lowest number of citations any article in our **top-articles** sample had) well-cited, especially since articles with 24 or more citations made up only 0.2 percent of the total population.

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<sup>31</sup> Our percentages here vary a bit from an older study, where Thomas Smith found that 43 percent of articles are not cited at all, and about 79 percent get ten or fewer citations. Smith’s study included articles much older than our five-year cap. So, this might indicate that there is hope of citation for the articles not yet cited in our study—maybe citations will eventually come their way. Or perhaps the citation network identified by Smith has grown even more skewed in the time between his study and ours. Smith also included citations by cases, while we only look at citations between articles. One final possibility is that the variation is due to differences in coverage between LexisNexis, which Smith used, and HeinOnline. Thomas A. Smith, *The Web of Law*, 44 SAN DIEGO L. REV. 309, 335-36 (2007).



**Figure 1: Citation characteristics for the full population of 242,924 articles**



### Characteristics of Well-Cited Articles

With an idea of the bigger picture and some background on our methods, we will now discuss our findings in detail with a focus on how the information can help authors increase their citation counts and whether our findings align with those in the SEO world. Specifically, this section discusses the differences we identified between the articles in the top-articles sample and the two bottom-article samples. All the differences between the characteristics discussed in this section are statistically significant based on t-tests run in Excel, unless otherwise indicated.

Others have studied correlations between easily measurable factors and number of citations,<sup>32</sup> but, within the legal discipline there are comparatively few citation studies.<sup>33</sup> Outside the legal field, there are an abundance of studies looking at factors that influence citations.<sup>34</sup> Some of these studies considered data across multiple disciplines and found that what can lead to citations in one discipline may not in another.<sup>35</sup> For example, in some disciplines, longer titles do better, while in others, shorter titles garner more citations (this is detailed further below). The difference across disciplines means legal authors should proceed with caution before relying on citation studies outside the legal arena and keep the differences between disciplines in mind when we discuss non-legal studies, including the SEO studies that we focus on.

### **Characteristic One: Long Articles**

Articles in the **top-articles** sample averaged 63 pages per article, compared to 27 pages per article in the **bottom-articles, author over 100 citations** sample and 35 pages per article in the **bottom-articles, 3 citations** sample. Within the **top-articles** sample, the most frequently occurring page lengths were 68 and 66 pages. As shown in **Chart One: Page Count Range and Frequency**, the majority (57 percent) of articles in the **top-articles** sample fell within 47-79 pages, with the vast majority (79 percent) coming in between 36-90 pages. On the other side, most (72 percent) of the articles in the **bottom-articles, author over**

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<sup>32</sup> *E.g.*, Whisner, *supra* note 6, at 167.

<sup>33</sup> Ayres & Vars, *supra* note 21. (Ian Ayres and Fredrick E. Vars produced the best study we found, a well-done and thorough examination of factors that influenced citations of articles published from 1980 to 1995 in the *Harvard Law Review*, *Stanford Law Review*, and *The Yale Law Journal*).

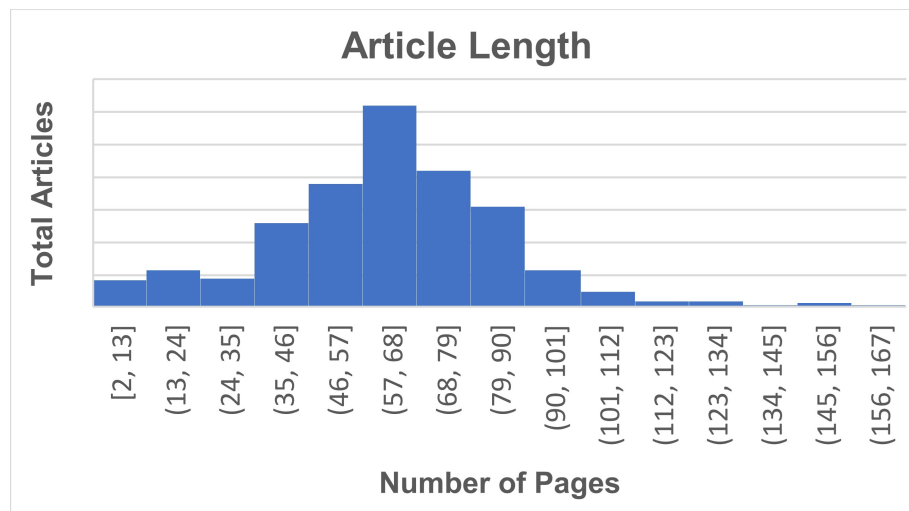
<sup>34</sup> *See* van Wesel et al., *supra* note 1, at 1602-04 (collecting studies on different factors that increase citations across a wide range of disciplines and providing new research on various factors that influence Sociology, General & Internal Medicine, and Applied Physics).

<sup>35</sup> *See, e.g., id.* at 12.

**100 citations** were between 2-34 pages, with most (67 percent) of the **bottom-articles**, **3 citations** falling between 14-46 pages.

The longest article in the **top-articles** sample is 166 pages long and the shortest comes in at 2 pages. Wide variations also appeared in both the lower data sets: articles in the **bottom-articles, author over 100 citations** ranged from 1 to 94 pages and **bottom-articles, 3 citations** had articles from 2 to 142 pages. Clearly, we have found trends, not rules. The data establishes that you can write an article much shorter than 63 pages and still get loads of citations. Likewise, you can write an article over 60 pages and get few citations.

**Figure 2: Pages per article (top articles only)**



Our data shows that articles in our **top-articles** sample tended to be significantly longer than those in our less-cited samples. Strengthening this assertion, Ian Ayres and Fredrick Vars conducted a study much like ours and found a similar correlation.<sup>36</sup> They looked at articles published in *Harvard Law Review*, *Stanford Law Review*, and *The Yale Law*

<sup>36</sup> Ayres & Vars., *supra* note 21, at 440.

*Journal* between 1980 and 1995.<sup>37</sup> Like us, they found that longer articles tended to receive more citations than shorter ones.<sup>38</sup> However, their research identified 53 pages as the optimal length for citations, ten pages less than the average of our **top-articles** sample.<sup>39</sup> We did not seriously investigate why the optimal length Ayers and Vars identified turned out shorter than what we found, but we hypothesize that the optimal article length has increased over time. A quick review indicates that we might be correct: the top-ten most-cited articles from 1900-1910 averaged 23 pages long, with no articles over 35 pages.<sup>40</sup> The difference between our results and Ayers and Vars could also stem from differing methods of data analysis. Regardless of the reason, both our study and Ayers and Vars found that longer articles tend to be cited more than shorter ones.<sup>41</sup> Therefore, we recommend that scholars strive to write longer papers, at least 50 pages in length (close to what Ayers and Vars found, within where most articles in our **top-article** sample fell, and over the length of most papers in both our less-cited samples).

### **Search Engines and SEO Experts Prefer Longer Content**

How do Google and SEO experts feel about article length? Before answering, we need to make clear that what is considered a long blog post or webpage differs significantly from what most people consider a long law review article. In December 2013, 74 percent of Medium articles were 825 words or less (or roughly one and a half pages single

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<sup>37</sup> *Id.* at 429.

<sup>38</sup> *Id.* at 440.

<sup>39</sup> *Id.*

<sup>40</sup> Reasons for this (and verifying the hypothesis) are outside the scope of this piece but could include: relatively higher printing costs in earlier eras, earlier articles discussing areas of the law that had yet to develop all the complexities they later did, or a desire of newer authors to write longer articles than their predecessors.

<sup>41</sup> Studies from other fields have made similar findings. *See, e.g.*, John Hudson, *Be Known by the Company You Keep: Citations—Quality or Chance?*, 71 *SCIENTOMETRICS* 231, 234 (2007) (finding that citations increase as page length does in a study of two economic journals).

spaced), with 94 percent under 1650 words (roughly 3 single spaced pages).<sup>42</sup>

With that context in mind, several studies indicate that Google and SEO experts prefer longer content. First, Google appears to favor (i.e., rank higher) longer content.<sup>43</sup> Second, a study of 912 million blog posts found that longer content tends to get (a) more backlinks<sup>44</sup> and (b) more social media shares.<sup>45</sup> Specifically, the study found that “long-form

<sup>42</sup> Mike Sall, *The Optimal Post Is 7 Minutes*, MEDIUM: DATA LAB (Dec. 2, 2013), <https://medium.com/data-lab/the-optimal-post-is-7-minutes-74b9f41509b> [<https://web.archive.org/web/20210217052851/https://medium.com/data-lab/the-optimal-post-is-7-minutes-74b9f41509b>] (“[o]verall, 74 percent of posts are under 3 minutes long and 94 percent are under 6 minutes long”). See also *Read Time and You*, MEDIUM: BLOG (June 3, 2014), <https://blog.medium.com/read-time-and-you-bc2048ab620c> [<https://web.archive.org/web/20210414144548/https://blog.medium.com/read-time-and-you-bc2048ab620c>] (“[r]ead time is based on the average reading speed of an adult (roughly 275 WPM). We take the total word count of a post and translate it into minutes. Then, we add 12 seconds for each inline image. Boom, read time.”).

<sup>43</sup> See Matt Bentley, *Data-Driven SEO Part 2: Does Long Content Really Rank Better?*, CAN I RANK, <http://www.canirank.com/blog/does-long-content-rank-better/> [<https://perma.cc/SRE2-Y6KM>] (discussing issues with other studies but still finding that longer content tends to rank better than shorter content); see also Pandu Nayak, *In-Depth Articles in Search Results*, WEBMASTER CENTRAL BLOG (Aug. 6, 2013), <https://developers.google.com/search/blog/2013/08/in-depth-articles-in-search-results> [<https://perma.cc/U8Z3-82D6>]; see also Dan Shewan, *What Is Long-Form Content and Why Does It Work?*, WORDSTREAM: BLOG (Aug. 27, 2019), <https://webmasters.googleblog.com/2013/08/in-depth-articles-in-search-results.html> [<https://perma.cc/A3VY-FBQJ>] (stating that a Google search algorithm update was designed to “help users find in-depth articles”).

<sup>44</sup> Backlinks are links from another website to yours.

<sup>45</sup> Brian Dean hypothesized that one reason longer content may rank better is because it has more backlinks, one of the ranking signals used by Google. However, Bentley argues that long content actually does not get more backlinks and long content ranks better simply because it actually tends to be better. Bentley’s sample size is smaller than Dean’s. Regardless of who is right on the backlinks point, both agree that longer content ranks better—only the reason is in dispute. See Brian Dean, *We Analyzed 912 Million Blog Posts: Here’s What We Learned About Content Marketing*, BACKLINKO (Feb. 19, 2019), <https://backlinko.com/content-study> [<https://perma.cc/PXY6-QC5F>]; see also Shewan, *supra* note 43 (discussing WordStream’s increased user engagement and traffic with the website’s switch to longer content and

content gets an average of 77.2 percent more links than short articles.”<sup>46</sup> It found that, while the preferred length is shorter for social shares than backlinks, longer content still outperforms shorter content, with posts of 1000 to 2000 words getting 56.1 percent more shares than ones with less than 1000 words.<sup>47</sup>

User preference for longer web content implies that most people using Google<sup>48</sup> prefer longer content. We consider the increase in backlinks and social shares especially relevant because backlinks (links from an outside site to the studied site)<sup>49</sup> and social media shares are the web equivalents of citations in academic journals, with backlinks being the stronger corollary.<sup>50</sup> When an author cites another author, they usually do so to support a claim they’ve made or, less often, to refute the other author. Either way, the cited author has done enough to gain the attention of their peers. Similarly, when a webpage links to another

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additional studies finding benefits with longer content); *see also* *Ideal SEO Content Length: Flushing the Goldfish Cliché Down the Toilet*, SWEOR (Mar. 5, 2020), <https://www.sweor.com/seocontentlength> [<https://perma.cc/8ZXZ-5HQR>]. *But see* Bentley, *supra* note 43 (finding, in a smaller study, that longer content does not bring more links).

<sup>46</sup> Dean, *supra* note 45.

<sup>47</sup> *Id.* *But see* Matthew Howells-Barby, *The Anatomy of a Shareable, Linkable & Popular Post: A Study of Our Marketing Blog*, HUBSPOT (Sept. 16, 2015), <https://blog.hubspot.com/marketing/seo-social-media-study> [<https://perma.cc/D9RR-QGCL>] (finding that the longest articles got the most social shares in a study of 6192 blog posts in late 2015).

<sup>48</sup> This article only looks at articles written in English and, consequently, also only considers English SEO findings and recommendations, with a focus on the U.S.

<sup>49</sup> Backlinks are also referred to as “inbound links” or “incoming links.” If a *New York Times* article linked to a *Wall Street Journal* article, the *Wall Street Journal* article would have a backlink from the *New York Times* article.

<sup>50</sup> Interestingly, just as most of the articles in the period we looked at had zero citations, most blog posts get zero backlinks or social shares. Dean, *supra* note 45 (“[t]he vast majority of online content gets few social shares and backlinks. In fact, 94 percent of all blog posts have zero external links.”).

page, it does so either to support or refute something said on the page.<sup>51</sup> Tweets and other social shares have similar purposes. The fact that both long web pages and long legal articles get more attention than short ones signals a preference in both areas for longer content. To sum up, the SEO research aligns with what we found: longer content is generally more likely to be cited. However, as we touched on above, our study, the one by Ayres and Vars, and some SEO studies found the benefit of length only extends so far.<sup>52</sup>

### Why Longer Content Gets More Citations

As to why longer content is more cited, we identified several possible reasons. More content means an opportunity to cover more topics, including tangential ones. If an article focused on antitrust has a well-done section on law and economics, perhaps citations to the law and economics portion push the article's citation count past similar articles that only discuss antitrust. Hein uses artificial intelligence to create a list of topics for many articles in its Law Journal Library.<sup>53</sup> While collecting data, we recorded and counted these topics. The **top-articles** sample averaged 5.29 topics per article, while the **bottom-articles, author over 100 citations** sample averaged 4.90 and the **bottom-articles, 3 citations** 5.12.<sup>54</sup> The difference between the **top-articles** and **bottom-articles, author over 100 citations** supports our inference that

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<sup>51</sup> Because links signal to Google support for the linked to website, savvy website owners will tell the search engine when they do not actually support the content they are linking to. See *The Beginner's Guide to SEO: Link Building & Establishing Authority*, MOZ, <https://moz.com/beginners-guide-to-seo/growing-popularity-and-links> [<https://perma.cc/R4U8-XFZS>] (discussing follow vs. no-follow links and how they can be used to avoid passing support to a linked to website).

<sup>52</sup> See Dean, *supra* note 45 (finding that 1000-2000 words is the optimal length for social media shares); see also, Sall, *supra* note 42 (finding 7 minutes, roughly 1600 words, to be the optimal length for capturing the most reading time).

<sup>53</sup> Lauren Mattiuzzo, *Alexa: Research Artificial Intelligence in HeinOnline for Me*, HEINONLINE BLOG (Jan. 14, 2020), <https://home.heinonline.org/blog/2020/01/alex-research-artificial-intelligence-in-heinonline-for-me/> [<https://perma.cc/RS65-UABE>].

<sup>54</sup> Note that while the difference between 5.29 and 4.90 is statistically significant, the difference between 5.29 and 5.12 is not.

covering more topics may increase an article's citation count. Further, another study of law review citations found that only two out of the 100 citations they reviewed cited the article to build on or respond to it.<sup>55</sup> The other 98 were either used to support a fact or opinion or for unclear reasons.<sup>56</sup> If articles are mainly being cited for facts or opinions, an article with factually accurate tangents has more chance of being cited than one without.

Another possibility, offered by some SEO experts<sup>57</sup> and at least one law professor,<sup>58</sup> is that readers equate length with authority or expertise. This seems logical. In the legal arena, we tend to assume that a multi-volume treatise is more authoritative than a single volume hornbook. We also generally think books provide a greater level of detail than articles, and so on. Since most authors want to support their assertions with the most authoritative content available, it follows that they would prefer longer articles to shorter ones when given the choice.

It may also be that readers consider longer articles easier to skim. Personally, we find reading a dense, 100+ page article daunting and often not worth the effort when we only need a small portion of it. Our guess is that at least some other members of the legal community feel similarly. For us, and like-minded scholars, scanning a long article to quickly home in on what you need is often faster than reading an entire short article. Further, perhaps authors of longer articles realize that

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<sup>55</sup> Jeffrey L. Harrison & Amy R. Mashburn, *Citations, Justifications, and the Troubled State of Legal Scholarship: An Empirical Study*, 3 TEX. A&M L.R. 45, 74 (2015); see also James E. Krier & Stewart J. Schwab, *The Cathedral at Twenty-Five: Citations and Impressions*, 106 YALE L.J. 2121, 2122 (1997) (stating that survey articles are cited frequently because they conveniently convey facts).

<sup>56</sup> Harrison & Mashburn, *supra* note 55.

<sup>57</sup> Manick Bhan, *Content Length and SEO: Does it Really Matter?*, LINKGRAPH (Mar. 9, 2020), <https://linkgraph.io/content-length-and-seo-does-it-really-matter/> [<https://perma.cc/6HDE-87PE>] (“[l]ong copy gives the impression of expertise, credibility, and extensive knowledge on a topic.”).

<sup>58</sup> See Scott Dodson, *The Short Paper*, 64 J. LEGAL EDUC. 667, 668 (2014) (arguing against long papers but stating that legal scholars “use length as a proxy for the value of the work”).



increased length requires tighter organization and use additional reading aids that make it easier to scan the content, like a table of contents and plenty of headings. When it comes to shorter articles, some researchers might feel guilty about not reading the entire thing and may fear missing the part most important to them if they do not. When this is the case, reading a “short” twenty-page article will usually take longer than scanning a 100-page piece and only reading the five relevant pages. Some SEO experts have drawn similar conclusions.<sup>59</sup> We did not gather any data relevant to this hypothesis, but, as discussed further below, authors of long articles should do their best to make skimming easy for their readers.

Most SEO experts agree that the earlier a website appears in search results, the more likely a searcher will view it.<sup>60</sup> It is very likely that the top results in legal databases also get more traffic than the lower ones, suggesting another possible reason longer articles are cited more often. Depending on the database’s algorithm, longer articles may appear higher in legal database search results, making them more likely to be found and cited. Early versions of Google’s algorithm ranked content higher partially based on the number of times a searched-for word appeared on a website.<sup>61</sup> Google has since adjusted its algorithm, but the legal databases most people use for law reviews have less sophisticated search algorithms that may still use the total number of times the searched for keyword appears as a factor in ranking results by

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<sup>59</sup> Neil Patel, *How Long Should Your Blog Articles Be? (With Word Counts for Every Industry)*, NEILPATEL: BLOG, <https://neilpatel.com/blog/long-blog-articles/> [<https://web.archive.org/web/20210421223524/https://neilpatel.com/blog/long-blog-articles/>].

<sup>60</sup> E.g., Kelly Shelton, *The Value of Search Results Rankings*, FORBES (Oct. 30, 2017, 8:00 AM), <https://www.forbes.com/sites/forbesagencycouncil/2017/10/30/the-value-of-search-results-rankings/#6bc667c144d3> [<https://perma.cc/9B8U-BH3Z>] (discussing studies that found websites on the first page of Google’s search results get between 71 percent and 92 percent of clicks, with second page results getting only 6 percent).

<sup>61</sup> See Megan Marrs, *The Dangers of SEO Keyword Stuffing*, WORDSTREAM: BLOG (Oct. 23, 2017), <https://www.wordstream.com/blog/ws/2012/03/21/dangers-of-keyword-stuffing> [<https://perma.cc/6P4C-JTLZ>] (explaining that increasing the number of times a keyword appeared on a website was once a way to rank better for that keyword).

relevance.<sup>62</sup> Additionally, the main legal databases (Westlaw and Lexis) allow users to run searches that only display results where the entered keyword occurs at least x number of times, favoring longer articles.<sup>63</sup> Longer articles also have more space and opportunity to work in related keywords and synonyms that authors may search for, further increasing their chances of appearing sooner in search results.<sup>64</sup> Again, our data does not support or disprove this assertion, but it does seem possible that part of the success longer articles enjoy stems from favorable treatment by the legal database algorithms and search options.

While we suspect all legal database algorithms lag behind Google, some do claim significant advances. For example, Westlaw has claimed to be “the world’s most advanced legal search engine.”<sup>65</sup> For different reasons, long articles could also excel within more advanced legal search algorithms, as long webpages do in Google’s algorithm. Google’s algorithm favors webpages that users spend more time on.<sup>66</sup> In the past, Westlaw has stated that its algorithm determines relevancy

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<sup>62</sup> Susan Nevelow Mart, *The Algorithm as a Human Artifact: Implications for Legal [Re]Search*, 109 L. LIBR. J. 387 (2017).

<sup>63</sup> *Developing a Search with LexisNexis*, LEXISNEXIS, <https://www.lexisnexis.com/bis-user-information/docs/developingasearch.pdf> [<https://perma.cc/G75W-VJYZ>]; *Westlaw Edge Tip: What Is the “At Least” Function, and How Do I Use It?*, THOMSON REUTERS, <https://legal.thomsonreuters.com/blog/westlaw-edge-tip-what-is-the-at-least-functional-and-how-do-i-use-it/> [<https://perma.cc/4XHH-87AU>].

<sup>64</sup> See *How to Keep Keyword Density Natural and Avoid Keyword Stuffing*, SEMRUSH: BLOG (Apr. 15, 2013), <https://www.semrush.com/blog/how-to-keep-keyword-density-natural-and-avoid-keyword-stuffing/> [<https://perma.cc/LLN3-5R43>] (stating that the best way to “naturally” avoid keyword stuffing is to increase the word count).

<sup>65</sup> *WestSearch: The World’s Most Advanced Legal Search Engine*, WESTLAW, [http://info.legalsolutions.thomsonreuters.com/pdf/wln2/1-355700\\_v2.pdf](http://info.legalsolutions.thomsonreuters.com/pdf/wln2/1-355700_v2.pdf) [<https://perma.cc/U7NZ-25UR>]; see also Mart, *supra* note 61, at 413-15 (finding that Westlaw’s algorithm delivers the most relevant results among the legal databases studied).

<sup>66</sup> Dean, *supra* note 45.

based on a variety of factors, including “usage by research professionals.”<sup>67</sup>

Ultimately, we cannot be sure how Westlaw’s proprietary algorithm currently works, but it is possible that it has followed the industry leader, Google, and factored in the amount of time users spend viewing content. Long articles require more time to read, at least if you read all the content (see above for an instance where that may not be the case). Thus, a long article may fair better in an algorithm that factors in the amount of time a user spends on a page. Additionally, Westlaw has previously stated that it factors in “meaningful interactions” when ranking and returning results.<sup>68</sup> The listed examples of “meaningful interactions” Westlaw gives, include print, email, and downloads.<sup>69</sup> Pre-COVID, research showed a preference for print when it comes to longer sources.<sup>70</sup> Further, personal experience and logic dictate that users are

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<sup>67</sup> *Compare WestlawNext Q&A Session: Refining Your Results*, THOMPSON REUTERS: LEGAL SOLUTIONS BLOG (June 18, 2010), <https://blog.legalsolutions.thomsonreuters.com/legal-research/westlawnext-qa-session-refining-your-results/> [<https://web.archive.org/web/20181003060731/https://blog.legalsolutions.thomsonreuters.com/legal-research/westlawnext-qa-session-refining-your-results/>] (responding to the question, “[h]ow is relevancy determined?” by stating that “[r]elevancy is determined by a number of factors that include search terms, KeyCite, key numbers, and usage by research professionals”), with *WestSearch: The World’s Most Advanced Legal Search Engine*, WESTLAW, [http://info.legalsolutions.thomsonreuters.com/pdf/wln2/1-355700\\_v2.pdf](http://info.legalsolutions.thomsonreuters.com/pdf/wln2/1-355700_v2.pdf) [<https://perma.cc/26AR-FBTA>] (stating only that Westlaw’s search algorithm emulates “the best practices of experienced legal researchers”); and *Westlaw Edge: The Most Intelligent Legal Research Service Ever*, THOMPSON REUTERS: LEGAL, <https://legal.thomsonreuters.com/en/products/westlaw> [<https://perma.cc/TV77-XSXT>] (making no mention of user behavior as a factor in the search process).

<sup>68</sup> *WestlawNext Q&A Session: Refining Your Results*, *supra* note 67.

<sup>69</sup> *Id.*

<sup>70</sup> Matt Enis, *Academic Ebook Sales Flat, Preference for E-Reference Up*, LIBR. J. (Sept. 28, 2020), <https://www.libraryjournal.com/?detailStory=academic-ebook-sales-flat-preference-for-e-reference-up#> [<https://perma.cc/2H9S-QLJ2>]; Bethany Cartwright, *We Asked Our Audience What They Really Think of PDF Ebooks: A HubSpot Experiment*, HUBSPOT: MARKETING (June 23, 2017, 8:00 AM), <https://blog.hubspot.com/marketing/pdf-preferences->

more likely to print, email, or download a longer piece for later because reading will require setting aside time and may need to be done over multiple sessions. As with the time on page theory, we cannot be sure if Westlaw, or other databases, still factor in print, email, and downloads. If they do, it could lead to long articles appearing earlier in search results, increasing their chances of being cited.

Ultimately, we cannot definitively determine why longer articles tend to get more citations. Investing additional effort in researching theories, like a feeling that longer articles are more authoritative, could provide more insight. However, the proprietary nature of the algorithms that deliver users' results and likely play a role in citations (by putting some articles earlier in search results) would make exploring some of our other ideas challenging. So, while verifying these theories is outside the scope of this paper, we thought readers would still find them interesting and hope that we, or other researchers, can explore these sometimes-competing ideas in the future.

### **Suggestions to Lengthen Articles**

Having established a link between article length and number of citations, we now offer suggestions on how to lengthen articles without negatively impacting quality. Practically speaking, it is helpful to know how many words are on a typical law journal page, as it might differ from the word processor you use to draft your work. While it will vary depending on the law journal, the general rule that law journals have

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experiment [<https://perma.cc/7D6L-N45F>]; *But see* Matt Enis, *College Students Prefer Print for Long-Form Reading, Ebooks for Research*, LIBR. J. (Mar. 27, 2018), <https://www.libraryjournal.com/?detailStory=college-students-prefer-print-long-form-reading-ebooks-research-lj-survey> [<https://perma.cc/B9WF-KAEY>] (indicating students prefer ebooks when researching).

adopted is 5000 words equals ten law review pages.<sup>71</sup> To flesh that out further:

**Table 2: Conversion: Number of Words to Number of Pages**<sup>72</sup>

Number of Words	Number of Pages
5,000 words	10 pages
10,000 words	20 pages
15,000 words	30 pages
20,000 words	40 pages
25,000 words	50 pages
30,000 words	60 pages
35,000 words	70 pages
40,000 words	80 pages

Based on our findings, you should target between 25,000 to 35,000 words, the equivalent of roughly 50-70 law journal pages.

Another practical consideration: many journals limit article length.<sup>73</sup> In fact, a good number claim to limit article length below 63 pages.<sup>74</sup> So,

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<sup>71</sup> See Allen Rostron & Nancy Levit, *Information for Submitting Articles to Law Reviews & Journals*, SSRN, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1019029](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1019029) [<https://perma.cc/KDZ5-KZL2>].

<sup>72</sup> Conversion chart created from understanding of Joint Statement of eleven law reviews concerning article length. See, e.g., *Article Length*, DUKE L.J. (2021), <https://dlj.law.duke.edu/about/submissions/article-length/> [<https://perma.cc/4B6H-Z9BN>].

<sup>73</sup> For example, *Drexel Law Review*, *Florida Law Review*, and *North Carolina Law Review* all “prefer” submissions no longer than fifty law review pages (including footnotes); *Harvard* says it “[w]ill not publish articles exceeding 30,000 words (roughly 60 law review pages) except in extraordinary circumstances;” *Stanford Law Review* has a limit of 30,000 words (roughly 60 law review pages) and “values brevity and looks favorably on pieces significantly below the 30,000 word ceiling;” *St. Thomas Law Journal* “wants only 5,000 to 15,000 words (roughly 30 law review pages), excluding footnotes. Rostron & Levit, *supra* note 71.

<sup>74</sup> *Id.* (A few exceptions from the journals examined in *Information for Submitting Articles to Law Reviews & Journals*, include *Texas Law Review*, where most articles should be within the 40–70-page range, and *Vanderbilt*, which prefers “submissions of 20,000 to 35,000 words, including text and footnotes (40 to 70 journal pages”).

what should an author do when debating between hitting a word count that could increase citations and one that will meet a journal's requirements? First, there is evidence that journals do not follow their own article length limits, assuming that is the case, then authors have no reason to limit length.<sup>75</sup> Second, if authors are faced with an actual choice, they should consider the journals they are targeting.<sup>76</sup> If all are similarly ranked, then our data suggest preferring journals that do not have page limits.

Of course, when attempting to increase your word count, you should not simply fill your article with extraneous words. Instead, focus on how you can improve the article with additional length. The SEO world has tools that can help with this by finding related topics and concepts.<sup>77</sup> However, SEO tools target and tend to work best with more general topics and struggle to provide useful information on the complex, nuanced, and niche topics of most law review articles.<sup>78</sup> So, while SEO tools may be worth a look to see if they prompt you to think of a new avenue, their actual results will likely be of limited use. Instead, focus on applying the concepts behind the tools. Put yourself in the reader's

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<sup>75</sup> Stephen M. Bainbridge, *Law Review Word Limits Go Unenforced .... at Least at Harvard and Yale*, PROFESSORBAINBRIDGE.COM (Oct. 15, 2013), <https://www.professorbainbridge.com/professorbainbridge.com/2013/10/law-review-word-limits-go-unenforced-at-least-at-harvard-and-yale.html> [<https://perma.cc/8ETV-6BM5>].

<sup>76</sup> As an aside, many of the journals with limits say something similar to the Cornell's flagship journal, "[t]he Cornell Law Review will not publish pieces exceeding 35,000 words except in extraordinary circumstances." *Submitting Articles and Essays to Cornell Law Review*, CORNELL L. REV.: SUBMISSIONS, <https://www.cornelllawreview.org/submissions/> [<https://perma.cc/65D4-TA2V>]. However, we did not see any journals that listed what constitutes "extraordinary circumstances." If it is related to the author's name recognition, then that would seem unfair because it is limiting the ability of those who most need citations to get them, while allowing well-known authors to further pad their citation counts and increase the gap over their less well-known peers. Rostron & Levit, *supra* note 71.

<sup>77</sup> Joshua Hardwick, *10 Free Keyword Research Tools (That Aren't Google Keyword Planner)*, AHREFS BLOG (Apr. 7, 2021), <https://ahrefs.com/blog/free-keyword-research-tools/> [<https://perma.cc/D8TQ-HAEQ>].

<sup>78</sup> *E.g.*, ANSWERTHEPUBLIC, <https://answerthepublic.com/> (search run May 26, 2020) (a search for "Agency Statutory Interpretation" pulls up zero questions, while a search for "fashion" generates eighty).

shoes. What additional questions might they have that are relevant to your paper? Consider running your article by colleagues or students to see where they have questions or would like more detail. While this manual approach lacks the amount of data behind SEO tools, it should generate additional ideas. Do not focus solely on yourself; remember your audience and keep in mind what will interest them.

Additionally, consider how extra length can help your article to rank better in search algorithms.<sup>79</sup> If you can do it naturally, work in synonyms and similar words for your most important points. Like SEO experts, we only recommend this approach if you can do it naturally.<sup>80</sup> Not only will you hurt your chances of being cited if your writing is poor, but Google eventually altered its algorithm to punish websites that unnaturally crammed in keywords in an effort to rank higher.<sup>81</sup> We suspect that legal search engines would do the same if the practice became widespread in legal scholarship.

### Example Articles

For those who are curious, we decided to include a few example articles that support our findings. Remarkably, the most cited article in our study, *Big Data's Disparate Impact*, came in at 62 pages (recall that the average number of pages for articles in our **top-articles** sample is 63 pages) and, when the data was collected, had 177 citations. Was this article by Cass Sunstein, the most cited author on Hein (28,239 citations when the **top-articles** data was gathered)? No. It was authored by Solon Barocas (cited 329 times when the data was gathered) and Andrew D. Selbst (cited 266 times). On the other side, *Government-Operated*

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<sup>79</sup> Michelle Ebbs, *10 Easy Ways to Increase Your Citation Count: A Checklist*, AJE SCHOLAR, <https://www.aje.com/arc/10-easy-ways-increase-your-citation-count-checklist/> [<https://perma.cc/VU5A-K6XP>]; e.g., Joran Beel et al., *Academic Search Engine Optimization (ASEO): Optimizing Scholarly Literature for Google Scholar & Co.*, 41 J. SCHOLARLY PUBLISHING 176, 184 (2010).

<sup>80</sup> *How to Keep Keyword Density Natural and Avoid Keyword Stuffing*, *supra* note 64.

<sup>81</sup> *See Irrelevant Keywords*, GOOGLE SEARCH CENTRAL, <https://support.google.com/webmasters/answer/66358?hl=en> [<https://perma.cc/GA9U-JEX2>] (stating that overloading with keywords “can harm your site's ranking”).

*Drones and Data Retention*, comes in at 22 pages and has only 1 citation, despite the timely and compelling topic. Of course, these are just examples used to illustrate the point. Our data set also has counter examples, like Cass Sunstein's *Chevron as Law*, which had only 3 citations when the data was gathered despite the recognizable author and its 72-page length.

### **Are Longer Articles Really Better?**

Our article focuses on what types of articles are more likely to be cited. While the data indicates longer articles are more likely to be cited, this does not mean that they are actually better. Personally, we dread the idea of reading a 60+ page law review article and agree with Scott Dodson that shorter is better.<sup>82</sup> However, with longer articles being cited more often, it seems likely they are here to stay. Changing this trend would require putting less emphasis on citations and finding another proxy for value.

### **Characteristic Two: Short Titles Without Colons**

#### **Title Length**

The average title in the **top-articles** sample had 52 characters (including spaces). The **bottom-articles, author over 100 citations** sample averaged 70 title characters, while the **bottom-articles, 3 citations** sample had an average of 73 characters per title. Within the **top-articles** sample, the two most frequently occurring title lengths were 27 and 32 characters. In the **top-articles** sample, 60 percent of the article titles had between 19-57 characters, while 66 percent of the titles in the **bottom-articles, author over 100 citations** sample fell between 34-98 characters, and 64 percent of the **bottom-articles, 3 citations** sample titles were between 25-89 characters (see chart below for a visual overview of the distribution). Further, 76 percent of articles in the **top-**

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<sup>82</sup> Dodson, *supra* note 58, at 667.



**articles** sample fell below 70 characters and only 7 percent were over 100 characters, while in the **bottom-articles, author over 100 citations** sample, 54 percent fell under 70 characters, and 18 percent came in over 100 characters. In sum, while “short” is a relative term, we found that articles with more citations tend to have shorter titles when compared to less cited articles.

While character length is the most precise measure of title length, word count provides a different and useful perspective. In the **top-articles** sample, titles averaged 7.30 words, while the **bottom-articles, author over 100 citations** sample averaged 10.28 words, and the **bottom-articles, 3 citations** sample averaged a nearly identical 10.67 words. 60 percent of the titles in the **top-articles** sample had between 1 and 7 words and 84 percent fell below 12 words, with the two most common title lengths coming in at 3 and 5 words respectively. Thus, titles with fewer words tended to be cited more often in our dataset.

Not all articles followed the trends in their respective samples. The longest title in the **top-articles** sample came in at 210 characters, while the shortest title was 5 characters. Titles in the **bottom-articles, author over 100 citations** sample ranged from 7 to 194 characters, with the **bottom-articles, 3 citations** sample titles coming in between 11 and 218 characters. As with article length, the ranges indicate that we found title length trends, not rules.

### **Title Colons**

Whether a title had a colon also proved statistically significant, with more cited articles less likely to include a colon in the title. Thirty-two percent of titles in the **top-articles** sample had colons, while 55 percent of titles in the **bottom-articles, author over 100 citations** sample, and 50 percent of titles in **bottom-articles, 3 citations** sample had colons.

### Additional Academic Studies

Studies outside the legal realm indicate that whether long or short titles are preferred varies by discipline. Although it did not provide an optimal length, a study of 140,000 science, technology, medicine, social sciences, and arts and humanities articles found that when reviewing the data set as a whole, shorter titles tend to receive more citations than longer ones.<sup>83</sup> However, this did not hold across all journals studied, with longer titles performing better in some journals.<sup>84</sup> Further, another study found that shorter titles received more citations in Sociology and Applied Physics, but in Internal & General Medicine longer titles did better.<sup>85</sup> The same study also looked at colons and found that colons in the title lead to more citations in Applied Physics but fewer citations in General and Internal Medicine.<sup>86</sup>

Within the legal arena, the findings of Ayers and Vars, also cited in the previous section, align with ours for title length but not the presence of a colon.<sup>87</sup> In their study of three top law reviews, Ayers and Vars found that “articles with shorter titles received significantly more citations than articles with longer titles.”<sup>88</sup> They also found that “having a colon in the title significantly reduced the probability of falling into the bottom 10 percent.”<sup>89</sup> We do not have Ayers and Vars data, so we can only speculate on why we came to different conclusions on the presence

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<sup>83</sup> Adrian Letchford, Helen Susannah Moat & Tobias Preis, *The Advantage of Short Paper Titles*, 2 ROYAL SOC'Y OPEN SCI. 1, 5 (2015).

<sup>84</sup> *Id.* (chart indicating some journals, like *Lancet*, have more citations if a title is longer).

<sup>85</sup> van Wesel et al., *supra* note 1, at 1606.

<sup>86</sup> *Id.*

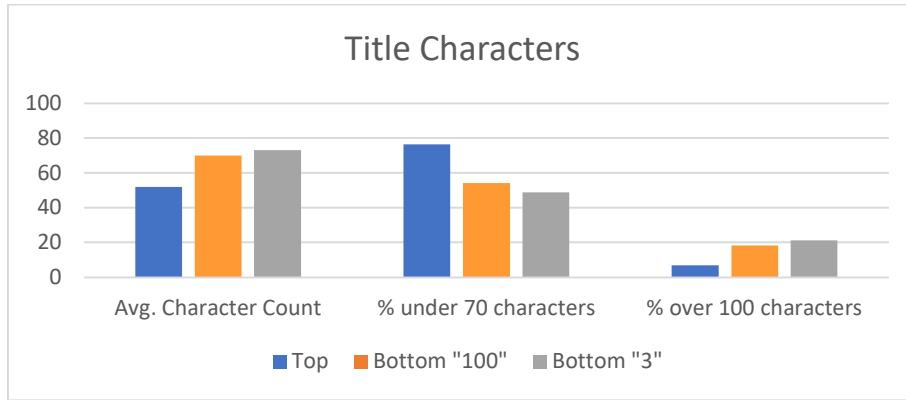
<sup>87</sup> T. Liskiewicz et al., *Factors Affecting the Citations of Papers in Tribology Journals*, 126 SCIENTOMETRICS 3321, 3322 (2021).

<sup>88</sup> Ayres & Vars, *supra* note 21, at 440.

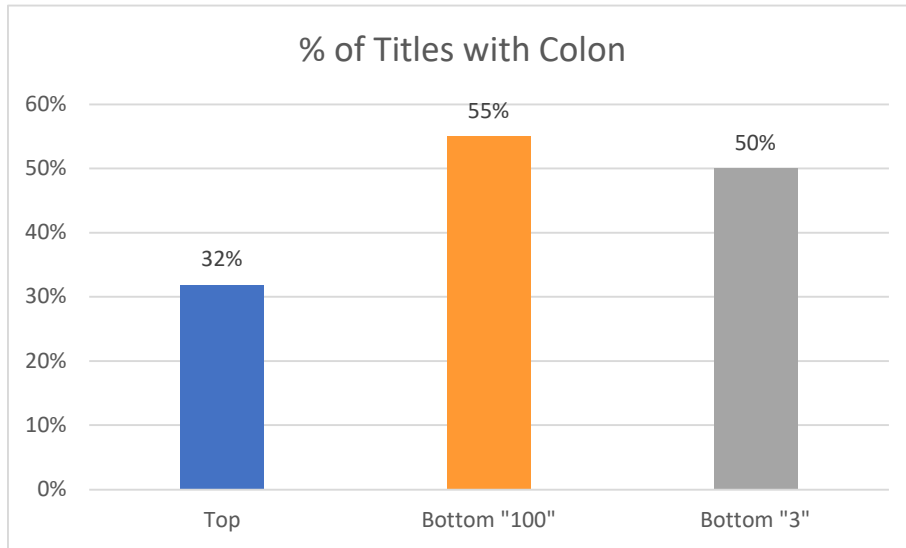
<sup>89</sup> *See id.* at 443 (cautioning that “[t]he least-cited regression results are subject to all of these interpretations plus the possibility that the results relate to variance in citation rates. For example, the finding that having a colon significantly reduced the likelihood of an article falling into the least-cited decile might indicate merely that such articles have a lower variance in citation.”).

of a colon. One possibility is that none of the three subsets we pulled came from the bottom 10 percent of the set of over 200,000 articles that we gathered our subsets from and that is why our findings differ. Perhaps a comparison of the bottom 10 percent would align with Ayers and Vars. However, we want to help authors become well-cited, not merely avoid the bottom 10 percent, which in our data set would include only articles with 0 citations. So, although the lack of alignment with Ayers and Vars weakens our confidence, we still recommend avoiding a colon in the title if possible. The chart below shows the distribution of articles in the data sets.

**Figure 3: Title Character Count**



**Figure 4: Colon in Title**

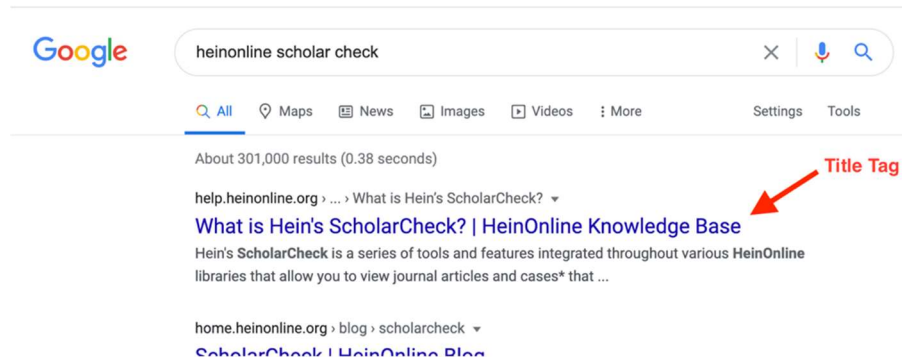
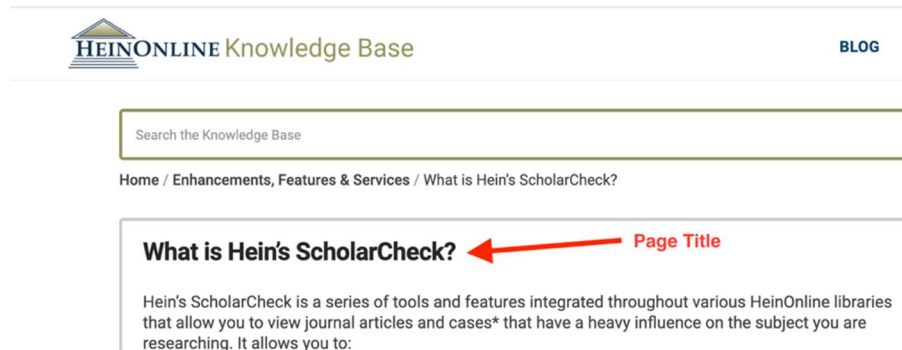


### Search Engines and SEO Experts Also Favor Shorter Titles

There are a few differences to consider when comparing titles on the web to those in law reviews. First, on the web, “title” can have a few meanings. It can be the heading that appears at the top of a webpage that is coded with an HTML h1 or h2 tag. Title could also mean the meta title tag (i.e., <title>Example Title</title>) that Google usually displays in search results.<sup>90</sup> In practice, the page title and title tag are usually the same or very similar, but they do not have to be (see screenshots below illustrating the title tag and page title). Because the title tag displays in search results and influences whether users will click into a page from search results, the title tag is probably the more discussed “title” in SEO circles. Below we will specify which “title” we are referring to whenever possible.

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<sup>90</sup> See *Title Tag*, MOZ: FUNDAMENTALS, <https://moz.com/learn/seo/title-tag> [<https://perma.cc/2EDX-PC5C>] (explaining that Google will not always use your title tag in search results); Michal Ugor, *We Analyzed 1.5 Million Title Tags to Find Out What the Ideal Length Is for SEO in 2020 (Hint: It's Not 80 Characters Anymore)*, AUTHORITYHACKER (Sept. 20, 2019), <https://www.authorityhacker.com/seo-title-tags/> [<https://perma.cc/6STB-GGXM>] [hereinafter Ugor, *We Analyzed 1.5 Million Title Tags*] (finding that Google often makes minor edits to title tags and uses an h tag when no title tag is available, while completely ignoring their own advice to limit title length).

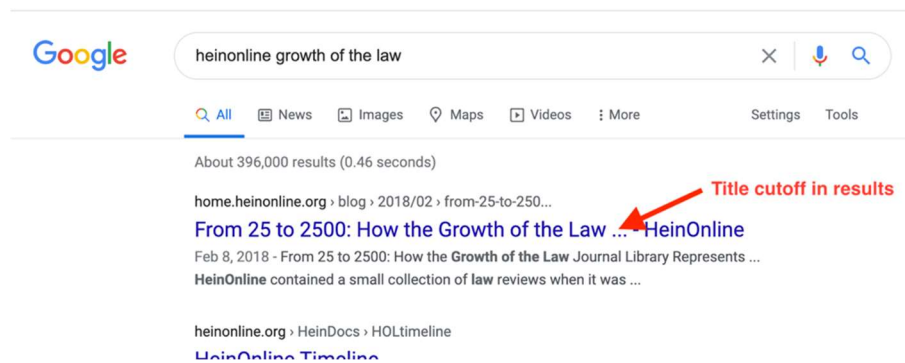
**Figure 5: Title Tag****Figure 6: Page Title**

Second, Google typically only displays the first 50-60 characters of a meta title tag in search results (screenshot below shows a cutoff title).<sup>91</sup>

<sup>91</sup> Google allows the title to take up to 600 pixels (px). The actual characters that fit in 600px can vary based on the characters themselves—an “i” takes less space than a “w.” Consequently, SEO experts disagree on exactly how many characters can fit in search results. *Compare Title Tag, supra* note 90 (claiming 50-60 characters), *with Ugor, We Analyzed 1.5 Million Title Tags, supra* note 90 (claiming 80 characters is the max but adding that Google often adds in a brand, trimming available space closer to 50 characters).

As discussed below, this limit on search result title lengths may hurt longer titles more than it would in legal databases, where titles are rarely cut off.<sup>92</sup> Further, Google does recommend short titles.<sup>93</sup> Savvy website owners are aware of this and of Google's length limit and strive to make sure that the key portion of their title is shown in search results, often shortening titles to keep them under Google's limit.<sup>94</sup>

### Figure 7: Title Cutoff



With that background out of the way, we can now examine whether the web also favors shorter titles. The webpage studies we looked at presented results surprisingly similar to what we found in our study of law review articles. When it comes to search results, a study of 1.5 million meta title tags found that shorter titles perform better, with the top performers having titles between 45-50 characters, close to the 52-

<sup>92</sup> For example, Westlaw, HeinOnline, and LexisNexis do not cutoff titles in search results.

<sup>93</sup> *Create Good Titles and Snippets in Search Results*, SEARCH CONSOLE HELP CENTER, <https://support.google.com/webmasters/answer/35624?hl=en> [<https://perma.cc/YR8Y-BGW2>].

<sup>94</sup> *Compare Title Tag*, *supra* note 90.

character average of the articles in our **top-articles** sample.<sup>95</sup> Backlinko found people are more likely to click search results with meta title tags of 15-40 characters.<sup>96</sup> Another well-documented study by Etsy also found shorter meta title tags performed better, although they did not provide an optimal length.<sup>97</sup> Finally, a study that looked at number of words, instead of characters, found that titles with fewer words tend to perform better, with 8 words being optimal, just 1 word more than the average in our **top-articles** sample.<sup>98</sup>

These studies indicate that Google's algorithm, and presumably the users Google's algorithm is designed to serve, prefer shorter titles. Still, because of Google's title truncation, most of the "longer" titles that these SEO studies looked at were around 60 characters.<sup>99</sup> Therefore, these studies do not show whether users would prefer titles of over 60 characters.

Social media platforms tend to allow longer headlines, so examining them moves us away from the restraints Google puts on title length.<sup>100</sup>

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<sup>95</sup> Ugor, *We Analyzed 1.5 Million Title Tags*, *supra* note 90. When reviewing this source, keep in mind that because Google cuts off titles around 60 characters, the titles in this study max out at roughly 60 characters. However, this study only looked at the character length of titles that displayed in search results, not the actual length of the meta title tag. So, some of the actual titles in this study could be significantly longer but were truncated by Google.

<sup>96</sup> Brian Dean, *We Analyzed 5 Million Google Search Results: Here's What We Learned About Organic Click Through Rate*, BACKLINKO (Aug. 27, 2019), <https://backlinko.com/google-ctr-stats> [https://perma.cc/2V54-BR89].

<sup>97</sup> Bill Ulammandakh, *SEO Title Tag Optimization at Etsy: Experimental Design and Causal Inference*, ETSY: CODE AS CRAFT (Oct. 25, 2016), <https://codeascraft.com/2016/10/25/seo-title-tag-optimization/> [https://perma.cc/UVA7-VG7J].

<sup>98</sup> Matthew Barby, *How to Rank Number One in Google: A Study of 1 Million Pages*, MATTHEWBARBY (Jan. 16, 2020), <https://www.matthewbarby.com/ranking-in-google/> [https://perma.cc/G48P-37QZ].

<sup>99</sup> Ugor, *We Analyzed 1.5 Million Title Tags*, *supra* note 90.

<sup>100</sup> Confusingly, when webpages are shared on social media, the "title" can be the title tag, as with search results or it can be another tag specifically designed only to show on social



Studies that looked at headline length's impact on social media shares (i.e., which webpages were more likely to be shared on social media), found that longer headlines outperformed shorter ones.<sup>101</sup> This may be due to how social media posts often display website headlines, with the headline taking up a large portion (sometimes all) of the post, making more descriptive headlines especially useful. Another possibility may have to do with people's purpose for visiting social media versus searching Google. People often visit social media for leisure. LinkedIn is an exception to this as people generally visit for a career-related purpose. A study found that the optimal headline length for LinkedIn shares (around 8-10 words) is significantly lower than the optimal length for Facebook shares.<sup>102</sup> Perhaps focused users with work on their minds have different preferences than users browsing in their free time.

Regardless of the reasons longer titles do better on social media, webpages are more like law review articles than social media posts. Therefore, we think that the better performance of shorter title tags in search results and Google's stated preference for shorter titles support our findings and recommendation that law review authors write shorter titles.

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media. Michal Ugor, *How to Write the Best Headlines for Shares, Links & Traffic [Data Powered Guide]*, AUTHORITYHACKER (June 25, 2019), <https://www.authorityhacker.com/headlines/> [<https://perma.cc/RQN4-E54D>] [hereinafter Ugor, *How to Write the Best Headlines*].

<sup>101</sup> See *BuzzSumo Research: 100 Mil Headlines Analysis. Here's What We Learned*, BUZZSUMO: BLOG (June 26, 2017), <https://buzzsumo.com/blog/most-shared-headlines-study/#words> [<https://perma.cc/XP2N-B2ZX>] (finding 80-95 characters the optimal length for sharing titles on Facebook); see also, Ugor, *How to Write the Best Headlines*, *supra* note 100 (finding that the average length of the top 1 percent of titles was 70 characters, while the average length of all titles was 65 characters).

<sup>102</sup> *BuzzSumo Research: 100 Mil Headlines Analysis. Here's What We Learned*, *supra* note 101.

### No SEO Studies on Use of Colons

Our research did not uncover any SEO data on colons in titles.<sup>103</sup> However, Orin Kerr recommends avoiding colons, saying the format “is popular among student notes” and should be avoided.<sup>104</sup> Hein’s ScholarRank top 250 authors ranked Kerr at number five as of this writing. So, although he does not provide any data, it seems he may know what he is talking about.<sup>105</sup>

### Why Are Shorter Titles Without Colons Preferred?

Citing authors may prefer shorter titles because they can be read and understood faster. Or, perhaps, a lengthy, hard to understand title, leads people to assume that the article itself will be hard to understand. Additionally, some legal scholars likely use Google, either out of preference or necessity. This means that Google’s limit on characters may play a role here: a truncated title may not make sense, leading the searcher to skip it and move to the next one. Take *Presidential Administration: How Implementing Unitary Executive Theory Can Undermine Accountability* (a title from one of our lower samples), Google truncates this result (screenshot below), leaving the reader wondering, “unitary” what?

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<sup>103</sup> The SEO discussions of colons in titles generally focus on how Google interprets them — as colons if you are curious. Cara Bowles, *Title Tag SEO: 50 Questions Answered*, NORTH CUTT, <https://northcutt.com/seo/53-enlightening-questions-about-title-tags/> [<https://perma.cc/4DMT-QUV6>].

<sup>104</sup> Orin Kerr, *Tips on Placing Law Review Articles*, PRAWFSBLAWG (Oct. 1, 2014, 12:24 AM), <https://prawfsblawg.blogs.com/prawfsblawg/2014/10/tips-on-placing-law-review-articles.html> [<https://perma.cc/TL25-M5TC>].

<sup>105</sup> *ScholarRank’s Top 250 Authors in HeinOnline*, HEINONLINE, [https://home.heinonline.org/top\\_authors/](https://home.heinonline.org/top_authors/) [<https://perma.cc/AZG8-EVY8>].

## Figure 8: Title Truncation

heinonline.org › hol-cgi-bin › get\_pdf › admrein40

### Presidential Administration: How Implementing Unitary ...

Presidential Administration: How Implementing Unitary Executive Theory Can Undermine Accountability. By Heidi Kitrosser\* the concept of accountability.

by H Kitrosser - 2014 - Cited by 1 - Related articles

As for colons, we suspect that a lower occurrence of colons in titles is at least partly related to title length. Colons are typically used in titles to explain something, making it more likely that a title with a colon will need to be longer. Further, as demonstrated in the *Presidential Administration* title, adding a colon essentially allows authors to include two titles: a short one and a longer explanatory one.

### Example Titles

We think that the most-cited article in our study did an excellent job succinctly explaining what the article is about: *Big Data's Disparate Impact*. Scanning through articles in the **top-articles** sample, it appears many authors simply put one or two sets of descriptive words on their topic: *Information Fiduciaries and the First Amendment*; *Unorthodox Lawmaking*, *Unorthodox Rulemaking*; *Unequal Protection*; and *Sensitive Information*. Some titles in the less cited samples take a similar approach, but tack on an explanatory phrase: *Presidential Administration: How Implementing Unitary Executive Theory Can Undermine Accountability*; *Indigenous Identity, Cultural Harm, and the Politics of Cultural Production: A Commentary on Riley and Carpenter's Owning Red*; *Community Land Trusts: Why Now Is the Time to Integrate This Housing Activists' Tool into Local Government Affordable Housing Policies*; *The Elephant in the Room in Debates about Universal Jurisdiction: Diasporas, Duties of Hospitality, and the Constitution of the Political*; and *Warrantless Blood Tests, Drunk Driving, and Exigent Circumstances: Preserving the Liberty Guarantee of the Fourth Amendments While Evolving the Exceptions to the*

*Warrant Requirements.* Could it be that not providing a full description in the title prompts users to click a result and read it?

In sum, we recommend limiting title lengths, using the data we provided in this section as a guideline. Avoiding colons in titles should also increase your chances of getting cited.

### **Characteristic Three: Write on A Popular Topic<sup>106</sup>**

Writing on a popular topic to increase citations is a more obvious idea than the previously discussed items. Still, seeing numbers on this characteristic should drive home its importance. As we have with the other characteristics, we lead with numbers from our study.

HeinOnline uses artificial intelligence (AI) to assign one or more topics to each article.<sup>107</sup> Reviewing those topics revealed some interesting trends. Twelve percent of the articles in the **top-articles** sample included “technology” or “science and technology” as a topic, compared to 5 percent in the **bottom-articles, author over 100 citations** sample, and 7 percent in the **bottom-articles, 3 citations** sample. “Immigration” came up as a topic in 6 percent of articles from the **top-articles** sample; 1 percent of articles from the **bottom-articles, author over 100 citations** sample; and 2 percent of articles from the **bottom-articles, 3 citations** sample. “Race” occurred in 7 percent of **top-articles**; 2 percent of **bottom-articles, author over 100 citations**; and 5 percent of **bottom-articles, 3 citations** articles. The higher percentages in the **bottom-articles, 3 citations** sample when compared to the **bottom-articles, author over 100 citations** sample may be due to the significant number of student notes in the former sample. In our yearly meetings with journal students, we have observed that they tend

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<sup>106</sup> We did not run an analysis to determine if the items in this section are statistically significant.

<sup>107</sup> *Hein Online's Suite of Tools*, HEINONLINE, <https://home.heinonline.org/tools/> [<https://perma.cc/3MNY-QTVS>].

to gravitate toward trending, popular topics. We suspect this is true at most law schools. Yet, student pieces are less likely to be cited,<sup>108</sup> presumably, even if focused on a trending topic. This may explain the higher percentages in the **bottom-articles, 3 citations** sample.

Moving to topics some might view as less “popular,” we found the gap smaller when it came to articles with “arbitration” listed as a topic. Here, 2.39 percent of **top-articles** articles had “arbitration,” compared with 1.41 percent in the **bottom-articles, author over 100 citations** and 1.53 percent in the **bottom-articles, 3 citations** samples. We also found the numbers closer with “comparative law” as the subject, where 3 percent of articles in the **top-articles** sample had “comparative law” as a topic, compared with 5 percent of **bottom-articles, author over 100 citations**, and 4 percent of **bottom-articles, 3 citations**.

These comparisons intrigued us, but further breaking down our samples by topic led to a limited number of articles per topic, making us less confident in our conclusions. We wanted to expand the sample size to confirm what we were seeing. So, we decided to look at topics within the entire set of 242,924 articles. To do that, we pulled up all the articles classified with a topic and calculated the number of citations per article across certain topics. Articles with “technology” as a topic came in at 0.65 citations per article, while the less headline-grabbing “arbitration” had 0.49 citations per article. These results matched our assumption that trending topics would get cited more often. Then, we dug further and found that “comparative law” gets 0.72 citations per article, more than the presumably attention-grabbing topic of technology. Also, we expected “race” would be a well-cited topic, and it was with 1.46 citations per article. However, the size of race’s gap over technology was larger than we had anticipated. We decided to examine the broad topic of technology a little closer by seeing if more trendy niche topics

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<sup>108</sup> Harrison & Mashburn, *supra* note 55, at 65 (finding that student works averaged 8.2 citations per article compared to 35.5 for non-student articles).

within technology led to different numbers. They did: the topic of “technology” with the search term “bitcoin” came in at 1.63 citations per article, while “technology” and “robot” garnered 2.08. Additionally, Hein has a separate “artificial intelligence” topic. It had 1.25 citations per article. Overall, these numbers indicate a connection between the topics you choose to write on and your chances of being cited. The breakdown of “technology” shows that picking a broadly popular subject is not sufficient; you need to home in on a narrow and popular portion of that broader subject.

Although they looked at different subjects, Ayres and Frederick’s study of citations in law reviews also observed that articles on certain subjects tend to garner more citations than others.<sup>109</sup> In their study, articles on jurisprudence, feminism, and Critical Legal Studies tended to get more citations, while those on international law and criminal law got less.<sup>110</sup> Ayres and Frederick conducted their study in 2000. Because tastes change, their data may have less relevance today for authors looking to write on popular topics. Regardless, their findings support our larger claim: topic selection can have an impact on potential citations.<sup>111</sup>

### SEO and Topic Selection

Not surprisingly, SEO experts have also found a correlation between topic and webpage popularity.<sup>112</sup> As an example, HubSpot did a study that, in part, looked at their blog posts to see how topic selection influenced popularity.<sup>113</sup> They found that certain topics were cited more often than others.<sup>114</sup> However, there are comparatively few SEO studies

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<sup>109</sup> Ayres & Vars, *supra* note 21, at 437-39.

<sup>110</sup> *Id.*

<sup>111</sup> *Id.*

<sup>112</sup> Matthew Howells-Barby, *The Anatomy of a Shareable, Linkable & Popular Post: A Study of Our Marketing Blog*, HUBSPOT (July 28, 2017), <https://blog.hubspot.com/marketing/seo-social-media-study> [<https://perma.cc/8BXU-LYJN>].

<sup>113</sup> *Id.*

<sup>114</sup> *Id.*

on topic selection. This is almost certainly because the proliferation of tools designed to analyze topics makes it easy for users to quickly run their own, real-time studies on various topics, as we detail later in this section.

### **Incorporating Popular Topics**

Depending on your area of expertise, incorporating a popular topic may require some creativity. But with some effort, it can usually be done. Andrew Ferguson provides an example of this by weaving tech-related topics with his expertise in criminal law.<sup>115</sup> Ferguson authored the twelfth most cited article in our data set: *Big Data and Predictive Reasonable Suspicion*.<sup>116</sup> The article incorporates a popular topic (big data) with an area of the law Ferguson knows well. Looking at the titles in Ferguson's Hein Author Profile reveals use of this approach several times before: *The Internet of Things and the Fourth Amendment of Effects*<sup>117</sup> and *The Smart Fourth Amendment*.<sup>118</sup> Another example of this would be intellectual property (IP) experts writing on ownership of works created by artificial intelligence systems.<sup>119</sup>

While this approach will not work with all trending topics, the concept is straightforward. First, find a popular topic that interests you. Then, consider how your area of expertise might be applied to the topic. If you get stuck, move on to another topic. The next section aims to help with

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<sup>115</sup> Andrew Guthrie Ferguson, AM. U.: W. COLL. L., <https://www.wcl.american.edu/community/faculty/profile/aferguson/publications> [https://perma.cc/9LSD-4HZ6]. Our observations here are based simply on Ferguson's CV and the data from Hein. We cannot say whether Ferguson consciously planned this strategy.

<sup>116</sup> See Andrew Ferguson, *Big Data and Predictive Reasonable Suspicion*, 163 U. PA. L. REV. 327 (2015).

<sup>117</sup> See Andrew Ferguson, *The Internet of Things and the Fourth Amendment of Effects*, 104 CALIF. L. REV. 805 (2016).

<sup>118</sup> See Andrew Ferguson, *The "Smart" Fourth Amendment*, 102 CORNELL L. REV. 547 (2016-2017).

<sup>119</sup> E.g., Shlomit Yanisky-Ravid, *Generating Rembrandt: Artificial Intelligence, Copyright, and Accountability in the 3A Era*, 2017 MICH. ST. L. REV. 659 (2017).

the first step by introducing SEO tools designed to gauge and compare topic popularity.

### **Finding Popular Topics**

The tools used by web authors were designed for the web. Consequently, they have limitations in the academic world. Below we touch on a few tools, explaining their potential uses and pitfalls.

Answer the Public generates content ideas based on data it scrapes from Google's auto-populated suggestions.<sup>120</sup> Depending on the topic, it may have some uses for scholars. Entering "privacy laws" pulled up a few interesting suggestions: "what privacy laws apply to the operation of a drone," "how privacy laws affect business operations," "privacy vs law enforcement," and, the surprisingly specific, "how privacy laws can impact the school nurse."<sup>121</sup> However, we found many topics too narrow for the tool. For example, a search of answerthepublic.com for "Comparative law" pulls up 23 questions, eight comparisons, and eight related topics that the tool has found searchers are asking.<sup>122</sup> Unfortunately, the questions, comparisons, and topics are too basic for a scholarly article.<sup>123</sup> A few illustrative examples, include "What is comparative law?" and "Why is comparative law important?" Also, we should note that Answer the Public seeks to generate ideas for writing on topics, not rate a topic's popularity.<sup>124</sup>

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<sup>120</sup> Sophie Coley, *How to Use AnswerThePublic*, SEARCHLISTENING (Sept. 3, 2019), <https://searchlistening.com/how-to-use-answerthepublic-com-become-an-expert-with-search-listening/> [<https://perma.cc/3V23-86BA>] (watch video).

<sup>121</sup> Search Results from "Privacy Laws", ANSWERTHEPUBLIC, <https://answerthepublic.com/> (search run June 30, 2020).

<sup>122</sup> Search Results from "Comparative Law", ANSWERTHEPUBLIC, <https://answerthepublic.com/> (search run May 26, 2020).

<sup>123</sup> *Id.*

<sup>124</sup> ANSWER PUBLIC, <https://answerthepublic.com/> [<https://perma.cc/FY84-7QQU>].



Moz's Keyword Explorer "help[s] you figure out what keywords people are searching, what keywords you're already ranking for, the demand for certain searches, and the strength of other sites competing for your target keywords."<sup>125</sup> It does a little better on "comparative law" than Answer the Public, offering expected monthly volume (a rough approximation of popularity) plus a few related keywords (many of which Moz has no data on).<sup>126</sup> However, the issue academic scholars may have with Moz, and similar SEO tools, is their focus on existing websites. Moz rates existing websites that cover your topic and how hard it will be for you to rank higher than them.<sup>127</sup> This is of little use to academic authors who are not interested in ranking against websites. Further, Keyword Explorer focuses on a topic's popularity across established websites, not within society as a whole.<sup>128</sup> This will make it less helpful the more recently popular a topic is.

As the name suggests, Google Trends focuses on identifying trending topics in its widely used search engine.<sup>129</sup> Users can go to the homepage and get an overview of the most popular topics on Google.<sup>130</sup> While many of these topics may be challenging to turn into legal articles ("national donut day"), others will not ("third amendment").<sup>131</sup> Further,

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<sup>125</sup> *Keyword Explorer Overview*, MOZ, <https://moz.com/help/keyword-explorer/getting-started/overview> [<https://perma.cc/C6MF-GR3W>].

<sup>126</sup> Search Results from "Comparative Law", MOZ, <https://moz.com/explorer> (search run June 3, 2020).

<sup>127</sup> *Id.*

<sup>128</sup> *Id.*

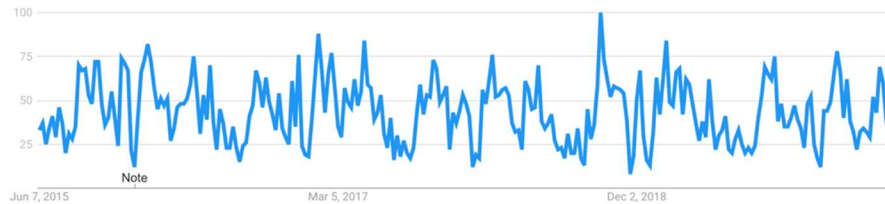
<sup>129</sup> *FAQ About Google Trends Data*, GOOGLE HELP, <https://support.google.com/trends/answer/4365533?hl=en> [<https://perma.cc/HS99-7AKW>].

<sup>130</sup> *Explore What the World is Searching*, GOOGLE TRENDS, <https://trends.google.com/trends/?geo=US> [<https://perma.cc/LR2T-2NDJ>].

<sup>131</sup> Trending topics on June 5, 2020 and October 2, 2020, GOOGLE TRENDS, <https://trends.google.com/trends/?geo=US> ("national donut day" and "third amendment" were listed as trending topics on June, 5th, 2020. A few months later, on October 2nd, "Trump Covid" and "Broncos vs Jets").

users can enter and compare their own topics. A search for “comparative law” shows a varied trendline with interest peaking in late 2018.<sup>132</sup>

**Figure 9: Google Trends, “Comparative Law” Example**

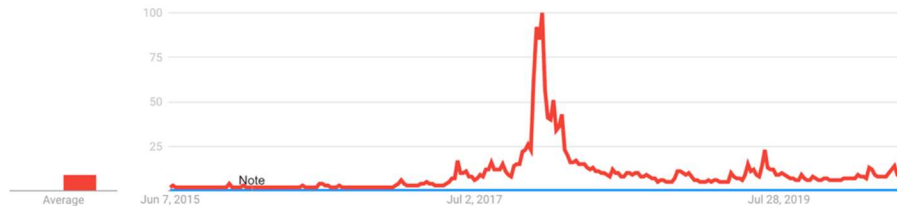


Since this trendline is so varied, with no clear increasing trend, “comparative law” does not look like a timely topic. This becomes more apparent when we compare it to “bitcoin” (graph below). The results of the comparison show that bitcoin (red line) is generating significantly more interest than comparative law (flat blue line) and that the optimal moment to write about bitcoin may have passed (red line spike in 2017).<sup>133</sup> This chart also indicates that, at least in this case, popularity in search tracked with what we found in our review of topics on Hein: bitcoin was the more searched for term on Google, and articles on bitcoin also garnered more citations per article than comparative law.

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<sup>132</sup> Search Results for “Comparative Law”, GOOGLE TRENDS, <https://trends.google.com/trends/?geo=US> (search run June 3, 2020 for past 5 years).

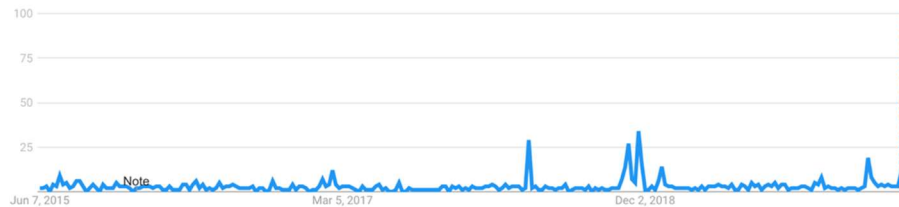
<sup>133</sup> Search Results for “Comparative Law” and “Bitcoin”, GOOGLE TRENDS, <https://trends.google.com/trends/?geo=US> (search run June 3, 2020 for past 5 years).

**Figure 10: Google Trends, “bitcoin” example**

This comparison brings up an issue academic users should consider when working with Google Trends. It performs well for comparisons where the terms have only a few logical meanings, like bitcoin and comparative law. However, it can falter where terms have multiple meanings. For example, when looking at “race,” the “related queries” include items like “Alabama senate race” and “amazing race.”<sup>134</sup> So, when using Google Trends, make sure to scroll down below the graph to confirm Google has not lumped in unintended topics with its analysis of your terms. As the discussed examples show, authors can use Google Trends to gauge relative popularity and compare two topics they are considering to determine which is more popular. Authors can also look at a single topic to see if its popularity is rising or falling. For example, a search for “Posse Comitatus Act” on June 3, 2020, shows a likely spike in traffic (dotted line).<sup>135</sup>

<sup>134</sup> Search Results for “Race”, GOOGLE TRENDS, <https://trends.google.com/trends/?geo=US> (search run June 5, 2020 for past 5 years).

<sup>135</sup> Search Results for “Posse Comitatus Act”, GOOGLE TRENDS, [https://trends.google.com/trends/explore?date=2015-06-03%202020-06-03&geo=US&q=%2Fm%2F0\\_g](https://trends.google.com/trends/explore?date=2015-06-03%202020-06-03&geo=US&q=%2Fm%2F0_g) (search run June 3, 2020).

**Figure 11: Google Trends, “Posse Comitatus Act” Example**

Using the tools discussed here and other SEO targeted tools can help you in identifying the popularity of a topic or deciding between multiple topics. Still, none of these tools are perfect, largely because they were made with the web in mind. Therefore, it remains important to keep yourself up-to-date and open to how seemingly unconnected trends can tie into your scholarship. The best time to identify a trend is before it has even started, something none of these tools claim to do.

### Competitor Analysis

In the SEO world, web authors look for popular topics that are likely to get plenty of traffic but have not been well-covered already.<sup>136</sup> This type of check is often referred to as a “competitor analysis.”<sup>137</sup> Moz’s Keyword Explorer, also discussed above, provides one example of a tool designed to help web authors conduct a competitor analysis. It has a “difficulty” metric, which “shows [web authors] how tough it would be to rank in the top 10 spots for [a] keyword.”<sup>138</sup> Although SEO tools will not allow legal authors to analyze competition from existing scholarly articles, we recommend adopting a version of the SEO competitor analysis during the pre-emption check. In addition to seeing

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<sup>136</sup> Joshua Hardwick, *How to Do an SEO Competitor Analysis [Template Included]*, AHREFS BLOG (May 14, 2020), <https://ahrefs.com/blog/competitive-analysis/> [<https://perma.cc/DAN6-F2WR>].

<sup>137</sup> *Id.*

<sup>138</sup> *Difficulty*, MOZ, <https://moz.com/help/keyword-explorer/keyword-metrics/difficulty> [<https://perma.cc/NK22-CH8E>].

if anyone has covered your exact topic, also consider how likely it is people will cite your work over that of an existing piece. Has a well-known scholar already authored a popular article on a similar point to yours? If so, you may want to consider a different topic. Many authors likely do this already, but we want to suggest it explicitly. As with SEO, we believe that the popular topics that have not been widely written on represent the sweet spot for legal authors.

To summarize our recommendations in this section, start by identifying topics that interest you. Examine the topics for popularity and consider how you can incorporate them with your legal knowledge. Next, analyze the competition to see how likely your article is to be cited over existing articles. Ideally, you will find a topic that is popular but not widely written on. Consider all these factors together when choosing a topic.

### **Additional Items to Consider**

This section covers some additional items we observed in our study or came across in our SEO research. While important, we either did not think they required the same depth of discussion we gave to the prior items or did not have enough data to give full coverage.

### **Publish in a Widely Accessible Journal**

A study on the impact ease of access has on citation counts in finance and economics journals found that making journals freely accessible increased citation counts in lower ranked journals.<sup>139</sup> Our data support a similar conclusion for law articles. In this section, we look at an embargoed journal (full text withheld online for a period of time) to demonstrate.

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<sup>139</sup> Benedicte Millet-Reyes & Barrie A. Bailey, *Internet Access, Journal Ranking, and Citation Performance*, 34 J. FIN. EDUC. 28, 39 (2008).

Of the top ten journals in Washington & Lee's Law Journal Rankings,<sup>140</sup> only one has an embargo period with HeinOnline.<sup>141</sup> The *Supreme Court Review*'s embargo requires HeinOnline to wait three years before sharing full text articles.<sup>142</sup> Out of the **top-articles** sample of 502 articles we reviewed, the *Supreme Court Review* came in last for number of articles in the sample, with only one article or 0.2 percent of the sample. The next closest was *the Fordham Law Review* with eight articles or 1.6 percent, then the *California Law Review* with fifteen articles or 3 percent. Of course, we need to point out that the *Supreme Court Review* only publishes one issue per year, compared to Fordham and California's 6 issues.<sup>143</sup> Still, based solely on number of issues, the Supreme Court review should receive 1/6<sup>th</sup> the citations of the other journals. Instead, it gets 1/8<sup>th</sup> and 1/15<sup>th</sup> of the closest competitors and only 1/39<sup>th</sup> of the most cited journal in our study, the *Yale Law Journal*, which publishes 8 issues per year.<sup>144</sup>

The *Supreme Court Review*'s low citation count is not due to a lack of inclusion in Hein's citation count because Hein includes citation analytics for embargoed content.<sup>145</sup> To drill down a little further, we

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<sup>140</sup> We looked at the 2018 *W&L Law Journal Rankings* for our top ten, because "citations per year peek at 4 years after publication." Ayres & Vars, *supra* note 21, at 427. In 2015, when most of the articles in the top sample were authored, the *Supreme Court Review* came in at eighteenth, the *California Law Review* at seventeenth, and *Fordham* at nineteenth. In 2019, the *Supreme Court Review* moved from tenth to ninth; the *California Law Review* went from ninth to seventh, while *Fordham* dropped from eighth to twenty-first. *W&L Law Journal Rankings*, WASH. & LEE UNIV. SCH. L., <https://managementtools4.wlu.edu/LawJournals/Default.aspx> [<https://perma.cc/KE8B-4CCL>] (select the appropriate year; check combined score; then click submit).

<sup>141</sup> HEINONLINE, <https://heinonline.org/HOL/Welcome> [<https://perma.cc/W45G-RX7S>] (login to Hein; navigate to the Supreme Court Review's page; and click the "i" next to the title).

<sup>142</sup> *Id.*

<sup>143</sup> *Id.* (login to Hein; navigate to each journal's page; and click the "i" next to the title).

<sup>144</sup> *Id.*

<sup>145</sup> *Does Hein's ScholarCheck Include Embargoed Journals in the 'Cited by' Metrics?*, HEINONLINE: KNOWLEDGE BASE, <https://help.heinonline.org/kb/u-s-news-is-considering-using-heins-scholarcheck-to-evaluate-law-school-scholarly-impact/> [<https://perma.cc/XL4L-V2PH>].

looked at *Fordham Law Review* articles (477) and *Supreme Court Review* articles (49) over the period we pulled our data from (2015-2019, inclusive). Over that entire time period, *Fordham* articles averaged 4.17 citations per article, while *Supreme Court Review* articles had 0.82 citations per article.

For the issues of the *Supreme Court Review* in our study sample, 2018 and 2019 were embargoed as of this writing. Full text is provided for 2015, 2016, and 2017. Table 3 compares the number of citations per article (an average we calculated by counting articles and dividing by the total number of citations to all of those articles; student notes in the *Fordham Law Review* were excluded).

**Table 3: Average Citations Per Article for Embargoed Journal and Full-Text Accessible Journals (mean, median, mode).**

<i>Supreme Court Review 2016</i>	<i>Supreme Court Review 2018</i>
10.44 6 2	2.58 2 1
<i>Fordham Law Review 2015-16</i>	<i>Fordham Law Review 2017-18</i>
8.85 5 2	6.54 5 6
<p>Of the 4 volumes shown here, only <i>Supreme Court Review 2018</i> is embargoed. Full text is available for the other three volumes.</p> <p>A t-test indicates there is a significant difference between the mean for the <i>Supreme Court Review</i> in 2016 compared to <i>Supreme Court Review</i> in 2018. There is no significant difference between the <i>Fordham Law Review 2017-18</i> and <i>Supreme Court Review 2018</i>.</p> <p>The data for this table was collected in February 2021.</p>	

The *Supreme Court Review*'s average citations per article are much lower in a year where full text is not available. In conclusion, the harder you make it for would be citing authors (and the search engines they use) to access your material, the less likely they are to find and cite it. Other things being equal, we recommend publishing in a widely accessible journal.

### **Publish in a Top Journal**

You probably already knew this one, but here are our data and thoughts. The top-ten journals in Washington & Lee's Law Journal Rankings for



2018 made up 37 percent of the articles in our **top-articles** sample, 4 percent of our **bottom-articles, author over 100 citations** sample, and 5 percent of our **bottom-articles, 3 citations** sample. In our **top-articles** sample, the top 10 journals account for more than their share of the total citations in the sample: 45 percent, or 8695, citations out of 19,516 total citations. Additionally, Jeffrey Harrison and Amy Mashburn specifically examined the impact that the rank of a journal's school had on citations and found that journals published at higher ranked schools tend to get more scholarly citations.<sup>146</sup> So, with the caveats listed in this article, publish in the best journal you can. Yale, Harvard, Stanford, and Columbia's flagship journals seem highly regarded across a range of sources.<sup>147</sup> Outside of these, you will see some variation depending on the ranking system. Harrison and Mashburn found that specialty journals published at schools ranked well by *U.S. News* tended to receive more citations than similar journals at lower ranked schools.<sup>148</sup> Ultimately, we recommend looking at multiple journal ranking metrics if you have multiple publication offers.

### Cite Yourself?

Depending on how your citations are being judged, citing yourself may seem like an easy and attractive way to boost your stats. Hein currently includes self-citations in its overall author citation counts.<sup>149</sup> However,

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<sup>146</sup> Harrison & Mashburn, *supra* note 55, at 76-77.

<sup>147</sup> See *Submitting Papers to Law Journals: Journal Rankings*, U. MICH. L. LIBR., [https://libguides.law.umich.edu/journal\\_submissions/rankings](https://libguides.law.umich.edu/journal_submissions/rankings) [<https://perma.cc/232Z-VC49>] (providing a list of journal ranking metrics, which the four journals listed consistently top).

<sup>148</sup> Harrison & Mashburn, *supra* note 55 at 76-77.

<sup>149</sup> Shannon Furtak, *Author Self-Citations, ScholarCheck Rankings, and Twitter Buzz*, HEINONLINE: BLOG (Dec. 19, 2017), <https://home.heinonline.org/blog/2017/12/author-self-citations-scholarcheck-rankings-and-twitter-buzz/> [<https://perma.cc/QBC6-TFWU>] (“Self-citations are also not subtracted from overall citation counts and are there for informational purposes only.”).

Hein does separate out self-citations.<sup>150</sup> This means that your institution and *U.S. News* or other citation rankers can easily remove them if desired. Further, should someone take it upon themselves to investigate self-citation, as has happened in the scientific field, spurious self-citers will be found out.<sup>151</sup> In the SEO world, Google sometimes punishes websites that have “unnatural links” by suppressing them in results.<sup>152</sup> Unnatural links would be similar to an author unnaturally citing themselves or having a quid pro quo citation arrangement with a colleague. Although these manipulative tactics may be successful in the short term, we suspect they will eventually be discovered either by your colleagues (as happened in the scientific community) or by *U.S. News* or an institution making tenure and other citation-influenced decisions.<sup>153</sup> If this happens, the fallout will likely be serious. Therefore, we only recommend self-citation if your article is truly the best source to support your claim.

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<sup>150</sup> HEINONLINE, <https://heinonline.org/HOL/Welcome> [<https://perma.cc/W45G-RX7S>] (visit the Hein author profile of a well-cited author, like Cass Sunstein’s, and you will see the citation statistics include a “self-citations” line item).

<sup>151</sup> See, e.g., John P. A. Ioannidis, Jeroen Baas, Richard Klavans & Kevin W. Boyack, *A Standardized Citation Metrics Author Database Annotated for Scientific Field*, PLOS BIOL. 1, 1 (Aug. 12, 2019), <https://doi.org/10.1371/journal.pbio.3000384> [<https://perma.cc/KT5L-5S2S>] (“Citation metrics are widely used and misused. We have created a publicly available database of 100,000 top scientists that provides standardized information on citations, h-index, coauthorship-adjusted hm-index, citations to papers in different authorship positions, and a composite indicator.”).

<sup>152</sup> *Link Schemes*, GOOGLE DEVELOPERS, <https://developers.google.com/search/docs?hl=en> [<https://perma.cc/ZE69-VZ8Y>] (follow “Advanced SEO” hyperlink; then open “Guidelines” dropdown menu; then open “Quality guidelines” dropdown menu; then follow “Link schemes” hyperlink).

<sup>153</sup> See, e.g., Eric A. Fong & Allen W. Wilhite, *Authorship and Citation Manipulation in Academic Research*, PLOS ONE 1 (Dec. 6, 2017), <https://doi.org/10.1371/journal.pone.0187394> [<https://perma.cc/FT5U-KMCX>] (discussing scholars in other fields who include non-contributing authors, add citations not relevant to their work, etcetera).

### **Publish with A Well-Cited Author**

As you would expect, well-cited authors were more likely to appear in our **top-articles** sample where the average citation count for the first author was 1368, compared to 622 for the **bottom-articles, author over 100 citations** sample, and 437 of our **bottom-articles, 3 citations** sample. Therefore, you stand to increase your chances of citation by working with an already well-established author, assuming each author listed on an article receives credit for one citation per article (below we discuss why this system may invite issues). However, we want to point out that this is only one factor that can help you, not a guarantee: Cass Sunstein (one of the most cited authors on Hein) had five articles in our **top-articles** sample, but also had two in the **bottom-articles, 3 citations** sample.

### **Publish with a Co-Author?**

At 1.4, our **top-articles** sample had the highest average number of authors per article, compared to 1.36 in **bottom-articles, author over 100 citations**<sup>154</sup> and 1.27 in **bottom-articles, 3 citations**.<sup>155</sup> However, our analysis indicates that only the difference between 1.4 and 1.27 is statistically significant. We were surprised when we discovered the difference was only significant between one of our lower citation datasets. We expected that more authors would mean more people promoting the article, increased chances for name recognition, and, thus, more citations. In their study, Ayres and Vars found that coauthored pieces were cited more often, but articles with more than two authors were cited less frequently.<sup>156</sup> Further, multiple studies looking at other disciplines found that more authors correlated to more

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<sup>154</sup> Not statistically significant.

<sup>155</sup> Statistically significant.

<sup>156</sup> Ayres & Vars, *supra* note 21, at 439.

citations.<sup>157</sup> In non-legal fields, we found only one study that indicated more authors led to fewer citations.<sup>158</sup> Even this study found that overall, more authors led to more citations, but in a few of the studied disciplines articles with fewer authors did better.<sup>159</sup> So why were our findings mixed in this area? It's possible that the legal field is unique and there is no correlation between number of authors and citations. However, we think it is more likely that the correlation exists but is weaker than the others we studied, and, if we analyzed more data, we would find that multiple authors do increase the chances for citation.

### **Check Hein Records and Ensure Credit for Your Work with ORCID**

On a purely practical note, we have observed Hein sometimes mistakenly includes or excludes works by authors with similar names from its citation metrics. To make sure that your work is not credited to someone with a similar name, we recommend that you check your CV against what is shown on your Hein Author Profile. You should also use a persistent digital identifier, like ORCID.<sup>160</sup> Whenever possible, tie your scholarship to your ORCID iD. This is especially important if you have a common name. Additionally, Hein has integrated ORCID with its author profiles, allowing authors to push works on their Hein profile to their ORCID account.<sup>161</sup> More importantly, Hein recently gave

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<sup>157</sup> E.g., van Wesel et al., *supra* note 1, at 1608-12, and David Card & Stefano DellaVigna, *Nine Facts About Top Journals in Economics*, 51 J. ECON. LITERATURE 144, 156 (2013). But see John Hudson, *Be Known by the Company You Keep: Citations—Quality or Chance?*, 71 SCIENTOMETRICS 231, 234 (2007) (finding no impact on number of authors in a study of two economic journals).

<sup>158</sup> Massimo Franceschet & Antonio Costantini, *The Effect of Scholar Collaboration on Impact and Quality of Academic Papers*, 4 J. INFORMETRICS 540, 544 (2010) (looking at scholarly work at Italian Universities across twenty disciplines).

<sup>159</sup> *Id.* (noting, for example, that in physics, where works with over 100 authors are common, fewer authors led to more citations).

<sup>160</sup> ORCID, <https://orcid.org/> [<https://perma.cc/X9MD-7KUZ>].

<sup>161</sup> *Creating an ORCID Account and Linking to HeinOnline*, HEINONLINE: KNOWLEDGE BASE, <https://help.heinonline.org/kb/creating-an-orcid-account-and-linking-to-heinonline/> [<https://perma.cc/LT8U-BA9G>].

authors the ability to pull works from their ORCID accounts to their Hein author profiles.<sup>162</sup> This allows authors to bring in scholarship that is unavailable in Hein's database, like books and interdisciplinary articles.<sup>163</sup> Eventually, Hein hopes to add citations to these works that it finds in its database to an author's total citation counts.<sup>164</sup> If Hein starts tracking these additional citations, it could lead to a significant increase in some authors' overall citation counts. Bonnie Shucha authored an article that goes into greater detail on the items covered in this paragraph.<sup>165</sup> We recommend reviewing it for more information.

### More SEO Practices to Consider

Although we do not have related data from our study, we wanted to share a few additional practices and tips from the SEO world that may help academic authors. This is certainly not an exhaustive list. We recommend that you mine the SEO world for additional ideas on how to increase your citation counts.

Other academic fields are already looking at how to optimize scholarship for search engines,<sup>166</sup> even coining the phrase “academic

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<sup>162</sup> *Id.*

<sup>163</sup> *Why Hein's ORCID Integration Could Be a Big Deal for the US News Law School Scholarly Impact Ranking*, WISBLAWG (Feb. 5, 2020), <https://wisblawg.law.wisc.edu/2020/02/05/why-heins-orcid-integration-could-be-a-big-deal-for-the-us-news-law-school-scholarly-impact-ranking/> [<https://perma.cc/RBB6-ZH92>].

<sup>164</sup> *Id.*

<sup>165</sup> Shucha, *supra* note 23.

<sup>166</sup> *E.g.*, Sharon Shafer, *SEO for Authors: A How-to-Guide*, UCLA LIBR.: RES. VISIBILITY, <https://guides.library.ucla.edu/seo/author> [<https://perma.cc/Y7YH-WF5C>]; *Search Engine Optimization: For Authors*, WILEY, [https://onlinelibrary.wiley.com/pb-assets/assets/17476593/SEO\\_Guidelines\\_for\\_Authors\\_July\\_13-1509465663000.pdf](https://onlinelibrary.wiley.com/pb-assets/assets/17476593/SEO_Guidelines_for_Authors_July_13-1509465663000.pdf); *It's All About Getting Found! Search Engine Optimization Tips for Book Authors*, SPRINGER NATURE, <https://www.springernature.com/gp/authors/campaigns/seo-tips-for-book-authors> [<https://perma.cc/NV83-Y3ZG>].

search engine optimization.”<sup>167</sup> (We think we are the first to come up with “academic citation optimization”<sup>168</sup> and “legal citation optimization.”) Much of the work in other fields has focused on optimizing within Google Scholar.<sup>169</sup> Because Hein and other databases allow Google Scholar to index their content (researchers can access results for their institution by editing their settings in Google Scholar), this seems an area legal practitioners should pay attention to. In the future, we believe SEO tactics will become increasingly important for scholars in all fields and will also grow more nuanced with each discipline doing analysis and providing insights on how to rank in the discipline’s most popular databases. We hope to begin this in the legal field by applying SEO principles to some popular legal databases.<sup>170</sup>

When writing, include all variants of words users may search for and put keywords in the title. While Google is getting better and better at recognizing and including results for synonyms, many legal search engines still struggle in this area. As one example, we ran a test on June 10, 2020, in Westlaw Edge. We wanted to find an article we have frequently cited here: *Determinants of Citations to Articles in Elite Law Reviews*.<sup>171</sup> First, we entered “determinants of citations **journals**” (without quotes or bold). The desired article came up at number 15 in the results, under the “secondary sources” content type, when sorted by “relevance” (the default sorting method). Simply by changing the search to “determinants of citations **reviews**” (without quotes or bold), the article moved to the top position with the same filters. Perhaps if the

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<sup>167</sup> Lluís Codina, *Received Citations as a Main SEO Factor of Google Scholar Results Ranking*, SEO MEDIA LAB (June 21, 2018), <https://seomedia-lab.com/academic-seo-google-scholar/> [<https://perma.cc/7VNY-27UN>].

<sup>168</sup> We have started a site for general academic citation optimization, (<https://www.citationoptimization.com/>) and hope to start one focused on legal citation optimization ([legalcitationoptimization.com](https://legalcitationoptimization.com)).

<sup>169</sup> Codina, *supra* note 167 (finding that number of citations is the “most relevant off-page feature in the ranking of search results on Google Scholar”).

<sup>170</sup> If time permits, we hope to build on what we cover here and elsewhere in this paper on a website at [legalcitationoptimization.com](https://legalcitationoptimization.com).

<sup>171</sup> Ayres & Vars, *supra* note 21.

article were titled “Determinants of Citations to Articles in Elite Law Reviews & Journals,” it would have shown first for both searches.<sup>172</sup>

Related to this, we also recommend thinking carefully about keywords and variations when you upload to repositories like SSRN. If someone else handles your SSRN uploads, make sure to include a set of relevant keywords when you send them your manuscript. Whoever does the actual uploading will undoubtedly do their best, but no one knows your article as well as you do.

You may also want to consider citing well-known articles in your article. An SEO study found that outgoing links<sup>173</sup> to authoritative sites have a positive impact on rank in Google’s search results.<sup>174</sup> Applying this to scholarly writing would mean citing to articles that already have high citation numbers. There are two reasons this approach has potential. First, advanced algorithms in legal databases may work similar to Google and give positive weight simply because your article cites to an already well-cited article.<sup>175</sup> Second, Westlaw has a “citing references” tab and Lexis offers “other citing sources.”<sup>176</sup> Both of these list articles that cite the one being viewed. So, by citing to a popular article, you will automatically place your article on these pages. These tools are heavily used and something that we encourage our students to review whenever they find a particularly relevant source. Westlaw defaults to ranking these by depth of treatment, so you could go a step further and cite heavily to a popular article so that yours appeared at the

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<sup>172</sup> If you are curious, Google pulled up the desired article first with “reviews” and second with “journals.” Search run at [www.google.com](http://www.google.com) on June 12, 2020.

<sup>173</sup> Outgoing links are links within the content of one domain to content on another domain.

<sup>174</sup> E.g., Shai Aharony, *Study – Outgoing Links Used as Ranking Signal*, ELITE DIGITAL MARKETING, <https://www.rebootonline.com/blog/long-term-outgoing-link-experiment/> [https://perma.cc/X9FN-Z7KT].

<sup>175</sup> *Id.*

<sup>176</sup> When viewing a case on LexisNexis, the “other citing sources” tab appears in the center of the top of the page. When viewing a case on Westlaw, the “citing references” tab appears in the center of the ribbon of the page.

top of the results for that article. Of course, this only works if your article is actually on a topic that people looking at the article you cited will find interesting. Also, we need to point out that the 2000 Ayres and Vars study found that fewer footnotes-per-page correlated to an increase in citations, so too many citations may hurt you.<sup>177</sup> (Studies outside the legal field have found the opposite.)<sup>178</sup>

Another approach advocated in SEO circles is to take a contrarian position on a popular topic.<sup>179</sup> In the legal field, Brian Leiter has identified this type of work as likely to be cited, “some work is so wrong, or so bad, that everyone acknowledges it for that reason.”<sup>180</sup> Here, you would write on a popular topic that already has a largely accepted viewpoint, but your article would take the opposite of the accepted position. Trying to compete with established articles while espousing the accepted viewpoint will prove extremely challenging. Authors who take a less obvious or unpopular position instantly reduce their field of competition, while still allowing themselves to cover a popular topic. Additionally, these articles can gain citations from

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<sup>177</sup> Ayres & Vars, *supra* note 21, at 439.

<sup>178</sup> Zoë Corbyn, *An Easy Way to Boost a Paper's Citations*, NATURE (Aug. 13, 2010), <https://doi.org/10.1038/news.2010.406> [<https://perma.cc/47FF-FRH9>] (discussing a 2010 study with its author: Gregory D. Webster, *Scientists Who Cite More Are Cited More: Evidence from over 50,000 Science Articles*). *But see* Phil Davis, *Reference List Length and Citations: A Spurious Relationship*, SCHOLARLY KITCHEN (Aug. 18, 2010), <https://scholarlykitchen.sspnet.org/2010/08/18/reference-list-length-and-citations-a-spurious-relationship/> [<https://perma.cc/3FWA-RCAQ>] (stating that Webster's purported correlation was due to other factors, a possibility at which Webster hinted in his presentation).

<sup>179</sup> Elisa Gabbert, *Contrarian Content Marketing: How to Zig When Everyone Else Zags*, WORDSTREAM (Aug. 9, 2017), <https://www.wordstream.com/blog/ws/2014/05/19/contrarian-content-marketing> [<https://perma.cc/GN8M-CXBN>]. *See also* Smith, *supra* note 31, at 340-41 (noting that it may be that case law decisions that depart from established doctrine have a better chance of becoming influential—i.e., being cited too often).

<sup>180</sup> Brian Leiter, *Brian Leiter's Top 40 Faculties Based on Per Capita Scholarly Impact (Citations), 2003-04*, BRIAN LEITER'S L. SCH. RANKINGS (July 16, 2003), [http://www.leiterrankings.com/faculty/2003faculty\\_impact\\_cites.shtml](http://www.leiterrankings.com/faculty/2003faculty_impact_cites.shtml) [<https://perma.cc/J9M5-93XH>]; *see also* Ayres & Vars, *supra* note 21 (“Articles with many citations might be high quality or low quality (as other authors go out of their way to criticize the argument)”).



authors simply looking to present both sides of a position, and, in some cases, may even prompt articles focused solely on refuting the contrarian position. In the latter case, the old adage “no press is bad press” applies, and any articles refuting yours will inevitably need to cite your work (see below for a proposal to allow authors to prevent certain citations from counting towards other authors).

### **Lessons from SEO for *U.S. News*’ Scholarly Impact Ranking<sup>181</sup>**

In 2019, *U.S. News* announced that it may publish a new ranking that evaluates the scholarly impact of U.S. law schools.<sup>182</sup> *U.S. News* indicated that initially they will make this ranking separate from the Best Law Schools ranking.<sup>183</sup> Originally, *U.S. News* slated the scholarly impact ranking for 2019,<sup>184</sup> they then updated that sometime in 2020,<sup>185</sup> and, in late 2020, revised again to sometime in 2021.<sup>186</sup> The reason for the delay is not clear, but Hein is actively working to improve its system

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<sup>181</sup> *U.S. News* has yet to make an official announcement, but they have privately indicated that they will likely not move forward with a scholarly impact ranking at this point. However, we opted to keep this section because it remains relevant should *U.S. News* or others later decide to move forward with a scholarly impact ranking. Brian Leiter, *US News Is \*Not\* Going to Produce Its Own Scholarly Impact Rankings Using HeinOnline*, BRIAN LEITER’S L. SCH. REP. (August 20, 2021), <https://leiterlawschool.typepad.com/leiter/2021/08/us-news-is-not-going-to-produce-its-own-scholarly-impact-rankings-using-heinonline.html> [<https://perma.cc/L97X-CKR3>].

<sup>182</sup> Robert Morse, *U.S. News Considers Evaluating Law School Scholarly Impact*, U.S. NEWS (Feb. 13, 2019, 1:00 PM), <https://www.usnews.com/education/blogs/college-rankings-blog/articles/2019-02-13/us-news-considers-evaluating-law-school-scholarly-impact> [<https://web.archive.org/web/20200410224129/https://www.usnews.com/education/blogs/college-rankings-blog/articles/2019-02-13/us-news-considers-evaluating-law-school-scholarly-impact>].

<sup>183</sup> *Id.*

<sup>184</sup> *Id.*

<sup>185</sup> Karen Sloan, *Changes to US News Law School Rankings Met with Skepticism*, LAW.COM (Jan. 8, 2020, 2:42 PM), <https://www.law.com/2020/01/08/changes-to-u-s-news-law-school-rankings-met-with-skepticism/> [<https://plus.lexis.com/api/permalink/bf32843a-b785-46fb-d27-67c31c4a4252/?context=1530671>].

<sup>186</sup> Caron, *U.S. News to Publish*, *supra* note 22 (publishing an email stating that U.S. News plans to publish its first scholarship ranking in 2021 and will use Hein).

— perhaps that has something to do with it.<sup>187</sup> Here, we discuss the new ranking, its implications, and opportunities for the types of abuse that plagued the early SEO world. Everything we discuss remains applicable regardless of whether *U.S. News* eventually incorporates scholarly impact into its overall law school ranking, as some suspect they will,<sup>188</sup> or keeps it separate. Even if *U.S. News* never produces this sort of ranking at all, the items covered here would still apply to others involved in citation rankings. Rankings matter to law schools.<sup>189</sup> However, the pressures and incentives we mention will increase if scholarly impact becomes part of the overall *U.S. News* law school ranking. Especially if it replaces the weighty “peer-assessment” score,<sup>190</sup> as would seem logical.

*U.S. News* does need a better system.<sup>191</sup> The most heavily weighted metric in the current system is the subjective “peer assessment score,” accounting for 25 percent of the overall rank.<sup>192</sup> As you would suspect,

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<sup>187</sup> See *Why Hein’s ORCID Integration Could Be a Big Deal for the US News Law School Scholarly Impact Ranking*, WISBLAWG (Feb. 5, 2020), <https://wisblawg.law.wisc.edu/2020/02/05/why-heins-orcid-integration-could-be-a-big-deal-for-the-us-news-law-school-scholarly-impact-ranking/> [<https://perma.cc/RBB6-ZH92>].

<sup>188</sup> Sloan, *supra* note 185 (“Since then, he has received an earful from law professors with concerns not only about how the ranking will be calculated, but about its potential to influence law faculty hiring, particularly if scholarly impact scores are eventually incorporated into the overall law school ranking.”).

<sup>189</sup> Joe Patrice, *This Is Why the Rankings Matter*, ABOVE L. (Mar. 13, 2019, 10:43 AM), <https://abovethelaw.com/2019/03/this-is-why-the-rankings-matter/> [<https://perma.cc/8BKR-CGVU>].

<sup>190</sup> Robert Morse, Ari Castonguay & Juan Vega-Rodriguez, *Methodology: 2021 Best Law Schools Rankings*, U.S. NEWS (Mar. 16, 2020), <https://www.usnews.com/education/best-graduate-schools/articles/law-schools-methodology> [<https://web.archive.org/web/20210311181154/https://www.usnews.com/education/best-graduate-schools/articles/law-schools-methodology>] (the peer-assessment score currently accounts for 25 percent of the ranking).

<sup>191</sup> See Bernard S. Black & Paul L. Caron, *Ranking Law Schools: Using SSRN to Measure Scholarly Performance*, 81 IND. L.J. 83, 87, 111 (2006) (discussing issues with the current *U.S. News* Peer Reputation metric and comparing it to other systems).

<sup>192</sup> See Paul J. Heald & Ted Sichelman, *Ranking the Academic Impact of 100 American Law Schools*, 60 JURIMETRICS J. 1, 2 (2019), and Morse, Castonguay & Vega-Rodriguez, *supra* note 190.

*U.S. News*' influence shows up in the peer assessment score, at least within the upper echelons, which roughly track the *U.S. News* rankings.<sup>193</sup> However, when you move outside the top twenty significant differences begin to appear. For example, Oregon is ranked 83<sup>rd</sup> overall in the 2020 rankings, while its peer assessment would have placed it at 52<sup>nd</sup>.<sup>194</sup> Temple ranks 48th overall and its peer assessment puts it at 57<sup>th</sup>.<sup>195</sup> This makes one wonder what peers are basing their rankings on. If the other, mostly objective measures, *U.S. News* uses to rank schools placed Oregon 35 spots below Temple, on what basis does the peer assessment rank Oregon above Temple? How are they even close in the peer ranking? It seems likely that people pay close attention to the top part of the *U.S. News* scores, which then feeds into their peer assessment score and helps keep the top portion of the rankings relatively stagnant. Meanwhile, assessors likely pay less attention to lower ranked schools like Oregon and Temple and, therefore, make their assessment somewhat randomly. Replacing part or all of the peer assessment with a scholarly impact score would remove some of the subjectivity that currently plagues it. Instead of asking scholars and administrators to randomly rank their favorite schools, the scholarly impact score would use scholars' citations to evaluate how they feel about their peers. Generally, scholars cite those they think have done good work (see below for a suggestion to exclude citations when the author does not agree with what they cite). Further, the articles authors cite are not anonymous, and citing low-quality sources can negatively impact an author's reputation. This creates an incentive for authors to invest time vetting the sources they cite and holds them accountable for failing to do so. These incentives are absent in the current *U.S. News* system. In fact, the current incentives encourage participants to vote in

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<sup>193</sup> Black & Caron, *supra* note 191, *see also* Paul Caron, *2020 U.S. News Law School Peer Reputation Rankings (And Overall Rankings)*, TAXPROF BLOG (Mar. 12, 2019) [https://taxprof.typepad.com/taxprof\\_blog/2019/03/2020-us-news-law-school-peer-reputation-rankings-and-overall-rankings.html](https://taxprof.typepad.com/taxprof_blog/2019/03/2020-us-news-law-school-peer-reputation-rankings-and-overall-rankings.html) [<https://perma.cc/5V2N-WCJW>] [hereinafter Caron, *2020 U.S. News*].

<sup>194</sup> Caron, *2020 U.S. News*, *supra* note 193.

<sup>195</sup> *Id.*

the way that most benefits them. For these reasons, we believe that moving to a citation-based ranking would be an improvement over the current peer assessment score.

However, using Hein to rank scholarship also raises several questions. To start, some believe the scholarly impact rankings may not change the rank of most schools.<sup>196</sup> Even if this is the case for *most* schools, which it may or may not be depending on whether the prognosticators have accurately predicted what *U.S. News* might actually do, for those schools who are impacted it would be worth the change. Thus, we think that this is not a valid reason for discarding a citation-based approach and other potential issues deserve more focus.

### **Factors Beyond Quality May Impact Citations**

As our study demonstrates, factors beyond the quality of an article may impact citations. If the goal is for *U.S. News*' new ranking is to more closely track the quality of schools, the results of our study may weigh against the proposed solution. However, our study did not evaluate the actual quality of the articles, so it is possible that higher-quality articles are more likely to have the characteristics we looked at. In other words, maybe we found a way to identify high-quality articles. Given the number of articles we looked at, it seems more likely that these factors do impact citations independent of quality. If that is the case, then articles like ours will eventually level the playing field by making clear to motivated authors how they can give their article the best chance to get cited. Further, because our study found several well-cited articles that did not fall within optimal ranges, it seems clear that truly exceptional articles will still gain more citations. In sum, we do not believe that our findings should dissuade *U.S. News* from implementing their new ranking system.

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<sup>196</sup> Derek T. Muller, *Gaming Out Hein Citation Metrics in a USNWR Rankings System*, EXCESS DEMOCRACY (Feb. 25, 2019), <https://excessofdemocracy.com/blog/2019/2/gaming-out-hein-citation-metrics-in-a-usnwr-rankings-system> [<https://perma.cc/23SB-RYMW>].

### Increased Pressure Leads to Stronger Motives for Abuse

Most of the potential issues we discuss next stem from the added pressure that the new ranking system would apply to law schools. Other disciplines already deal with this type of pressure.<sup>197</sup> In at least one case, attempts to manipulate rankings have led to criminal charges.<sup>198</sup> This increased pressure is also evidenced by the significant number of articles on factors influencing citations in non-legal fields<sup>199</sup> and by some of the negative practices, like “coercive citation,” that occur with surprising regularity in other fields.<sup>200</sup> Further, how to “game” ranking systems has become a popular topic in interdisciplinary ranking systems like Google Scholar.<sup>201</sup> More troubling, scientists in a focus group said, “competition contributes to strategic game-playing in science, a decline in free and open sharing of information and methods, sabotage of others’ ability to use one’s work, interference with peer-review

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<sup>197</sup> See Georg Franck, *Scientific Communication – A Vanity Fair?*, 286 *SCI.* 53 (1999) (discussing how scientists’ desire for citations motivates the formation of “citation cartels”), and Maarten van Wesel, *Evaluation by Citation: Trends in Publication Behavior, Evaluation Criteria, and the Strive for High Impact Publications*, 22 *SCI. & ENG’G ETHICS* 199, 203 (2016) [hereinafter van Wesel, *Evaluation by Citation*] (listing tactics employed in other fields to increase citation counts, including: “artificially inflating the author count, adding unnecessary references, and purposely making the abstract hard to read”).

<sup>198</sup> Scott Jaschik, *Ex-Dean at Temple Indicted on Charges of Manipulating Rankings*, *INSIDE HIGHER ED* (April 19, 2021), <https://www.insidehighered.com/admissions/article/2021/04/19/ex-dean-temple-indicted-charges-manipulating-rankings> [<https://perma.cc/9VFP-ME5P>].

<sup>199</sup> See, e.g., van Wesel et al., *supra* note 1 (discussing causes of citations and collecting citations to prior studies).

<sup>200</sup> Dalmeet Singh Chawla, *Two-thirds of Researchers Report ‘Pressure to Cite’ in Nature Poll*, *NATURE* (Oct. 1, 2019), <https://doi.org/10.1038/d41586-019-02922-9> [<https://perma.cc/H78S-YEA4>].

<sup>201</sup> Emilio Delgado López-Cózar, Nicolás Robinson-García & Daniel Torres-Salinas, *Manipulating Google Scholar Citations and Google Scholar Metrics: Simple, Easy and Tempting* (Cornell Univ. Computer Sci., EC3 Working Papers 6, 2012), <https://arxiv.org/abs/1212.0638> (demonstrating how researchers can easily manipulate their Google Scholar h-index); *How to Successfully Boost Your H-Index*, *ENAGO ACAD.* (Nov. 4, 2019), <https://www.enago.com/academy/how-to-successfully-boost-your-h-index/> [<https://perma.cc/6XL6-3BFN>] (discussing more legitimate ways authors can improve their h-index).

processes, deformation of relationships, and careless or questionable research conduct.”<sup>202</sup> We now discuss similar issues and their parallels from the SEO world that could arise in the legal field if *U.S. News* updates its system.

### Citation Cartels

Hein’s current system gives one citation to each author regardless of the number of authors.<sup>203</sup> For example, if an article has twenty citations and lists author A and author B, then both authors receive twenty citations towards their total citation count, meaning that article is counted for forty total citations. Whether *U.S. News*’ co-author crediting system will mirror Hein’s is not clear. If it does, the system will incentivize scholars to increase the number of co-authors. Following Hein’s method for distributing citations will also incentivize bad behavior.

To prevent helping competitors in the rankings, law schools may encourage their professors to only co-author with scholars from the same institution. This would allow schools to get two citations for a single article where they would only get one citation if the co-author worked at a different institution. Taking this a step further, especially close competitor schools may be specifically embargoed, while peers at schools distant within the rankings allowed. Inhibiting potentially beneficial collaborations for the sake of rankings would negatively impact legal scholarship.

In the SEO world, websites sometimes make agreements to link to each other with the goal of improving the rank of all sites involved.<sup>204</sup> And, although it is rare now, website owners used to pay other websites to

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<sup>202</sup> Melissa S. Anderson et al., *The Perverse Effects of Competition on Scientists’ Work and Relationships*, 13 *SCI. & ENG’G ETHICS* 437, 437 (2007).

<sup>203</sup> Sloan, *supra* note 185.

<sup>204</sup> *Link Schemes*, *supra* note 152.

link to their site.<sup>205</sup> Similarly, legal authors may start making agreements to include each other as co-authors, regardless of whether the other made any meaningful contribution. Researchers have already identified this type of behavior in other fields. Back in 1981, William Broad discussed studies and anecdotal evidence indicating that pressures to produce citations were leading to the gratuitous addition of names to articles.<sup>206</sup> Further, studies have identified “citation cartels” in other fields.<sup>207</sup> Although it has not been studied, this behavior may exist in legal circles as well. By adding its metric, *U.S. News* will only increase pressure on authors to create these types of agreements with each other. Taken to the extreme, perhaps schools or authors may even pay for citations as was once common in the SEO world. Clearly, these types of behaviors will damage the quality of scholarship by giving benefits to authors for reasons beyond their merit.

The one positive development that we will see if *U.S. News* follows Hein here is an increase in legitimate collaboration. Still, we think that the potentials for abuse should lead *U.S. News* to create a system where citations are distributed between authors. Further, in true co-author relationships, the work is shared. This means that those who co-author should need to spend less time per article, allowing them to publish more total articles than a scholar who does not write with co-authors. So, fairness may also dictate that *U.S. News* somehow split the citations that co-authored articles receive. It could be an even split where all authors get the same percentage of each citation, or it could be weighted in some way — perhaps by where the author’s name appears.<sup>208</sup>

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<sup>205</sup> *Id.*

<sup>206</sup> William J. Broad, *The Publishing Game: Getting More for Less*, 211 *SCI.* 1137, 1137 (1981).

<sup>207</sup> Iztok Fister Jr., Iztok Fister & Matjaž Perc, *Toward the Discovery of Citation Cartels in Citation Networks*, 4 *FRONTIERS PHYSICS* 1 (2016).

<sup>208</sup> Other fields are already discussing various solutions to this issue, e.g., John P. A. Ioannidis, *Measuring Co-Authorship and Networking-Adjusted Scientific Impact*, *PLoS ONE* 1 (July 28, 2003), <https://doi.org/10.1371/journal.pone.0002778> [<https://perma.cc/8RQM-YYWU>].

### Opportunities for Top Journals to Favor Their Scholars

As shown in our data, top journals tend to get more citations. In a world focused on scholarly rankings, might law schools pressure their journal editors to publish their own scholars? Perhaps this already happens,<sup>209</sup> but could a new ranking system make it worse? While schools that already hold a top rank and a top journal, like Harvard and Yale, may have less incentive to do this — they cannot rank any better and the fallout from undue influence could be significant — other schools with a lower rank and well cited journals may feel pressure. For example, the *Washington and Lee Law Journal Rankings*, found that the Iowa and Fordham law reviews received the 8<sup>th</sup> and 9<sup>th</sup> most citations in 2019.<sup>210</sup> *U.S. News* ranked the University of Iowa 27<sup>th</sup> and Fordham 37<sup>th</sup>.<sup>211</sup> For schools in this situation, the pressure to favor their scholars would be strong and, potentially, fully within the bounds of *U.S. News*'s requirements. Yaniv Reingewertz and Carmela Lutmar have documented that this already occurs in other disciplines.<sup>212</sup> With the change to *U.S. News* rankings, law schools may follow suit.

To address this, *U.S. News* could do an analysis and determine how often journals tend to publish their own authors now. Based on this average, *U.S. News* could set a threshold for articles published in home journals. *U.S. News* would then not count, or give decreased weight, to articles published in the home journal above the threshold.

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<sup>209</sup> See Ayres & Vars, *supra* note 21, at 442 (finding statistically significant evidence that after 1990 journals tend to favor their own scholars).

<sup>210</sup> *W&L Law Journal Rankings*, *supra* note 140.

<sup>211</sup> Staci Zaretsky, *Behold, The FULL 2019 U.S. News Law School Rankings Leak (1-144)*, ABOVE L. (Mar. 14, 2018, 9:28 PM), <https://abovethelaw.com/2018/03/behold-the-full-2019-u-s-news-law-school-rankings-leak-1-144-rnp/> [<https://perma.cc/4F8S-2ENH>].

<sup>212</sup> Yaniv Reingewertz & Carmela Lutmar, *Do Academic Journals Favor Researchers from Their Own Institutions?*, HARV. BUS. REV. (Feb. 27, 2018), <https://hbr.org/2018/02/do-academic-journals-favor-researchers-from-their-own-institutions> [<https://perma.cc/SN78-G3Y3>].



## Keyword Stuffing

Keyword stuffing was a popular black hat SEO method where website owners would load their content with keywords they wanted to rank for.<sup>213</sup> This could mean simply including the keyword in the text more often than natural<sup>214</sup> or it could mean hiding keywords in the code so that Google's bots see them but human visitors do not.<sup>215</sup> At one point, this method worked well and sites that adopted it were able to push themselves up in Google's results.<sup>216</sup> Of course, Google eventually caught on to this practice and essentially penalized websites that used it.<sup>217</sup>

As touched on earlier, most legal databases lack the sophisticated search capabilities Google has. This means they are likely susceptible to tactics similar to keyword stuffing. The editorial process of most journals will make this harder to pull off in law reviews, but it remains possible. Rather than damage the quality of their main content, perhaps authors will stuff footnotes with keywords they want to rank for.

There is not much *U.S. News* can reasonably do to counter this possibility. However, databases will eventually adjust their algorithms, as Google did, making their systems better overall. So, while early adopters may see a temporary bump in their ranking, we do not think this will be a long-term problem.

## SEO Experts & Law Schools

In an effort to game the system, law schools may hire SEO-type experts to analyze and figure out legal database algorithms, then instruct faculty

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<sup>213</sup> *Irrelevant Keywords*, *supra* note 81.

<sup>214</sup> *Id.*

<sup>215</sup> *Hidden Text and Links*, GOOGLE DEVELOPERS: GOOGLE SEARCH CENT., [https://support.google.com/webmasters/answer/66353?hl=en&ref\\_topic=6001971](https://support.google.com/webmasters/answer/66353?hl=en&ref_topic=6001971) [<https://perma.cc/7SJR-T2FY>].

<sup>216</sup> Marris, *supra* note 61.

<sup>217</sup> *Irrelevant Keywords*, *supra* note 81.

on how to write to those algorithms. The work of SEO experts in providing insights into Google's extremely complex and guarded algorithm indicates that deconstructing the less-complicated legal database algorithms is certainly feasible. If this happens, it could track the development of the SEO world. Initially, the experts would find easily exploitable elements of the algorithms and suggest questionable methods to increase rank within the databases and, consequently, chances for citations. As legal databases plug the holes, the focus would return to more reasonable methods, similar to those SEO experts recommend today. The question would be whether the fixes legal databases make to their algorithms have the effect of punishing the articles, schools, and scholars that took advantage of the holes. Since *U.S. News*' current proposal would look back only five years, the impact of any "punishment" may be limited to that time frame. Less fear of retribution could make schools more likely to engage in questionable practices. *U.S. News* could reduce incentives for this; pulling articles from a longer time period — say ten years.

Ultimately this may not be a negative development anyway. The impact on the scholarship itself would depend on the recommendations the citation experts offer. If they suggest things like using more headings to make skimming easier, scholarship should not be negatively impacted. On the other hand, suggestions to artificially work in more keywords would detract from the scholarship, as touched on above.

### **Decrease in Important but Less Popular Topics**

Earlier, we shared data indicating that popular topics tend to gain more citations. And we recommended incorporating popular topics into areas of the law authors are interested in to increase citations. However, if our advice is taken a step too far, scholars will shift the entire area of the law they focus on, moving from tax to constitutional law in hopes of

increasing citations.<sup>218</sup> Setting aside the negative impact this may have on the scholars themselves, it will lead to a decrease in scholarship on the important but less high-profile topics the legal world is full of.

Jeff Sovern takes this idea a step further, hypothesizing that schools will start choosing faculty based on how many scholars write on a subject, “[t]o be more concrete, imagine that a law school is hiring a new professor and has two candidates. One candidate writes about criminal law and the other writes about consumer law. The law school wants to maximize its ranking, and so wants to hire the candidate whose work will be cited more. The universe of people writing scholarly articles about criminal law is much larger than the universe of professors writing about consumer law, and so, all other things being equal, the criminal law professor is likely to rack up more citations and so help with the school's ranking more.”<sup>219</sup> Clearly, this would be a negative development for the legal education system and the legal world as a whole.

*U.S. News* could avoid this issue by incorporating a field-weighted metric to normalize citations across areas of the law. Given the potential loss, we certainly hope that *U.S. News* (and anyone else involved in citation-based rankings) implements this sort of system. Other fields already have systems like these in place,<sup>220</sup> so, this certainly seems technically feasible.

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<sup>218</sup> Leiter, *supra* note 180 (“Law reviews publish lots on constitutional law, and very little on tax”).

<sup>219</sup> Jeff Sovern, *How the New US News Scholarly Impact Ranking Could Hurt Niche Subjects, Like Consumer Law*, CONSUMER L. & POL’Y BLOG (Mar. 7, 2019), <https://pubcit.typepad.com/clpblog/2019/03/how-the-new-us-news-scholarly-impact-ranking-could-hurt-niche-subjects-like-consumer-law.html> [<https://perma.cc/FR5D-GFJ2>].

<sup>220</sup> E.g., *What is Field-Weighted Citation Impact (FWCI)?*, SCOPUS SUPPORT CTR. (Sept. 16, 2020), <https://service.elsevier.com/app/home/supporthub/scopus> [<https://perma.cc/8GUS-HHXY>] (follow “Content” hyperlink; then follow “What is Field-weighted Citation Impact (FWCI)?” hyperlink).

### **Do Citations Follow the Scholar?**

A question *U.S. News* has yet to answer is what happens when a scholar moves schools? Presumably, any future citations would be attributed to the new school but what about citations from works written at the old school? Currently, Hein does not designate where authors were employed when they received their citations. Could law school deans lend well cited authors to their friends as visiting scholars? Or, might schools in need of a quick bump pay exorbitant short-term salaries to bring over scholars for a few years so they can benefit from their citation counts at critical moments? *U.S. News* should address this potential problem by clearly stating that citations follow the school, not the scholar, when it comes to their ranking system. The feasibility of this will depend on whether Hein can develop a method to track where faculty are employed when they author articles.

### **Publishing the Same Content in Multiple Places**

In some fields, authors publish the same or similar articles in multiple places, thus artificially increasing their publication counts.<sup>221</sup> This would clearly allow faculty to increase the number of articles they publish. In theory, citations could also potentially increase by exposing the content to a wider audience. However, this approach may backfire in a system based on number of citations because the duplicate pieces will likely end up competing. This will prevent either article from gaining broad acceptance or ever becoming *the* article on a certain topic. It could also confuse databases and lead to lower ranks in search results,

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<sup>221</sup> See Mounir Errami & Harold Garner, *A Tale of Two Citations*, 451 NATURE 397, 397-98 (2008) (stating that 4.7 percent of bio-medical researchers surveyed admitted to repeated publication of the same results and finding that duplicate articles increased significantly between 1975 and 2005).

as happens with Google's algorithm.<sup>222</sup> If both duplicate articles end up buried in database results, many scholars will never even see them.

Further, this type of behavior could easily be identified either through modifications to database algorithms or with existing tools designed to find instances of plagiarism. Since the benefits of this type of behavior remain unclear, it is less likely that scholars will adopt it. Additionally, for scholars currently judged by total output rather than citations, the new ranking system may encourage more original work. Here our recommendation is for authors rather than *U.S. News*: avoid duplicating your work to prevent the issues we discuss.

### **Lack of Coverage of Non-Legal Sources**

Hein's focus is on legal materials. As others have pointed out, this means it is likely to miss citations to legal articles in non-legal sources, and, even worse, the existence of non-legal articles written by law professors.<sup>223</sup> It also means that citations to faculty authored books will be almost entirely excluded.<sup>224</sup> Penalizing schools and authors because they publish books over articles is not desirable. Neither is discouraging legal scholars from interdisciplinary work.

Hein recently added an integration with ORCID that allows legal scholars to post items missing in Hein to ORCID and then push those records to Hein.<sup>225</sup> However, it appears unlikely that *U.S. News* will use

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<sup>222</sup> *Duplicate Content*, MOZ, <https://moz.com/learn/seo/duplicate-content>

[<https://perma.cc/DEL2-FPTW>] (explaining how duplicate content leaves search algorithms wondering which to rank, diluting the rank value of both items).

<sup>223</sup> See, e.g., John R. Beatty, *Citation Databases for Legal Scholarship*, 39 LEGAL SERV. Q. 56, 74 (2020) (finding that Hein returned only 13 percent of the citations for a law professor who published primarily in books and interdisciplinary journals).

<sup>224</sup> See *id.* (finding that Hein returned less than 5 percent of the citations for a law professor who mainly published in books).

<sup>225</sup> Tara Kibler, *HeinOnline Has Integrated with ORCID!*, HEINONLINE BLOG (Jan. 27, 2020), <https://home.heinonline.org/blog/2020/01/heinonline-has-integrated-with-orcid/> [<https://perma.cc/6LSS-FRX2>].

this data for its initial ranking.<sup>226</sup> Hein is developing a tool to find citations to works pulled in from ORCID within Hein's set of full-text journals<sup>227</sup> but Hein's current system does not count citations to works added via ORCID at all. Hopefully, once this new tool is complete, *U.S. News* will find a fair and reliable way to incorporate this data into future rankings. Still, as Bonnie Shucha has detailed, the process of integrating ORCID and Hein is a time-consuming one that requires a significant amount of manual work, which may delay or prevent some schools from completing the process.<sup>228</sup> Further, Hein's new tool will not be able to "count citations to interdisciplinary scholarship and books in ORCID from other interdisciplinary scholarship and books because those other works are not part of Hein's full-text collection."<sup>229</sup>

Unfortunately, we do not have a clear, easy to implement solution to this issue. *U.S. News* could add data from other interdisciplinary databases to what it receives from Hein. This would provide a more inclusive picture. Still, we do not have a solution to track citations within books.

### Issues with OCR Text Recognition

In work on a different citation project, we found several errors in titles exported from Hein. We also identified some situations where Hein's system treated each entry in a journal's book review section as an individual work and others where the book reviews were not separated out. These discrepancies may lead to inaccuracies in the citation computations. Further, John Beatty also found 648 citations to legal journals that should have been in Hein but were not.<sup>230</sup> Beatty hypothesizes that one possible reason could be issues with Hein's

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<sup>226</sup> Shucha, *supra* note 23.

<sup>227</sup> *Id.*

<sup>228</sup> *Id.*

<sup>229</sup> *Id.*

<sup>230</sup> Beatty, *supra* note 223.

optical character recognition (OCR) process, especially considering that these citations were found in Westlaw.<sup>231</sup> OCR also likely caused the issues we observed. As with some of the other issues we identified, we do not see a significant cause for alarm here. We anticipate that Hein, or the underlying software it relies on, will continue to improve and that eventually this will cease being an issue.

### **“No Follow”: Avoid Citations Counting When You Do Not Support the Scholarship**

In the SEO world linking to other websites benefits their rank in Google’s algorithm. Sometimes website authors do not want other sites to benefit from their linking to them — maybe the link is meant to show a negative example. Google has built a system where authors can tag links like this with “rel=‘no follow’.”<sup>232</sup> When website authors add this tag, Google will generally not factor the link in their ranking algorithm. Similar issues arise in legal scholarship. *U.S. News* and Hein should create a method that will allow scholars to not have citations be credited to the author they cite. Of course, as Google has, they will need to create nuances in this rule to prevent abuse.

There are a host of other possible problems should *U.S. News* move forward with their new ranking system. Likely, no one will be able to identify and address all the issues until the system is launched. Perhaps this is why *U.S. News* plans to roll it out as a separate ranking first: start with a low-stakes scholarly ranking, work out the bugs over the course of a few years, and *then* incorporate the metric into the overall rankings.

It is easy to find fault and poke holes in innovative ideas. Our goal with this section is to raise potential issues early so that they can be addressed

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<sup>231</sup> *Id.*

<sup>232</sup> *Qualify Your Outbound Links to Google*, GOOGLE DEVELOPERS: GOOGLE SEARCH CENT., <https://developers.google.com/search/docs/advanced/guidelines/qualify-outbound-links> [https://perma.cc/MR3R-ULD9].

and corrected quickly. The experience of SEO shows that it is possible to greatly reduce bad behavior. We hope that *U.S. News* will address the items we discussed and eventually incorporate the new scholarship ranking into its overall law school ranking.

### Conclusion

In this article, we focused on providing legal authors with methods that may increase their citation counts. We also pointed out potential issues for exploiting *U.S. News*'s proposed scholarship ranking. This may lead some to ask if our suggested proposals are exploiting the system. There is a difference between tailoring an article to meet the preferences of readers and purposefully manipulating an article solely to increase its citations.<sup>233</sup> We believe that whenever there is a gray area, authors should think of their readers and would-be citers. Will the edit benefit them? If so, do it. If not, ask whether the edit deceives. We discussed several deceptive behaviors, like adding authors to an article when they made no contribution or cramming keywords into footnotes in hopes of a higher rank. To those practicing or considering deceptive behavior, we close with a few words of caution. First, deceptive practices are morally dubious. Second, it is likely that abusers will eventually be found out and their schools may be punished as Google punished black hat practices in the SEO world. In fact, abusers are already being identified and reprimanded in other fields, both formally by publishers<sup>234</sup> and informally by peers studying and drawing attention to bad behavior.<sup>235</sup>

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<sup>233</sup> van Wesel, *Evaluation by Citation*, *supra* note 197, at 203 (discussing a similar issue in the scientific world).

<sup>234</sup> See Phil Davis, *Gaming the Impact Factor Puts Journal in Time-Out*, SCHOLARLY KITCHEN (Oct. 17, 2011), <https://scholarlykitchen.sspnet.org/2011/10/17/gaming-the-impact-factor-puts-journal-in-time-out/> [<https://perma.cc/T73Y-D5HV>] (discussing how Thompson Reuters de-listed a journal from their Journal Citations Reports because the journal was intentionally manipulating its citation numbers by citing more to articles in the journal).

<sup>235</sup> See, e.g., Ioannidis, *supra* note 151, at 2-3 (finding evidence of excessive self-citation and "citation farms" in a study of scientific authors); Errami & Garner, *supra* note 217 (finding instances of bio medical researchers publishing the same results in multiple places).



We wish all our readers the best in their efforts to increase the visibility of the valuable scholarship they are doing and look forward to *U.S. News'* efforts to better their ranking system.